ACKNOWLEDGMENTS

The TIP team acknowledges the strong support and guidance from Governor de Jongh and his team. His personal interest and involvement has helped to make this document especially relevant. In addition, our work was informed by the data and research available through the USVI Bureau of Economic Research and by the insights gained through our meetings with key stakeholders.

We would also like to thank the businesses who took part in the survey conducted as part of this work. Their participation greatly contributed to our understanding of the Territory’s workforce, its challenges, and opportunities.

ABOUT TIP

TIP Strategies, Inc. is a privately held Austin-based economic development consulting firm committed to providing quality solutions for public and private-sector clients. Established in 1995, the firm’s primary focus is strategic economic development planning. In addition, TIP has experience with entrepreneurship, target industry analysis, workforce, and redevelopment. TIP’s methods establish a clear vision for economic growth. Community leaders across the country have embraced the TIP model of Talent, Innovation, and Place to achieve successful and sustainable economies.

PROJECT TEAM

Jon Roberts, Principal and Managing Director
Alex Cooke, Senior Consultant
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EXECUTIVE SUMMARY

Economic growth in the United States Virgin Islands ("USVI" and "Territory") has suffered due to a combination of negative factors over the last several years. Employment and investment in the Territory has been impacted by the 2012 closure of the HOVENSA oil refinery, US Treasury regulations contained in the 2004 Jobs Act, and the ongoing sluggishness in the global economy following the Great Recession. In addition, the Territory continues to face challenges to expanding and diversifying its economic base. In an effort to meet these challenges head-on Governor John P. de Jongh, Jr. has taken the bold step of calling for a comprehensive study of the USVI’s best prospects for recruitment and expansion. TIP Strategies, an economic strategy firm based in Austin, Texas, was selected to assist in this effort. The study’s objective is to identify opportunities for recruiting and developing new businesses that promote both job creation and private investment in the Territory, with an emphasis on St. Croix.

PURPOSE & SCOPE

This document is intended to serve as a roadmap for the USVI in targeting companies and industries for recruitment and expansion. More specifically, TIP was asked to give additional focus on understanding opportunities for promoting investment and employment on St. Croix, which has been severely affected by the refinery’s closure. Nevertheless, with a few exceptions, the recommended industries are broadly applicable to the entire Territory.

The pairing of growth industries to specific development opportunities on St. Croix and elsewhere requires an understanding of the Territory’s competitive advantages as well as the barriers to growth. The targeting process is also informed by existing economic development efforts. The Virgin Islands Economic Development Authority ("VIEDA") is engaged in business recruitment and has an established track record in this area. In conjunction with this study, the USVI is also preparing an updated Comprehensive Economic Development Strategy ("CEDS"), which will identify funding priorities for the next five years. This target industry study is a separate exercise, but will need to be weighed against the opportunities and threats identified by the CEDS and aligned with priority projects identified by the planning process.

The report is divided into two sections. The first section provides a broad overview of factors that influence the USVI’s competitive position regarding corporate investment. The focus is on four areas: workforce and education, infrastructure, regulatory environment, and quality of life. The second section outlines the recommended targets and includes a discussion of constraints and strategic recommendations for support of the targeted sectors. In addition, a summary of findings from an employer survey is provided as Appendix A.

APPROACH

Target industry studies do not exist in a vacuum. They rely on an understanding of the opportunities and barriers unique to the Territory and to the cycles of the national economy. By design, they are action-oriented. They identify specific industries suitable for recruitment and expansion and provide specific guidance for leveraging assets and addressing challenges. Success is measured by knowing what industries can—and will—thrive in the US Virgin Islands.
All target industry studies require a methodology: “Why these industries and not others?” TIP’s approach takes three things into consideration:

1. **Legacy industries and the existing business base.** Fundamental to an understanding of how to attract new industry is an appreciation for what the current business structure looks like. This can be arrived at in two ways: first, by looking at what the companies do; and second, by the composition of the workforce (what the people do). For the USVI, the dominant industry base is tourism, as illustrated by employment concentrations shown in Figure 1. The most significant legacy business is the HOVENSA refinery. Tourism and the influence of the oil refinery will continue to dominate the USVI and heavily influence what new industries can be attracted. This is true primarily because of the composition of the workforce. New development options for Class A office and tech districts may also compete with tourism for land and infrastructure.

2. **National growth industries.** Every region of the country feels the effects of industry growth, whether or not they can attract those industries themselves. This is true because growth industries draw investment dollars and they draw workers. We examine national trends for these reasons and also because they may present specific opportunities for the USVI. At the same time, national trends must be tempered by an understanding of the suitability of high-growth industries to a targeted marketing effort. Many of the industries with the strongest job growth nationally are population-driven and offer little in the way of lasting economic impact. Retail trade, for example, is an important amenity for residents and an essential part of a tourism strategy, but offers little in the way of wages and career advancement. Construction provides higher-wage opportunities, but impacts tend to be much shorter-lived and employment in the industry is highly cyclical. Healthcare-related industries offer both

**FIGURE 1. USVI EMPLOYMENT CONCENTRATIONS**
Top 15 location quotients (for industries at the 4-digit NAICS level employment at least 100 workers in 2013)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4483</td>
<td>Jewelry, Luggage, and Leather Goods Stores</td>
<td>959 ▼</td>
<td>25.46</td>
<td>$35,925</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>4831</td>
<td>Deep Sea, Coastal, and Great Lakes Water Transportation</td>
<td>229 ▼</td>
<td>21.14</td>
<td>$43,373</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>7211</td>
<td>Traveler Accommodation</td>
<td>3,411 ▼</td>
<td>6.95</td>
<td>$31,639</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>7132</td>
<td>Gambling Industries</td>
<td>233 ▲</td>
<td>6.23</td>
<td>$25,230</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3241</td>
<td>Petroleum and Coal Products Manufacturing</td>
<td>178 ▼</td>
<td>5.73</td>
<td>$243,144</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7121</td>
<td>Museums, Historical Sites, and Similar Institutions</td>
<td>190 ▲</td>
<td>4.93</td>
<td>$19,923</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>3121</td>
<td>Beverage Manufacturing</td>
<td>230 ▲</td>
<td>4.60</td>
<td>$56,306</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>5321</td>
<td>Automotive Equipment Rental and Leasing</td>
<td>209 ▲</td>
<td>4.17</td>
<td>$30,704</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>4247</td>
<td>Petroleum and Petroleum Products Merchant Wholesalers</td>
<td>110 ▲</td>
<td>4.14</td>
<td>$194,529</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>4881</td>
<td>Support Activities for Air Transportation</td>
<td>172 ▼</td>
<td>3.79</td>
<td>$18,695</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>5171</td>
<td>Wired Telecommunications Carriers</td>
<td>556 ▲</td>
<td>3.44</td>
<td>$60,187</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>4532</td>
<td>Office Supplies, Stationery, and Gift Stores</td>
<td>283 ▼</td>
<td>3.43</td>
<td>$23,578</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>3273</td>
<td>Cement and Concrete Product Manufacturing</td>
<td>156 ▼</td>
<td>3.30</td>
<td>$50,577</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>5616</td>
<td>Investigation and Security Services</td>
<td>710 ▼</td>
<td>3.03</td>
<td>$15,965</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>6111</td>
<td>Elementary and Secondary Schools (Private)</td>
<td>773 ▼</td>
<td>2.90</td>
<td>$27,417</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2014.1. Note: Average earnings per job reflects total annual earnings of a regional industry (wages, salaries, proprietor profits, benefits, and other compensation) divided by the number of jobs in the industry. **It is not equivalent to wages paid to workers in the sector.**
higher-wage and longer-lasting impacts. However, the healthcare sector does not lend itself to traditional recruitment strategies. For these reasons, retail, construction, and healthcare are not among the target sectors, despite their importance to the USVI economy and strong growth nationally. Rather, our focus for this work is on opportunities provided by export-driven industries which are growing on the national level, fit within a target marketing framework, and offer the best prospects for long-term employment and wage growth.

3. Emerging industries. Neither legacy businesses nor national growth industries provide a complete picture for targeting new recruitment and growth prospects. The reasons for this have everything to do with the speed at which new technologies are finding their way into the business mainstream. The challenge with incorporating emerging industries and technologies into the analysis is the difficulty in anticipating which industries/technologies will succeed and how long they will last. There is also the trap of chasing the “new thing” along with every other community, with little prospect for anchoring meaningful long-term investment. Such has been the case in recent years with Biotech and Alternative Energy. Nevertheless, every region of the country needs to be attuned to the potential represented by new and emerging technologies. Moreover, they must be aware the education and skills that employers in these sectors will require.

FINDINGS

Clearly, the closing of the refinery represents a singular challenge that the USVI must overcome. Here, the options are stark: attract a new operator for the refinery or face the prospect of an underutilized asset that may lay fallow for years as the Territory attempts to attract new businesses and diversify its economic base. The announcement of a tentative operating agreement to purchase the refinery is welcome news. As structured, the deal would provide a much-needed boost to the USVI economy generally and to St. Croix specifically. However, even the most ambitious timeline would still mean many months before the facility is operational and the projected hires are in place.

Beyond the challenge associated with the refinery, the study points to other barriers to corporate investment for St. Croix and for the USVI as a whole. Some of the findings will not come as a surprise, foremost among them being the USVI workforce and education issues. The business survey (presented as Appendix A), highlights other important considerations as well:

- access (and costs) associated with travel to the USVI
- lack of governmental coordination
- electricity costs
- regulatory environment

More broadly, Site Selection magazine surveys CEOs and site selectors to determine the most important factors in business expansion and relocation. Over the last decade, two themes have consistently traded places at the top of the chart: workforce and transportation access. In both these areas, the USVI faces significant challenges. The implications for a target industry study are clear enough: there are long-term systemic issues that must be addressed in order to seize the most rewarding business opportunities. And by “most rewarding” we mean those industry sectors that create jobs, pay higher wages, and make significant capital investment. In addition, hiring resident
workers would certainly benefit the local economy. Yet this additional goal needs to take into consideration the dynamics of education and workforce in the USVI.

These issues argue for identifying target industries according to short- and long-term needs and likelihood of success. There are sectors which would fit well into the USVI but require major improvements to the education and workforce system, to utility rate structures, and to transportation costs. At the same time, economic development cannot focus only on the long term. The challenge of identifying target industries centers on what can be done over the next 15 months, closing out 2014 and looking towards the beginning of 2016. While taking steps to reopen the oil refinery is a top priority, there are additional business opportunities that are realistic within that time frame that can take advantage of the available workforce.

In addition to tourism, there are higher value-added sectors that span a broad range of NAICS codes. These include Financial Services, Information Technology, and Agribusiness. Finally, there are traditional industry opportunities such as Manufacturing and Transportation & Logistics that the USVI should continue to pursue.

**PRIORITY FINDINGS & RECOMMENDATIONS**

- Alternative energy was not included in the final list of target industries due primarily to the difficulty in recruiting employers in this sector. Most of the employment growth in this sector is classified under Scientific and Technical Consulting Services as well as Power and Communications Line and Related Structures Construction. In addition, renewable energy power generation companies that are attracted to the island will likely require a Power Purchasing Agreement (“PPA”) with the USVI Water and Power Authority (“WAPA”), which can only support a limited number of such agreements. Therefore, rather than trying to recruit companies in these sectors using traditional methods, the USVI should continue working to incorporate renewables and alternatives into the Territory’s energy sourcing portfolio as laid out in the USVI Energy Road Map.

**FIGURE 2. TARGET INDUSTRY OVERVIEW**

*Employment in the target sector (as defined) and assigned priority*

<table>
<thead>
<tr>
<th>Target Sector</th>
<th>Estimated USVI Employment*</th>
<th>Priority</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Services</td>
<td>686</td>
<td>605</td>
<td></td>
</tr>
<tr>
<td>Business Process Outsourcing (BPO)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-value Manufacturing**</td>
<td>1,497</td>
<td>183</td>
<td></td>
</tr>
<tr>
<td>Transportation &amp; Logistics</td>
<td>895</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td>643</td>
<td>711</td>
<td></td>
</tr>
<tr>
<td>Agribusiness</td>
<td>325</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>Tourism</td>
<td>4,620</td>
<td>4,008</td>
<td></td>
</tr>
</tbody>
</table>

Source: TIP Strategies, EMSI’s Covered Employment 2014.1. *Figures reflect employment in the 4-digit NAICS industries corresponding to the targets as defined in later sections of this report. **Separate priorities and timeframes are defined for petroleum and coal products manufacturing versus other segments.
Information Technology training should be a top priority of workforce development and education efforts in the USVI. It is critical not only to support the development of the IT sector, but industries across the board. Digital literacy is now a basic requirement for most every high-wage job and is a realistic pathway for USVI residents to achieve a higher standard of living.

The refinery closure exposed the need to diversify the Territory’s economy and reduce dependence on refining for high-value manufacturing employment. Achieving some degree of diversification will require long-term efforts to bring down the cost of energy and improve the education and skill levels of the workforce.

The Territory should continue efforts to seek federal and private funding to develop a large international transshipment port on St. Croix. Securing federal grant funding to pay for a feasibility study and master plan is the immediate priority. The results of these reports will determine the level and possible sources of funding required to develop the port’s infrastructure. Indeed, the 2014 CEDS Update identified the St. Croix Transshipment Port Facility as the Territory’s primary funding priority for the near future.

St. Croix should continue to develop more specialized tourism products that appeal to overnight visitors, including adventure, ecotourism, arts and culture, sports, and festivals and events. In addition, VIEDA should work with the USVI Department of Tourism to more closely align its convention and meeting strategy to targeted industry sectors, associations, and occupations. This brings executives and people who fit talent needs to the Territory and exposes them to the USVI’s amenities.

Promote specialty foods and micro-batch luxury items such as craft rum to capture premium prices. These products would also tie in well with tourism as they could be souvenir items for visitors to purchase and would provide more variety in the local foods marketplace.

**CONCLUSION**

It is a tribute to the economic development leadership of the USVI that the closure of HOVENSA has not had an even more devastating effect on the Territory’s economy. Consistent efforts to move beyond tourism and the refinery have been a hallmark of the current administration. Nevertheless, economic development in the USVI faces daunting challenges. A target industry recruitment strategy is a necessary component of any comprehensive approach, but its success remains dependent on addressing systemic issues of competitiveness. Foremost among these issues is the workforce. All sectors of the economy—even tourism—are becoming more technology-intensive. As an immediate consequence, the required education level of workers is increasing. When businesses make location decisions, the education and skill levels of the employment base are paramount.
ECONOMIC PROFILE

To help document the USVI’s competitive advantages and understand barriers and challenges, we began by compiling existing economic and demographic information. To avoid duplication of effort, much of the data presented here draws on the wealth of data resources available through the USVI Bureau of Economic Research (“BER”), as well as findings from prior studies. Where there was value in updating or enhancing this information, the team conducted additional analyses.

ECONOMIC INDICATORS

Like many areas, the USVI economy has struggled to recover from the Great Recession. The effects of the recession on the Territory have been compounded by enactment of the American Jobs Creation Act of 2004 (the “Jobs Act”) and the closing of HOVENSA in 2012. As shown in Figure 2, following a surge of employment in the lead-up to the economic crisis, employment levels in the Territory have been dropping steadily since 2010.

A look at the distribution of employment based on estimates prepared by private data provider EMSI illustrates that employment losses have been highest on St. Croix (Figure 4). Since 2001, the beginning year for which EMSI’s estimates are available, the island’s share of total employment declined from 44 percent to just 37 percent in 2013. This decline reflects job losses on St. Croix, rather than any substantial change in employment levels on St. John and St. Thomas.

The volatility of employment on St. Croix can be seen in Figure 5, which shows the estimated percentage change in employment from the prior year. Impacts

FIGURE 3. USVI EMPLOYMENT (IN THOUSANDS)
Total Non-farm Employment, 1990-2014 (first 8 months)

Source: Annual averages based on US Bureau of Labor Statistics data through August 2014 (*prelim.)

FIGURE 4. DISTRIBUTION OF EMPLOYMENT
Estimated share of total employment by island

Source (Figures 2&3): Calculated from EMSI’s Covered Emp. 2014.1

FIGURE 5. EMPLOYMENT TRENDS
Percent change in employment from prior year

Source (Figures 2&3): Calculated from EMSI’s Covered Emp. 2014.1
of the recession can be seen across all three islands in 2009, followed a few years later by steep declines in St. Croix’s employment levels, reflecting the loss of employment at HOVENSA and related impacts.

Tourism-related employment dominates the USVI job base, with related activities accounting for 8,225 jobs in 2013 according to the most recent figures published by BER. Figure 6 shows employment trends for industries most closely associated with tourism. While employment in lodging and retail trade has remained relatively steady, employment in property-related industries and arts, entertainment, and recreation have been more volatile. Other significant sources of employment include the public sector, professional services, and transportation and trade.

Manufacturing employment has declined from a peak of 2,300 in the mid- to late-2000s to roughly 800 in 2013. Employment in the sector is concentrated on St. Croix and was largely dependent upon petroleum refining, which represented between 50 and 60 percent of the USVI’s total manufacturing employment until the start of this decade. Figure 8 (page 8) shows employment levels for significant manufacturing industries.

Though neither match the petroleum refining industry in scale, nonmetallic mineral processing and food and beverage manufacturing have maintained a relatively stable base of employment in the Territory since 2001. Nonmetallic mineral processing, an industry which includes concrete manufacturing, has consistently employed between 150 and 200 workers.

The Territory’s food and beverage employment has remained at roughly 300 jobs over the same timeframe. Products in this category include distilleries, soft drinks, bakery products, and dairy products. Distilleries represent the fastest-growing

---

**FIGURE 6. TOURISM-RELATED EMPLOYMENT**

Percent change in employment from prior year

![Graph showing employment trends for tourism-related industries](image)

**FIGURE 7. BEVERAGE EMPLOYMENT**

Distribution of jobs in beverage segments

![Bar chart showing distribution of jobs in beverage segments](image)

**Trends in distilleries employment**

![Line graph showing employment in distilleries](image)

Source (all figures): EMSI’s Covered Employment 2014.1
segment of the Territory’s beverage manufacturing employment, adding roughly 80 jobs since 2008 (an increase of 136 percent). According to EMSI, the industry employs nearly 150 workers.

Employment trends for selected broad sectors, including manufacturing, are shown in Figure 8 (page 8). Figures are indexed to show changes in employment in the industry relative to levels in 2001. The figures illustrate the Territory’s lackluster employment growth, with employment levels remaining stagnant or declining in six of the nine sectors shown. Even the modest growth seen by a handful of sectors—transportation and warehousing, professional and technical services, and finance and insurance—evaporated at the outset of the current decade.

Annual unemployment rates prepared by the VI Department of Labor tell the tale of the Territory’s economic troubles. From rates of less than 3 percent in the early 1990s, unemployment rolls have swelled to double-digits due to the recession, a reduction in tourism, after-shocks from HOVENSA’s departure, and the impact of the 2004 Jobs Act. According to a February 2013 report by IHS, Inc., dozens of beneficiaries of the Economic Development Commission’s tax incentive program curtailed their expected hiring following passage of the legislation.

These events are also mirrored in the USVI’s gross domestic product (“GDP”) shown in Figure 10. According to the accompanying press release by the US Bureau of Economic Analysis (“BEA”), declines in GDP reflect decreased petroleum exports (resulting from the HOVENSA closure) and reductions in consumer spending on nondurable goods and services. The BEA analysis states that if petroleum-related impacts were excluded GDP would have risen by 0.6 percent in 2013, driven by growth in tourism and rum exports.
FIGURE 11. USVI EMPLOYMENT TRENDS, SELECTED NAICS SECTORS
Change in employment for selected sectors in USVI indexed to 2001 levels (2001 = 1.0)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Lodging, restaurants, &amp; bars</th>
<th>Retail trade</th>
<th>Personal &amp; other services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>2003</td>
<td>2005</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>2009</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>2013</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: EMSI’s Covered Employment 2014.1
WORKFORCE/EDUCATION

The presence of a skilled workforce continues to be the number one factor in site location decisions. Findings from prior studies, as well as the employer survey conducted as part of this work, point to serious challenges with regard to employers’ perceptions of the local workforce.

Office and administrative support workers comprise the largest group of occupations in the Territory, accounting for 17 percent of total employment in 2013. However, this occupational category—which encompasses a range of clerical workers, such as computer operators, receptionists, dispatchers, and bank tellers—saw sharp declines between 2013 and 2008, shedding nearly 1,000 jobs. Sales positions and food service workers round out the top three largest groups, accounting for 13 percent and 10 percent, respectively, of total employment. These occupations experienced much smaller declines over the past five years. Following office and administrative workers, the largest job losses were seen in occupations tied to the Territory’s industrial segments. Hundreds of jobs were lost among the Territory’s production workers, installation and maintenance positions, and construction and extraction jobs, with each of the three occupational groups shedding approximately 700 to 900 jobs between 2008 and 2013.

FIGURE 12. USVI EMPLOYMENT BY MAJOR OCCUPATIONAL GROUP, 2013
Including net job change 2008-2013 and median hourly wage

<table>
<thead>
<tr>
<th>SOC Code</th>
<th>Description</th>
<th>2013 Jobs</th>
<th>Share of total jobs</th>
<th>2008 Jobs</th>
<th>Change in Jobs 2008 to 2013</th>
<th>Median Hourly Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-0000</td>
<td>Office and Administrative Support</td>
<td>6,620</td>
<td>17%</td>
<td>7,618</td>
<td>-998</td>
<td>$12.91</td>
</tr>
<tr>
<td>41-0000</td>
<td>Sales and Related</td>
<td>4,944</td>
<td>13%</td>
<td>5,315</td>
<td>-371</td>
<td>$12.10</td>
</tr>
<tr>
<td>35-0000</td>
<td>Food Preparation and Serving Related</td>
<td>3,904</td>
<td>10%</td>
<td>4,042</td>
<td>-138</td>
<td>$9.64</td>
</tr>
<tr>
<td>25-0000</td>
<td>Education, Training, and Library</td>
<td>2,620</td>
<td>7%</td>
<td>3,102</td>
<td>-482</td>
<td>$23.67</td>
</tr>
<tr>
<td>53-0000</td>
<td>Transportation and Material Moving</td>
<td>2,139</td>
<td>6%</td>
<td>2,382</td>
<td>-243</td>
<td>$14.21</td>
</tr>
<tr>
<td>37-0000</td>
<td>Building and Grounds Cleaning and Maintenance</td>
<td>2,127</td>
<td>5%</td>
<td>2,506</td>
<td>-379</td>
<td>$10.37</td>
</tr>
<tr>
<td>13-0000</td>
<td>Business and Financial Operations</td>
<td>2,059</td>
<td>5%</td>
<td>2,461</td>
<td>-402</td>
<td>$22.11</td>
</tr>
<tr>
<td>33-0000</td>
<td>Protective Service</td>
<td>1,876</td>
<td>5%</td>
<td>2,096</td>
<td>-220</td>
<td>$12.84</td>
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<tr>
<td>11-0000</td>
<td>Management</td>
<td>1,866</td>
<td>5%</td>
<td>2,244</td>
<td>-378</td>
<td>$29.80</td>
</tr>
<tr>
<td>49-0000</td>
<td>Installation, Maintenance, and Repair</td>
<td>1,691</td>
<td>4%</td>
<td>2,427</td>
<td>-736</td>
<td>$16.46</td>
</tr>
<tr>
<td>29-0000</td>
<td>Healthcare Practitioners and Technical</td>
<td>1,478</td>
<td>4%</td>
<td>1,587</td>
<td>-109</td>
<td>$25.99</td>
</tr>
<tr>
<td>47-0000</td>
<td>Construction and Extraction</td>
<td>1,381</td>
<td>4%</td>
<td>2,057</td>
<td>-676</td>
<td>$15.62</td>
</tr>
<tr>
<td>51-0000</td>
<td>Production</td>
<td>1,019</td>
<td>3%</td>
<td>1,915</td>
<td>-896</td>
<td>$9.09</td>
</tr>
<tr>
<td>39-0000</td>
<td>Personal Care and Service</td>
<td>963</td>
<td>2%</td>
<td>1,009</td>
<td>-46</td>
<td>$9.81</td>
</tr>
<tr>
<td>21-0000</td>
<td>Community and Social Service</td>
<td>848</td>
<td>2%</td>
<td>991</td>
<td>-143</td>
<td>$17.75</td>
</tr>
<tr>
<td>15-0000</td>
<td>Computer and Mathematical</td>
<td>767</td>
<td>2%</td>
<td>885</td>
<td>-118</td>
<td>$23.62</td>
</tr>
<tr>
<td>31-0000</td>
<td>Healthcare Support</td>
<td>618</td>
<td>2%</td>
<td>632</td>
<td>-14</td>
<td>$12.77</td>
</tr>
<tr>
<td>19-0000</td>
<td>Life, Physical, and Social Science</td>
<td>542</td>
<td>1%</td>
<td>698</td>
<td>-156</td>
<td>$19.31</td>
</tr>
<tr>
<td>17-0000</td>
<td>Architecture and Engineering</td>
<td>486</td>
<td>1%</td>
<td>737</td>
<td>-251</td>
<td>$23.34</td>
</tr>
<tr>
<td>23-0000</td>
<td>Legal</td>
<td>485</td>
<td>1%</td>
<td>561</td>
<td>-76</td>
<td>$38.49</td>
</tr>
<tr>
<td>27-0000</td>
<td>Arts, Design, Entertainment, Sports, and Media</td>
<td>371</td>
<td>1%</td>
<td>441</td>
<td>-70</td>
<td>$16.54</td>
</tr>
<tr>
<td>45-0000</td>
<td>Farming, Fishing, and Forestry</td>
<td>67</td>
<td>0%</td>
<td>94</td>
<td>-27</td>
<td>$10.29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38,870</strong></td>
<td><strong>100%</strong></td>
<td><strong>45,797</strong></td>
<td><strong>-6,927</strong></td>
<td><strong>$15.86</strong></td>
<td></td>
</tr>
</tbody>
</table>

Attitudes toward the Territory’s workforce were largely negative among respondents to the employer survey (presented as Appendix A.). Participants were asked to rate the Territory’s workforce on a range of characteristics, such as productivity, reliability, and communication skills. For 11 of the 12 categories listed, one-half or more of responding firms gave the local workforce a “poor” rating. The one exception was trainability, where more than one-half (59 percent) gave a “fair” or “good” rating. However, none of the responding firms rated the workforce as “excellent” on any of the characteristics queried and only a handful of firms applied a “good” rating to any categories. In fact, more than 85 percent of respondents found the workforce either fair or poor on every characteristic listed.

The subject of “middle skills” jobs has garnered significant attention in recent years. Defined as jobs requiring more than a high school diploma but less than a four-year degree, this broad category includes a number of jobs that are essential to a wide range of industries. These occupations include skilled trades positions, such as plumbers and electricians, as well as production workers, healthcare technicians, and administrative support functions.

Using data on entry-level requirements by occupation, we estimate that middle skills jobs comprise roughly 30 percent of the USVI job base, compared with 35 percent nationally (Figure 13). Conversely, low-skilled positions account for a larger share of employment in the Territory—49 percent or roughly one in every two workers—compared with 44 percent nationally. The USVI’s share of high skills jobs—those requiring a bachelor’s degree or higher—is comparable to national levels.

In addition to being in demand nationally, these jobs tend to pay above-average wages and often require a relatively short period of training beyond high school, making them a good return on investment for students. Paradoxically, US employers report difficulty finding workers in these critical occupations, despite long cycles of above-average unemployment. Reasons for the mismatch between employer demand and the supply of talent are complex and vary by industry. However, underlying forces include the changing skills required by continued automation, demographic shifts, a lack of interest in technical training among young people, and federal policies and cultural norms that have emphasized four-year degrees. In addition, students often make choices about their field of study based on personal interests; typically, with little or no current information about the job market.

To document the types of graduates being produced by the Territory’s postsecondary system, we compiled data from the Integrated Postsecondary Data System, a series of inter-related surveys compiled by the US Department of Education’s National Center for Education Statistics ("IPEDS"). The University of the Virgin Islands ("UVI") awards roughly 350 degrees annually (Figure 14). Only one in four of these is conferred at the associate’s level. Four-year degrees are the most common, accounting for nearly two-thirds (an average of 65 percent) of the institution’s awards each year.
Using the IPEDS data series, we also looked at the number of degrees awarded by field of study. Four subjects—business, accounting, nursing, and psychology—comprise more than one-half of all degrees awarded each year by the University of the Virgin Islands, based on the average number of completions during the five most recent academic years for which data are available.

Business Administration and Management, General (CIP 52.0201) is by far the largest, averaging 100 degrees annually during the five-year period analyzed. All other fields of study average fewer than 25 completions per year, with most fields garnering fewer than 10 degrees on average. Strategies to help students better align their field of study with demand occupations would improve the pipeline and help connect graduates with employment upon graduation. In addition, a growing number of occupations require training beyond high school but far short of a four-year degree or even an associate’s level credential. The Territory’s lack of programs offering short-term postsecondary certificates puts workers and businesses at a disadvantage in gaining the skills needed for many of the economy’s fastest-growing occupations.

The USVI Workforce System is in the process of renewing its registered apprenticeship program through the US Department of Labor (“US DOL”). The Workforce System is encouraging the development of apprenticeship programs in the Territory’s demand occupation areas, including Advanced Manufacturing, Construction, Healthcare, Hospitality, Homeland Security, and Information Technology. According to the US DOL, apprentices must typically complete 2,000 hours of on-the-job training and at least 144 hours of related technical instruction each year, with programs lasting between one and four years. By contrast, certificate programs that are as short as six weeks can prepare workers to enter middle-skills occupations, such as welding.

**FIGURE 14. UNIVERSITY OF THE VIRGIN ISLANDS**

*For-credit completions by award level, 2009-2013*

<table>
<thead>
<tr>
<th>Year</th>
<th>Bachelor’s degree</th>
<th>Associate’s degree</th>
<th>Post-master’s certificate</th>
<th>Master’s degree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>28%</td>
<td>9%</td>
<td>47%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>2010</td>
<td>28%</td>
<td>10%</td>
<td>44%</td>
<td>9%</td>
<td>100%</td>
</tr>
<tr>
<td>2011</td>
<td>28%</td>
<td>9%</td>
<td>47%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>2012</td>
<td>28%</td>
<td>9%</td>
<td>47%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>2013</td>
<td>28%</td>
<td>9%</td>
<td>47%</td>
<td>10%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Top fields of study based on average number of for-credit completions, 2009-2013**

- Business Admin./Mgmt., General: 28%
- Psychology, General: 7%
- Registered Nursing/RN: 9%
- Accounting: 9%
- Remainder: 47%

Source: National Center for Education Statistics, IPEDS.

Note: IPEDS data include only those schools eligible to participate in federal financial aid programs. Completions are for degrees and awards conferred for credit (i.e., as part of an academic course of study. Figures include first and second majors. Years shown are academic years (e.g., 2009 data are for the 2008-2009 academic year).
INFRASTRUCTURE

As an island Territory, infrastructure assets associated with the movement of goods and people are essential to the USVI’s economic health. The Virgin Islands Port Authority (“VIPA”), a semi-autonomous agency, owns and operates the two airports and the majority of the Territory’s public seaports.

With tourism accounting for a majority of the US Virgin Islands’ gross domestic product and a significant share of employment, the airports located on St. Thomas and St. Croix provide conveniently accessible gateways for air passengers and air freight that are so necessary to maintaining and fostering the islands’ growth. Airports owned and managed by the VIPA are:

- Henry E. Rohlsen International Airport on St. Croix. (IATA location ID: STX, ICAO location ID: TISX)
- Cyril E. King Airport on St. Thomas (IATA location ID: STT, ICAO location ID: TIST)

Based on our review of the facilities, both airports have the capacity to handle additional traffic. The Henry E. Rohlsen International Airport on St. Croix handles approximately 19 departures per day. Using a generous aircraft turn-around time of two hours, and given the number of gates available and regular hours of operation, the terminal has the ability to handle up to 87 departures per day. The Cyril E. King Airport on St. Thomas currently handles approximately 35 aircraft departures per day. Using the same two-hour window, and given the 11 gates available for use and regular hours of operation, the St. Thomas facility has the ability to handle up to 93 departures daily. In both examples, however, the estimated operating capacity would be wholly dependent upon size of aircraft and the capability of the airport to provide adequate pre-board security screening, aircraft ground handling, and refueling services. Given the current low level of operations, the terminal should have the capacity to handle any nominal increase in traffic, given the number of gates available. This is particularly true of the Cyril E. King Airport, given its prior history of handling a larger number of departures than it presently does.

Along with the airports listed above, VIPA owns and operates all public seaports in the USVI, except the West Indian Company Dock in Havensight, St. Thomas.

- St. Croix has three seaports (Port of Frederiksted, Port of Christiansted, and Port Alucroix) and five marine facilities. The Ann E. Abramson Marine Facility (Port of Frederiksted) is the only cruise ship port on St. Croix. The Gallows Bay Dock (Port of Christiansted) is a vital link for small cargo vessels. The Wilfred “Bomba” Allick Port and Transshipment Center (Port Alucroix) is located in Krause Lagoon. It is the hub for commercial and industrial activity on St. Croix and is located near the Henry E. Rohlsen International Airport and St. Croix Renaissance Park. The Gordon A. Finch Molasses Pier (Port Alucroix) is also located in Krause Lagoon. This multi-purpose facility is primarily used for importing molasses (to the rum distillery), liquid asphalt, and construction materials. A major economic development priority is to develop a large-scale international transshipment port at the St. Croix Renaissance Industrial Park to accommodate post-Panamax cargo ships. VIEDA, the VIPA, and the St. Croix Renaissance Group have signed an MOU to jointly develop this facility. Securing federal funding to help develop the transshipment cargo facility is the priority project identified in the 2014 CEDS Update. This includes an initial $500,000 in funding to
perform a feasibility study, high level master plan, and related reports to determine the costs and market demand for the proposed facilities.

- St. John has three seaports/marine facilities. The Loredon Lawrence Boynes Sr. Dock is located in Cruz Bay. It is the main port of entry to St. John and provides ferry service to Red Hook and Charlotte Amalie Harbor. The Victor William Sewer Marine Facility is located in Cruz Bay. The Port Authority has ceased all cargo operations at this port. It is now used for the berthing of passenger ferries and tenders. VIPA is developing designs to make it a ferry passenger facility. The Theovald Eric Moorehead Dock and Terminal is located at Enighed Pond, which was developed into a cargo facility to accommodate the increase of cargo traffic to Cruz Bay. All cargo activity has shifted to Enighed Pond.

- St. Thomas has six VIPA-owned seaports/marine facilities. The Austin “Babe” Monsanto Marine Terminal, located in Crown Bay, is one of two cruise ship ports in St. Thomas and can accommodate three cruise ships simultaneously. The Crown Bay Cargo Port handles containerized and general cargo. Most of the USVI’s food, materials, and other goods are imported to this port. It also serves as a transshipment port to other Caribbean islands. The Waterfront, located in Charlotte Amalie Harbor, accommodates mini-cruise ships and cruise ship tenders. Urman Victor Fredericks Marine Terminal (Red Hook) is located on the eastern end of St. Thomas and primarily serves passengers traveling between St. Thomas and St. John, and St. Thomas and the British Virgin Islands. It has been upgraded to improve passenger experience thanks to a $10 million project funded by the Federal Highway Administration, the Federal Economic Development Administration, and VIPA.

Along with traditional infrastructure designed to facilitate the movement of goods and people, infrastructure related to the movement of digital information is becoming an increasingly essential economic development asset. According to data from TeleGeography, a number of undersea cables pass through USVI, including the Global Caribbean Network (“GCN”), the Mid-Atlantic Crossing (“MAC”), the Pan American (“PAN-AM”), the Perseid, and the South American Crossing (“SAC”). The USVI’s proximity to this cluster of undersea cable connections that pass data between South America, Central America, and the Caribbean to North America and Europe makes the Territory a critical telecommunications hub (Figure 15, page 15). Appendix C provides maps and details for each of the undersea cables identified by TeleGeography as having a connection in the USVI.

Access to broadband on each island is provided through the Virgin Islands Next Generation Network (“viNGN”). Established in 2010 as part of a federal program to improve the broadband capacity in the US, viNGN operates as a public corporation and is a wholly owned subsidiary of the Virgin Islands Public Finance Authority. The network was funded primarily from a $68 million grant by the National Telecommunications Information Administration (“NTIA”) as part of the Broadband Technology Opportunities Program (“BTOP”). The Government invested $32 million in the project through a bond issue, and WAPA provided an in-kind contribution. The project funding constructed a “middle-mile” broadband infrastructure network that connects households, schools, public safety offices, emergency management centers, hospitals, and government facilities to the Internet. viNGN also includes the establishment of public computer centers throughout the Territory to provide basic digital literacy and advanced computer training to island residents.
St. Thomas-St. Croix System
Ready-for-Service: July 2013
Cable Length: 183 km
Owners: Virgin Islands Next Generation Networks, Inc.
URL: http://www.vingn.com
Landing Points
Banana Bay, VI, United States
Brewer’s Bay, VI, United States
Christiansted, VI, United States
Flamingo Bay, VI, United States
Frederiksted, VI, United States
Great Bay, VI, United States
Vila Olga, VI, United States

The USVI’s proximity to a web of undersea cables makes it a strong location for information technology and telecommunications industries.

Source: Submarine Cable Map, TeleGeography accessed at http://www.submarinecablemap.com/ Data are drawn from the Global Bandwidth Research Service and updated on a regular basis. Maps for additional undersea cables that connect to the USVI are provided as Appendix C.
REGULATORY/BUSINESS COST

The USVI offers a distinct advantage for businesses looking to enjoy the protection of US laws and currency controls while benefitting from unique tax incentives and retaining the “Made in the US” label. However, employers surveyed as part of this study were largely negative in their opinions regarding the regulatory environment in the Territory and its impact on the cost of doing business. Business climate factors which were most important to respondents (government efficiency and effectiveness and cost of utilities) received the lowest ratings. For those two categories, almost 75 percent of participants considered the factors extremely important, and over 80 percent (98 percent in the case of cost of utilities) rated the Territory’s performance on these point as extremely poor. Of the 17 success factors rated, over three-quarters of respondents rated every factor between average and extremely poor. Full details of the survey are presented as Appendix A to this report.

One oft-cited regulatory barrier to economic growth is the 2004 Jobs Act. Two provisions of the Jobs Act have had a substantially negative impact on the Territory’s tax incentive program, according to a 2013 report by IHS, entitled The Economic Impact of the US Virgin Islands Economic Development Commission Program. The first provision requires USVI taxpayers to have a physical presence in the Territory for 183 days out of each year (or an average of 183 days over a three-year period) in order to establish residency. This period exceeds the residency standard established by the IRS for foreign nationals in the US (122 days) by 50 percent. This restriction is particularly burdensome for designated services businesses under the EDC program which are required to render services outside the Territory (so as to avoid competing with local providers). This business model often requires frequent travel that cuts into their ability to meet the residency requirement.

The second provision relates to the types of income that are eligible for exemption. Under the Jobs Act, the definition of effectively connected income (“ECI”) excludes “all US source income and effectively connected income (except manufacturing income) from ever qualifying for EDC tax incentives. In particular, such rules disqualify (from USVI tax incentives) certain US insurance, royalty and interest income earned by EDC beneficiaries, even if such income is generated wholly by economic activities or assets in the USVI.” With this more restrictive definition in place, the appeal of the USVI’s tax incentives has been significantly reduced and the number of applications for the EDC’s program has dropped precipitously.

Passage of the so-called “Rockefeller Amendment” (named for the Senator who introduced the legislation) would modify both provisions to lessen the impacts as they related to the Territory’s economic development initiatives. In fact, the IHS study found that “relaxing the residency and income requirements [as provided for in the Rockefeller Amendment] will attract on average 16 more firms a year to the Territory over the 10-year forecast period” compared to the status quo (under which the Jobs Act provisions remain in force).

Energy costs represent a significant barrier to investment for a number of industries, including manufacturing. In a recent report on the renewable energy industry in Latin America and the Caribbean, the American Council on Renewable Energy (“ACORE”) states that USVI electric utility rates make it “nearly impossible to foster economic growth.” (ACORE, Regional Briefing: Renewable Energy in Latin America and the Caribbean, page 11). The Virgin Islands Water and Power Authority (“WAPA”) is taking steps to address this issue, including a planned conversion from fuel oil to propane which is projected to reduce the utility’s fuel costs by 30 percent annually. In addition to
lowering direct costs, a reduction in rates would result in a lowering of the current fuel surcharge which accounts for a significant share of customer costs. The USVI Energy Road Map, produced as part of the Energy Development in Island Nations partnership (edinenergydev.nrel.gov), establishes a goal of reducing fossil fuel use by 60 percent by 2025. The plan calls for a focus on promoting energy efficiency and increasing the use of renewable sources, including solar and waste-to-energy.

QUALITY OF LIFE

Our approach acknowledges that economic development must do more than just provide business expansion opportunities. The ability to retain businesses and attract new companies is directly tied to the ability to maintain an area’s quality of place. The USVI has many advantages in this regard: an agreeable climate and relaxed “island” lifestyle, coupled with an English-speaking population and the protections of US laws.

However, prior studies and findings from our stakeholder engagement tasks highlight a number of areas that will require sustained and aggressive action. One of the most troubling is the Territory’s high poverty rates. The USVI’s challenges in this area are well-documented in the BER’s 2010 report, The Self-Sufficiency Standard for the US Virgin Islands. While the official poverty rate exceeds “even those of the poorest US state,” (IHS, p.2), the BER report points to the serious flaws in the official definition of poverty, which make it likely that actual number of people living in poverty exceed the official numbers. Coupled with high housing costs and stagnant wages, these figures suggest that living in the USVI is an economic challenge for a growing number.

Access to quality healthcare has become an important factor in the location decisions of both people and firms. The VIEDA 2008 Marketing Plan cites the lack of high-quality healthcare in the Territory as “a serious issue” for the retention of residents and businesses, as well as the attraction of new investment. The plan also points to the high cost of caring for the uninsured, cited as “tens of millions per year and rising,” as a drain on government resources (VIEDA, p. 2-5). Estimates prepared by the US Census Bureau place the number of island residents without health insurance at more than 32,000 in 2010, roughly one-third of the total population (31 percent). At the national level, the share of uninsured is estimated at just under 15 percent. This situation is compounded by the fact that US Territories are treated differently under certain federal programs, including Medicaid, which applies statutory caps and matching rates to the USVI that are lower than those received by states.

Migration data can shed light on an area’s ability to attract residents as well as the mobility of its residents. Data on geographic mobility compiled by the US Census Bureau show that USVI residents are slightly less mobile than their counterparts in the US. In 2010, roughly 11 percent of the USVI population age 1 year and over were living in a different house than they had in the prior year, compared with approximately 14 percent of the nation. And of those residents that had moved, two-thirds had moved from another house on the same island. However, just over 3 percent of the population moved to the USVI from outside, primarily from the US. While not entirely comparable, this figure is much higher than the share of US residents who reported their residence one year earlier as being outside the US.

Data from the County-to-County Migration series, collected as a bi-product of the US Internal Revenue Service’s tax filings, can provide another source of information on migration. This massive dataset uses year-over-year comparisons of address changes by tax filers to provide a basis for illustrating domestic population movements.
Although not an exact match, tax returns are used to represent households; the number of exemptions filed is typically used as a proxy for population. While this data set does not track flows to and from the USVI specifically, movement of filers from other US counties to and from the Territory are captured where a minimum of 10 tax returns are identified. An analysis of the years for which data are available show limited but clear connections to Florida (Broward, Miami-Dade, and Orange Counties) and, to a lesser extent Harris County (Houston) in Texas. It is likely that many flows between specific US counties do not meet this 10-return threshold so this is by no means an exhaustive list.

One positive aspect of the Territory’s quality of life, which could also help attract and maintain residents, is its vibrant non-profit sector. Driven, at least in part, by Economic Development Commission (“EDC”) requirements that beneficiaries participate in minimum charitable giving, personal philanthropy, and charitable volunteer efforts, the strong presence of these organizations provides a key mechanism for making quality of life improvements. Some past examples include donations towards creating and maintaining walkable waterfront public spaces, improvement of public schools, investment in private school infrastructure and scholarships, and a new accounting system for the St. Croix Foundation.

**FIGURE 16. MIGRATION PATTERNS WITH USVI AND SELECTED FLORIDA COUNTIES**

*Number exemptions recorded for three Florida counties*

<table>
<thead>
<tr>
<th>County</th>
<th>Years (2005-2011)</th>
<th>Exemptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broward County</td>
<td>2005-2011</td>
<td>From Broward to USVI: 75, From USVI to Broward: 25</td>
</tr>
<tr>
<td>Miami-Dade County</td>
<td>2005-2011</td>
<td>From Miami-Dade to USVI: 75, From USVI to Miami-Dade: 25</td>
</tr>
<tr>
<td>Orange County</td>
<td>2005-2011</td>
<td>From Orange to USVI: 75, From USVI to Orange: 25</td>
</tr>
</tbody>
</table>

Source: Internal Revenue Service, County-to-County Migration Data. IRS figures do not track migration for the USVI directly, but the USVI is coded as an origin or destination for migration flows into/out of US counties reach the confidentiality threshold (i.e., a minimum of 10 returns). Figures above show the only three counties for which flows were recorded in each of the available years.
INDUSTRY TARGETING

The USVI has undertaken a number of targeting initiatives including the 2008 EDA Marketing Plan and the high value entrepreneurship initiative led by the University of the Virgin Islands Research and Technology Park ("RTPark"). Our goal with this work is to re-examine and refine these targets to reflect changes in the global economy and to best leverage the USVI’s competitive advantages.

APPROACH

Our starting point for examining potential target industries is an inventory of industries already being pursued by the Territory’s chief economic development organization, the Virgin Islands Economic Development Authority ("VIEDA") and the RTPark. The sources used for this analysis are the 2008 EDA Marketing Plan, VIEDA’s FY 2013 Annual Report, and the list of knowledge-based businesses the RTPark is mandated to pursue.\(^1\) The existing target sectors are listed below:

<table>
<thead>
<tr>
<th>2008 EDA Marketing Plan</th>
<th>FY 2013 VIEDA Annual Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial services</td>
<td>Priority sectors (proven success or potential to benefit from EDC program)</td>
</tr>
<tr>
<td>Information technology</td>
<td>High-value manufacturing</td>
</tr>
<tr>
<td>Aviation</td>
<td>Financial services</td>
</tr>
<tr>
<td>Alternative energy</td>
<td>Call centers/back office processing</td>
</tr>
<tr>
<td>Agribusiness</td>
<td>Hotel/resort investment</td>
</tr>
<tr>
<td>Maritime</td>
<td></td>
</tr>
<tr>
<td>Film production</td>
<td></td>
</tr>
<tr>
<td>Tourism</td>
<td></td>
</tr>
<tr>
<td>Aquaculture/mariculture</td>
<td></td>
</tr>
</tbody>
</table>

Knowledge-Based Businesses targeted by the RTPark

- Research businesses
- Information technology businesses
- E-commerce businesses
- Electronic hosting facilities
- Agricultural research
- Electronics businesses

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\(^1\) Knowledge-based businesses as defined in 17 VIC Chapter 34 §482(h).
To reconcile these existing sectors, TIP regrouped them under unified industry sector headings. In addition, we refined the specific industry components of each sector using our three-pronged approach: a review of quantitative analyses, qualitative input from our fieldwork, and a strategic lens. Considerations in the selection of targets are summarized in Figure 17 include the following:

- Employment trends and markets
- The relationship to existing infrastructure
- The extent to which the industry’s needs align with local workforce capacity
- Whether the USVI’s existing taxation and incentives policies would be favorable
- How the industry would impact or shape internal and external perceptions of the Territory

**STRATEGIC CONSIDERATIONS**

The focus of this study is on defining target industries for the USVI to help enhance and diversify the economy. One strategy for accomplishing the same objective is the recruitment of talent. Though it is approached from a different perspective than traditional industry recruitment, the impact from a systematic talent initiative can be similar. The Territory is already engaged in this strategy on a number of fronts, including VIEDA’s efforts to recruit executives of small financial services and IT companies and the high-value entrepreneurship strategy championed by the RTPark. We recommend creating a systematic approach to talent recruitment that applies the same assets and advantages already being used to draw potential investors to new opportunities. One example is to leverage the current efforts to establish an EB-5 Regional Center to attract high-wealth investors in order to enhance private investment.

In order to be successful in any recruitment strategy, however, Territory leaders must address a number of issues that directly affect the USVI’s competitiveness across all sectors. Within each sector outlined below we have provided recommendations regarding specific actions that must be taken if any target sector initiative is to succeed. A number of these recommendations cut across sectors and will be directly connected to the USVI’s future economic success, including improving the education and skills levels of the workforce, bringing down the cost of electricity and improving reliability, and maintaining and enhancing each island’s industrial infrastructure.

**FIGURE 17. MATRIX OF FACTORS: EXISTING TARGETS**

<table>
<thead>
<tr>
<th>Source: TIP Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth/Demand</strong></td>
</tr>
<tr>
<td>Financial Services</td>
</tr>
<tr>
<td>Business Process Outsourcing</td>
</tr>
<tr>
<td>High-value Manufacturing</td>
</tr>
<tr>
<td>Transportation &amp; Logistics</td>
</tr>
<tr>
<td>Information Technology</td>
</tr>
<tr>
<td>Agribusiness</td>
</tr>
<tr>
<td>Tourism</td>
</tr>
</tbody>
</table>
TARGETED COMPETITIVE INDUSTRY STUDY  US VIRGIN ISLANDS

TARGET PROFILES

Profiles of the recommended industry targets are presented in the following pages. For each target, we provide an overview of the sector (including an analysis of US employment trends showing the performance of individual industries by year from 2010 to 2013), a rationale for selection, and a summary of constraints. Each target has also been assigned a timeframe and priority. Some are “low-hanging fruit” and may require only a shifting of resources or emphasis, while others may require significant investment of time and capital to become a reality. Finally, each profile includes strategic recommendations designed to help promote private investment and enhance the success of existing firms in the Territory.
Financial Services encompasses a broad range of organizations that manage money, ranging from banks to asset management companies to credit card companies to insurance companies. For the USVI, the Financial Services sector is more narrowly focused on small, privately held firms engaged in such activities as business and management consulting, portfolio management, and investment advice. After suffering heavy losses due to the 2008 global financial crisis, the US Financial Services sector has experienced steady growth over the past few years. US employment for this target, as defined below, bottomed out at roughly 714,000 in 2008 and is approaching 900,000 jobs in 2013. Over the next five years, employment in the identified industries is projected to surpass 1 million.

Arguably, the most attractive quality of this sector, from an economic development standpoint, is the earnings potential associated with its component industries. Average earnings per job is a measure of total annual earnings of a regional industry divided by the number of jobs in the industry. Along with compensation paid to workers (including wages, salaries, benefits, and other compensation), annual earnings encompasses proprietor profits. As such, it is not equivalent to wages paid to workers, but rather provides an understanding of the value generated by each industry. Average earnings per job in Portfolio Management are estimated to be over $250,000 annually. Even on the low end of the spectrum, average earnings per job in the Administrative Management and General Management Consulting Services are $99,904.

### FIGURE 18. US EMPLOYMENT TRENDS: FINANCIAL SERVICES

Net change in jobs from prior year for relevant industries (chart), selected employment statistics (table)

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2008</th>
<th>2013</th>
<th>Average Earnings per Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>541611</td>
<td>Administrative Mgmt. and General Management Consulting Services</td>
<td>378,930</td>
<td>472,001</td>
<td>$99,904</td>
</tr>
<tr>
<td>523930</td>
<td>Investment Advice</td>
<td>131,499</td>
<td>166,197</td>
<td>$155,030</td>
</tr>
<tr>
<td>523920</td>
<td>Portfolio Management</td>
<td>133,780</td>
<td>160,603</td>
<td>$256,164</td>
</tr>
<tr>
<td>551112</td>
<td>Offices of Other Holding Companies</td>
<td>69,797</td>
<td>68,068</td>
<td>$165,691</td>
</tr>
<tr>
<td><strong>Target sector total (as defined)</strong></td>
<td><strong>714,006</strong></td>
<td><strong>866,870</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2014.1. Note: Average earnings per job reflects total annual earnings of a regional industry (wages, salaries, proprietor profits, benefits, and other compensation) divided by the number of jobs in the industry. It is not equivalent to wages paid to workers in the sector.
Management Consulting Services subsector are about $100,000.

**RATIONALE FOR SELECTION**

The Financial Services sector is a priority target for VIEDA. The Territory’s favorable tax structure and incentives, as well as US currency and legal protection are the primary attraction factors. These factors are particularly appealing to executives of small Financial Services firms that are able to relocate their operations to the USVI and enjoy 90 percent reductions in corporate and personal income tax. These advantages are amplified by the appeal of living in the Caribbean under the US flag. VIEDA has experienced some success in recent years in attracting small privately-held Asset Management, Investment Advisory, and Financial Management and Consulting firms.

Targeting firms engaged in investment and asset management, management and business consulting, and investment advisory can also create an opportunity to develop a concentrated industry cluster. Firms and workers in an industry cluster draw competitive advantage from their proximity to a skilled workforce, to specialized suppliers, and to a shared base of high-level knowledge about their industry. The opportunity to access these advantages will make the Territory more competitive for attracting firms in this sector.

**CONSTRAINTS**

- Burdensome residency requirements and income sourcing rules stipulated in the 2004 Jobs Act.
- Lack of a deep pool of existing residents with sophisticated financial education and skills. Firms must import employees to fill critical positions, thereby employing relatively few existing residents.
- Limited Class A office space.

**STRATEGIC RECOMMENDATIONS**

- Continue existing and planned marketing activities related to attracting Financial Services firms.
- Continue efforts to support passage of the “Rockefeller Amendment” and to encourage the US Treasury Department to review/amend residency rules.
- Work with UVI to consider establishing a formal internship program connected to the local Financial Services sector.
- Support and incentivize the development of new Class A office space.

**BUSINESS PROCESS OUTSOURCING (BPO)**

<table>
<thead>
<tr>
<th>Time-frame:</th>
<th>short</th>
<th>medium</th>
<th>long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority:</td>
<td>low</td>
<td>medium</td>
<td>high</td>
</tr>
</tbody>
</table>

Business Process Outsourcing includes customer support centers, contract telephone call center operations, shared service centers, corporate and technical services, and data storage and processing. This sector also includes firms that provide data management and support services to companies, hospitals, governments, and individuals. As of 2013, 1.4 million Americans were employed in this sector, up from 1.3 million prior to the economic downturn.
EMSI projects US employment will reach 1.55 million by 2018. In the USVI, roughly 150 people were employed in 2013 in Office Administrative Services, the Territory’s largest industry segment within this target. Current projections show only modest growth in the sector, although projections are based on historic trends and do not account for the impacts that could be achieved with a targeted recruitment effort.

Much like Manufacturing firms, BPO companies continue to seek lower cost alternatives to the relatively high-cost labor force in the US. However, anecdotal evidence suggests the trend towards off-shoring these operations has reversed somewhat in recent years, which may be part of the reason for rising employment in individual industries within the sector. For example, call center employment in the US is showing slight employment growth after struggling in the previous decade due to international competition from developing countries like India. In response to complaints regarding poor customer service and rising labor costs in developing economies, there is anecdotal evidence that US firms have begun to “on-shore” their operations. Average earnings per job in this sector range from a low of $31,586 for Telemarketing Bureaus and Other Contact Centers to $85,555 in Data Processing, Hosting, and Related Services.

**RATIONALE FOR SELECTION**

The telecommunications infrastructure and global connectivity available in the USVI represents a significant advantage for attracting BPO investment. St. Croix is directly connected to Global Crossing’s subsea Tier-1 fiber optic cable, providing a direct telecommunications link to North America, Latin America, and Europe. In addition, the completion of the Virgin Islands Next Generation Network (“viNGN”) fiber optic middle-mile network brings high speed Internet connectivity to residents and businesses in the Territory and, with it, the ability to tap into the subsea cables.

With the US being the world’s major source of outsourcing contracts, being a US Territory with an English-speaking population works in the USVI’s favor for attracting BPO operations. The sector also represents employment opportunities for unemployed or underemployed residents of the Territory, particularly on St. Croix. While the Territory may not currently be able to accommodate or compete for large BPO operations, there is some potential to attract small/medium-sized facilities.

**CONSTRAINTS**

- Labor costs are potentially higher than other US regions competing for similar operations, particularly in the Southeast and the Great Plains.
- The reliability and cost of electricity in the USVI is a barrier to BPO investment.
- Some stakeholders commented that the customer service culture within the Territory’s workforce needs improvement.
- Concerns about hurricanes and severe storms may deter secure Data Processing and Hosting operations.
- There is a need to increase the availability of high-quality, low-cost overhead tech/flex space in the Territory.
STRATEGIC RECOMMENDATIONS

- The Territory must continue investing in the information technology skills of its population to compete for more advanced BPO operations. Jamaica has embraced BPO as a target industry and has begun making notable investments in this sector, especially in workforce training.
- Focusing initial targeting efforts on small call centers offers the highest likelihood of attracting new BPO investment and employment in the short term.
- Financial incentives may be required for constructing buildings and office space to house BPO operations.
- Bringing down the cost of electricity and improving reliability are crucial to the Territory’s prospects for growing this sector.

FIGURE 19. US EMPLOYMENT TRENDS: BUSINESS PROCESS OUTSOURCING

Net change in jobs from prior year for relevant industries (chart), selected employment statistics (table)

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2008</th>
<th>2013</th>
<th>Average Earnings per Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>561110</td>
<td>Office Administrative Services</td>
<td>398,586</td>
<td>466,945</td>
<td>$80,553</td>
</tr>
<tr>
<td>561422</td>
<td>Telemarketing Bureaus and Other Contact Centers</td>
<td>384,292</td>
<td>449,105</td>
<td>$31,586</td>
</tr>
<tr>
<td>518210</td>
<td>Data Processing, Hosting, and Related Services</td>
<td>245,885</td>
<td>258,007</td>
<td>$85,555</td>
</tr>
<tr>
<td>561210</td>
<td>Facilities Support Services</td>
<td>133,133</td>
<td>133,440</td>
<td>$51,591</td>
</tr>
<tr>
<td>541513</td>
<td>Computer Facilities Management Services</td>
<td>56,109</td>
<td>53,872</td>
<td>$83,219</td>
</tr>
<tr>
<td>561421</td>
<td>Telephone Answering Services</td>
<td>39,753</td>
<td>36,912</td>
<td>$32,882</td>
</tr>
</tbody>
</table>

Target sector total (as defined) 1,257,758 1,398,281

Source: EMSI Covered Employment - 2014.1. Note: Average earnings per job reflects total annual earnings of a regional industry (wages, salaries, proprietor profits, benefits, and other compensation) divided by the number of jobs in the industry. It is not equivalent to wages paid to workers in the sector.
HIGH-VALUE MANUFACTURING

Manufacturing in the USVI has traditionally been dominated by three legacy sectors: petroleum refining, rum distilling, and watch assembly. Of these three sectors, only rum production currently contributes meaningfully to the Territory’s economy. In the 1960s and 1970s, watch assembly was once a thriving industry in the Territory that benefitted from a tariff incentive permitting duty-free entry of US insular products. However, increased global competition, industry restructuring, and high unit production costs have, over the years, decimated local employment and production. Presently, the USVI watch assembly industry is down to one company and watch exports continue to decline.

More significantly, manufacturing in the USVI was dealt a severe blow by the closure of the HOVENSA refinery in 2012. As late as 2010, HOVENSA was one of the 10 largest refineries in the world, supplying heating oil and gasoline to the US Gulf Coast and eastern seaboard. The closure resulted in a loss of nearly 2,000 jobs and millions of dollars in tax revenues. It also dampened the economic morale of St. Croix. The recent signing of an operating agreement raises hope that the refinery may restart operations. This prospect represents the best near-term option for generating new manufacturing employment in the Territory.

Still, the HOVENSA closure exposed the need to diversify the Territory’s economy and reduce dependence on refining for high-value manufacturing employment. Achieving some degree of diversification will require long-term efforts to bring down the cost of energy and improve the education and skills levels of the workforce. Two possibilities for diversifying the Manufacturing sector include Electronic Components (NAICS 3344) and Medical Devices (NAICS 3391).

RATIONALE FOR SELECTION

The rationale for reopening the refinery is clear. It would mean hundreds of new high-paying jobs and would bolster the entire St. Croix economy. While Electronics Components and Medical Devices pose recruitment and development challenges for the Territory, there may be opportunities for realizing small-scale successes. The recommendation for Electronic Components is based primarily on existing EDC beneficiaries involved in the sector, including United Electronic Industries Services. In addition, Puerto Rico and other countries in the Caribbean and Latin America have experienced some success in developing this sector. Attracting Electronic Components companies to the Territory would also provide technical and middle-skills employment opportunities for residents.

Medical Device manufacturing, in particular, represents an opportunity due to its overall growth in the US. EMSI projects that Surgical and Medical Instrument Manufacturing employment (as defined by the representative NAICS codes) will grow by about 5.4 percent between 2013 and 2018. The aging of the population and growth in worldwide per capita incomes and per capita healthcare expenditures are forecast to provide a platform for stable and steady growth for Medical Devices in the foreseeable future.
The US Medical Device industry accounts for nearly half the world’s medical device market, and leading US manufacturers generate roughly half of their total sales abroad. In recent years, exports have grown due to the development of increasingly sophisticated medical devices and an increased emphasis by foreign governments on improving the quality of their healthcare systems. St. Croix’s proximity to Latin America and other Caribbean markets represents a potential advantage. In addition, medical device product life cycles are relatively short, because device makers are continually developing smaller, faster, and cheaper versions of existing devices. As a result, Medical Device manufacturers on the leading edge of developing new products tend to be located near...
medical schools and teaching hospitals. The establishment of a UVI medical school and simulation training facility in the Territory could assist in attracting investment in the sector.

CONSTRAINTS

- The global market forces that influenced HOVENSA’s closure will still have to be overcome by any new owner.
- Most of HOVENSA’s former management, engineering, and technical employees have migrated to other regions and nations for other career opportunities. Once the refinery reopens, this workforce will have to be rebuilt.
- The USVI lacks job training certificate programs that enable residents to qualify for many middle-skills careers, especially in technical trades.
- Competition for Electronic Components manufacturing from low-wage countries in Latin America and Asia is fierce.
- The Territory may lack the highly skilled talent necessary to attract sophisticated Medical Device and Electronic Components manufacturers.
- Energy costs and limited industrial space remain an issue.

STRATEGIC RECOMMENDATIONS

- Work with UVI and local employers to develop certificate training programs in needed technical fields.
- Track FDA approvals and venture capital investments into Medical Device companies to identify prospects that may be looking to expand their manufacturing capabilities. Venture capital investments can be tracked by monitoring news stories and FDA approvals may be tracked at the FDA website. (http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/DeviceApprovalsandClearances/Recently-ApprovedDevices/default.htm.)
- The “Made in USA” label offers companies manufacturing in the USVI the benefits of duty-free, quota-free entry into the United States.
- Watch and jewelry manufacturers in the USVI benefit from the US Insular Possessions Watch and Jewelry Program, which provides duty refund certificates to manufacturers based on creditable wages and the number of units shipped duty-free into the US customs territory. However, it is unlikely the Territory’s watch sector will ever be revived due to global competition.
- Meet with Caribbean healthcare providers to identify which distributors they use. Create a database of distributors from this list and target these companies with a recruitment campaign.
- VIEDA representatives should continue marketing the USVI to US subsidiaries of foreign manufacturers who might benefit from the Territory’s duty-free and quota-free advantages.
TRANSPORTATION & LOGISTICS

As defined for this study, Transportation and Logistics is a broad category that captures the Maritime, Warehousing & Storage, and Air Transportation sectors. The table on the following page lists the relevant industries by 6-digit NAICS codes. Due to the Territory’s geography and location, transportation is the lifeblood of the economy. The USVI relies on air and sea transportation for bringing in all of its supplies and visitors. Transportation and Logistics is also a sector with substantial employment and investment growth for the Territory. Nationally, employment in Maritime, Warehousing & Storage, and Air Transportation is expected to grow 5 percent by 2018.

Aviation is also critical to the health of the Territory’s economy. With tourism accounting for a majority of the Territory’s GDP and employment, Cyril E. King Airport (“CEKA”) on St. Thomas and Henry E. Rohlsen Airport (“HERA”) on St. Croix provide crucial gateways for driving the Territory’s economy. This is particularly true for sustaining the Tourism sector on St. Croix, which receives far fewer cruise ship passengers than St. Thomas and is more dependent on overnight visitors. Of recent concern is the 4.7 percent drop in air passenger arrivals to the USVI from 2012 to 2013.

CEKA is currently the busiest airport in the USVI and one of the busier airports in the eastern Caribbean, serving approximately 645,400 passengers from January 2012 to December 2013. For the 12-month period ending March 1, 2014, CEKA had 25,641 aircraft operations, an average of 70 per day: 42% air taxi, 16% scheduled commercial, 41% general aviation, and 1% military.

As a US Customs landing rights airport, HERA is a small international airport that accommodates mainly Inter-Caribbean Island flights, though it does have the capability to handle larger long range jets up to and including the Boeing 747. For the 12-month period ending December 31, 2013, HERA experienced a total of 13,884 aircraft operations, for an average of 38 operations per day. These operations were categorized as air taxi (58%); general aviation (32%), commercial air carrier (9%), and military (2%).

There are three Fixed Based Operators (“FBO’s”) operating at CEKA and one at HERA. FBOs are commercial businesses granted the right by an airport to provide aeronautical services such as fueling, hangaring, aircraft rental, and maintenance. In most cases, FBOs primarily provide support to general aviation operators at public use airports. Because over 40% of aircraft operations at CEKA and one-third at HERA involve general aviation, FBOs are essential to the future growth of aviation in the Territory.

RATIONALE FOR SELECTION

Significant expansion of the Maritime sector in the USVI is possible at St. Croix Renaissance Park, a 1,244-acre privately-owned industrial park located between HOVENSA and Henry E. Rohlsen International Airport. The park features a deep-water port (Port St. Croix), a 2 million gallon/day desalination plant, a machine and fabrication shop, and proximity to the VIPA container facility. Industrial opportunities at the park include ship building, repair, and maintenance. With additional development of dock space and container facilities, Port St. Croix also has the
potential to develop as a major post-Panamax transshipment hub serving the Eastern US. A major advantage St. Croix enjoys over other Caribbean nations seeking to develop transshipment hubs is its exclusion from the Jones Act, which restricts the carriage of goods and passengers between US ports to US flagged vessels and requires at least 75 percent of crewmembers to be US citizens.

Also on St. Croix, VIPA is planning for dredging and infrastructure improvements at the Gallows Bay Marine Facility that would allow small cruise ships and luxury vessels to dock in Christiansted. Upgrading and expanding the Gallows Bay Marine Facility could significantly boost tourism in Christiansted and the entire island.

**FIGURE 21. US EMPLOYMENT TRENDS: TRANSPORTATION & LOGISTICS**

Net change in jobs from prior year for relevant industries (chart), selected employment statistics (table)

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2008</th>
<th>2013</th>
<th>Average Earnings per Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>493110</td>
<td>General Warehousing and Storage</td>
<td>534,524</td>
<td>600,901</td>
<td>$41,557</td>
</tr>
<tr>
<td>481111</td>
<td>Scheduled Passenger Air Transportation</td>
<td>407,100</td>
<td>398,388</td>
<td>$66,559</td>
</tr>
<tr>
<td>336611</td>
<td>Ship Building &amp; Repairing</td>
<td>101,251</td>
<td>100,103</td>
<td>$63,011</td>
</tr>
<tr>
<td>493120</td>
<td>Refrigerated Warehousing and Storage</td>
<td>48,408</td>
<td>52,728</td>
<td>$44,547</td>
</tr>
<tr>
<td>488320</td>
<td>Marine Cargo Handling</td>
<td>40,509</td>
<td>46,856</td>
<td>$56,978</td>
</tr>
<tr>
<td>713930</td>
<td>Marinas</td>
<td>29,861</td>
<td>33,115</td>
<td>$31,409</td>
</tr>
<tr>
<td>336612</td>
<td>Boat Building</td>
<td>28,203</td>
<td>27,932</td>
<td>$41,931</td>
</tr>
<tr>
<td>481112</td>
<td>Scheduled Freight Air Transportation</td>
<td>10,433</td>
<td>12,371</td>
<td>$62,303</td>
</tr>
<tr>
<td>481212</td>
<td>Nonscheduled Chartered Freight Air Transp.</td>
<td>7,669</td>
<td>7,749</td>
<td>$68,669</td>
</tr>
</tbody>
</table>

Target sector total (as defined) 1,207,959 1,280,141

Source: EMSI Covered Employment - 2014.1. Note: Average earnings per job reflects total annual earnings of a regional industry (wages, salaries, proprietor profits, benefits, and other compensation) divided by the number of jobs in the industry. **It is not equivalent to wages paid to workers in the sector.**
CONSTRAINTS

- St. Croix Renaissance Park will require new private and federal investment to upgrade infrastructure and facilities if it is to succeed as a major transshipment hub. There will be significant regional competition for post-Panamax cargo business, as many nations and metro areas make substantial public investment in port infrastructure. Indeed, the 2014 CEDS Update identified the St. Croix Transshipment Port Facility as the Territory’s primary funding priority for the near future.

- Additional workforce development and training programs will be critical to attracting companies involved in the building, repair, and maintenance operations of both the marine and aviation sectors.

STRATEGIC RECOMMENDATIONS

- Continue efforts to seek federal and private funding to develop a large international transshipment port on St. Croix. Securing federal grant funding to pay for a feasibility study and master plan is the immediate priority. The results of these reports will determine the level and possible sources of funding required to develop the port’s infrastructure.

INFORMATION TECHNOLOGY

The Information Technology (IT) sector is now in many ways a fundamental component of modern life. The global economy was forever altered by the development of the Internet and desktop computing over two decades ago. Now, emerging technologies such as electronic commerce, social media, mobile applications, big data, and cloud computing are revolutionizing the business model for industries across the board.

IT-based subsectors we are recommending as targets include Software Publishing, Electronic Shopping (Ecommerce), Computer Systems Design Services, Computer Programming Services, as well both Wireless and Wired Telecommunications Carriers. As defined by the NAICS codes below, US Information Technology employment rose by 14 percent between 2008 and 2013. Furthermore, IT employment growth is projected to increase by another 14 percent by 2018. The average earnings per job in the Computer Services and Software sectors surpasses $100,000. Within the USVI, employment in Computer Systems Design has almost doubled since 2008 and is projected to continue increasing through 2018.

Job growth, however, in the Telecommunications subsector (Wired and Wireless) has suffered for the most part since 2008. Employment declines are attributed to such factors as industry consolidation, automation, and reduced needs for maintenance. Wired Telecommunications has been hit especially hard by reduced demand for landline telephone service. Still, there are projections for Telecommunications job openings to rise in the coming years as a result of the growing number of retirements and the continuing need for skilled workers. Indeed, employment growth in the Wireless Telecommunications sector in the Territory has actually increased by 35% from 2008 to 2013.
RATIONALE FOR SELECTION

The RTPark is at the forefront of promoting knowledge-based economic development in the Territory. At present, the RTPark supports 18 tenant companies, which are now generating $160 million in total revenue and employing over 200 workers. The RTPark markets the USVI to small, mobile Information Technology firms that would be attracted to the Territory’s incentives, tax structure, fiber optic broadband connections to the US mainland, and appealing lifestyle and amenities.

Phase one completion of the Virgin Islands Next Generation Network (viNGN) also presents an important asset that can be leveraged for additional growth of the IT sector. This is not only due to the middle-mile fiber optic infrastructure the Territory now enjoys, but also to the 50 public computer centers that are being developed to provide basic digital literacy training to residents, establishment of more ISPs, and driving down of costs to customers.

**FIGURE 22. US EMPLOYMENT TRENDS: INFORMATION TECHNOLOGY**

Net change in jobs from prior year for relevant industries (chart), selected employment statistics (table)

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2008</th>
<th>2013</th>
<th>Average Earnings per Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>541512</td>
<td>Computer Systems Design Services</td>
<td>659,103</td>
<td>852,718</td>
<td>$105,928</td>
</tr>
<tr>
<td>541511</td>
<td>Custom Computer Programming Services</td>
<td>632,260</td>
<td>773,301</td>
<td>$100,749</td>
</tr>
<tr>
<td>517110</td>
<td>Wired Telecommunications Carriers</td>
<td>635,809</td>
<td>565,269</td>
<td>$80,216</td>
</tr>
<tr>
<td>511210</td>
<td>Software Publishers</td>
<td>255,417</td>
<td>300,626</td>
<td>$131,652</td>
</tr>
<tr>
<td>517210</td>
<td>Wireless Telecommunications Carriers</td>
<td>193,663</td>
<td>164,264</td>
<td>$72,562</td>
</tr>
<tr>
<td>454111</td>
<td>Electronic Shopping</td>
<td>87,650</td>
<td>144,798</td>
<td>$57,972</td>
</tr>
</tbody>
</table>

Target sector total (as defined) 2,463,901 2,800,975

Source: EMSI Covered Employment - 2014.1. Note: Average earnings per job reflects total annual earnings of a regional industry (wages, salaries, proprietor profits, benefits, and other compensation) divided by the number of jobs in the industry. It is **not equivalent to wages paid to workers in the sector.**
CONSTRAINTS

- Stakeholders voiced numerous complaints regarding the cost of broadband Internet access for both residents and businesses.
- The USVI faces considerable competition from communities in the US mainland and Puerto Rico for new IT investment and employment.
- Grant funding for viNGN digital literacy training programs will expire in the near future. In order to continue equipping USVI residents for career opportunities that involve Information Technology, finding new sources of funding for viNGN training and/or expanding IT training programs provided by other education and workforce development providers should be a priority.

STRATEGIC RECOMMENDATIONS

- Information Technology training should continue being a top priority of workforce development and education efforts in the USVI. It is, therefore, critical for the Territory to identify new funding sources to support viNGN digital literacy training and computer centers in advance of the grant funding expiring. IT skills training and education must be expanded if the USVI is to realize significant employment gains in the sector.
- In addition to general digital literacy training, workforce development and education providers should work with existing and future companies to develop employer-based IT training programs.
- Beyond recruitment, additional emphasis should be placed on encouraging local residents and entrepreneurs to launch IT businesses. To be successful over the long-term, such an effort will require increased exposure and education of Information Technology and entrepreneurship at the K-12 level.

AGRIBUSINESS

<table>
<thead>
<tr>
<th>Time-frame:</th>
<th>short</th>
<th>medium</th>
<th>long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority:</td>
<td>low</td>
<td>medium</td>
<td>high</td>
</tr>
</tbody>
</table>

Agribusiness encompasses both farm production and value-added processing of agricultural products. The entire sector employs just over 2 million people in the US. Though employment dropped slightly between 2007 and 2011 (1 percent), the sector had recovered by 2012. Modest growth (slightly more than 1 percent) is expected in the sector through 2018.

Despite the stable employment outlook, output from the sector must increase considerably to meet global demand. With the world population expected to grow to 9.8 billion by 2050 and declining acreage of land dedicated to farm production, the sector will continue to see considerable investment and technological change.

Wages in the sector vary widely from relatively low-paying farm production occupations (average earnings/job of $27,475) to higher-wage occupations in distilleries ($77,449). A focus on value-added processing and premium farm products such as organic produce could push average earnings per job up in the USVI.
RATIONALE FOR SELECTION

The USVI has a long agricultural tradition. However, in recent years, the land area dedicated to agriculture has been declining precipitously, largely due to declines in cattle ranching. In the 2007 Agricultural Census (the most recent available online), the USVI had just 5,881 acres of land in farms, a 36 percent decline since 2002. At the same time, farm sales declined 33 percent from $3 million in 2002 to $2 million in 2007.

Yet, the number of farm workers increased over the same time period from 450 (unpaid and hired) in 2002 to 511 in 2007. And the market value of agricultural products sold increased in many categories over this time period. Growth areas included field and forage crops, vegetables, fruits, hogs, and other livestock.

A focus on premium agricultural products as well as value-added processing will capitalize on these positive growth trends and help local farmers capture more value from their crop production.

CONSTRAINTS

- Development pressures leading to fewer acres of farm land.
- Production volatility due to weather and other natural factors heighten risk.
- A stigma still attached to the Farm Production sector by native residents due to its history in the Caribbean.
- Access to local customers (e.g., hotels, restaurants, school districts) by local farmers is weak in some areas.

FIGURE 23. US EMPLOYMENT TRENDS: AGRIBUSINESS

Net change in jobs from prior year for relevant industries (chart), selected employment statistics (table)

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2008</th>
<th>2013</th>
<th>Average Earnings per Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>Farm production</td>
<td>531,096</td>
<td>547,205</td>
<td>$27,475</td>
</tr>
<tr>
<td>311</td>
<td>Agricultural processing</td>
<td>1,449,172</td>
<td>1,466,216</td>
<td>$42,386</td>
</tr>
<tr>
<td>312140</td>
<td>Distilleries</td>
<td>7,189</td>
<td>8,183</td>
<td>$77,449</td>
</tr>
<tr>
<td>112519</td>
<td>Aquaculture*</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2014.1. Note: Average earnings per job reflects total annual earnings of a regional industry (wages, salaries, proprietor profits, benefits, and other compensation) divided by the number of jobs in the industry. It is not equivalent to wages paid to workers in the sector. *EMSI data do not include employment detail for crop and animal production activities at the detailed 6-digit industry level.
STRATEGIC RECOMMENDATIONS

- In partnership with the Department of Agriculture, encourage farmers to move towards higher-end products such as organic, free-range, etc. Aquaculture presents another such opportunity.

- Promote specialty foods and micro-batch luxury items such as craft rum distilling to capture premium prices. These products would also tie in well with tourism as they could be souvenir items for visitors to purchase and would provide more variety in the local foods marketplace.

- Consider the establishment of an agricultural incubator on St. Croix to assist local producers and processors.


- Create an online portal such as Farmers Web (www.farmersweb.com) to connect local producers with local businesses and even cruise lines.

TOURISM

The Tourism sector is the USVI’s chief industry sector. It accounts for a majority of the Territory’s GDP as well as non-government employment. Like most of the Caribbean, USVI tourism suffered a major decline between 2007 and 2009 as a result of the Great Recession. However, since 2010 the number of visitors to the Territory has rebounded, totaling over 2.7 million in 2013.

Tourism benefits the USVI economy in a number of direct and indirect ways. Because it is a traded sector, it brings in outside dollars from visitors and travelers that are injected into the local tax base and wages. Tourism also creates small business development opportunities and offers employment options for younger workers. In addition, tourism supports talent attraction efforts. Visitors to the USVI who are exposed to the amenities, environment, and lifestyle may be more willing to relocate to the Territory. In fact, a number of local business representatives shared their story of relocating to the USVI after first visiting as a tourist.

Defining the components of Tourism using NAICS codes for targeting purposes can be challenging. Broadly defined, the sector includes retail shops, restaurants, bars, and spas. For our purposes, we included Hotels & Inns, All Other Amusement & Land Based Industries, Sports Teams & Clubs, and Deep Sea Passenger Transportation. In addition to these subsectors, there are other niche markets that can be developed that aren’t specifically reflected in the NAICS codes, including artisanal, historic, cultural tourism.
RATIONALE FOR SELECTION

As the Territory’s primary industry, Tourism development and attraction already receives a great deal of attention. Therefore, the justification for targeting this sector for growth is quite obvious. Everything that can be done should be done to increase the number of air and cruise ship visitors to the Territory. This involves a combination of branding, marketing, infrastructure enhancement, and product development towards quality.

In addition, several stakeholders commented on the need to diversify the USVI’s Tourism product offerings, particularly on St. Croix. The island remains a relatively underutilized tourism destination, yet possesses significant potential to attract visitors. While St. Thomas is better positioned to attract large volumes of cruise ship passengers and resort visitors, St. Croix can benefit from developing more specialized tourism product offerings. Frequently mentioned opportunities include adventure, ecotourism, sports events, arts and crafts, cultural, and festivals and events. Some stakeholders also said more should be done to support the development and marketing of boutique hotels and B&Bs.

CONSTRAINTS

- Resort hotel developers have struggled to get financing for developing new properties on St. Croix.
- Several stakeholders expressed the view that St. Croix lacks strong tourism products. This includes a limited number of high profile tourism destinations, quality hotel rooms, and retail amenities.

FIGURE 24. US EMPLOYMENT TRENDS: TOURISM

Net change in jobs from prior year for relevant industries (chart), selected employment statistics (table)

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2008</th>
<th>2013</th>
<th>Average Earnings per Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>721110</td>
<td>Hotels (except Casino Hotels) &amp; Inns</td>
<td>1,401,184</td>
<td>1,495,204</td>
<td>$26,498</td>
</tr>
<tr>
<td>713990</td>
<td>All Other Amusement &amp; Land Based Industries</td>
<td>124,527</td>
<td>142,512</td>
<td>$18,796</td>
</tr>
<tr>
<td>711211</td>
<td>Sports Teams and Clubs</td>
<td>69,176</td>
<td>80,248</td>
<td>$186,941</td>
</tr>
<tr>
<td>483112</td>
<td>Deep Sea Passenger Transportation</td>
<td>5,569</td>
<td>9,660</td>
<td>$64,604</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Target sector total (as defined)</strong></td>
<td>1,600,456</td>
<td>1,727,624</td>
<td></td>
</tr>
</tbody>
</table>

Source: EMSI Covered Employment - 2014.1. Note: Average earnings per job reflects total annual earnings of a regional industry (wages, salaries, proprietor profits, benefits, and other compensation) divided by the number of jobs in the industry. It is not equivalent to wages paid to workers in the sector.
STRATEGIC RECOMMENDATIONS

- Continue to develop more specialized tourism products that appeal to overnight visitors, including adventure, ecotourism, arts and culture, sports, and festivals and events.

- Work with the USVI Department of Tourism to more closely align its convention and meeting strategy with targeted industry sectors, associations, and occupations. This brings executives and people who fit talent needs to the Territory and exposes them to the USVI’s amenities.

- There is the potential to develop Gallows Bay as a destination for small cruise ships and luxury vessels. VIPA is already moving forward with a plan to enhance Gallows Bay though a dredging project and possible expansion of the marine facility.