



2018 ANNUAL REPORT

NATIONAL TELECOMMUNICATIONS REGULATORY COMMISSION

About Cover Photo

The cover photo illustrates the operation of an Anritsu spectrum analyser which is used to capture measurements of radio frequencies in use at a particular area. The measurements captured by this unit is used to determine whether or not wireless network operators are using correct frequencies; whether there is a source of harmful interference amongst other things.

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1. Mission Statement

To facilitate quality, relevant and affordable Telecommunications Services throughout St. Vincent and the Grenadines.

2. Vision Statement

To ensure that the demand for existing and future Telecommunications Services is met, in order to support economic growth and diversification, by providing a suitable environment for the tourism, information and financial sectors through a liberalized and competitive Telecommunications environment.

3. Functions

The National Telecommunications Regulatory Commission (NTRC) in collaboration with the Eastern Caribbean Telecommunications Authority (ECTEL) is responsible for carrying out a variety of functions that are associated with regulating the Telecommunications Sector in St. Vincent and the Grenadines. These functions are outlined in detail in the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines 2009.

4. The Commissioners



Mr. St. Clair Scott
Chairman



Mrs. Roxann Williams
Deputy Chairperson



Dr. Alston Stoddard
Commissioner



Mr. Richard MacLeish
Commissioner



Mr. Petrus Gumbs
Commissioner

5. Staff Members





Apollo Knights
Director



Nadine Hull
Telecommunications
and Information
Manager



Kyron Duncan
USF Administrator



Mishka L. Quashie
Accountant



Andra Keizer
Administrative
Officer



Keisha Gurley
Consumer & Public
Relations Manager



**Marcellus
Constance Jr.**
Technical
Operations
Manager



Shonden Baptiste
Executive
Assistant



Cyron Cyrus
Software Engineer



Jori Thorne
Accounting Officer



Eustasha Walter
Public Relations
Officer



Shadeja Gordon
Customer
Experience Officer



Khamisi Bascombe
Intern

6. SWOT Analysis

Strengths

- Available ICT infrastructure and software to efficiently carry out the NTRC's regulatory functions.
- Diversity of relevant skills and experience among current staff members and Commissioners.
- A balanced combination of experienced staff alongside young, innovative and qualified interns.

Weaknesses

- Inadequate price control mechanisms for dominant suppliers of services specifically in areas of mobile voice, Fixed Broadband and Cable TV retail rates.
- Lack of regulatory oversight on promotional activities of mobile service providers.
- Absence of Quality of Service (QoS) regulations in the sector. This is an urgent issue noting the current QoS

issues being experienced by consumers of Fixed Broadband services.

- The inability of the current regulatory fee structure to maintain an adequate funding source for the regulatory system (ECTEL and the NTRCs) in the short term.
- Potential for churn of Commissioners and staff when considering the small staff complement of the NTRC and the resources expended on developing the regulatory and technical skills of both Commissioners and staff.

Opportunities

- Ability to develop projects under the Universal Service Fund capable of reducing the current gaps that exist within our communities as it relates to data communication and knowledge sharing.

- Changes in technology and services being offered within the sector present a perfect opportunity for updating the Commission's legislative framework.
- The implementation of the island wide terrestrial fiber network as well as the Subsea fiber network to the Grenadines that commenced in 2018 under the CARCIP project and is scheduled to be completed in 2019 will bring first world fixed broadband communications infrastructure to our multi island state thereby facilitating wide ranging opportunities to many sectors of our economy.
- The transition of the two mobile service providers' networks to LTE technology that started in 2018 and should be completed in 2019 will provide a new broadband option to our citizens and specifically those

that fall outside the coverage of the fixed terrestrial broadband networks.

Threats

- Continued possibility of litigation from licencees.
- The issue of Cybercrime and Cyber Security is a threat facing not only the NTRC but our country and the region.
- The continued convergence of the ICT sector facilitated by IP technology which facilitates Over the Top Services (OTTs) are not captured by the Commissions' existing regulatory frame work..
- Consolidation of service providers across the region is leading to a creation of new monopolies among certain services.

7. Critical Issues

Currently, there are three critical areas that need to be addressed in the sector:

Cyber Security

The NTRC has continued to play its part in sensitizing the general public relating to matters of their security in cyber space. This has been done through the use of social media and our monthly ICT newsletters to share useful information on how they can protect their digital identity. Furthermore, the NTRC has kept its ongoing partnership with the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology to educate Vincentians on the Cybercrime Act of 2016 through our town hall meetings which are held throughout St. Vincent and the Grenadines.

Notwithstanding the above we believe more needs to be done at the national and regional levels on Cyber security.

Broadcast Standards

In the absence of broadcast legislation or content/programming provisions within the new Electronic Communications Bill, the Government should look at alternative mechanisms, such as, agreements with the licencees to address issues such as local content and programming schedules. We continue to see a situation of little oversight on what is played on local radio and in our public transport vehicles.

Broadband Penetration Level

If the country is expected to compete on the global market, irrespective of the sectors targeted, it is critical that as a country, we focus on increasing the penetration levels of broadband access to consumers. Broadband is seen as an essential service globally that is comparable to that of electricity, telephone and water for which St. Vincent and the Grenadines is well into 90% penetration at the household level. In comparison, for broadband, at the household level we are at about 52% penetration. Such a penetration rate (52%) in electricity and water today is unimaginable as such our broadband penetration levels must be increased such that it is comparable to that of our electricity and water penetration. In 2016 our NTRC developed a draft National Broadband plan.

In July 2018, a Broadband contract was signed between the Government of St. Vincent and the Grenadines and Digicel SVG limited under the CARCIP project. The signing of this contract was a big step made on the foundation necessary for delivering on the objectives of the draft National Broadband plan. Also in 2018 our mobile service providers' networks were upgraded to provide LTE services which were significant milestones in delivering on the mobile objectives under the draft Broadband plan. Going forward in 2019 the Government needs to mobilize the necessary resources (financial and otherwise) to deliver on all objectives of the draft National Broadband Plan.

8. Sector Review

Financial Data Review

Telecommunications Sector Revenue

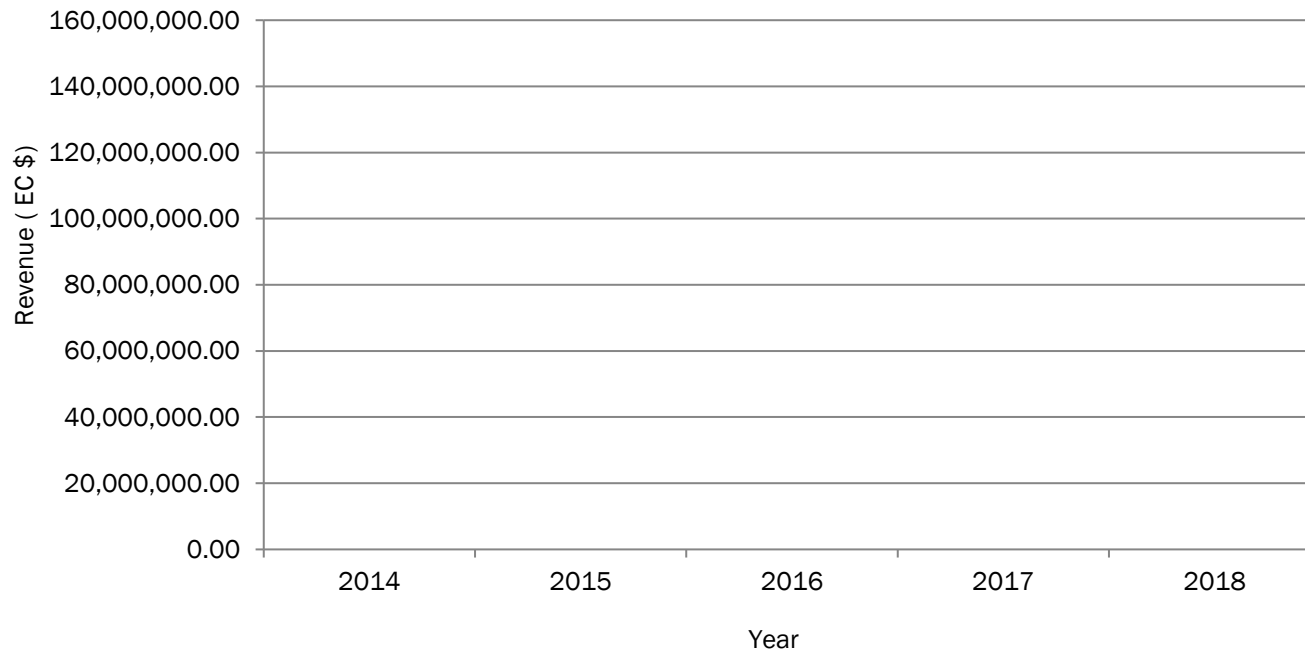
Year	Cable and Wireless (SVG) Ltd								Digicel St. Vincent Ltd				
	Mobile Revenue (EC\$)			Fixed Line Revenue (EC\$)		Internet Revenue (EC\$)	Other Revenue (EC\$)	Total	Mobile Revenue (EC\$)		Data Revenue (EC\$)	Other Revenue (EC\$)	Total
	International Revenue (EC\$)	Domestic Revenue (EC\$)	Data	International Revenue (EC\$)	Domestic Revenue (EC\$)				International Revenue (EC\$)	Domestic Revenue (EC\$)			
2012	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2013	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2014	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2015	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2016	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2017	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2018	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx

TABLE 1 TOTAL REVENUE EARNED BY PROVIDERS OF TELECOMMUNICATIONS SERVICES FROM 2012 TO 2018

Year	Kelcom Int'l (Columbus Communications)						Silvakast	Andre Walker
	Fixed Line Revenue (EC\$)		Cable TV Revenue (EC\$)	Internet Revenue (EC\$)	Other Revenue (EC\$)	Total	Cable TV Revenue (EC\$)	Voice Resale (EC\$)
	International Revenue (EC\$)	Domestic Revenue (EC\$)						
2013	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2014	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2015	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2016	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2017	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
2018	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx

TABLE 2 TOTAL REVENUE EARNED BY PROVIDERS OF TELECOMMUNICATIONS SERVICES FROM 2013 TO 2018

Total Telecom Revenue



TELECOM REVENUE EARNED BY THE PROVIDERS FROM 2014-2018

FIGURE 1

Revenue From the NTRC and ECTEL for the period 2002 to 2018

Frequency fees are shared between the NTRC and the ECTEL. There was an increase of 43% for frequency fees collected in 2018. This is because there were fees due in 2017 that were collected in 2018. These fees amounted to \$457,931. If the \$457,931 had been collected in 2017, the total collection for 2017 and 2018 would have been \$2,684,493 and \$2,732,668 respectively, resulting in an increase of 1.8% for both years.

For application fees, in 2018, there was an increase of 23% compared to 2017. This is because the NTRC received more type approval applications in 2018 when compared to the previous year which resulted in the additional funds being received.

Year	NTRC Application fees	Percent increase	NTRC & ECTEL Frequency Fees	Percent increase
2002	\$107,036		\$607,600	
2003	\$5,100	-95%	\$1,366,604	125%
2004	\$8,800	73%	\$1,577,400	15%
2005	\$10,300	17%	\$1,539,669	-2%
2006	\$11,275	9%	\$1,681,560	9%
2007	\$22,725	101%	\$1,245,183	-25%
2008	\$13,325	-42%	\$1,906,089	53%
2009	\$13,225	-7%	\$1,487,390	-21%
2010	\$23,846	80%	\$1,392,962	-7%
2011	\$16,109	-48%	\$1,723,158	24%
2012	\$16,390	2%	\$2,055,433	19%
2013	\$15,927	-3%	\$1,787,020	-13%
2014	\$31,547	98%	\$1,748,588	-2%
2015	\$25,617	-18%	\$2,681,489	53%
2016	\$25,324	-1%	\$2,708,686	1%
2017	\$22,473	-11%	\$2,226,562	-18%
2018	\$27,685	23%	\$3,190,599	43%

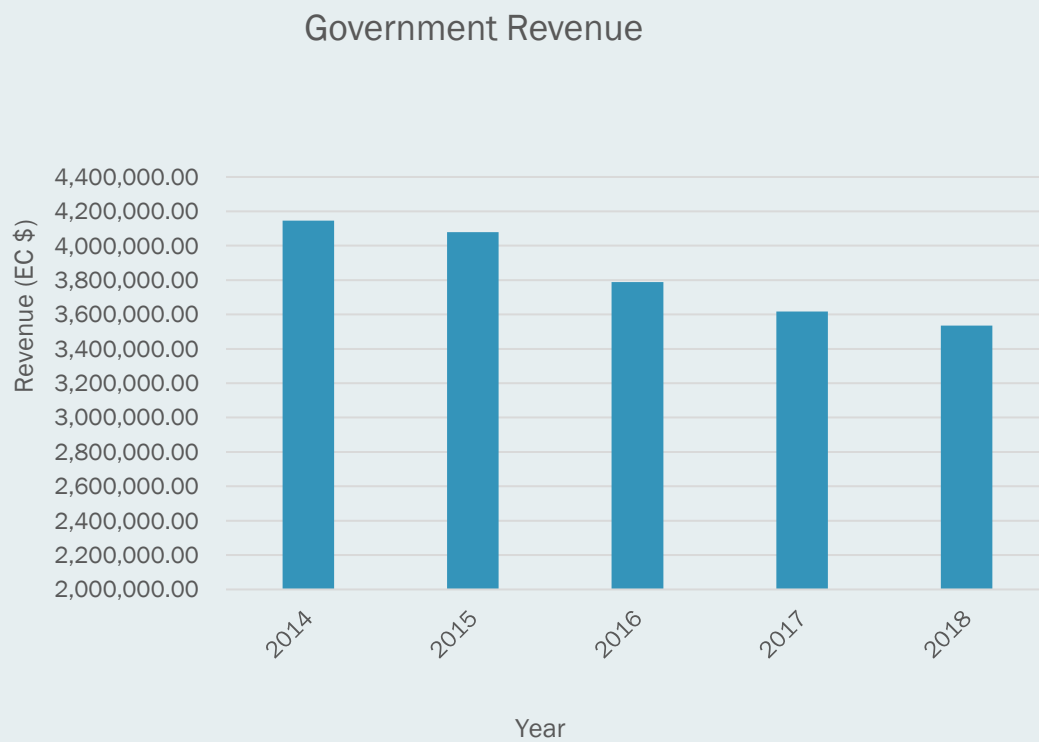
TABLE 3

Licence fees received by the Government for the period 2002 to 2018

There was a 2% decrease in revenue for licence fees collected by the NTRC on behalf of the Government in 2018 compared to 2017. This is mainly due to a decline in the revenue of our two Telecommunications Providers.

Year	License Fees	Total	Percent Increase
2002	3,365,391	3,365,391	
2003	2,803,927	2,803,927	-17%
2004	3,329,145	3,329,145	19%
2005	3,421,159	3,421,159	3%
2006	3,850,955	3,850,955	5%
2007	4,301,521	4,301,521	11%
2008	4,081,151	4,081,151	-6%
2009	4,065,706	4,065,706	-4%
2010	4,034,096	4,034,096	-1%
2011	3,886,912	3,886,912	-4%
2012	3,756,898	3,756,898	-3%
2013	3,638,128	3,638,128	-3%
2014	4,146,265	4,146,265	14%
2015	4,079,164	4,079,164	-1.6%
2016	3,788,925	3,788,925	-7%
2017	3,617,662	3,617,662	-5%
2018	3,535,564	3,535,564	-2%

TABLE 4



Licence Fees collected from 2014 - 2018

FIGURE 2

Financial Performance of the NTRC

A. Revenue

The NTRC projected revenue for the year ending December 31, 2018 was \$1,321,338. Of this amount only \$1,284,789 was received, which is \$34,323 less than the budgeted amount. There remains outstanding a total of \$41,130 to be collected from outstanding Numbering Fees.

B. Expenditure

i. Recurrent

For the year ending December 31, 2018, the NTRC projected to spend \$1,278,924 on recurrent expenditure; however, only \$1,260,417 was actually spent. The Commission also had accrued expenses at the end of 2018 amounting to \$35,315.00 which included staff gratuities and other capital and recurrent costs.

ii. Capital

The amount of \$52,255 was budgeted for capital expenditure for the financial year 2018, while \$52,294 was spent keeping in line with the projected amount.

Conclusion

The NTRC's financial performance over the 2018 financial year was commendable.

Projected Revenue for 2019

For the fiscal year 2019, the NTRC has projected to collect \$2,768,675 in revenue from frequency fees. This is a reduction of 2% or \$42,660 compared to the 2018 budgeted amount of \$2,811,335. There was a removal of frequency fees amounting to \$31,600 which related to an Authorization which was revoked. Additionally, there was a net increase of \$12,000 following the inclusion of new fees collected as well as the correction of a fee which was duplicated in the budgeted figure.

Human Resource Development for 2018

The NTRC continues to expose its staff and Commissioners to relevant courses and seminars that would benefit the organization both in the short and long term taking into account the limited resources available.

The particular areas covered during 2018 were as follows:

- Seventh ECTEL/NTRC Administrative Professionals Training. This training was conducted in St. Kitts and Nevis.
- American Management Association (AMA) Building Better Work Relationship- New Techniques for Results-oriented Communication. This training was conducted in New York.
- American Management Association (AMA) Building Better Work Relationship- The 5 Choices to Extraordinary Productivity. This training was conducted in New York.
- BSc. Management Studies (Human Resource Management). This program is being done online via UWI Open Campus St. Vincent and the Grenadines.
- ACCA Professional Certification via Association of Chartered Certified Accountants (ACCA). This program is being done through ACCA in the United Kingdom.
- Arthur Lok Jack Global School- World-Class Business Dashboards Workshop. This training was conducted in Trinidad and Tobago.
- ECTEL Anritsu Certification Training. This workshop was conducted in St. Lucia.
- UNESCO Mobile Learning Week. This training was conducted in Paris France.
- Caribbean Telecommunications Union (CTU) Spectrum Management Task Force Workshop. This workshop was conducted in Trinidad and Tobago.

Regulations

No new Telecommunications Regulations were gazetted during 2018.

Staff

In 2018 the following persons were recognized for their years of service to the organization:

- Dr. Alston Stoddard, Commissioner for five (5) years of service.
- Ms. Nadine Hull, ICT Manager for fifteen (15) years of service.
- Mr. Kyron Duncan, USF Administrator for ten (10) years of service.
- Mr. Marcellus Constance, ICT Officer for five (5) years of service
- Ms. Shonden Baptiste, Executive Assistant for five (5) years of service.

Mr. Jori Thorne, Accounting Officer and Ms. Shadeja Gordon, Customer Experience Officer were appointed as permanent staff

in 2018. In addition, we hired an intern, Mr. Khamisi Bascombe in 2018.

Policy Development

A Draft Consumer Protection Bill is being developed by the Ministry of Foreign Affairs, Trade and Commerce. The NTRC has reviewed and provided its comments to the Ministry for consideration.

Spectrum Management

The NTRC continued to conduct its weekly spectrum monitoring and management activities in the year 2018. Our spectrum monitoring activities focus on St. Vincent, Bequia, Canouan and Union Island.

Also, during the year, as a part of the new Integrated Spectrum Management and Monitoring System (ISMMS) we received our monitoring equipment which included new interference hunting software and Spectrum Analyzer. The interference hunting

software has already proven its value in assisting the Commission in more easily determining the source of interference that affected the Digicel network over the Christmas holidays in 2018.

Also in December 2018, we received two remote monitoring probes that will be used to assist us in monitoring radio occupancy in the Grenadines Islands. The probes are scheduled to be installed in Union Island and Bequia in the first quarter of 2019.

With regards to training, in August 2018, after receiving the Interference Hunting Software and new spectrum analyzer, representatives from the five NTRCs and ECTEL were trained for two days in St. Lucia regarding how to use the software.

Cellular Sites

The table below shows the number of cellular sites with 4G services and LTE Services in St. Vincent and the Grenadines.

Company	Location	Number of Cell Sites	Number of 4G Sites	Number of LTE Sites
Cable & Wireless	St. Vincent	32	32	3
	Grenadines	8	8	-
Digicel	St. Vincent	35	27	35
	Grenadines	12	8	-

The sites provide coverage to most of the populated areas on mainland St. Vincent, however, there is a need for better coverage on most of the Grenadines islands.

Internet Access

As of December 2018, the total number of Fixed internet subscribers in St. Vincent and the Grenadines was Twenty-Four Thousand, Eight Hundred and Forty One (24,841). This figure shows a 6.53% increase over the number of subscribers in 2017. In 2018, the NTRC was unable to execute new projects under the Universal Service Fund but conducted various monitoring exercises to ensure our existing free Wi-Fi service was available throughout the country.

Public Consultation

No public Consultation was conducted in 2018.

Public Awareness

In 2018, the NTRC executed several public awareness initiatives.

1. Open Day Event

Open day events were held at the Mayreau Government School on June 14th 2018 and the Emmanuel High School Mesopotamia on July 24th 2018. For these events, the functions of the NTRC, our dispute resolution process, along with the projects which were implemented by the Universal Service Fund we discussed. The NTRC also partnered with the Adult and Continuing Education Department to provide computer appreciation sessions, Information and Communication Technology (ICT) sessions as well as practical applications in the

use of the internet. The issue of Cyber Crime was also discussed during these sessions.

2. Public Information Session

The Public Information Session was held on July 27, 2018 at 9:00AM under the Kingstown Post Office. The purpose of the session was to inform the general public about the upcoming Sixth annual \mathcal{F} competition.

3. Radio and Television Presentation

Radio and Television Presentations were conducted to inform the general public of the NTRC's sixth annual \mathcal{F} competition and other events. These presentations were done at the Agency for Public Information (API), Xtreme FM, Praise FM and National Broadcasting Corporation Radio Station NBC).

4. Career Fairs

A Career fair was held at the Adelphi Secondary School on September 19th 2018 in an effort to encourage students to register for the NTRC's 2018 *i*² Competition.

5. Social media Campaign

In an effort to reach a wider audience, the NTRC engaged the public on Facebook and Instagram with information about our organization and held several competitions on these social media networks to engage the public and to increase our followers.

6. School Visits

In order to promote the Sixth annual *i*² competition, the public awareness committee visited eight (8) secondary schools that had not previously participated in the competition since its inception. These schools include;

- Bequia Community High
- Bequia Seven Day Adventist Secondary
- West St George Secondary
- St. Clair Dacon Secondary
- St. Joseph Convent Marriaqua
- Adelphi Secondary School
- Buccament Bay Secondary
- Campden Park Secondary

The presentations at the school events revolved around past i² competitions, the different phases in the competition, how to register for the competition and the rewards of entering the competition.

7. Sixth annual i² competition

On September 6, 2018, the Commission launched the 2018 i² competition. This competition is a forum that challenges students to develop and present projects in the form of Ideas and/or Mobile Applications from both the public and private sectors of St. Vincent and the Grenadines to facilitate the implementation of a new system or improve existing systems within those sectors.

In 2018, there was an increase in the number of entries for the competition over 2017. Fifty-four (54) entries were received in 2018 as compared to fifty (50) entries which were received for the 2017 competition. Twenty-two (22) groups entered the Secondary Idea Category, Thirteen groups (13) entered the

Secondary Mobile Application Category and the Open Category, and Individuals under the age of thirty five (35) years, there were Nineteen (19) entries.

The schools that entered the secondary level were Petit Bordel Secondary School, Mountain View Adventist Academy, Union Island Secondary School, St. Vincent Girls High School, St. Vincent Grammar School, Emmanuel High School Mesopotamia, West St. George Secondary School, Troumaca Secondary School, Dr. JP Eustace Memorial Secondary School, North Union Secondary School, St. Martins Secondary School and the St. Joseph's Convent Kingstown.

The Open Category saw participation from Seventeen (17) teams from the public.

For the first time in the history of the competition, entries were received from the West St. George Secondary School and the Dr. J P Eustace Memorial Secondary School. The finals of the competition concluded on November 14, 2018 at the Methodist

Church hall. The winners of the various categories of the competition were as follows:

-Secondary Mobile Application Category: "Team Titans" from the St. Vincent Grammar School.

-Secondary Idea Category: "Young Inventors" from the Petit Bordel Secondary School.

-Open Category (Individuals under the age of 35 years): "Med Lab Pro".

8. NTRC's 2018 MyApp Summer Program

For the fourth consecutive year, the NTRC held its annual MyApp Summer program. The 2018 program was held on the Grenadine Island of Bequia from July 16- Aug 10 2018 at the Bequia Community High School. A total of Nineteen (19) students attended the program. The objective of the NTRC's MyAPP Program is to teach participants between the ages of 13-18, who may or may not have previous exposure, how to

code and design applications. The program also introduced participants to ways in which they can portray their acquired skills in larger incentive forums, such as the annual NTRC's ² Competition. The valedictorian for the program was Eli Davis a resident of Bequia. The 2018 program was made possible through sponsorship from the Bank of St. Vincent and the Grenadines, Digicel, Flow, Jack's Beach Bar and Outdoor Graphics.

9. The Yearly Financial Assistance Program

In 2017, the NTRC developed a yearly program where financial assistance was given to one Primary school student and one Secondary school student. This program continued over into 2018 where Latonya Shallow from the Diamond Government School received an amount of \$500.00 and Mosranny Harry from the Barrouallie Government School received an amount of \$1,000.00. The program targets students attending schools in the rural areas on the mainland as well as in the Grenadines.

A letter was sent out to all schools for the principals to submit the names of students that would qualify for the assistance and the reason/s why they should be considered. A committee consisting of NTRC staff members met and went through the names and selected the most suitable students. The financial assistance program will continue for the foreseeable future.

The USF equipment and services located at various sites under the seven projects funded by the Universal Service fund are currently in place and functional. The NTRC did not seek to pursue any new projects in 2018 but will seek to do so as soon as funds become available.

More details on the USF projects can be found in the 2018 USF Annual Report.

Universal Service Fund

For the year ended December 31, 2018, the Universal Service Fund was budgeted to receive a total of One Million, Seven Hundred and Thirteen Thousand Two Hundred and Fifty Two Dollars (\$1,713,252) from Telecommunications Service Providers, the interest on the account was projected to be Fifteen Thousand Dollars (\$15,000) and other income of Sixty Two Thousand Dollars (\$62,000.00). The actual revenue received by the Universal Service Fund in 2018 was One Million, Eight Hundred and Forty One Thousand Six Hundred and Forty Dollars (\$1,841,640). The additional revenue relates to more fees being received from a Telecommunications Provider.

Statistics

The NTRC continued in 2018 with the provisioning of statistical data from the Telecommunications sector to a number of local, regional and international entities. The following graphs depict some of the more relevant information on the sector while Table 5 on page 32 gives a detailed overview of customer data supplied by the Telecommunications Providers.

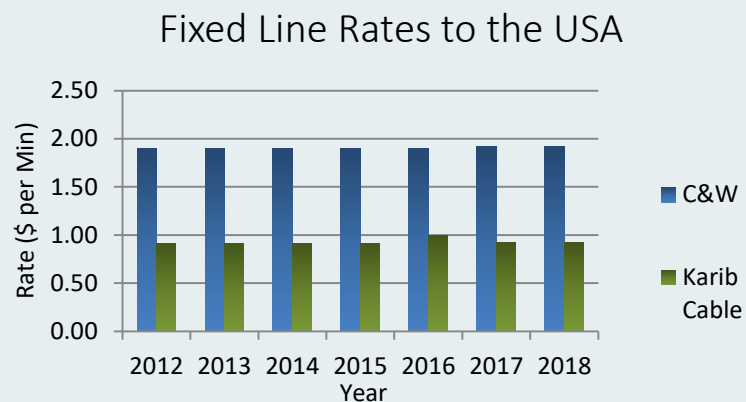


FIGURE 3

The rates depicted in Figure 3 are not regulated. These rates have remained unchanged up to 2015. In 2016, we saw a temporary increase in the Karib Cable (Columbus Communications) fixed line rate. However in 2017 and 2018 the rates remained unchanged.

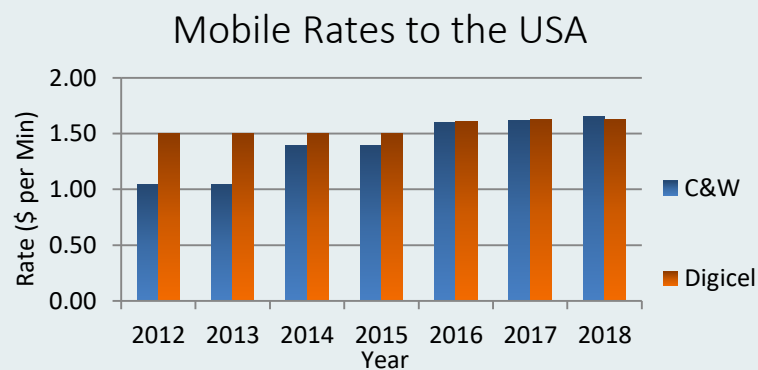


FIGURE 4

The rates depicted in Figure 4 are not regulated. In 2016 and 2017 we saw slight increases in the Digicel rates. For Cable and Wireless the rates have seen increases from 2015.

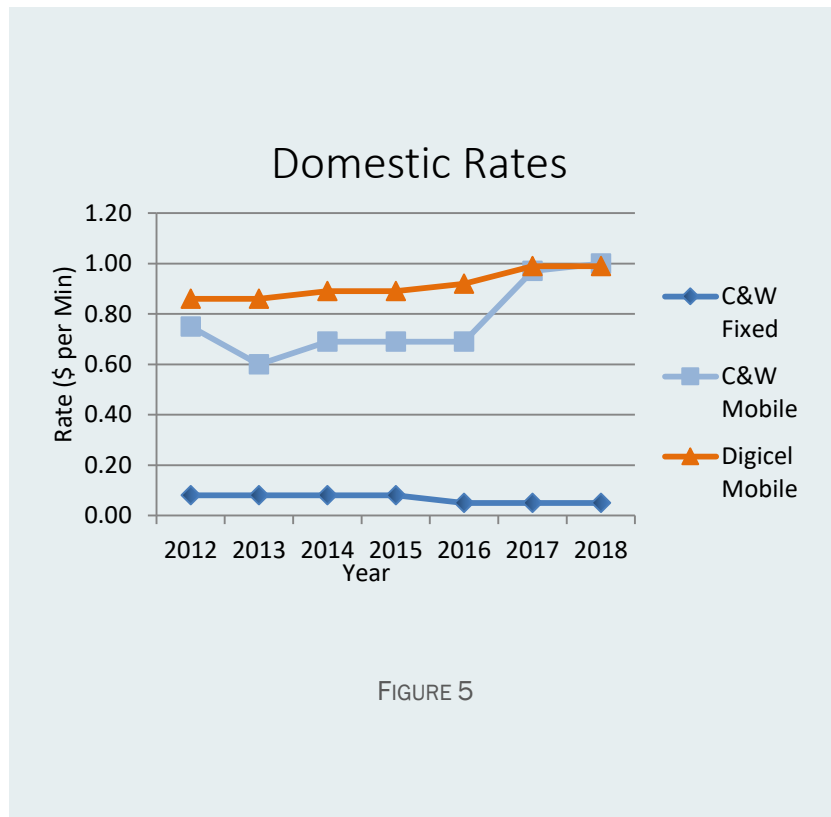


FIGURE 5

The domestic rates in Figure 5 are the daytime rates for calls made to customers on the same network. Cable and Wireless' and Digicel's mobile domestic rates increased in 2016 and 2017 while Cable and Wireless' fixed line rates reduced. Cable and Wireless domestic rates also increased slightly in 2018 while Digicel rates remained unchanged.

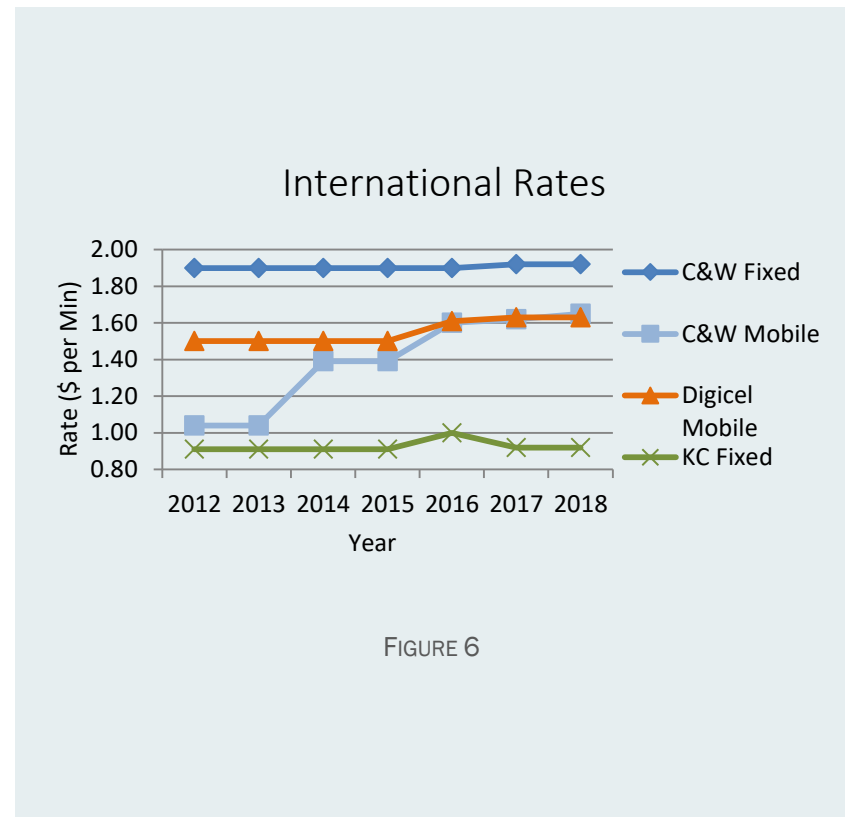


FIGURE 6

The international rates in Figure 6 are the daytime rates for calls to the USA for all providers. The Cable and Wireless rates increased in 2018. However the rates for Digicel and Karib Cable (Columbus Communications) remained unchanged.

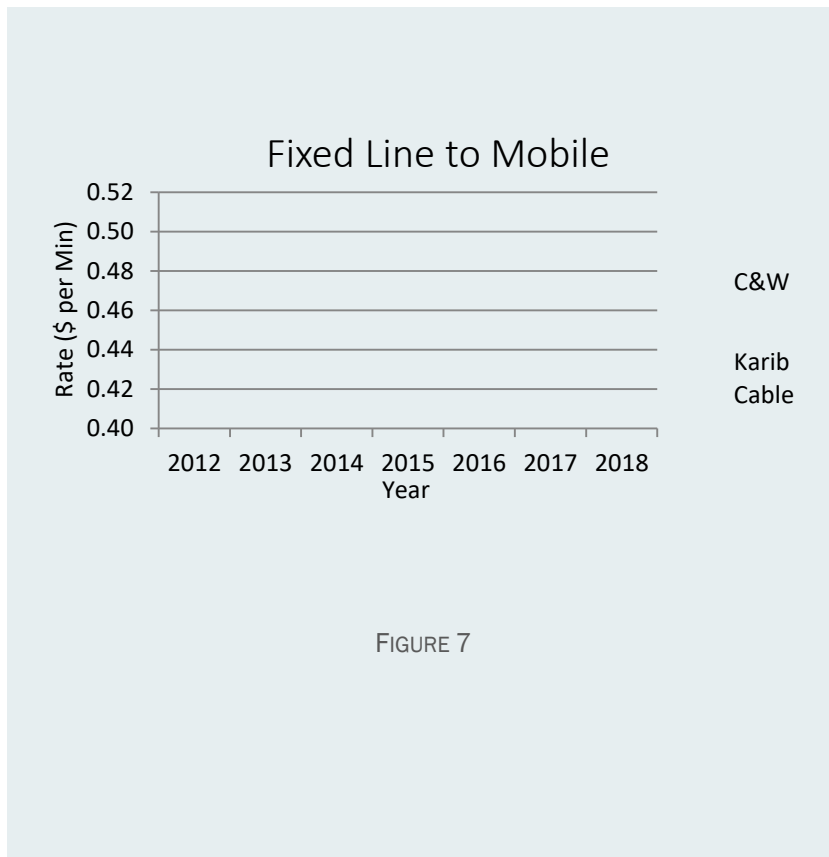


FIGURE 7

Figure 7 shows Cable & Wireless' and Karib Cable's (Columbus Communications) fixed line to mobile rates for 2012 to 2018. Both Cable & Wireless and Karib Cable rates increased in 2018 compared to 2017.

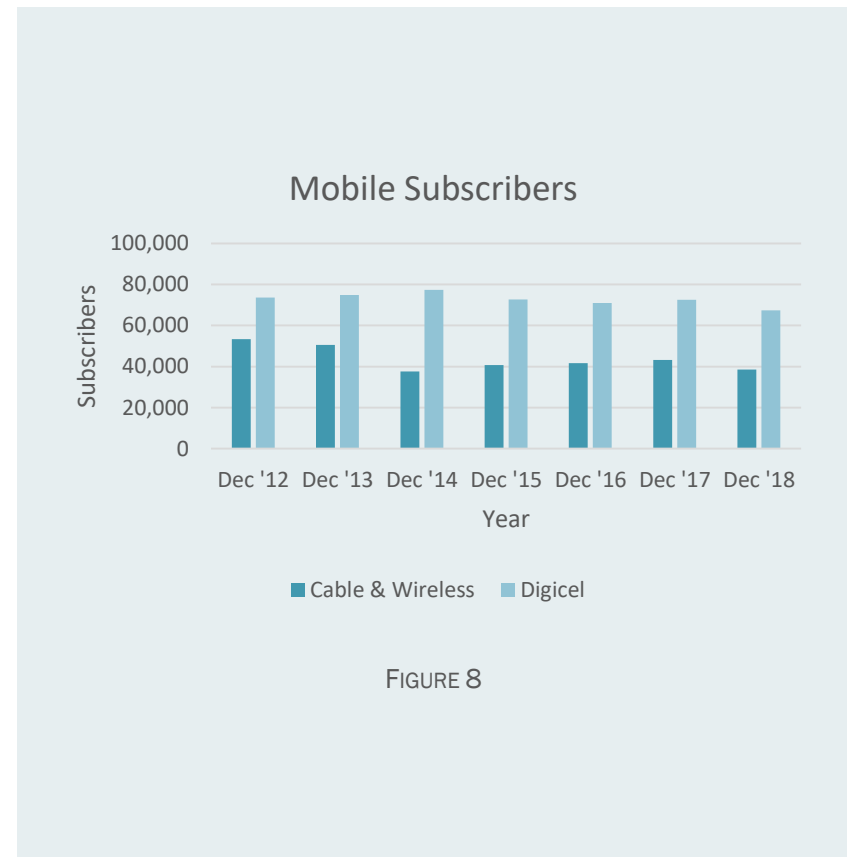


FIGURE 8

Figure 8 shows the number of mobile subscribers for the years 2012 to 2018. It is noted that Cable & Wireless' and Digicel's mobile subscribers decreased in 2018.

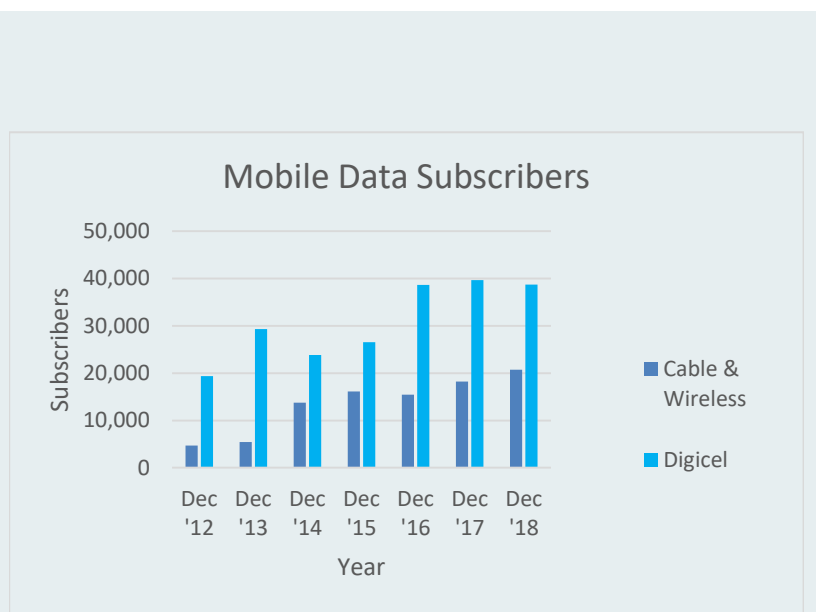


FIGURE 9

Figure 9 shows a comparison of the total Mobile Data Subscribers for Cable & Wireless and Digicel. It is noted that while Digicel’s mobile data subscribers saw a slight reduction in 2018, Cable and Wireless saw a slight increase in their subscribers.

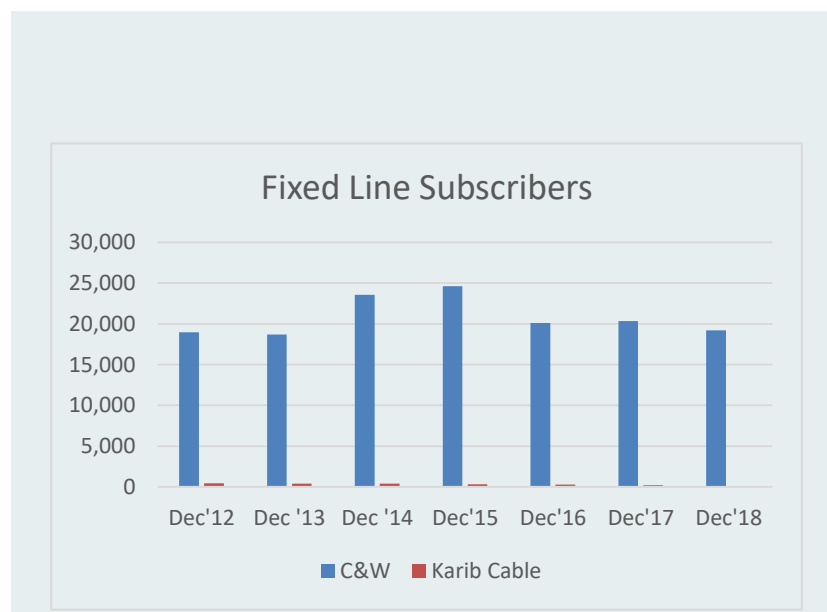


FIGURE 10

Figure 10 shows a comparison in Fixed Line Subscribers for Cable & Wireless and Karib Cable (Columbus Communications). In 2018, Cable & Wireless recorded a decrease in their Fixed Line Subscribers.

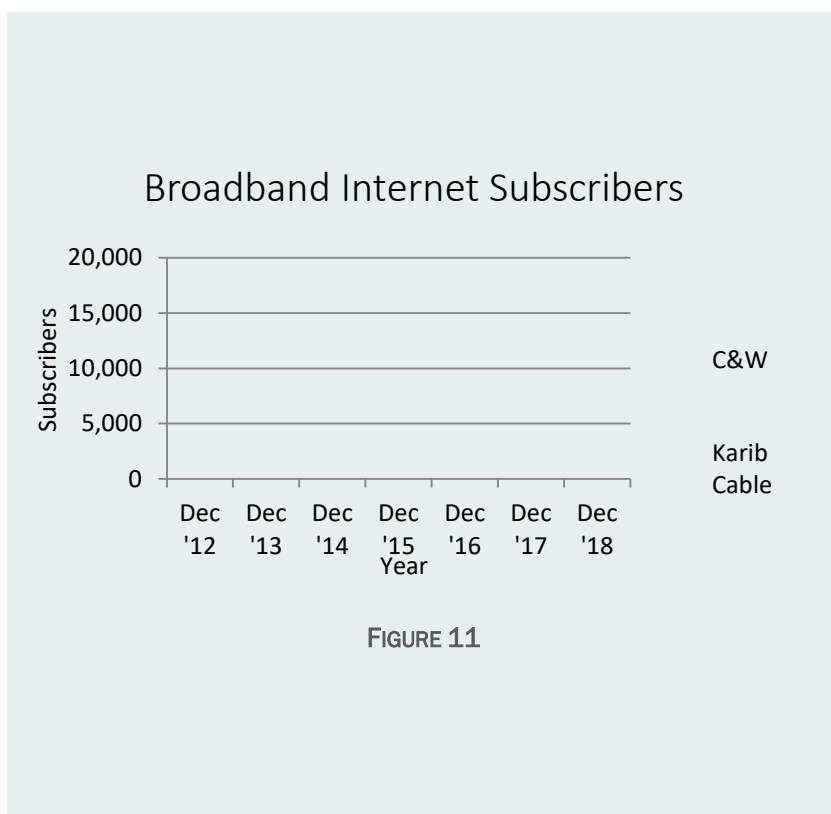


FIGURE 11

Figure 11 shows the number of Broadband Internet Subscribers per provider. Cable and Wireless experienced a decline in broadband subscribers in 2018, however there was an increase in broadband subscribers for Karib Cable (Columbus Communications) within this year.

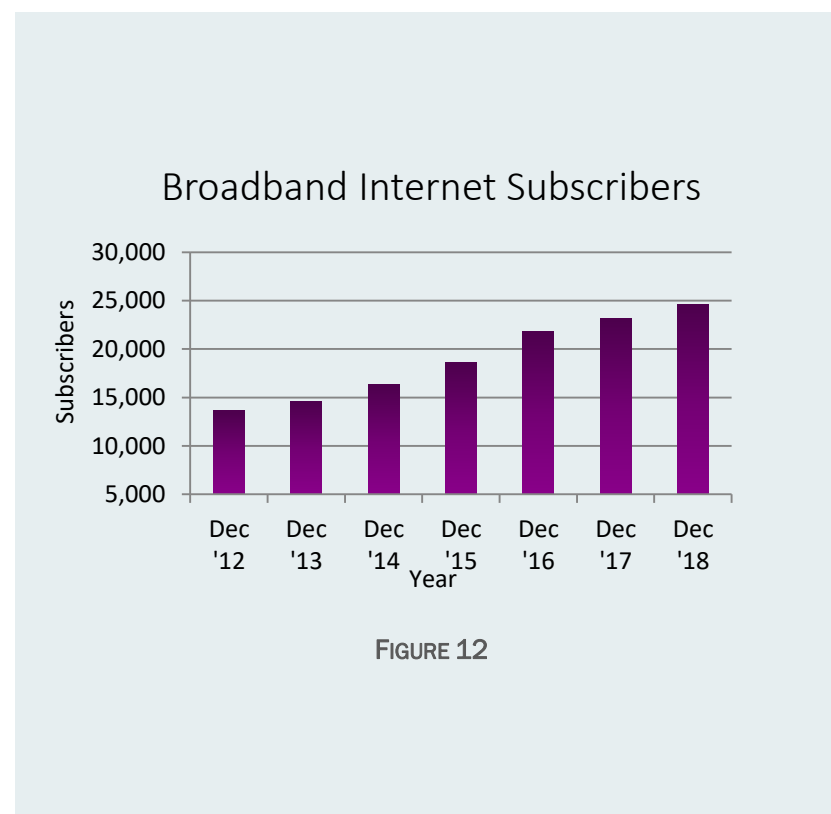


FIGURE 12

Figure 12 shows the total number of Broadband Internet Subscribers from 2012 to 2018. There has been steady increases in the Broadband Internet Subscribers from 2012 to 2018. It is anticipated that this trend will continue.

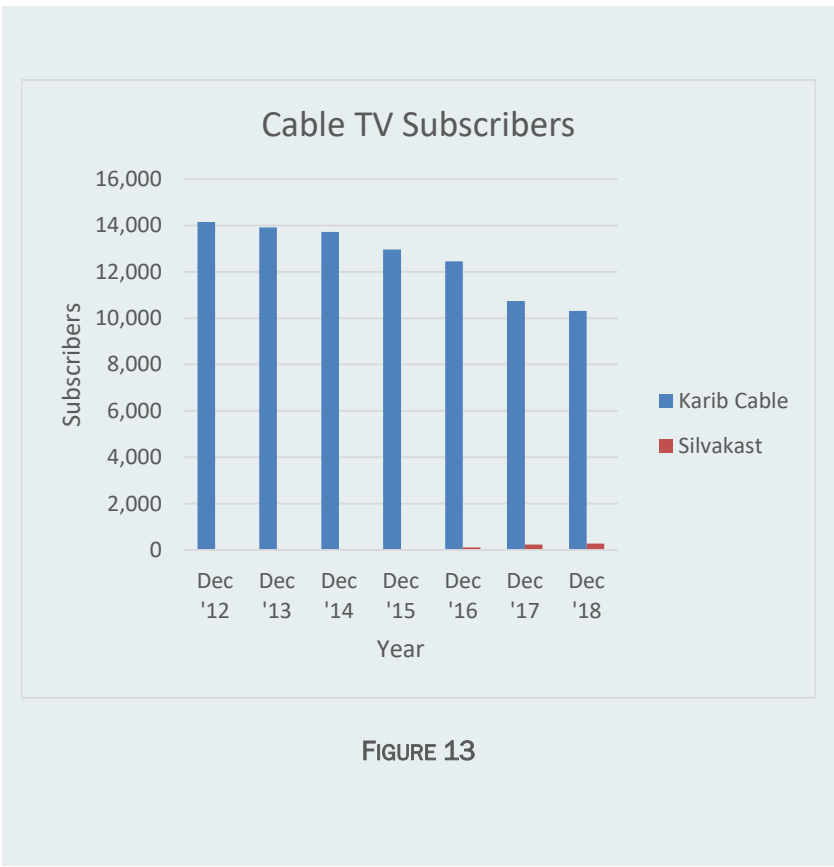


FIGURE 13

Figure 13 shows that Karib Cable (Columbus Communications) experienced a slight decrease in Cable TV subscribers in 2018 while Silvakast experienced a slight increase in Cable TV subscribers in 2018.

Licensing

The NTRC continued in 2018 to facilitate the application process for new licences under the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines 2009. Applications for Individual licences were forwarded to ECTEL for evaluation while those for Class licences were evaluated by the NTRC. The NTRC also evaluated and made recommendations to the Minister on a number of frequency applications.

			2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Cable & Wireless (Wf) Ltd	Fixed Line Subscribers	Residential	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
		Business	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
		Total	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
	Internet Subscribers	Dialup	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		ISDN	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		ADSL (Residential)	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		ADSL (Business)	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Total	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Mobile Subscribers	Post paid	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Prepaid	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Total	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Digicel	Mobile Subscribers	Post paid	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
Prepaid			xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
Total			xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
Karib Cable	Cable TV Subscribers	Residential	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
		Business	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
		Free Service	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
		Total	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
	Internet Subscribers	Residential	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Business	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Free Service	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Total	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Fixed Line Subscribers	Residential	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Business	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Free Service	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		Total	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
SilvaKast	Cable TV Subscribers	Residential	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	
		Business												
		Total									xxxxxxx	xxxxxxx	xxxxxxx	

Table 5 contains the Customer data submitted from the three Telecom Providers. The ISDN Internet Service for Cable & Wireless is no longer in use.

		2011		2012		2013		2014		2015		2016		2017		2018	
		New	Renew	New	Renew	New	Renew	New	Renew	New	Renew	New	Renew	New	Renew	New	Renew
Individual Type Licenses	Fixed Public	1	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	1
	Internet Networks	0	N/A	0	N/A	0	N/A	1	N/A	1	N/A	0	N/A	0	N/A	0	0
	Subscriber Television	1	N/A	0	N/A	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A	0	4
	Int'l Simple Voice Resale	0	N/A	0	N/A	0	N/A	1	N/A	0	N/A	0	N/A	0	N/A	0	1
	Mobile Cellular	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
	Public Radio paging	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
	Submarine cable	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	1	1	1	0	1
Class type Licenses	Private network/services	1	N/A	1	N/A	0	N/A	0	N/A	1	1	1	1	1	1	0	1
	Internet services	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	2	1	1	0	2
	Radio Broadcast	1	N/A	0	N/A	0	3	1	5	1	6	1	7	1	8	0	12
	Value Added Services	0	N/A	0	N/A	0	N/A	1	N/A	1	N/A	0	0	0	0	0	1
	Community radio	0	N/A	0	2	0	N/A	0	N/A	1	1	2	3	2	4	0	5
	Television Broadcast	0	N/A	1	N/A	0	N/A	0	N/A	0	N/A	0	1	0	2	0	0
	Maritime mobile	3	42	4	67	35	31	35	31	1	16	1	26	3	44	10	18
	Land mobile	5	267	3	172	2	155	3	204	0	10	10	20	12	28	2	17
	Aeronautical radio	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	Aircraft station	2	17	2	17	4	17	3	17	1	18	1	17	1	18	3	18
	Amateur Radio station	38	60	27	80	25	84	26	82	8	47	20	20	23	14	8	76
	Citizen Band radio	0	1	0	1	0	0	0	0	2	3	0	0	0	0	2	2
	Family Radio Band	1	0	1	5	1	3	1	3	1	2	2	1	1	1	0	2
Ship Station	44	170	27	122	15	182	18	157	46	177	41	184	40	163	22	175	
Miscellaneous	CPE Dealers reg. fee	17	44	15	18	14	16	10	17	2	10	5	18	5	20	6	22
	Exam Fees for Radio Operators	2	N/A	0	N/A	1	N/A	1	N/A	0	N/A	0	N/A	0	N/A	0	N/A
	Type Approval fee	3	N/A	16	N/A	22	N/A	27	N/A	56	N/A	85	N/A	102	N/A	125	N/A
	Ship station Operators	17	55	25	9	27	7	29	21	17	40	16	28	18	30	6	22
	Aircraft Station Operators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 6 Table 6 outlines the number of licences issued from 2011 to 2018. The issued licences are broken down as new licences, issued in the specific year, and renewals of existing licences, first issued in previous years.

9. Broad Response Strategies

As the Telecom/ICT Sector continues to function within a liberalized environment, the NTRC, in collaboration with ECTEL and the Government, has to respond to the requirements of a competitive sector so as to protect the interests of both the providers and the consumers and facilitate a relevant regulatory framework that will cater for the increased rate of change in the sector.

The NTRC has to operate within the harmonized framework of the ECTEL Treaty and the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines 2009. Most of the objectives cannot be accomplished on our own due to the mandate given to ECTEL on certain issues. However, the Universal

Service Fund allows for some flexibility at the national level and the NTRC SVG has strategically utilized the available resources for maximum benefits via practical and needed projects that meet the needs of our citizens.

Recognizing the limitations outlined above, the NTRC aims to continue to work closely with ECTEL, the Ministry/Minister responsible for Telecommunications and relevant stakeholders to facilitate the enactment of the new Electronic Communications Bill and suite of regulations that have been in development over the last five years.

10. Result Indicators 2018

1. To execute the 6th annual NTRC's *F* Competition.

The competition was completed. The competition ran for the period September 6, 2018 to November 14, 2018. There was an increase in the number of entries for the competition from 50 to 54.

2. To seek international funding for USF projects

This objective was not completed as we were unable to find a funding agency to provide funding for any USF project. The NTRC will continue to work on this task in 2019 to have it executed.

3. To seek approval from Cabinet for the adoption and Execution of the National Broadband Plan that was finalized in 2017.

This is incomplete as the Ministry of Finance, Economic Planning, Sustainable Development and Information

Technology is currently in the process of seeking approval of the plan from Cabinet to get the plan adopted. However, the NTRC will continue to work with the Ministry to have the broadband plan adopted and executed in 2019.

4. Working jointly with the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, in having new licences issued to Cable and Wireless and Columbus Communications.

This task is incomplete as ECTEL is still undertaking work on finalizing the licence template. It is expected that these will be completed in 2019.

5. Working jointly with ECTEL and the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, in having the new electronic communications bill and relevant subsidiary regulations enacted.

This is incomplete as ECTEL is still working on finalizing the new electronic communications bill and relevant subsidiary regulations. It is expected that these will be completed in 2019.

6. Launch the IOS version of the NTRC connect app.

This is incomplete due to technical issues which were experienced with the app. The launch is expected to be completed by March 19, 2019.

7. To update the Vincy prices app to include new and improved features.

The objective is incomplete as the work on the NTRC Connect App with regards to ensuring that all sites have proper quality photos, tower heights, correct school and principal information took longer than anticipated. In addition, there were issues regarding bugs in the user location and some incorrect mapping information that had

to be resolved. As such the app was not completed until the end of January 2019. The update of the Vincy prices app will be completed in February 2019.

8. To facilitate geospatial training, in collaboration with the World Bank and ITSD, on the OpenStreetMap (OSM) Platform which is a crowd-sourced open map, and open map data tool that is edited by volunteers worldwide.

The objective is complete. The training was held between March 12 – 16, 2018 at the Conference Room of the Ministry of Health in the Ministerial Building. The training was conducted by experienced mapping personal from the USA who taught a group of thirty (30) Vincentians on the use of various tools namely OpenStreetMap and QGIS to digitize various features on maps and how to conduct geospatial analysis.

9. To conduct a National ICT Survey in St. Vincent and the Grenadines on behalf of the Caribbean Regional Communication Infrastructure Program (CARCIP)

This objective was not completed as the funding for this task was approved by the World Bank in the final quarter of 2018. Following this, it was agreed with the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology that the survey will be completed in the first quarter of 2019.

10. To work along with ECTEL and the other NTRC's to implement the Integrated Spectrum Management and Monitoring System

The Implementation of the Integrated Spectrum Management and Monitoring System (ISMMS) has not yet been fully completed. During the year 2018, each NTRC received spectrum monitoring equipment and specialized interference hunting software. We however, did not receive the equipment to be installed at our two remote monitoring

sites as they were not yet finalized. Despite the delay in receiving the spectrum equipment, the necessary preparatory work was been completed at the remote sites at Bequia and Union Island to facilitate the installation of the equipment. The equipment at the sites are expected to be installed by the second quarter of 2019.

11. To host the 2019 MyApp summer program in Bequia.

This objective is complete. The MyApp program was held at the Bequia Community High School and ran from July 16, 2018 – August 10, 2018.

11. Major Objectives for 2019

1. To execute the 7th annual NTRC's i² Competition.
2. To seek international funding for USF projects.
3. To seek approval from Cabinet for the adoption and Execution of the National Broadband Plan that was finalized in 2017.
4. Working jointly with the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, in having new licences issued to Cable and Wireless and Columbus Communications.
5. Working jointly with ECTEL and the Ministry of Finance, Economic Planning, Sustainable Development and Information Technology, in having the new electronic communications bill and relevant subsidiary regulations enacted.
6. Launch the Vincy Wi-Fi App.
7. To update the Vincy prices app to include new and improved features.
8. To conduct a National ICT Survey in St. Vincent and the Grenadines on behalf of the Caribbean Regional Communication Infrastructure Program (CARCIP).
9. To work along with ECTEL and the other NTRC's to implement the Integrated Spectrum Management and Monitoring System.
10. To host the 2019 MyApp summer program.

11. Annex A

Technical Definitions/Terminology

CANTO Caribbean Association of National Telecommunication Organizations

CANTO provides a platform for all Caribbean telecommunications operators to speak with one voice to policy makers, regulators and other stakeholders in the sector in influencing the creation of a favourable business environment for all stakeholders.

CIDA Canadian International Development Agency

CIDA supports sustainable development in developing countries in order to reduce poverty and to contribute to a more secure, equitable and prosperous world.

CITEL Inter-American Telecommunication Commission

CITEL is an entity of the Organization of American States, it is the main forum in the hemisphere in which the governments and the private sector meet to coordinate regional efforts to develop the Global Information Society. CITEL endeavours to make telecommunications a catalyst for the dynamic development of the Americas by working with governments and the private sector.

The US Agency for International Development

Coursera provides universal access to the world's best education, partnering with top universities and organizations to offer courses online. Every course on Coursera is taught by

top instructors from the world's best universities and educational institutions. Courses include recorded video lectures, auto-graded and peer-reviewed assignments, and community discussion forums. When you complete a course, you'll receive a sharable electronic Course Certificate.

CTO Commonwealth Telecommunications Organization

The (CTO) is a partnership between Commonwealth governments and telecommunications businesses to promote ICT in the interests of consumers, businesses and social and economic development. It's Program for Development and Training (PDT) is a unique program of training and expert

assistance in every aspect of telecommunications for Commonwealth developing countries

CTU Caribbean Telecommunications Union

CTU is the major Telecommunications policy organ in the Region, directed by Inter-Governmental specialized action under a special Agreement establishing the Union.

Frequency The rate of a repetitive event. The standard unit for frequency is the hertz (Hz), defined as the number of events or cycles per second. The frequency of electrical signals is often measured in multiples of hertz, including kilohertz (kHz), megahertz (MHz), or gigahertz (GHz).

GMDSS Global Maritime Distress and Safety System

The GMDSS provides for automatic distress alerting and locating in cases where a radio operator doesn't have time to send an SOS or MAYDAY call.

ITU International Telecommunication Union

ITU works closely with all standards organizations to form an international uniform standards system for communication.

Land Mobile A mobile service between base stations and land mobile stations, or between land mobile stations

Maritime Mobile A mobile service between coast station and ship stations, or between ship stations, or between associated on-board communication stations; survival craft stations, and emergency position- Indicating radio beacon stations may also participate in this service

MMSI Maritime Mobile Service Identity

MMSI are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations, and group calls. These identities are formed in such a way that the identity or part thereof can be used by telephone and telex customers connected to the general telecommunications network principally to call ships automatically.

Radio frequency spectrum That part of the electromagnetic Spectrum used for communications; includes frequencies used for AM- FM radio and cellular phones and television etc.

Ship Station A Mobile station in the maritime mobile service Located on board a vessel which is not permanently moored, other than a survival craft station

Spectrum "(Electromagnetic Spectrum) is an ordered array of the components of an emission or wave. Sound, Radio Frequency Spectrum, Infra-Red, Visible Light, Ultraviolet Rays, X-Ray etc. are all part of the Electromagnetic Spectrum in that order.

Stations One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radio communication service, or the radio astronomy service

Telecommunications Any transmission, emission or reception of signs, signals, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems.

Universal Service universal service" includes the provision of –

- a. Public voice telephony;
- b. Internet access;
- c. Telecommunications services to schools, hospitals and similar institutions and the disabled and physically challenged; or
- d. Other service by which people access efficient, affordable and modern telecommunications.

USAID

12. Annex B

Audited Financial Statements 2018