

APPENDIX A: EMPLOYER SURVEY

To better understand local economic and workforce related opportunities and challenges, an online survey was conducted as part of the study. The survey offered employers the opportunity to share their experiences with operating a business and hiring, training, and retaining of workers in the Territory. The survey was distributed by the Virgin Islands’ Bureau of Economic Research (“BER”) through August 2014. A total of 81 firms responded.

RESPONDENT PROFILE

Figure 25 shows selected characteristics of firms that participated in the survey. Respondents largely described themselves as being in service industries. Tourism and hospitality related industries were the largest category, representing 15 percent of respondents. Other service industries represented in the survey include healthcare, professional services, finance and insurance, retail, and real estate. These six industries made up almost 60 percent of respondents. The share of firms in industrial sectors, such as construction, utilities, and manufacturing industries, was around 10 percent, although two of those firms represented a relatively large number of employees. One manufacturer reported between 26 and 50 employees, and one communications utility had over 400 employees.

FIGURE 25. RESPONDENT PROFILE

Industry	%	Location			# Full-time Workers						Not indicated	Time operating in Territory					HQ				
		#	St. Croix	St. Thomas	St. John	10 or fewer	11-25	26-50	51-100	101-400		More than 400	0-2 years	2-5 years	5-10 years	10-20 years	20+ years	Not indicated	Yes	No	Not indicated
Tourism/Hospitality	15%	12	12			7	4			1					5	7		12			
Health Care	10%	8	6	2		7	1						1	1	1	4	1	7	1		
Professional Services	10%	8	7	1		6	1	1				1	2	2	1	2		7	1		
Finance/Insurance	9%	7	7			6		1						2	1	1	3	7			
Retail	9%	7	7			5	2						1	1	2	3		5	2		
Real Estate	6%	5	5			4	1								1	4		4		1	
Manufacturing	5%	4	3	1		3		1							2	2		2	2		
Construction	3%	2	2			2						1			1			2			
Agriculture	3%	2	2			2									2			2			
IT (Hard & Software)	3%	2	1	1		2						1		1				2			
Utilities	3%	2		2		1				1			1			1		2			
Wholesale Trade	3%	2	2			1	1									2		2			
Cultural/Recreation	1%	1	1			1								1				1			
Shipping/Storage	1%	1	1			1						1						1			
Support Services	1%	1	1			1						1						1			
Other/Not indicated	19%	17	15	2		12	4					1	3	1	2	4	6	13	3	1	
Total		81	72	9	0	61	14	3	0	1	1	1	8	8	9	20	34	2	70	9	2

Source: Online employer survey conducted by TIP Strategies, summer 2014

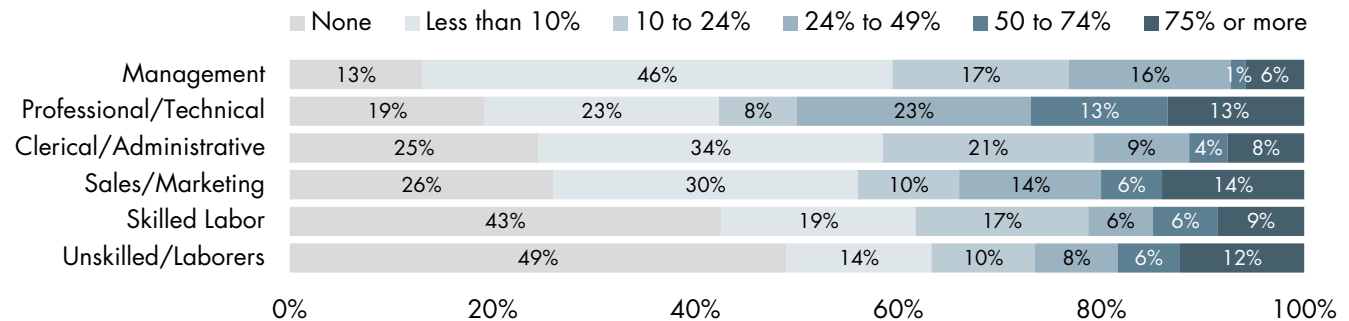
Of respondents who provided a location, more than 80 percent (72 firms) were located in St. Croix. The remaining nine firms were located in St. Thomas, including the previously mentioned utility. There were no respondents from St. John. Businesses with less than 10 employees represented just over three-quarters of respondents. Firms with between 11 and 50 employees represented 21 percent of respondents. In addition to the utility, only one firm employed more than 50 workers—a firm in the tourism/hospitality sector that employed between 101 and 400 staff.

More than 40 percent of respondents (34 firms) reported having operated in the Territory for over 20 years and another 25 percent for 10 to 20 years. All but six firms reported that their headquarters were based in the Territory. Of those six, two were manufacturers, and the remainder were in service industries (retail, finance/insurance, health care, and professional services.)

Responses concerning the composition of the workforce (Figure 26) revealed that management and professional/technical occupations were the most common groups employed by the 79 firms who completed the question. As would be expected, managers accounted for a relatively small share of employment (less than 10 percent) for most respondents. For a few firms, this occupational category comprised more than 50 percent of the workforce. However, these tended to be very small firms with only a handful of workers. Unskilled labor was the least common reported occupation, with only around one-half of responding firms employing workers from that category. Respondents were also less likely to employ skilled workers—a category including skilled production, craft workers, machinists, welders—reflecting the predominance of service firms among the participants.

FIGURE 26. COMPOSITION OF WORKFORCE

Approximate share of workforce by broad category



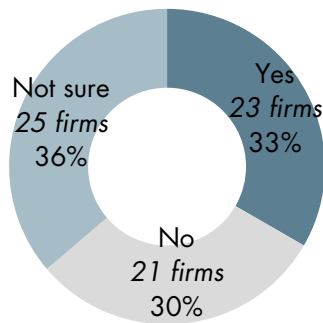
RECRUITING & HIRING

Responses to the two questions concerning hiring plans (Figure 27) were mixed. One third (33 percent) of firms indicated plans to hire additional employees within the Territory in the next two years. The remaining respondents were either not sure (36 percent) or not planning to make any hires (30 percent). Among the 37 participants that provided detail on hiring plans, a total of roughly 220 hires were projected. Approximately 40 percent of firms that planned to hire were anticipating the need for administrative support and professional/technical staff. In terms of the number of planned hires, skilled labor was the largest group, representing about one-quarter of the 220 positions anticipated. Unskilled labor and professional/technical workers were the next largest group in numeric terms representing about 16 percent each of the 220 jobs.

FIGURE 27. HIRING PLANS

Plans to hire next 2 years?

If yes, what types of workers do you anticipate adding?

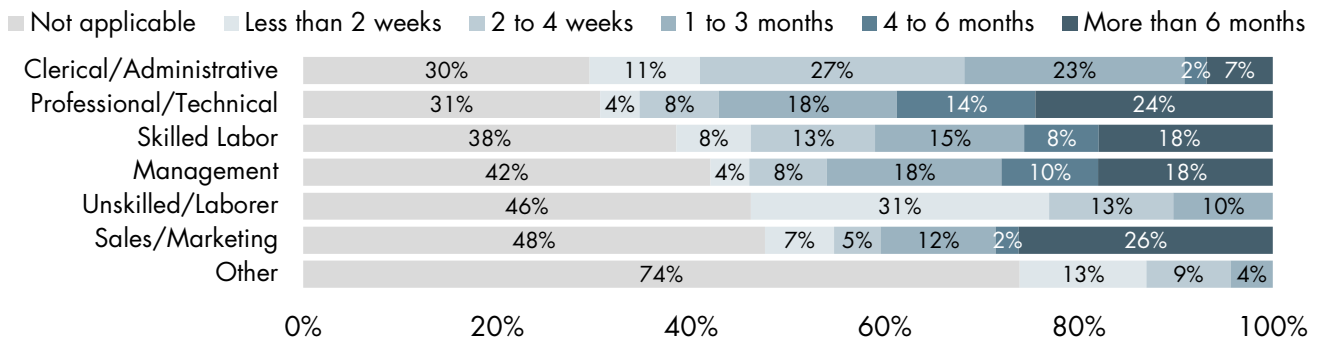


Broad category	# of firms planning to hire in specified category	# of hires anticipated in specified category
Management	9	25
Professional/Technical	16	36
Sales/Marketing	11	21
Skilled Labor	12	57
Clerical/Administrative	15	24
Unskilled/Laborer	7	36
Other	6	21

Source: Online employer survey conducted by TIP Strategies, summer 2014. Responses about anticipated hiring were provided by the 23 firms that indicated hiring plans. Responses under “# of firms planning to hire in specified category” do not total 23, as a single firm could indicate hiring plans across multiple occupational categories.

Of the 64 participants who responded to the question concerning time require to fill workforce vacancies (Figure 28), almost 40 percent indicated that professional/technical positions required four months or more to fill. Skilled labor, management, and sales/marketing occupations faced similar recruitment challenges, with each category taking four months or more to fill for roughly 25 to 30 percent of responding firms. Hiring times for clerical/administrative positions were more moderate, with over 60 percent of respondents reporting vacancy periods of three months or less. Unskilled labor was reported as the easiest category to fill, with nearly 55 percent of firms reporting vacancies lasting no longer than three months. Most of the respondents who provided “Other” responses did not specify a worker classification. The three firms that did elaborate specified restaurant workers, driver/runners, and independent direct marketers.

FIGURE 28. TIME TO FILL WORKFORCE VACANCIES



Source: Online employer survey conducted by TIP Strategies, summer 2014

Respondents were given the opportunity to identify specific occupations and skills they found difficult to recruit in their industry, as well as those they anticipate needing in the future. The resulting responses were too disparate to categorize without sacrificing an important level of detail. The wide array of responses is likely a reflection of the individualized nature of hiring needs of very small businesses, which comprised the vast majority of participating firms. For this reason, the responses to these two questions are included, in their entirety, at the end of this section as Figure 35 and Figure 36.

Despite the wide range of responses received, there were some commonalities. Sales and marketing occupations were mentioned most frequently named, followed closely by management positions, and occupations related to medical and healthcare and tourism/hospitality. The remaining occupations were a broad array, ranging from slot technologists to archaeology.

Of the skills identified as difficult to find, IT and computer-related expertise were the most frequently reported. The next greatest area of concern was related to communication and customer service skills and basic employability. The remaining skills noted cut across a variety of industries from management to jewelers.

BUSINESS VIEWS

Almost 60 respondents rated business climate factors Figure 30 and provided information about the importance of those factors to their business Figure 29. Two of the business climate factors considered 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 to their success, while over 80 percent (98 percent in the case of cost of utilities) rated the Territory’s performance on them as extremely poor.

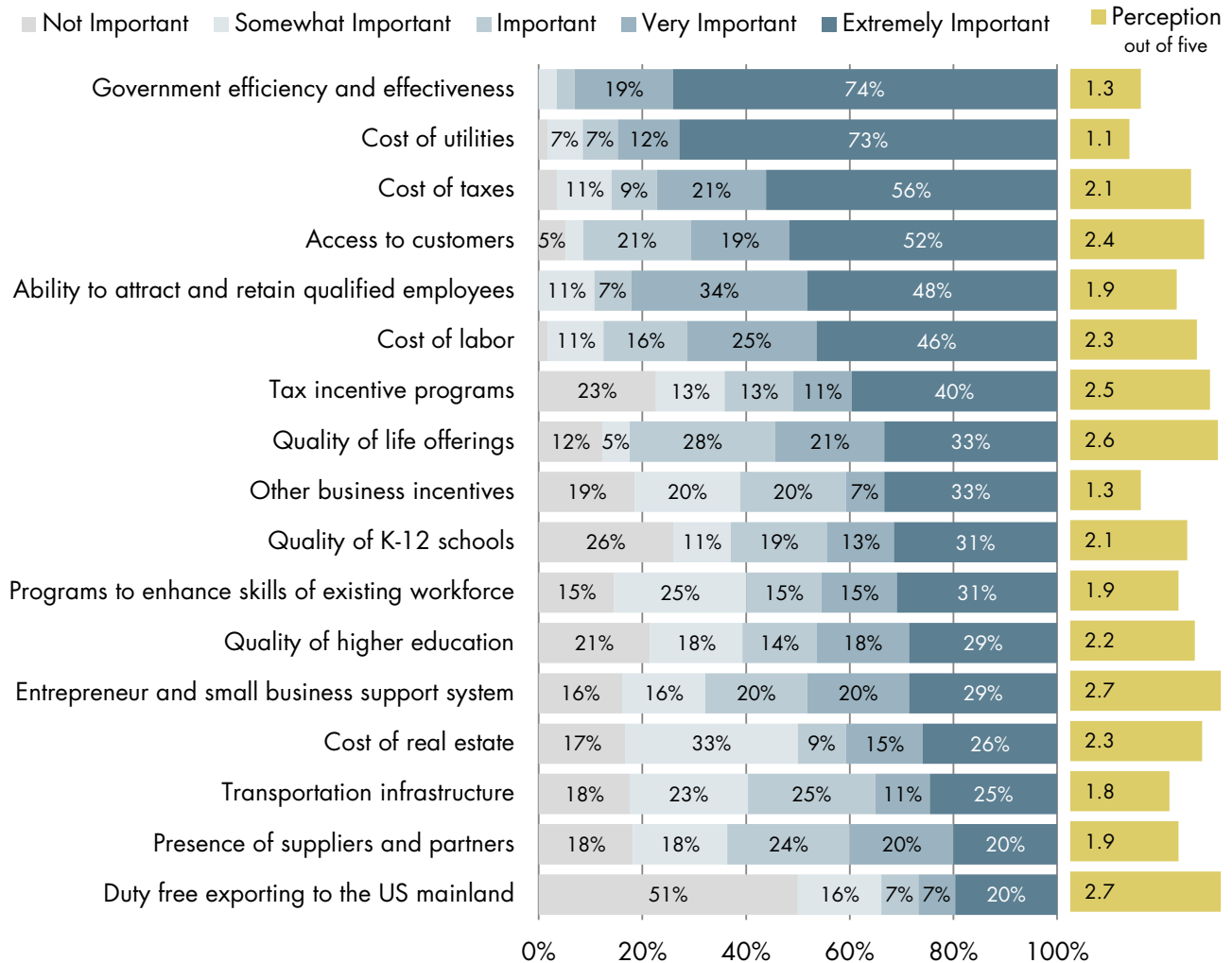
This trend of ranking the Territory poorly on important business climate factors is continued in the next four factors: cost of taxes; access to customers; ability to attract and retain staff; and cost of labor. Over 85 percent of respondents considered those items to be, at minimum, important, if not very or extremely important. Yet the Territory’s rating for those factors was perceived as average to below average (between 1.9 and 2.4 out of five). Forty-percent of respondents considered other business incentives (a category including loans, real estate rates, etc.) as very or extremely important, while more than one-half (55 percent) of respondents perceived performance on this factor to be below average or extremely poor.

When asked to rate the Territory on each of the business climate factors, over three-quarters of respondents rated every factor between average and extremely poor. Along with cost of utilities and government performance, a number of key factors (rated over 4.0 out of five in terms of importance) were not well perceived. At least 60 percent of respondents found that access to customers, ability to attract and retain staff, cost of taxes, and other business incentives, were rated either extremely poor or below average. Over 80 percent of respondents rated transportation infrastructure as either extremely poor or below average, however views on the importance of that factor varied. One-quarter of respondents considered transportation infrastructure extremely important, and 18 percent considered it not important.

Respondents were also provided with an opportunity to specify “other” replies. Additional factors, that were considered important, included visitors to the Territory with funds to spend, internet services, access to contracts, and reduced red tape. One additional area of concern was the need for duty-free exporting to the US.

FIGURE 29. IMPORTANCE OF GIVEN FACTORS TO THE SUCCESS OF BUSINESS

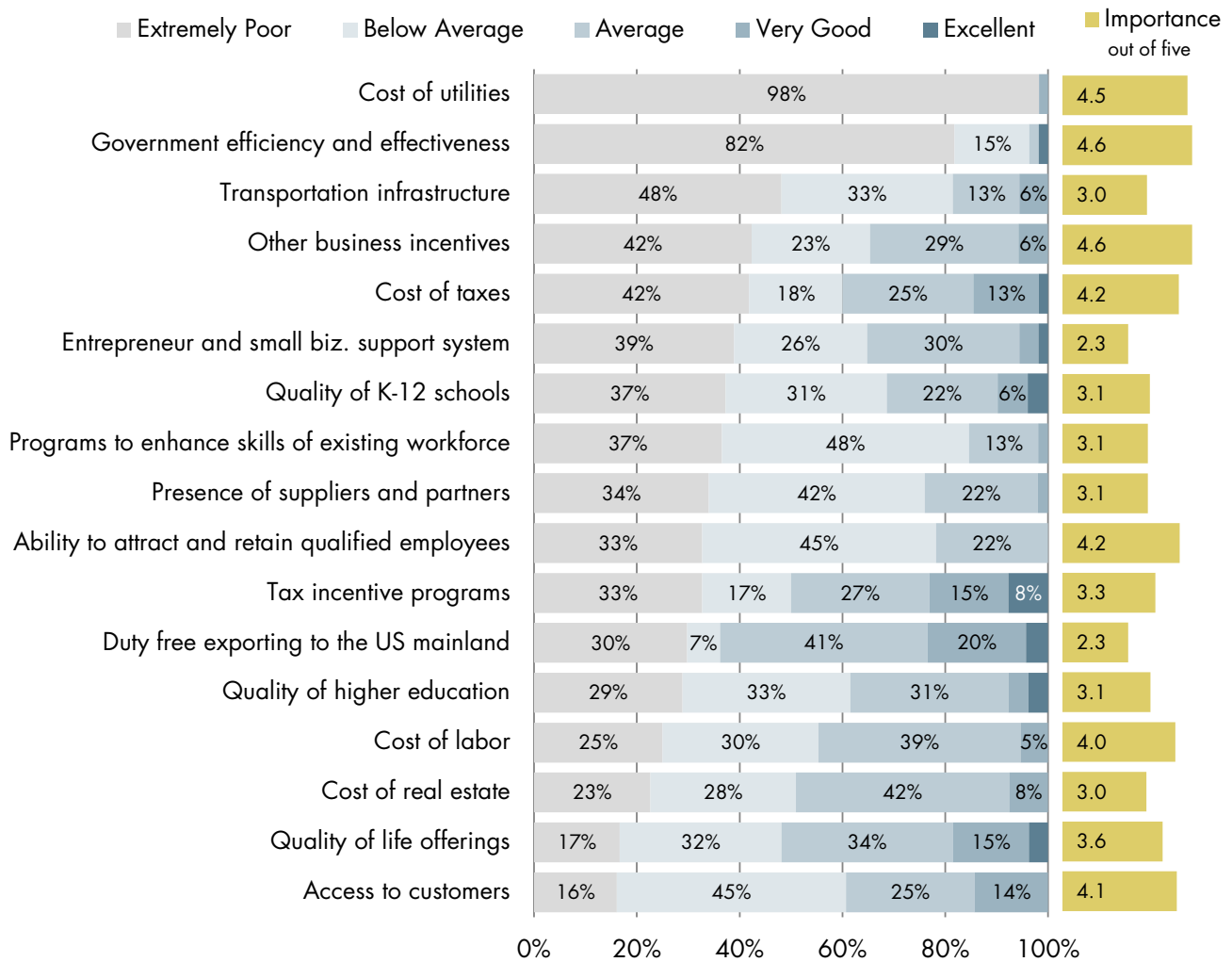
Based on your experience, please rate the importance of the following factors to the success of your business on a scale of 1 to 5.



Source: Online employer survey conducted by TIP Strategies, summer 2014. Ratings of **perception** represent a weighted average of the scale used by respondents to rate the Territory’s performance on each factor, where Extremely Poor = 1 and Excellent = 5.

FIGURE 30. PERCEPTION OF TERRITORY PERFORMANCE ON BUSINESS CLIMATE FACTORS

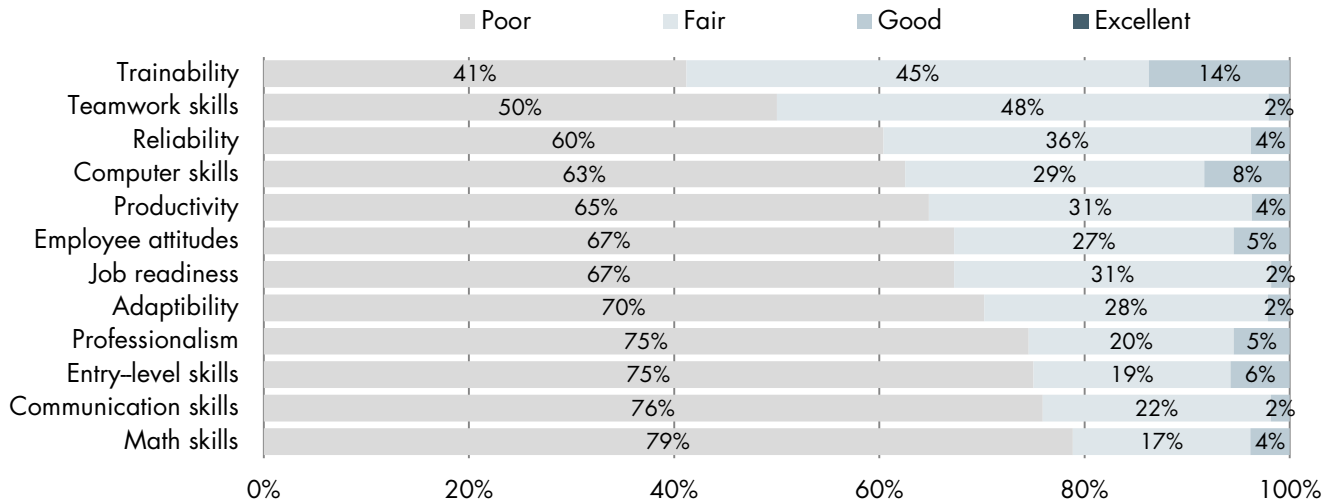
Please rate the Territory on each of these business climate factors.



Source: Online employer survey conducted by TIP Strategies, summer 2014. Ratings of **importance** represent a weighted average of the scale used by respondents to rate the importance of each factor, where Not Important = 1 and Extremely Important = 5.

FIGURE 31. PERCEPTIONS OF WORKFORCE

Share of firms rating workers on indicated characteristics



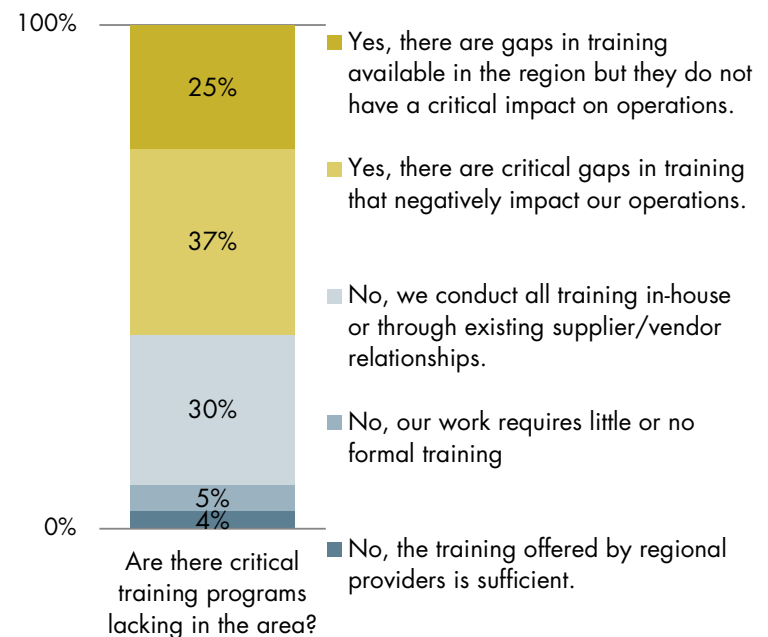
Source: Online employer survey conducted by TIP Strategies, summer 2014

Attitudes toward the Territory’s workforce were largely negative (Figure 31). For every category, more than 85 percent of respondents found the workforce either fair or poor, with no respondents finding any of the categories worthy of an excellent rating. Areas which received less negative ratings included trainability and teamwork, with 50 percent of firms ranking the workforce fair or good in these skills.

Of the 57 firms that weighed in on the Territory’s training programs (Figure 32), only two respondents viewed the training offered by local providers as “sufficient.” Over 60 percent of firms perceived gaps in the available training. Of those, 14 firms indicated training gaps did not have a critical impact; while 21 firms viewed them as having a negative effect on operations.

An additional 20 firms (35 percent) did not identify any critical training gaps because they conduct all training in-house or through vendors and suppliers, or their work requires little or no formal training. There is no way to know from this question, however, whether these in-house training and vendor relationships were established to address a perceived gap at some point in the past.

FIGURE 32. AVAILABILITY OF WORKFORCE TRAINING PROGRAMS



Source: Online employer survey conducted by TIP Strategies, summer 2014

Respondents were provided with an opportunity to contribute additional thoughts regarding workforce training programs. Their responses are categorized in Figure 33. One of the most frequently mentioned concerns was basic skills, such as mathematics, computer skills, written skills, and reliability. Training and education gaps ranged from technical skills to jobs such as dive instructors, law enforcement, CDL drivers, and HAZMAT operators, to workforce preparedness training in high school.

FIGURE 33. OTHER THOUGHTS ON TRAINING

Summary of comments by broad topic



Source: Online employer survey conducted by TIP Strategies, summer 2014

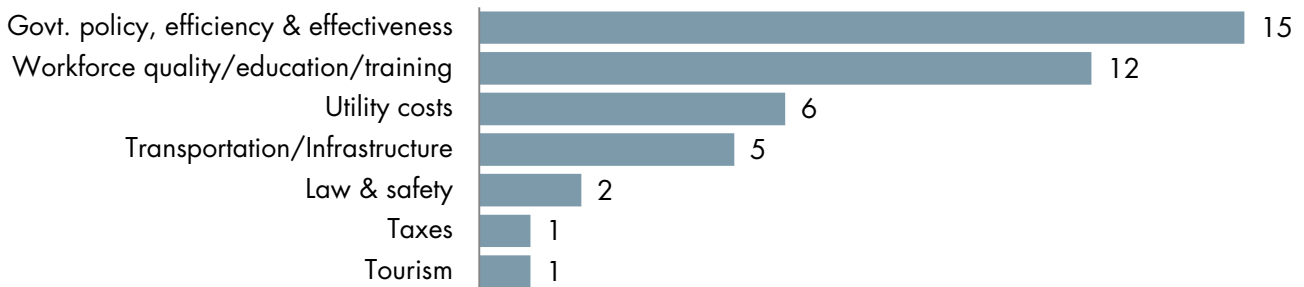
The final survey question asked respondents to provide additional thoughts that would be helpful to the planning processes efforts

to strengthen and grow the Territory’s economy. A total of 27 respondents provided answers that were categorized in Figure 34. The most common area of concern was government policy, efficiency, and effectiveness and related comments largely referred to tax policy, corruption, regulation, leadership, and lack of interagency co-operation.

While utility costs could fit under the infrastructure category, this topic was mentioned so frequently that it has been provided separately. The concern surrounding the costs of utilities is one example of participants repeating certain topics in their responses to multiple questions, including those covering business climate and workforce. Another example is the lack of basic job skills, job readiness, and general workforce and education concerns. In addition, the lack of direct flights and affordable airfares was mentioned by three respondents and categorized under transportation/infrastructure.

FIGURE 34. GENERAL COMMENTS BY BROAD TOPIC ADDRESSED

Please provide any additional thoughts that would be helpful in our efforts to strengthen and grow the US Virgin Islands economy.



Source: Online employer survey conducted by TIP Strategies, summer 2014

FIGURE 35. DIFFICULT OCCUPATIONS TO RECRUIT

Which occupations are difficult to recruit in your industry? [Responses shown as entered]

▪ Account managers	▪ IT
▪ All	▪ Line cooks
▪ All!	▪ Managers/management (4 responses)
▪ Archaeologist	▪ Marketing
▪ Assist. GM	▪ Medical billers
▪ Athletic trainers	▪ MIS
▪ Attorneys	▪ Organic farmer
▪ Bartender	▪ Paralegals
▪ Bookkeeper	▪ Physical therapist
▪ Certified diesel mechanics	▪ Physical therapists
▪ Chefs	▪ Professional
▪ Clerical with the skills to run specific programs	▪ Professionals
▪ Community outreach specialist	▪ Programmers
▪ Community outreach specialists	▪ Qualified administrative support
▪ Competent accounting	▪ Sales people
▪ Computer literate	▪ Sales people
▪ Court watch coordinators	▪ Sales/marketing
▪ Dental hygienist	▪ Sales/marketing
▪ Dentist	▪ Salesperson
▪ Dive instructors	▪ Senior management / executives
▪ Engineers	▪ Skilled drivers
▪ Environmental technicians	▪ Skilled labor
▪ Excellent sales	▪ Skilled professionals
▪ Experienced administrative assistants	▪ Slot technicians
▪ Experienced livestock producer	▪ Table games dealers
▪ Farm manager	▪ Technical
▪ Financial analysts	▪ Technical
▪ Goldsmith	▪ Technical sales
▪ Health related	▪ Training coordinators
▪ House cleaning	▪ Utility regulatory consulting expertise
▪ Investment analysts	▪ Veterinary technicians

General comments included with responses to this question:

- People with experience
- It's almost like culturally accepted to be not show up, quit
- Those that need to travel away to be certified or trained in programs
- The kind that will show up on time and not quit after first pay check

FIGURE 36. DIFFICULT SKILLS TO FIND

Which skills are difficult to find in your industry? [Responses shown as entered]

▪ A sense of Urgency
▪ Accounting
▪ Advanced computer programs
▪ Analytics
▪ Basic customer service!
▪ Basic math skills
▪ Cad drawing
▪ Certified diesel mechanics
▪ Clerical with the skills to run specific programs
▪ Common sense
▪ Communication
▪ Computer
▪ Computer skills all programs including outlook
▪ Creative problem solving
▪ Critical thinking / analytics
▪ Customer service
▪ Customer service
▪ Being nice to customers
▪ Engineering
▪ Estimating
▪ Experience with Microsoft Excel
▪ Financial analyst
▪ Generator service and repair
▪ Good report writing skills and interviewing skills
▪ Hard workers
▪ Hazardous Materials and Hazardous Operations trained
▪ Heavy Equipment or CDL drivers
▪ Honest people
▪ Insurance claims processing
▪ It is difficult to find people who can demonstrate good and consistent customer service skills
▪ IT programming, analysis
▪ IT skills
▪ Jewelers
▪ Just be nice
▪ Law degrees
▪ Legal
▪ Licensed and qualified customer service reps
▪ Managerial

FIGURE 36. DIFFICULT SKILLS TO FIND

Which skills are difficult to find in your industry? [Responses shown as entered]

▪ Line cook
▪ Mathematics
▪ Motivation to excel
▪ Motivation to get the work done
▪ NOP adherence
▪ Organizational development
▪ Physical therapy
▪ Problem solving
▪ Professional acting
▪ Professional conduct
▪ Professional writing
▪ Public speaking
▪ Qualified social networkers
▪ Real estate software
▪ Scientist
▪ Software skills
▪ Spreadsheet analyst
▪ Surgical assistants
▪ Utility generation dispatch and production modeling software
▪ Website designers
▪ Work ethic
▪ Write properly
▪ Writing and communication
▪ Written and verbal communication skills needed

APPENDIX B: LQ AND SHIFT-SHARE ANALYSIS

To document the Territory's existing industrial base, we conducted an analysis of USVI employment using data prepared by EMSI. An analysis of employment data helps to identify industries already present in the Territory that may represent an opportunity to attract suppliers and/or customers. In addition, an industry concentration may indicate that vital location factors for that industry exist in the region, making it attractive for additional companies in that sector. This section provides an overview of the two primary employment analyses conducted: location quotients and shift-share.

A location quotient is calculated as a local industry's share of total local employment divided by the same industry's share of employment at the national level. If the local industry and national industry are perfectly proportional, the LQ will be 1.00. LQs greater than 1.25 are presumed to indicate a comparative advantage. Figure 37, page 50, shows the 39 industries employing 100 or more workers in 2013 with LQs of 1.10 or greater. Not surprisingly, the Territory is highly specialized in tourism-related industries, including retail, personal transportation, and attractions. Of the 39 industries, only one-third added jobs between 2008 and 2013, with many falling into these same categories. In addition to tourism-related activities, a number of industries with above-average LQs are population-driven. Examples include residential construction, department stores, and grocery stores. Industries that are independent of these forces and represent potential targets beyond tourism include manufacturing (petroleum products, beverages), telecommunications, and financial services.

Industry sectors were also assessed for their overall performance and growth potential using a shift-share analysis. Shift-share is a comparative tool used to measure changes in the structure of a local economy against the US economy, or to broad changes in an industry at the national level. This statistical technique identifies the source of changes in a given industry in the local economy by allocating shifts in employment among three components: national, industry mix, and regional competitive share:

- The **national** share looks at the change in local employment resulting from growth or decline in the parent economy. *If the local industry in question had grown at exactly the same rate as the national economy, how many jobs would have been added?*
- The **industry** mix share shows the degree of change within a local industry resulting from changes in the same industry on a national basis. *How did the industry's national growth rate differ from the overall US economic growth rate?* The difference between the two is attributed to the industry's relative performance on a national scale.
- The regional **competitive** share measures the extent to which the unique economic circumstances of a locale contribute to employment growth or decline in a specific industry. *How did the industry's local growth rate differ from its national growth rate?* The difference between the two is attributed to local or regional factors. Factors can include a range of issues, such as the availability of natural resources or other materials, the quality of the local workforce, business climate issues, cost considerations, or infrastructure.

Results of the analysis are highlighted in Figure 38 (page 51) and Figure 39 (page 52).

FIGURE 37. LOCATION QUOTIENT (LQ) ANALYSIS: MOST CONCENTRATED INDUSTRIES

Based on analysis of industries at the 4-digit level with LQs of 1.10 or greater and 100 or more jobs in 2013

NAICS Code	Description	2013 Jobs	Chg. from 2008	2013 LQs (US = 1.00)	2013 Avg. Earnings Per Job	2013 Est.
4483	Jewelry, Luggage, and Leather Goods Stores	959	▼	25.46	\$35,925	134
4831	Deep Sea, Coastal, and Great Lakes Water Transportation	229	▼	21.14	\$43,373	16
7211	Traveler Accommodation	3,411	▼	6.95	\$31,639	52
8113	Comm./Ind. Mach. & Equip. Repair & Maint. (exc. Auto/Electronic)	344	▼	6.47	\$46,354	24
7132	Gambling Industries	233	▲	6.23	\$25,230	6
3241	Petroleum and Coal Products Manufacturing	178	▼	5.73	\$243,144	2
7121	Museums, Historical Sites, and Similar Institutions	190	▲	4.93	\$19,923	12
3121	Beverage Manufacturing	230	▲	4.60	\$56,306	13
5321	Automotive Equipment Rental and Leasing	209	▲	4.17	\$30,704	30
4247	Petroleum and Petroleum Products Merchant Wholesalers	110	▲	4.14	\$194,529	6
4881	Support Activities for Air Transportation	172	▼	3.79	\$18,695	7
5171	Wired Telecommunications Carriers	556	▲	3.44	\$60,187	10
4532	Office Supplies, Stationery, and Gift Stores	283	▼	3.43	\$23,578	38
3273	Cement and Concrete Product Manufacturing	156	▼	3.30	\$50,577	6
5616	Investigation and Security Services	710	▼	3.03	\$15,965	30
6111	Elementary and Secondary Schools (Private)	773	▼	2.90	\$27,417	35
5311	Lessors of Real Estate	438	▼	2.69	\$44,925	79
4248	Beer, Wine, and Distilled Alcoholic Beverage Wholesalers	132	▼	2.66	\$39,179	10
8139	Business, Professional, Labor, Political, and Similar Orgs.	312	▼	2.65	\$28,020	61
5322	Consumer Goods Rental	113	▲	2.46	\$24,321	17
2361	Residential Building Construction	419	▼	2.42	\$34,335	92
4811	Scheduled Air Transportation	278	▼	2.41	\$32,906	15
4521	Department Stores	893	▲	2.09	\$15,227	6
4441	Building Material and Supplies Dealers	593	▲	2.02	\$26,645	40
2362	Nonresidential Building Construction	385	▼	2.00	\$38,593	35
4482	Shoe Stores	104	▼	1.96	\$13,583	18
7224	Drinking Places (Alcoholic Beverages)	174	▲	1.75	\$19,405	22
4451	Grocery Stores	1,181	▼	1.66	\$18,957	49
2373	Highway, Street, and Bridge Construction	137	▼	1.65	\$41,761	7
5313	Activities Related to Real Estate	268	▲	1.59	\$28,663	51
4244	Grocery and Related Product Merchant Wholesalers	304	▼	1.51	\$37,943	23
5221	Depository Credit Intermediation	691	▼	1.46	\$42,066	40
4481	Clothing Stores	422	▼	1.45	\$16,358	92
8123	Drycleaning and Laundry Services	115	▼	1.38	\$16,289	31
4413	Automotive Parts, Accessories, and Tire Stores	199	▲	1.37	\$27,482	22
4842	Specialized Freight Trucking	160	▼	1.34	\$28,093	34
5411	Legal Services	406	▼	1.30	\$58,391	106
4461	Health and Personal Care Stores	340	▲	1.20	\$25,239	49
7139	Other Amusement and Recreation Industries	363	▼	1.14	\$24,891	40

Source: EMSI Covered Employment 2014.1; TIP Strategies

Note: Analysis was conducted on all industries (4-digit NAICS level) with 100 or more jobs in 2013. Results exclude public sector (government) and private household employment.

The idea of shift-share analysis is simply that if local industry growth exceeds that of its peers around the country, it is likely some competitive advantage is being reflected. If it lags, there is likely a negative pattern. A negative regional competitive share would indicate the local industry has not kept pace with growth in the industry at the macro level.

For example, Wired Telecommunications Carriers (NAICS 5171) is among the top industries in terms of the number of jobs added on the strength of local or regional factors from 2010 to 2013, with a competitive effect of 48 jobs. This figure represents the culmination of the shift-share analysis which can be described as follows:

- If employment in this industry had grown at the same pace as the **national economy**, 23 jobs would have been *added* in the industry since 2010.
- If employment in the industry had followed national **industry** patterns, 36 jobs would have been *lost* during this period.

FIGURE 38. SHIFT-SHARE ANALYSIS: MOST COMPETITIVE INDUSTRIES, 2010-2013

Based on analysis of industries at the 4-digit level with 25 or more jobs in 2013

NAICS Code	Description	Actual change	National share	Industry mix	Expected change	Regional competitive share
4521	Department Stores	117	34	-14	20	97
7121	Museums, Historical Sites, and Similar Institutions	81	5	5	10	71
4247	Petroleum and Petroleum Products Merchant Wholesalers	69	2	-1	1	68
4441	Building Material and Supplies Dealers	90	22	1	23	67
5171	Wired Telecommunications Carriers	35	23	-36	-13	48
6211	Offices of Physicians	61	17	2	19	42
5611	Office Administrative Services	46	4	4	8	38
7224	Drinking Places (Alcoholic Beverages)	39	6	0	6	33
3121	Beverage Manufacturing	46	8	7	15	31
4481	Clothing Stores	25	18	-23	-6	31
5313	Activities Related to Real Estate	51	10	12	21	30
6233	Community Care Facilities for the Elderly	37	6	7	13	24
5322	Consumer Goods Rental	9	5	-20	-15	24
5223	Activities Related to Credit Intermediation	24	0	0	0	24
5415	Computer Systems Design and Related Services	31	2	6	8	23
6213	Offices of Other Health Practitioners	27	3	3	6	21
4872	Scenic and Sightseeing Transportation, Water	14	3	-5	-2	16
5172	Wireless Telecommunications Carriers (except Satellite)	11	2	-6	-3	14
5619	Other Support Services	13	1	0	1	12
3273	Cement and Concrete Product Manufacturing	12	6	-6	1	11
4881	Support Activities for Air Transportation	20	7	2	9	11
4239	Miscellaneous Durable Goods Merchant Wholesalers	12	1	1	1	11
4452	Specialty Food Stores	15	3	2	4	11

Source: EMSI Covered Employment 2014.1; TIP Strategies

Note: Analysis was conducted on all industries (4-digit NAICS level) with 10 or more jobs in 2013. Results exclude public sector (government) and private household employment.

- Therefore the “expected change,” based on industry trends and overall growth of the national economy, would have been a *loss* of 13 jobs.

Yet, in the USVI, an estimated 35 jobs were added in the Wired Telecommunications Industry during the period analyzed. This translates to a **competitive effect** of 48 jobs (the number that would be required to offset the expected loss of 13 jobs and arrive at the actual change of 35).

A high competitive share suggests a comparative advantage in a given industry. Figure 38 shows the industries with the largest competitive effect. Figure 39 shows those where the regional competitive share was negative, suggesting that local factors may be contributing to job losses in the industry.

FIGURE 39. SHIFT-SHARE ANALYSIS: LEAST COMPETITIVE INDUSTRIES, 2010-2013

Based on analysis of industries at the 4-digit level with 25 or more jobs in 2013

NAICS Code	Description	Actual change	National share	Industry mix	Expected change	Regional competitive share
3241	Petroleum and Coal Products Manufacturing	-1,219	62	-48	14	-1,233
8113	Commercial and Industrial Machinery and Equipment (except	-1,007	60	85	145	-1,152
7211	Traveler Accommodation	-93	156	25	181	-274
7221	Full-Service Restaurants	-74	63	62	125	-199
6111	Elementary and Secondary Schools (Private)	-124	40	20	60	-184
5613	Employment Services	-38	16	69	85	-123
7222	Limited-Service Eating Places	-5	48	69	117	-122
5616	Investigation and Security Services	-54	34	32	66	-120
2381	Foundation, Structure, and Building Exterior Contractors	-105	11	-6	5	-110
2383	Building Finishing Contractors	-96	6	-3	3	-99
2373	Highway, Street, and Bridge Construction	-86	10	-8	2	-88
2361	Residential Building Construction	-68	22	-4	18	-86
5311	Lessors of Real Estate	-79	23	-18	5	-84
4483	Jewelry, Luggage, and Leather Goods Stores	-52	45	-13	32	-84
7139	Other Amusement and Recreation Industries	-49	18	6	24	-73
5617	Services to Buildings and Dwellings	-34	21	16	38	-72
7223	Special Food Services	-53	7	12	19	-72
4411	Automobile Dealers	-43	10	15	25	-68
4842	Specialized Freight Trucking	-41	9	17	26	-67
6214	Outpatient Care Centers	-39	6	14	20	-59
6241	Individual and Family Services	-30	8	13	21	-51
2362	Nonresidential Building Construction	-39	19	-7	12	-51
4831	Deep Sea, Coastal, and Great Lakes Water Transportation	-37	12	1	13	-50
4471	Gasoline Stations	-37	7	2	9	-46
5413	Architectural, Engineering, and Related Services	-34	9	3	12	-46

Source: EMSI Covered Employment 2014.1; TIP Strategies

Note: Analysis was conducted on all industries (4-digit NAICS level) with 10 or more jobs in 2013. Results exclude public sector (government) and private household employment.

APPENDIX C: US EMPLOYMENT TRENDS

FIGURE 40. FASTEST-GROWING US INDUSTRIES, 2013

Ranked by net numeric change, 2008 to 2013

NAICS Code	Description	2013 Jobs	Net Change in Jobs from 2008 (#)	Net Change in Jobs from 2008 (%)
7222	Limited-Service Eating Places	4,446,826	+329,608	8%
7221	Full-Service Restaurants	4,861,541	+310,508	7%
6216	Home Health Care Services	1,260,270	+302,359	32%
5613	Employment Services	3,364,753	+265,729	9%
6241	Individual and Family Services	1,473,301	+262,072	22%
5415	Computer Systems Design and Related Services	1,705,917	+220,825	15%
6113	Colleges, Universities, and Prof. Schools (Private)	1,860,668	+207,597	13%
6211	Offices of Physicians	2,435,934	+181,404	8%
4529	Other General Merchandise Stores	1,655,814	+173,912	12%
5416	Mgmt., Scientific, and Technical Consulting Services	1,206,836	+165,877	16%
6214	Outpatient Care Centers	686,834	+155,884	29%
5511	Management of Companies and Enterprises	2,039,655	+144,238	8%
6221	General Medical and Surgical Hospitals (Private)	4,432,401	+137,814	3%
6233	Community Care Facilities for the Elderly	808,617	+125,802	18%
6213	Offices of Other Health Practitioners	736,627	+111,714	18%
5242	Agencies, Brokerages, and Other Insurance Related	1,120,294	+105,647	10%
9026	Education and Hospitals (State Government)	2,900,975	+88,074	3%
2131	Support Activities for Mining	413,990	+83,822	25%
6111	Elementary and Secondary Schools (Private)	961,592	+70,362	8%
4451	Grocery Stores	2,565,747	+64,192	3%
7223	Special Food Services	596,734	+56,652	10%
5313	Activities Related to Real Estate	609,721	+50,846	9%
4251	Wholesale Electronic Markets and Agents and Brokers	898,962	+49,397	6%
6232	Residential Mental Health/Substance Abuse Facilities	591,436	+48,544	9%
5191	Other Information Services	183,877	+48,342	36%
6116	Other Schools and Instruction (Private)	341,757	+47,557	16%
4511	Sporting Goods, Hobby, and Musical Instrument Stores	519,051	+45,104	10%
6212	Offices of Dentists	858,840	+42,202	5%
5611	Office Administrative Services	446,163	+42,084	10%
4541	Electronic Shopping and Mail-Order Houses	287,306	+39,343	16%
2111	Oil and Gas Extraction	198,287	+38,207	24%
5616	Investigation and Security Services	844,751	+37,066	5%
5617	Services to Buildings and Dwellings	1,866,683	+36,460	2%
1151	Support Activities for Crop Production	429,686	+36,306	9%
9011	Federal Government, Civilian	2,865,541	+35,586	1%
4413	Automotive Parts, Accessories, and Tire Stores	523,402	+34,248	7%
6231	Nursing Care Facilities	1,649,570	+32,914	2%
4533	Used Merchandise Stores	150,532	+31,774	27%
6219	Other Ambulatory Health Care Services	269,818	+30,711	13%
5112	Software Publishers	290,928	+29,276	11%
5239	Other Financial Investment Activities	376,901	+29,139	8%
6223	Private Specialty Hospitals (except Psych./Substance Abuse)	213,224	+28,474	15%
8129	Other Personal Services	265,981	+27,389	11%
5614	Business Support Services	854,576	+25,970	3%
6215	Medical and Diagnostic Laboratories	240,547	+25,219	12%

Source: EMSI Covered Employment 2014.1; TIP Strategies

FIGURE 41. FASTEST-GROWING US INDUSTRIES, 2013

Ranked by percentage change, 2008 to 2013

NAICS Code	Description	2013 Jobs	Net Change in Jobs (#)	Net Change in Jobs from 2008 (%)
5191	Other Information Services	183,877	+48,342	35.7%
6216	Home Health Care Services	1,260,270	+302,359	31.6%
6214	Outpatient Care Centers	686,834	+155,884	29.4%
4911	Postal Service (Private Sector)	5,276	+1,144	27.7%
4533	Used Merchandise Stores	150,532	+31,774	26.8%
4859	Other Transit and Ground Passenger Transportation	91,628	+18,774	25.8%
2131	Support Activities for Mining	413,990	+83,822	25.4%
6117	Educational Support Services (Private)	116,728	+22,530	23.9%
2111	Oil and Gas Extraction	198,287	+38,207	23.9%
6241	Individual and Family Services	1,473,301	+262,072	21.6%
4861	Pipeline Transportation of Crude Oil	10,037	+1,668	19.9%
6233	Community Care Facilities for the Elderly	808,617	+125,802	18.4%
6213	Offices of Other Health Practitioners	736,627	+111,714	17.9%
7113	Promoters of Performing Arts, Sports, and Similar Events	104,744	+15,270	17.1%
6116	Other Schools and Instruction (Private)	341,757	+47,557	16.2%
5416	Management, Scientific, and Technical Consulting Services	1,206,836	+165,877	15.9%
4541	Electronic Shopping and Mail-Order Houses	287,306	+39,343	15.9%
6223	Private Specialty Hospitals (except Psych./Substance Abuse)	213,224	+28,474	15.4%
5415	Computer Systems Design and Related Services	1,705,917	+220,825	14.9%
7213	Rooming and Boarding Houses	11,871	+1,464	14.1%
7131	Amusement Parks and Arcades	190,245	+23,082	13.8%
6219	Other Ambulatory Health Care Services	269,818	+30,711	12.8%
6113	Colleges, Universities, and Professional Schools (Private)	1,860,668	+207,597	12.6%
4529	Other General Merchandise Stores	1,655,814	+173,912	11.7%
6215	Medical and Diagnostic Laboratories	240,547	+25,219	11.7%
8129	Other Personal Services	265,981	+27,389	11.5%
4882	Support Activities for Rail Transportation	27,128	+2,761	11.3%
5112	Software Publishers	290,928	+29,276	11.2%
2122	Metal Ore Mining	44,574	+4,418	11.0%
4248	Beer, Wine, and Distilled Alcoholic Beverage Wholesalers	179,102	+17,206	10.6%
7223	Special Food Services	596,734	+56,652	10.5%
5611	Office Administrative Services	446,163	+42,084	10.4%
5242	Agencies, Brokerages, and Other Insurance Related	1,120,294	+105,647	10.4%
6112	Junior Colleges (Private)	83,007	+7,322	9.7%
4922	Local Messengers and Local Delivery	50,914	+4,475	9.6%
4511	Sporting Goods, Hobby, and Musical Instrument Stores	519,051	+45,104	9.5%
1151	Support Activities for Crop Production	429,686	+36,306	9.2%
2121	Coal Mining	88,475	+7,380	9.1%
5313	Activities Related to Real Estate	609,721	+50,846	9.1%
6232	Residential Mental Health/Substance Abuse Facilities	591,436	+48,544	8.9%
1132	Forest Nurseries and Gathering of Forest Products	2,704	+218	8.8%
3119	Other Food Manufacturing	177,094	+14,203	8.7%
5621	Waste Collection	150,322	+11,934	8.6%
5613	Employment Services	3,364,753	+265,729	8.6%
5239	Other Financial Investment Activities	376,901	+29,139	8.4%

Source: EMSI Covered Employment 2014.1; TIP Strategies

APPENDIX D: ADDITIONAL UNDERSEA CABLES

The following information was obtained using the Submarine Cable Map (<http://www.submarinecablemap.com/>) Data are compiled by TeleGeography from their Global Bandwidth Research Service and updated on a regular basis. The seven cable systems with USVI landing points identified by TeleGeography are listed below in order of their "ready-for-service" date (newest to oldest).

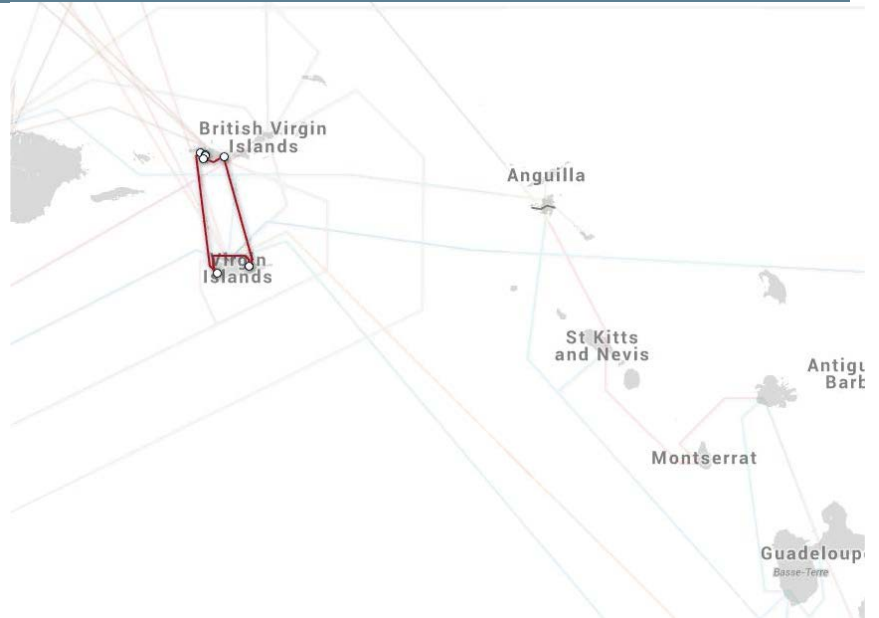
PERSEID

Ready-for-Service: Q2 2016
 Cable Length: 115 km
 Owners: LinkBermuda
 URL: <http://www.linkbermuda.com/>
Landing Points
 St. Croix, Virgin Islands, United States
 Tortola, Virgin Islands (U.K.)



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

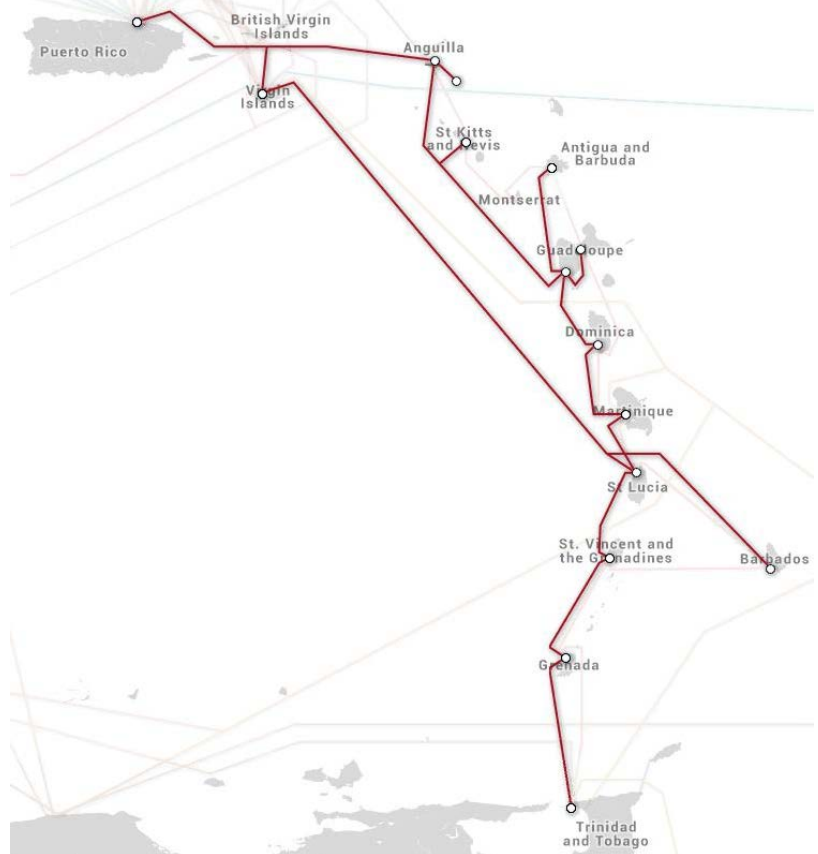


GLOBAL CARIBBEAN NETWORK (GCN)

Ready-for-Service: Sept. 2006
 Cable Length: 3,068 km
 Owners: Leucadia National Corporation, Loret Group
 URL: <http://www.globalcaribbean.net>

Landing Points

- Baillif, Guadeloupe
- Basseterre, Saint Kitts and Nevis
- Canefield, Dominica
- Chaguaramas, Trinidad and Tobago
- Jarry, Guadeloupe
- Kingstown, Saint Vincent and the Grenadines
- Le Lamentin, Martinique
- Needham’s Point, Barbados
- Rodney Bay, Saint Lucia
- Saint Barthelemy, Guadeloupe
- Saint Martin, Guadeloupe
- San Juan, Puerto Rico, United States
- St. Croix, Virgin Islands, United States
- St. George’s, Grenada
- St. John’s, Antigua and Barbuda



SOUTH AMERICAN CROSSING (SAC)/LATIN AMERICAN NAUTILUS (LAN)

Ready-for-Service: September 2000
 Cable Length: 20,000 km
 Owners: Level 3
 URL: <http://www.level3.com>
 Notes: Level 3 owns three fiber pairs on the systems, which it calls South American Crossing. Telecom Italia owns one fiber that it refers to as Latin American Nautilus. Only Level 3 has capacity on the branch to Colombia.

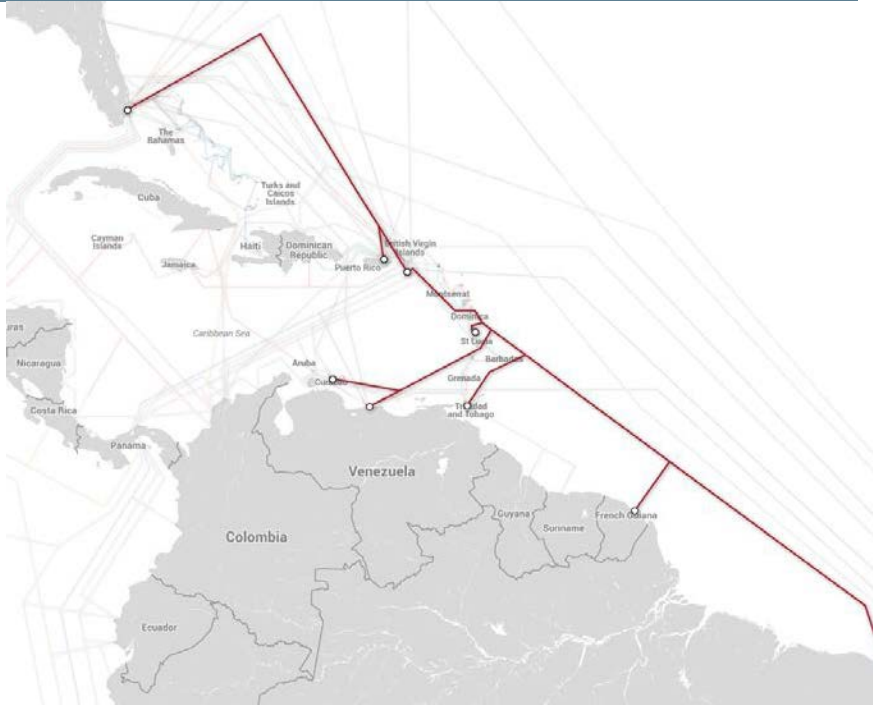
Landing Points

- Buenaventura, Colombia
- Colón, Panama
- Fort Amador, Panama
- Fortaleza, Brazil
- Las Toninas, Argentina
- Lurin, Peru
- Puerto Viejo, Venezuela
- Rio de Janeiro, Brazil
- Santos, Brazil
- St. Croix, Virgin Islands, United States
- Valparaíso, Chile



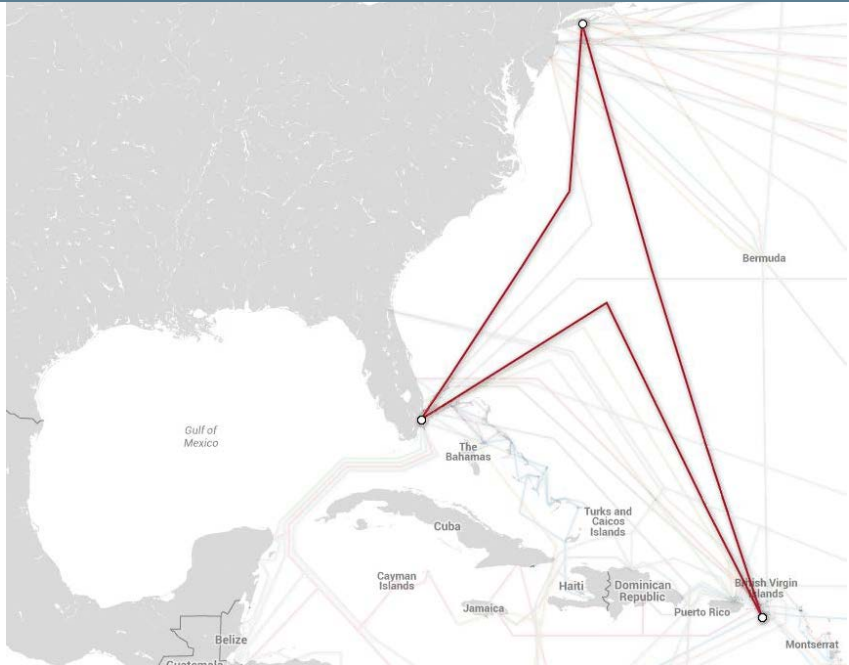
AMERICAS-II

Ready-for-Service: August 2000
 Cable Length: 8,373 km
 Owners: Embratel, AT&T, Verizon, Sprint, CANTV, Tata Communications, Level 3, Centennial of Puerto Rico, Corporacion Nacional de Telecomunicaciones, Telecom Argentina, Orange, Portugal Telecom, Cable & Wireless Communications, Columbus Networks, Telecom Italia Sparkle
 URL: n.a.
Landing Points
 Camuri, Venezuela
 Cayenne, French Guiana
 Fortaleza, Brazil
 Hollywood, Florida, United States
 Le Lamentin, Martinique
 Miramar, Puerto Rico, United States
 Port of Spain, Trinidad and Tobago
 St. Croix, Virgin Islands, United States
 Willemstad, Curaçao



MID-ATLANTIC CROSSING (MAC)

Ready-for-Service: June 2000
 Cable Length: 7,500 km
 Owners: Level 3
 URL: <http://www.level3.com>
Landing Points
 Brookhaven, New York, United States
 Hollywood, Florida, United States
 St. Croix, Virgin Islands, United States



PAN AMERICAN (PAN-AM)

Ready-for-Service: February 1999

Cable Length: 7,050 km

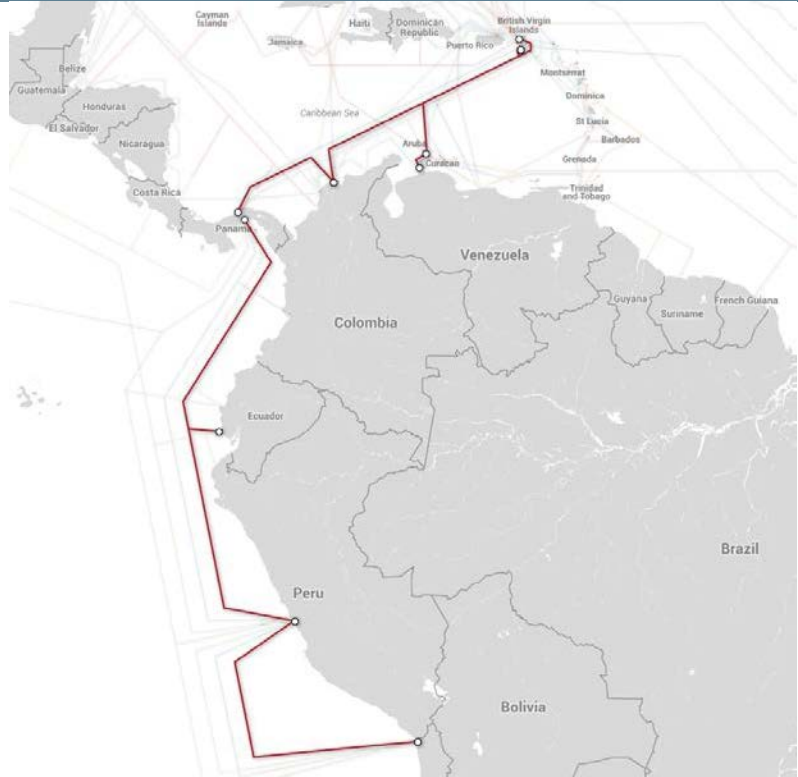
Owners: AT&T, Telefonica del Peru, Softbank Telecom, Telecom Italia Sparkle, Sprint, CANTV, Tata Communications, Telefónica de Argentina, Telstra, Verizon, Telecom Argentina, Telconet, Cable & Wireless Communications, Corporacion Nacional de Telecomunicaciones, Columbus Networks

URL: n.a.

Landing Points

- Arica, Chile
- Baby Beach, Aruba
- Barranquilla, Colombia
- Colón, Panama
- Lurin, Peru
- Panama City, Panama
- Punta Carnero, Ecuador
- Punto Fijo, Venezuela

- St. Croix, Virgin Islands, United States
- St. Thomas, Virgin Islands, United States



NOTES

- ¹ Our work in the Economic Profile draws on a variety of resources made available by the USVI Bureau of Economic Research (“BER”). BER publications reviewed include monthly economic indicators and periodic *Economic Conditions* briefs, as well as a two-part report on the creation of a living wage ordinance in the USVI. In particular, the BER’s 2010 report, entitled *The Self-Sufficiency Standard for the U.S. Virgin Islands*, provided an understanding of poverty levels in the Territory relative to cost of living. In addition to these BER-produced publications, we relied on information and data presented in *The Economic Impact of the US Virgin Islands Economic Development Commission Program (February 5, 2013)*, a report compiled by IHS, Inc. and in two publications prepared by the Virgin Islands Economic Development Authority: the organization’s 2008 Marketing Plan and FY 2013 Annual Report.
- ² Unless otherwise indicated, employment data used in this study were prepared by Economic Modeling Specialists Inc. (“EMSI”). EMSI integrates economic, labor market, demographic, and education data from more than 90 government and private-sector sources to create historic and projected estimates of employment by industry and occupation. The company uses proprietary methods to 1) update government employment data based on other more timely economic indicators; 2) estimate suppressed data; and 3) connect industry data to occupations.
- ³ Time series data are typically indexed to a particular point in an economic cycle (e.g., the peak or trough). In this case, employment figures were indexed to 2001—the first year for which EMSI data are available—in order to provide the longest time horizon possible.
- ⁴ IHS, *The Economic Impact of the US Virgin Islands Economic Development Commission Program (February 5, 2013)* page 31: “Overall, the federal policy has created doubts for many of those operating as EDC businesses about whether they will continue to operate in the USVI. Between 2004 and 2009, 36 companies cited the Jobs Act as the primary reason for terminating or suspending operations in the USVI,³⁴ more than 35% of the number of EDC certificates that were activated during that same period.³⁵ Another 22 companies, or one out of five approved during this period declined to commence activities in the USVI subsequently and let their EDC operating certificate expire.³⁶ Of these expiries, 14 firms let benefits expire between 2004 and 2011, though it is not clear why.³⁷ The lower numbers of expiries in recent years may actually have more to do with the smaller number of applicants the EDC program has received since 2004. Further, the uncertainty of federal tax policy makes business planning difficult—both with US legislative changes and IRS tests.”

Referenced footnotes from IHS report:

³⁴ Closeout Beneficiaries 093011 from EDC.

³⁵ According EDC’s Application Stats 2001-12, 101 companies activated their EDC certificate during the period 2004-2009.

³⁶ Closeout Beneficiaries 093011 from EDC and Application Stats 2001-2012.

³⁷ Closeout Beneficiaries 093011 from EDC

- ⁵ US Bureau of Economic Analysis, *The Bureau of Economic Analysis (BEA) releases 2013 estimates of gross domestic product for the U.S. Virgin Islands* (BEA 14-38), August 19, 2014, press release. http://www.bea.gov/newsreleases/general/terr/2014/VIGDP_081914.pdf
- ⁶ St. Croix Source, “WAPA Switch to Propane Will Improve the USVI Economy,” March 28, 2014 <http://stcroixsource.com/content/commentary/op-ed/2014/03/28/wapa-switch-propane-will-improve-usvi-economy>