

*Report on the*

# Status of Competition in the Telecommunications Industry



AS OF DECEMBER 31, 2019



Florida Public Service Commission



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## List of Acronyms

CDC	Centers for Disease Control and Prevention
CLEC	Competitive Local Exchange Company
FCC	Federal Communications Commission
FPSC	Florida Public Service Commission
F.S.	Florida Statutes
ILEC	Incumbent Local Exchange Company
IP	Internet Protocol
Mbps	Megabits per second
PSTN	Public Switched Telephone Network
TDM	Time Division Multiplexing
USF	Universal Service Fund
USAC	Universal Service Administrative Company
VoIP	Voice over Internet Protocol



## Executive Summary

Section 364.386, Florida Statutes, requires the Florida Public Service Commission (FPSC or Commission) to submit a report on the status of competition in the telecommunications industry to the Legislature by August 1 of each year. As of December 31, 2019, there were 10 incumbent local exchange companies and 256 competitive local exchange companies certificated by the Commission to operate in Florida.

In 2019, the Florida wireline market continued to follow the national trend with AT&T, CenturyLink and Frontier all experiencing access line losses. The local and national markets continued to consolidate with several mergers and acquisitions. Several intrastate issues were resolved or initiated in 2019. Lifeline subscriptions in Florida fell to 604,693 in 2019, a 12.9% decrease.

Consumers in Florida continue to migrate from traditional wireline service to wireless and cable/Voice over Internet Protocol (VoIP) services, while business customers continue to migrate away from traditional wireline to VoIP technology in large numbers. Carriers reported approximately 1.6 million total wireline access lines in Florida for 2019, about 15.7 percent fewer than the previous year.

For the ninth year in a row, total wireline business access lines exceeded total residential access lines. Residential and business wirelines again experienced significant drops in 2019. Total residential access lines declined 12.6 percent. The transition to VoIP and wireless-only services continues to be responsible for much of this decline. AT&T surpassed CenturyLink as Florida's largest wireline residential access line provider. CenturyLink experienced a 20.4 percent decline in residential lines during 2019 while AT&T only declined 4.6 percent. Frontier also experienced the biggest residential loss with a 23.6 percent decline in residential access lines during the same period.

Total business access lines declined 17.5 percent. The wireline competitors' business market share increased to 34.2 percent in 2019. More than half of AT&T and Frontier's wireline subscribers were business lines, while at the same time CenturyLink's business wireline subscribers made up less than half of their total access line amounts. More than 99 percent of competitors' access lines were business lines.

As reported for the past several years, intermodal competition from broadband, wireless, and VoIP services continued to drive the telecommunications markets in 2019. According to the most recent FCC data, there are an estimated 21.8 million wireless subscriptions in Florida, and greater than 4.5 million VoIP connections.

Analysis of the telecommunications data obtained by the Commission produced the following conclusions:

- Many competitive local exchange companies reported offering a variety of services and packages comparable to those offered by incumbents. Subscribers to wireless, cable, and business VoIP services continued to increase. These factors contribute to the conclusion

that competitive providers are able to offer functionally equivalent services to both business and residential customers.

- The traditional wireline market continues to decrease; however, the population and its uses for telecommunications services continue to expand. Wireless subscription growth and VoIP are meeting the increased demand for service. Consumers are choosing to obtain a majority of wireless and VoIP subscriptions from competitors. Given the decline in the traditional wireline market and competitors' substantial wireless and VoIP market shares, consumers are able to obtain functionally equivalent services at comparable rates, terms, and conditions.
- A competitive market requires comparable affordability and reliability of service. The vast majority of Florida households subscribe to telephone service. Consumers are willing and able to choose telecommunications service from competitors using a variety of technologies, so competitors have been maintaining significant market share over an extended period. Based on competitors' substantial market share and market pressures requiring comparable affordability and reliability, competition is having a positive effect on the maintenance of reasonably affordable, reliable telecommunications services.



## Chapter I. Introduction and Background

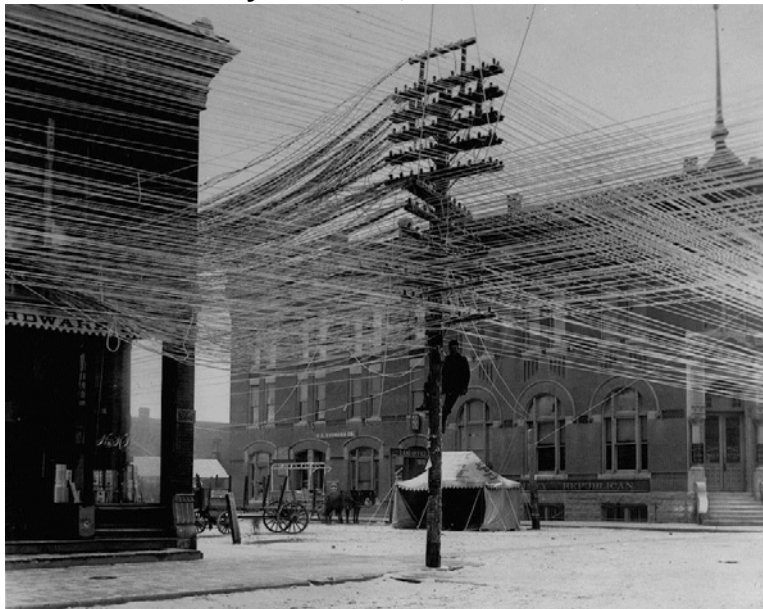
Telephone service has been regulated to some degree nearly since the moment it was patented by Alexander Graham Bell (Bell) in 1876.<sup>1</sup> This section summarizes the major historical regulatory events both at the federal and state levels. For the purposes of this report, the history of federal telecommunications regulation is useful because state regulation of these markets has always been intertwined with, and largely a derivative of, federal laws and rules.

### A. Federal Regulation

When Bell's patents expired in 1894, competitors were allowed to build their own facilities. This accelerated the development of the nationwide telephone network. In the 18 years Bell held the patents, the daily calling average per 1,000 people peaked at 37. In the first 15 years of competition, it increased tenfold.<sup>2</sup> Competitors gained over 50 percent market share by 1907.<sup>3</sup>

Early competition also had its drawbacks. Populated areas saw many lines crisscrossing the streets as competitors raced to build their independent networks. Figure 1-1 shows the lines in Pratt, Kansas circa 1900.

**Figure 1-1**  
**Early Network, Circa 1900**



Source: America calling: a social history of the telephone to 1940

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<sup>1</sup> Diane Katz and Theodore Bolema, "Crossed Lines: Regulatory Missteps in Telecom Policy," Mackinac Center, December 3, 2003, <<https://www.mackinac.org/6033>>, accessed on June 24, 2020.

<sup>2</sup> Adam D. Thierer, "Unnatural Monopoly: Critical Moments in the Development of the Bell System Monopoly," Washington, D.C.: *The Cato Journal*, Fall 1994, p. 270, <<https://www.cato.org/sites/cato.org/files/serials/files/cato-journal/1994/11/cj14n2-6.pdf>>, accessed on June 24, 2020.

<sup>3</sup> Ibid.

Bell's American Telephone and Telegraph Company (AT&T) responded to this competition by acquiring its competitors' networks. Once it had acquired enough rivals to control a market, it would refuse to interconnect with any independent providers.<sup>4</sup> AT&T even acquired a controlling interest in its chief rival, The Western Union Telegraph Company (Western Union). These actions eventually got the attention of federal antitrust lawyers and the Interstate Commerce Commission (ICC), which received authority to regulate telephone service in 1910.<sup>5</sup>

In 1913, AT&T reached a settlement with the Justice Department. AT&T agreed to divest its Western Union stock, interconnect with other companies, and not acquire any more independent companies without approval from the ICC.<sup>6</sup> This began a decades-long practice by AT&T where, after pressure from potential competitors, courts, or regulators, AT&T would enter into agreements with state and/or federal authorities in order to maintain its control of the national telephone market.<sup>7</sup>

By the 1920s, AT&T had sold the idea of telecommunications as a necessary "universal service" and a "natural monopoly" to state and federal regulators, who in turn discouraged or outright banned competitive telephone services.<sup>8</sup> During this period, AT&T repeatedly agreed to be subject to heavy, rate-restricted regulation in exchange for a guaranteed monopoly in a particular area.<sup>9</sup> AT&T's market share rebounded during this period until it controlled nearly 80 percent of the national market.<sup>10</sup>

Telephone regulation then looked a lot like today's electric regulation. The local telephone markets were considered monopolies and were rate-of-return regulated. Companies submitted cost information, regulators established their revenue requirement, or rate base, and the companies' rates were set to recover those costs. This became the de facto regulatory regime at both the federal and state levels.

By enacting the Communications Act of 1934 (1934 Act) as part of President Roosevelt's New Deal, Congress created a new agency, The Federal Communications Commission (FCC), and

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<sup>4</sup> Richard Gabel, "The Early Competitive Era in Telephone Communication, 1893-1920," 34 *Law and Contemporary Problems*, Spring 1969, p. 350, <<https://scholarship.law.duke.edu/lcp/vol34/iss2/8>>, accessed on June 24, 2020.

<sup>5</sup> Frank Dixon, "The Mann-Elkins Act, Amending the Act to Regulate Commerce," *The Quarterly Journal of Economics*, Oxford University Press, vol. 24, no. 4, August 1910, p. 596, <<https://www.jstor.org/stable/pdf/1883490.pdf>>, accessed on June 24, 2020.

<sup>6</sup> Milton Mueller, "Universal Service: Competition, Interconnection and Monopoly in the Making of the American Telephone System," Syracuse University, 2013, pp. 127-128, <<https://surface.syr.edu/books/18>>, accessed on June 24, 2020.

<sup>7</sup> Matthew Lasar, "How AT&T Conquered the 20<sup>th</sup> Century," *Wired*, September 3, 2011, <<https://www.wired.com/2011/09/att-conquered-20th-century/>>, accessed on June 24, 2020.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

transferred to it the ICC's telecommunications jurisdiction.<sup>11</sup> The new law enabled the FCC to codify its rate base regulation of AT&T while also protecting AT&T's monopoly market position.<sup>12</sup> This regulatory scheme continued for several decades, allowing AT&T to grow into the largest corporation in the world. At its peak, AT&T became larger than most countries' economies, and larger than the five largest U.S. oil companies combined.<sup>13</sup>

Starting in the 1950s, cracks in the monopoly regime began to develop, and AT&T's ability to negotiate its way out of competition began to erode, first with the courts, and eventually with the FCC itself. Federal proceedings and lawsuits with nicknames such as "Hush-A-Phone," "Carterfone," and "Above 890" forced AT&T to interconnect with competitors' telephone equipment, wireless radio phones, and microwave networks.

Still, AT&T remained the largest corporation in the world when the federal government filed another antitrust suit in 1974. This action led AT&T to enter into one final agreement; this time to break itself up into smaller companies. The long distance and equipment markets had slowly become competitive and would soon be federally deregulated. AT&T offered to divest itself into eight major companies: seven regional Bell Operating Companies were established to continue the local monopolies, and AT&T, while barred from providing local service, remained as a competitor in the long distance and equipment markets.<sup>14</sup> This action, known simply as Divestiture, became final in 1984, and as a result AT&T's size dropped 70 percent.

Between 1984 and the 1990s technology continued to put pressure on the local and long distance telephone markets. Cable, cellular, and broadband services all showed promise as substitutes for traditional phone service. Divestiture had created the opportunity for Congress to rewrite the Communications Act to accommodate these technologies and open the local markets to competition.

Congress passed the Telecommunications Act of 1996 (1996 Act), rewriting the majority of the 1934 Act and setting up the ground rules for local competition.<sup>15</sup> The new law encouraged local competition nationwide, and required massive rulemakings from both the FCC and state PSCs to ensure wholesale prices, consumer protections, and universal service principles were fair and reasonable.<sup>16</sup> This effectively ended rate base regulation for the vast majority of local telephone services nationwide.

Congress delegated to the FCC and the States the ability to write rules implementing the 1996 Act. Carriers were required to interconnect with one another, and the existing companies, called Incumbent Local Exchange Carriers (ILECs), were required to lease elements of their existing networks to the new competitors, called Competitive Local Exchange Carriers (CLECs).

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<sup>11</sup> Communications Act of 1934, Pub. L. No. 73-416, 48 Stat. 1064.

<sup>12</sup> Ibid.

<sup>13</sup> Ray Horak, *Webster's New World Telecom Dictionary*, Wiley Publishing, Indianapolis, Indiana, 2008, p. 42.

<sup>14</sup> *United States v. American Tel. and Tel. Co.*, 552 F. Supp. 131 (D.D.C. 1982).

<sup>15</sup> "Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56.

<sup>16</sup> Ibid.

Wholesale rates for these Unbundled Network Elements (UNEs) had to be established at the state level using a specific and complicated cost methodology. Small, rural, independent ILECs could escape the voluminous interconnection rules if they could demonstrate to the state PSC that they could not implement the rules or if there was no demand by competitors in their area.<sup>17</sup>

Companies were encouraged to negotiate interconnection agreements including UNE prices established by the States, adopt another company's agreement, or resell a complete service. A process was also established for the regulator to step in should companies disagree and require arbitration. While the FCC was responsible for establishing the national framework for executing the 1996 Act, it was up to the States to complete the lion's share of the implementation. It took several years to complete the initial implementation of the 1996 Act by the FCC and States.

While Congress hoped that the 1996 Act would settle the endless litigation in the telecommunications market, the opposite proved true. Since its passage, lawsuits involving the FCC and some aspect of the 1996 Act have been nearly continuous to this day. The FCC's attempts to implement the interconnection and UNE access provisions were struck down, at least in part, no fewer than three times by federal courts. Finally, four tries and over eight years after the 1996 Act was passed, the FCC's "Triennial Review Remand Order" (TRRO) stuck.<sup>18</sup> The TRRO, following directives from the courts, limited CLEC access to several UNEs where competitive alternatives existed, as well as local loops combined with local switching, known as the UNE Platform (UNE-P). UNE-P was the primary method non-cable CLECs used to provide residential service. Once the courts struck down UNE-P access, CLECs essentially abandoned the residential market to cable and wireless companies.

## **B. Florida Regulation**

While all this activity was occurring at the federal level, state actions were just as busy. The Florida Legislature (Legislature) added telephone and telegraph regulation to the Florida Railroad Commission's responsibilities in 1911.<sup>19</sup> The agency's name was changed to the Florida Public Service Commission (FPSC or Commission) in 1965.

As previously described, rate base regulation was the norm up through the 1980s in Florida. In 1990, the Florida Legislature recognized the emerging competitive markets for some telecom services provided by the local carriers and delegated to the FPSC the authority to, in some circumstances, allow price cap regulation for those services.<sup>20</sup> If the FPSC decided that effective

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<sup>17</sup> 47 U.S.C. § 251(f).

<sup>18</sup> FCC 04-290, WC Docket No. 04-313, CC Docket No. 01-338, Unbundled Access to Network Elements, Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Order on Remand, released February 4, 2005.

<sup>19</sup> FPSC, "Facts and Figures," <<http://www.psc.state.fl.us/Files/PDF/Publications/Consumer/Brochure/FactsFigures.pdf>>, accessed June 24, 2020.

<sup>20</sup> Price caps are a regulatory scheme where, instead of regulators limiting a company's percent return on investment, a company could elect to have its prices capped at a regulator-approved level, allowing the company to keep any profits generated by selling its services at or below the price caps.

competition existed for a particular service or market, it could allow market conditions to control prices and eliminate rate-of-return regulation for that service or market.<sup>21</sup>

Competition for more services developed and, by 1995, the emergence of cable companies made it obvious that competition for all local services was inevitable. In anticipation of a federal law becoming imminent, the Florida Legislature passed a sweeping revision to Chapter 364, F.S., finding that “the competitive provision of telecommunications services, including local exchange service, is in the public interest.”<sup>22</sup> Competitive entry into the local market was allowed, and competitors were able to enter subject to a lesser degree of regulatory oversight than the incumbents. Also, incumbents were allowed to elect price caps for all their services, eliminating them from rate-of-return regulation altogether.<sup>23</sup> The Legislature also required the FPSC to start issuing this report on the status of competition in Florida.

The Legislature followed up in 1998 by requiring the FPSC to issue a series of five reports on competition, including forward-looking cost estimates of local service, impacts to low-income assistance programs such as Lifeline, the relationships between costs and existing prices, what are fair and reasonable local rates, and impacts on multi-tenant environments.<sup>24</sup>

To further accommodate the growing competitive landscape, in 2003 the Legislature passed another major amendment to Chapter 364, F.S. The changes included lesser FPSC oversight of long distance companies, and incumbent local carriers were allowed to petition the FPSC for lesser regulatory oversight, similar to the regulation of their local competitors. It also expanded Lifeline eligibility for low-income Florida consumers, and exempted Voice-over-Internet-Protocol (VoIP) services, which at that time were largely utilized by cable companies to provide telephone service, from FPSC jurisdiction.<sup>25</sup>

In 2005, the Legislature amended Chapter 364, F.S., again, addressing local governments and broadband deployment, FPSC jurisdiction regarding advanced services, Lifeline awareness and participation, and storm damage recovery. It established rules that governmental entities, such as municipalities, must follow in order to provide communications services (cable, broadband, etc.) in competition with private providers. The 2005 revisions also clarified the FPSC’s jurisdiction, or more precisely the exemption from the FPSC’s jurisdiction, for advanced services, including wireless, broadband, and VoIP. The new law also further clarified and expanded Lifeline eligibility and procedures. Finally, as a result of the storm season in 2004, it permitted the recovery of costs and expenses related to named tropical storms.<sup>26</sup>

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<sup>21</sup> See 1990 Fla. Laws 244.

<sup>22</sup> See 1995 Fla. Laws 403.

<sup>23</sup> Ibid.

<sup>24</sup> See 1998 Fla. Laws 277.

<sup>25</sup> FPSC, “Condensed Legislative Wrap-Up – 2003 Session, June 6, 2003,< <http://www.psc.state.fl.us/Files/PDF/Utilities/Liaison/StateLegislation/2003.pdf>>, accessed June 24, 2020.

<sup>26</sup> See 2005 Fla. Laws 107.

In 2006, carrier of last resort obligations in multitenant environments were amended, and some previously enacted rate requirements were repealed. In 2008, changes included further rate reductions, rebalancing, and repeals.<sup>27</sup> Also in 2008, an automated enrollment process for Lifeline was created, and the incumbents' overall carrier of last resort obligations were allowed to sunset.<sup>28</sup>

In 2009, the definition of basic service was narrowed and regulation for nonbasic services was decreased. Service quality oversight for nonbasic services was eliminated and company tariffs were no longer required. Lifeline eligibility was again expanded. The Florida Department of Management Service was the agency designated to oversee broadband deployment in Florida. In 2010, the rate-of-return sections in Chapter 364, F.S., were repealed.<sup>29</sup>

The most recent revision to Chapter 364, F.S., came in 2011. This amendment finalized the deregulation of all retail services by the incumbent local providers. This included the elimination of rate caps, the elimination of the consumer protection and assistance duties of the FPSC, and the elimination of all service quality oversight. It also repealed the previously-enacted storm damage recovery provisions.<sup>30</sup>

In the telecommunications area, the FPSC still retains authority to monitor intercarrier relations and resolve wholesale disputes, oversee the Lifeline and Florida relay programs, and issue certifications. The FPSC also has authority over numbering issues, including area code relief, numbering conservation, and local number portability. The FPSC also still resolves complaints relating to Lifeline, the relay service, and payphones.

### **C. Status of Competition Report**

As previously stated, Chapter 364, F.S., requires the Commission to prepare and deliver a report on the status of competition in the telecommunications industry to the President of the Senate, the Speaker of the House of Representatives, and the majority and minority leaders of the Senate and the House of Representatives on August 1 of each year. Section 364.386, F.S., requires that the report address the following four elements:

1. The ability of competitive providers to make functionally equivalent local exchange services available to both residential and business customers at competitive rates, terms, and conditions.
2. The ability of customers to obtain functionally equivalent services at comparable rates, terms, and conditions.
3. The overall impact of competition on the maintenance of reasonably affordable and reliable high-quality telecommunications services.
4. A list and short description of any carrier disputes filed under Section 364.16, F.S.

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<sup>27</sup> See 2006 Fla. Laws 080.

<sup>28</sup> See 2007 Fla. Laws 029.

<sup>29</sup> See 2009 Fla. Laws 226.

<sup>30</sup> Regulatory Reform Act, ch. 36, 2011 Fla. Laws 1231.

The Commission is required to make requests to local exchange telecommunications providers each year for the data required to complete the report. The data request was mailed on February 27, 2020, to 10 ILECs and 256 CLECs. Responses were due April 15, 2020. The data and analyses that follow accurately reflect the information provided by the ILECs and the reporting CLECs.

This report is divided into chapters that summarize key events and data that may have a short-term or long-term effect on the Florida telecommunications market. Chapter II presents data regarding wireline access line competition in Florida, including access line trends, residential/business access line mix, and market share. Chapter III discusses the continued development of the wireline market's principle forms of intermodal competition: broadband, wireless, and VoIP. Chapter IV primarily uses data outlined in the other chapters to address the four statutory issues delineated above. Chapter V provides a summary of state activities affecting local telecommunications competition in 2019, including intercarrier matters, Lifeline, and the Telecommunications Relay Service. Chapter VI details some of the major federal activities that may affect the Florida market.





## Chapter II. Wireline Competition Overview

For the past decade, the technologies used to deliver voice telephony have continued to evolve. Analog circuits using traditional Time Division Multiplexing (TDM) and copper wires are being replaced by wireless cell-based transmission and VoIP, which is provided via a digital broadband connection, either wireless or wired. Wireless, VoIP, and broadband are all exempt from FPSC jurisdiction. The FPSC is therefore limited in what data it can collect regarding these technologies. Trends in these technologies are summarized in Chapter III.

TDM-based wireline service is still used throughout the country and Florida and is the primary subject of this report. Also, the wireless and broadband networks utilize many of the traditional wireline facilities for interoffice and long distance transport.

This chapter discusses the incumbent carriers' corporate trends as disclosed in their federal financial reports. It then discusses the number, market mix, and market share of residential and business wirelines. Knowledge of the number of wirelines and the trends for market participants is essential to understanding the state of the market.

### A. Incumbent Carriers

One tool to gauge whether the Florida market is isolated or part of a national trend is to look at companies' annual federal filings. National trends are often reflected in the companies' respective annual reports filed with the Securities and Exchange Commission. There are 10 ILECs providing wireline services in Florida, the largest of which are AT&T, CenturyLink, and Frontier.<sup>31</sup> These companies' annual reports showed that, like in Florida, they continue to face access line losses nationally as customers disconnect traditional landline services and migrate to alternative services.

AT&T reported losses of approximately 1,515,000 switched access lines nationwide (15 percent) in 2019. In Florida, AT&T's total switched access lines declined by nearly 124,000 (17.4 percent) with residential access lines decreasing by over 12,000 (4.6 percent) and business lines by nearly 112,000 (25.1 percent). For 2019, AT&T reported a decrease in operating revenues in their communications segment of approximately \$1.4 billion nationwide, a decline of 0.9 percent.<sup>32</sup>

CenturyLink no longer uses access lines as a key operating metric, and the broadband subscription data they present does not lend itself to comparison with other companies' telephone subscriber gains or losses.<sup>33,34</sup> In Florida, CenturyLink's total switched access lines

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<sup>31</sup> Responses to local competition data request 2020.

<sup>32</sup> AT&T Inc., Form 10-K, December 31, 2019, <<https://otp.tools.investis.com/clients/us/atnt2/sec/sec-outline.aspx?FilingId=13936660&Cik=0000732717&PaperOnly=0&HasOriginal=1>>, accessed on April 3, 2020; Responses to local competition data request 2020.

<sup>33</sup> CenturyLink Form 10-K, December 31, 2019, <https://d18rn0p25nwr6d.cloudfront.net/CIK-0000018926/483bb1c4-31c8-4f51-abad-0cae29c19992.html>, accessed on April 1, 2020.

<sup>34</sup> Ibid. p. 55: 4.7 million broadband subscribers at year end 2019.

declined by over 73,000 (15.7 percent), with residential access lines decreasing more than 57,000 (20.4 percent), and business access lines decreasing nearly 16,000 (8.5 percent). For 2019, CenturyLink reported a decrease in operating revenues of approximately \$1.042 billion, a loss of 4.4 percent.<sup>35</sup> CenturyLink's capital expenditures for 2019 were over \$3.6 billion, slightly higher than previously estimated.<sup>36</sup>

Frontier experienced a nearly 7.9 percent loss in access lines nationwide compared to 2018, ending 2019 with approximately 4.1 million subscribers.<sup>37</sup> In Florida, Frontier's total switched access lines declined by over 35,000 (16.1 percent), with residential access lines decreasing nearly 19,000 (23.6 percent) and business lines by nearly 17,000 (12.0 percent). For 2019, Frontier, reported a decrease in revenue of over \$504 million nationwide, a loss of nearly 6 percent.<sup>38</sup> In 2019, Frontier's capital expenditures were over \$1.2 billion.<sup>39</sup> Frontier filed for Chapter 11 bankruptcy protection on April 15, 2020. Frontier filed its Chapter 11 Plan of Reorganization with the bankruptcy court on May 15, 2020. It expects to emerge from Chapter 11 in August 2020.<sup>40</sup>

The seven rural Florida ILECs experienced a more modest contraction in the number of switched access lines. In 2019, rural carriers in Florida saw their total access lines decline by over 400 (0.4 percent). While residential lines increased by over 300 (0.4 percent), business lines decreased by nearly 800 (2.3 percent).<sup>41</sup>

Windstream is the largest of the rural ILECs and operates in northeast Florida. For 2019, Windstream reported approximately 1.2 million subscribers nationwide, a decline of 9.9 percent over the previous year.<sup>42</sup> In Florida, Windstream experienced an increase in switched access lines of nearly 2,500 (3.9 percent), consisting of an increase of more than 2,400 (4.8 percent) residential lines and an increase of more than 40 business lines (0.4 percent).<sup>43</sup> The company attributes its growth to increased demand for its broadband product. According to Windstream's

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<sup>35</sup> Ibid. p. 51.

<sup>36</sup> Ibid. p. 52.

<sup>37</sup> Frontier Communications, Form 10-K, December 31, 2019, <<https://www.snl.com/Cache/IRCache/cf7a4fd8b-de15-4d04-9c57-8d930c895593.html#>>, p. 35, accessed on May 9, 2020.

<sup>38</sup> Ibid, p. 36.

<sup>39</sup> Ibid, p. 41.

<sup>40</sup> Fierce Telecom, "Frontier winds its way through state utility approvals as part of its Chapter 11 bankruptcy proceedings", Mike Robuck, June 11, 2020, <<https://www.fiercetelecom.com/telecom/frontier-winds-its-way-through-state-utility-approvals-as-part-its-chapter-11-bankruptcy>>, accessed on June 17, 2020.

<sup>41</sup> Responses to local competition data request 2020.

<sup>42</sup> Windstream Holdings, Inc., Form 10-K, December 31, 2019, <<https://investor.windstream.com/financials/sec-filings/default.aspx>>, accessed on June 17, 2020.

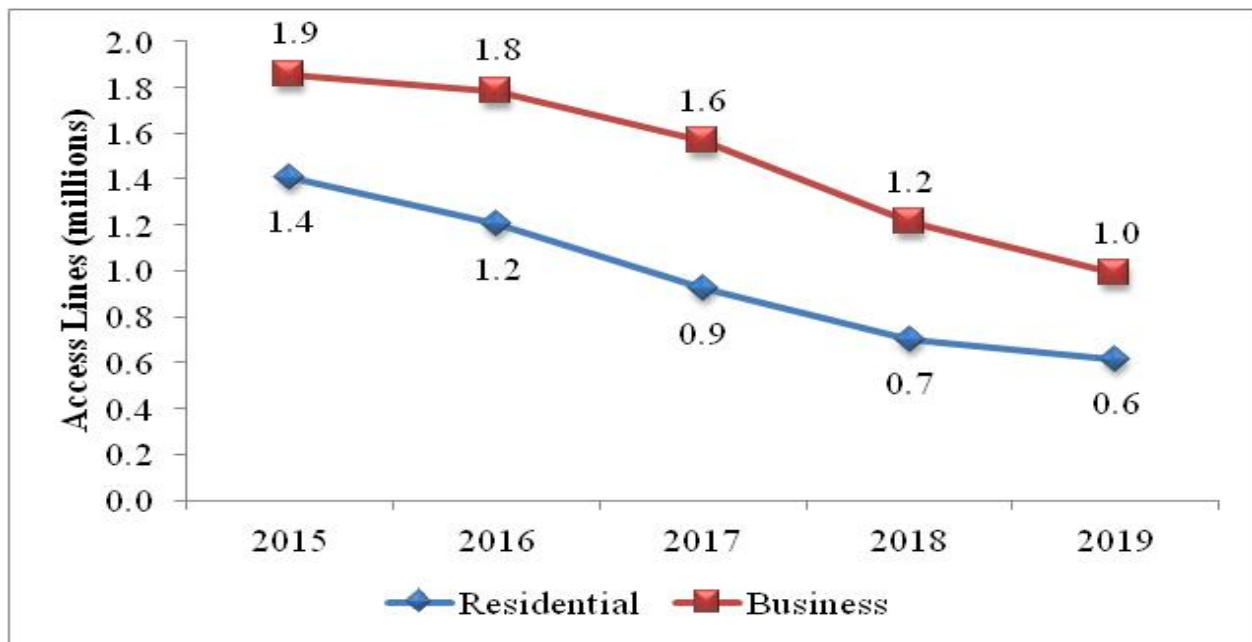
<sup>43</sup> Responses to local competition data request 2020.

reporting, the company incurred \$879 million in capital expenditures in 2019.<sup>44</sup> In February 2019, Windstream and its subsidiaries filed for reorganization under Chapter 11, and, subject to regulatory approvals, also expects to exit bankruptcy in August 2020.<sup>45</sup>

### B. Wireline Trends in Florida

Figure 2-1 illustrates the overall trend in Florida for both residential and business lines (not including VoIP connections). Based on current data, the rate of decline in residential and business lines moderated somewhat in 2019. Business access lines totaled approximately 1,000,000, representing a decrease of 17.5 percent from 2018 to 2019. Residential access lines totaled nearly 614,000 as of December 2019, representing a decline of 12.6 percent from the previous year. Total combined traditional wirelines for ILECs and CLECs declined 15.7 percent, from approximately 1.9 million in December 2018 to 1.6 million as of December 2019. From 2015 through 2019, the total number of traditional wirelines decreased by nearly 1.7 million, a decline of nearly 51 percent.

**Figure 2-1**  
**Florida Wireline Access Line Trends**



Source: Responses to local competition data request (2016-2020)

<sup>44</sup> Windstream Holdings, Inc., Windstream Reports Fourth-Quarter, Full-Year 2019 Results, February 20, 2020, <<https://investor.windstream.com/news/news-details/2020/Windstream-Reports-Fourth-Quarter-Full-Year-2019-Results/default.aspx>>, accessed on April 7, 2020.

<sup>45</sup> Mike Robuck, “Windstream Holdings targets late August for end of Chapter 11 bankruptcy”, *Fierce Telecom*, May 11, 2020, <<https://www.fiercetelecom.com/telecom/windstream-holdings-targets-late-august-for-end-bankruptcy#:~:text=If%20that%20goes%20well%2C%20Windstream,11%20bankruptcy%20in%20late%20August.&text=Windstream%20was%20paying%20%2454%20million,rent%20of%20approximately%20%24659%20million.>>, accessed on June 17, 2020.

### C. Wireline Market Mix, Market Share, and Market Composition

#### 1. Market Mix

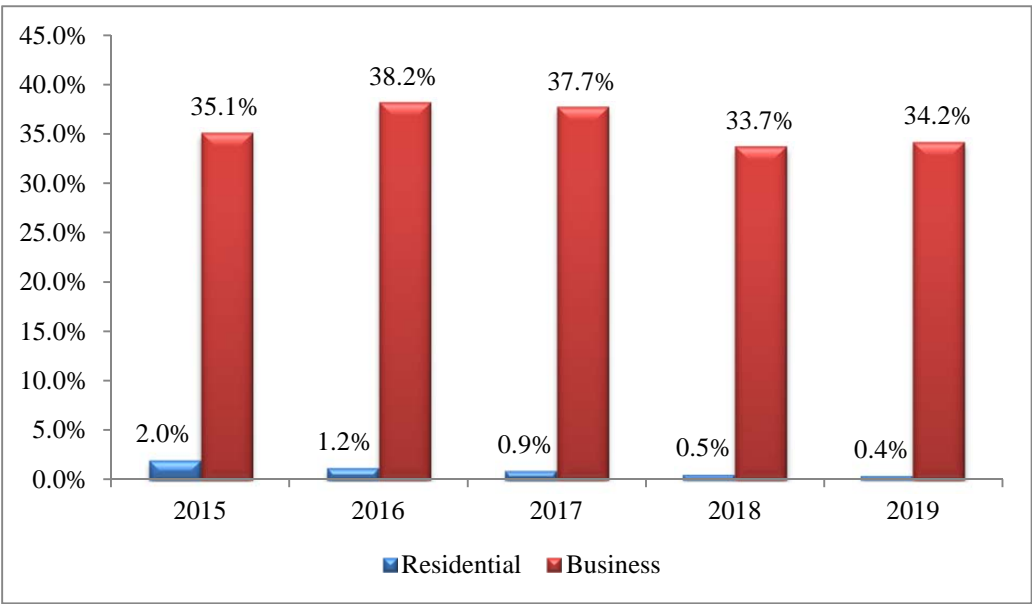
The business-to-residential ratio of customers served by ILECs and CLECs has shifted over time. In general, both ILECs and CLECs have seen an increased concentration of traditional wireline business customers as residential customers migrate to other options. The business-to-residential customer mix for ILECs was about 30 percent business and 70 percent residential in 2004. By 2017, the mix for ILECs had shifted so much that the percentage of business wirelines exceeded the percentage of residential wirelines for the first time. In 2019, the ILECs had nearly 52 percent business lines and 48 percent residential lines.

The shift in mix has been even more pronounced in the CLEC market. In 2004, the business-to-residential customer mix for CLECs was about 63 percent business and 37 percent residential. In 2020, the CLEC customer mix was over 99 percent business lines.

#### 2. Market Share

CLECs have traditionally focused on business customers. Figure 2-2 illustrates FPSC data on CLEC market share by business and residential customer classes. The inverse of this percentage would be market share for the ILECs in Florida. According to FPSC data, the CLEC residential market share decreased from 0.5 percent in 2018 to 0.4 percent in 2019, while the CLEC business market share increased from 33.7 percent in 2018 to 34.2 percent in 2019.

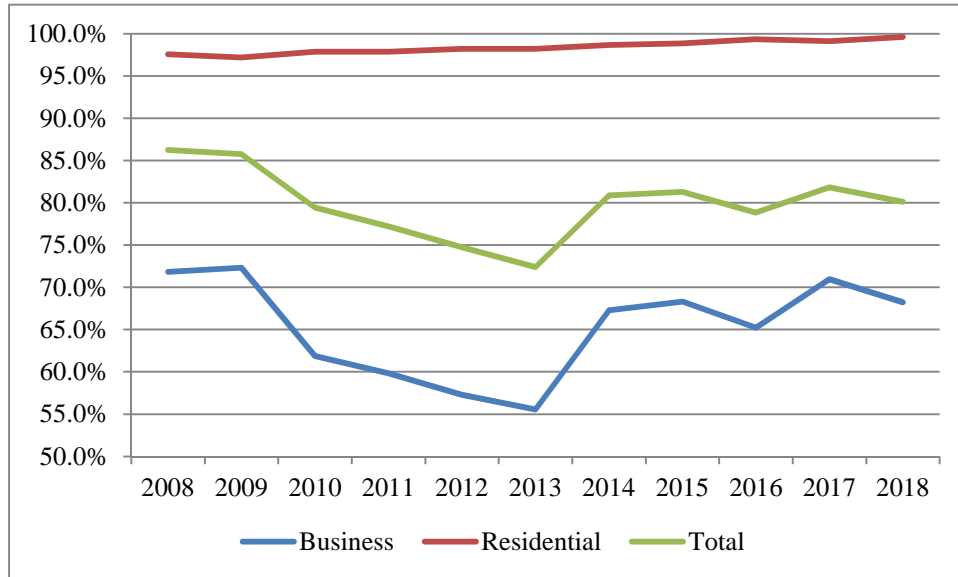
**Figure 2-2**  
**Florida Residential & Business CLEC Market Share**



Source: Responses to local competition data request (2015-2020)

As shown by FCC data in Figure 2-3, ILECs have held an average 79.9 percent share of the traditional wireline market over the last eleven years. This share has remained relatively stable, varying from 72.4 to 86.2 percent.<sup>46</sup>

**Figure 2-3**  
**Florida ILEC TDM Wireline Market Share**

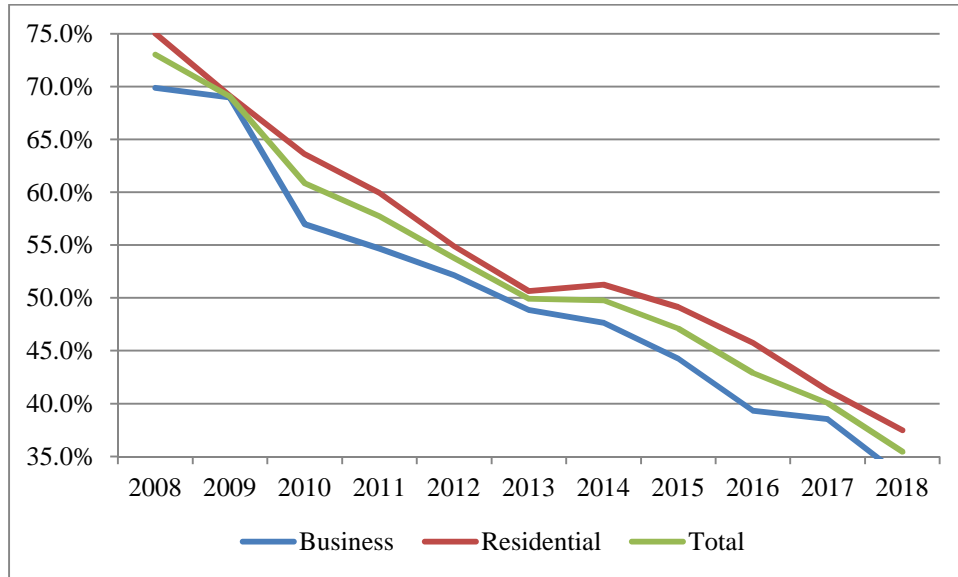


Source: FCC Voice Telephone Services Report

<sup>46</sup> FCC, “Voice Telephone Services: Status as of 12/31/18,” released March 6, 2020, <<https://docs.fcc.gov/public/attachments/DOC-362882A1.pdf>>, accessed on June 20, 2020.

When traditional TDM access lines are combined with VoIP lines, the combined wireline market reveals a continually declining ILEC market share as shown in Figure 2-4, with an average annual decrease of 3.8 percent.<sup>47</sup>

**Figure 2-4**  
**Florida ILEC TDM and VoIP Wireline Market Share**



Source: FCC Voice Telephone Services Report

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<sup>47</sup> Ibid.

### 3. Market Composition

The market composition of access lines served by local exchange companies is illustrated in Table 2-1. In 2019, ILEC residential access lines decreased by 12.5 percent, while ILEC business lines decreased by 18.1 percent. The CLECs experienced a relatively small decline in the number of residential access lines, but given their small market presence, this yielded the largest percentage loss at 29.6 percent. CLEC business access lines decreased by 16.5 percent.

**Table 2-1  
Florida Wireline Access Line Comparison**

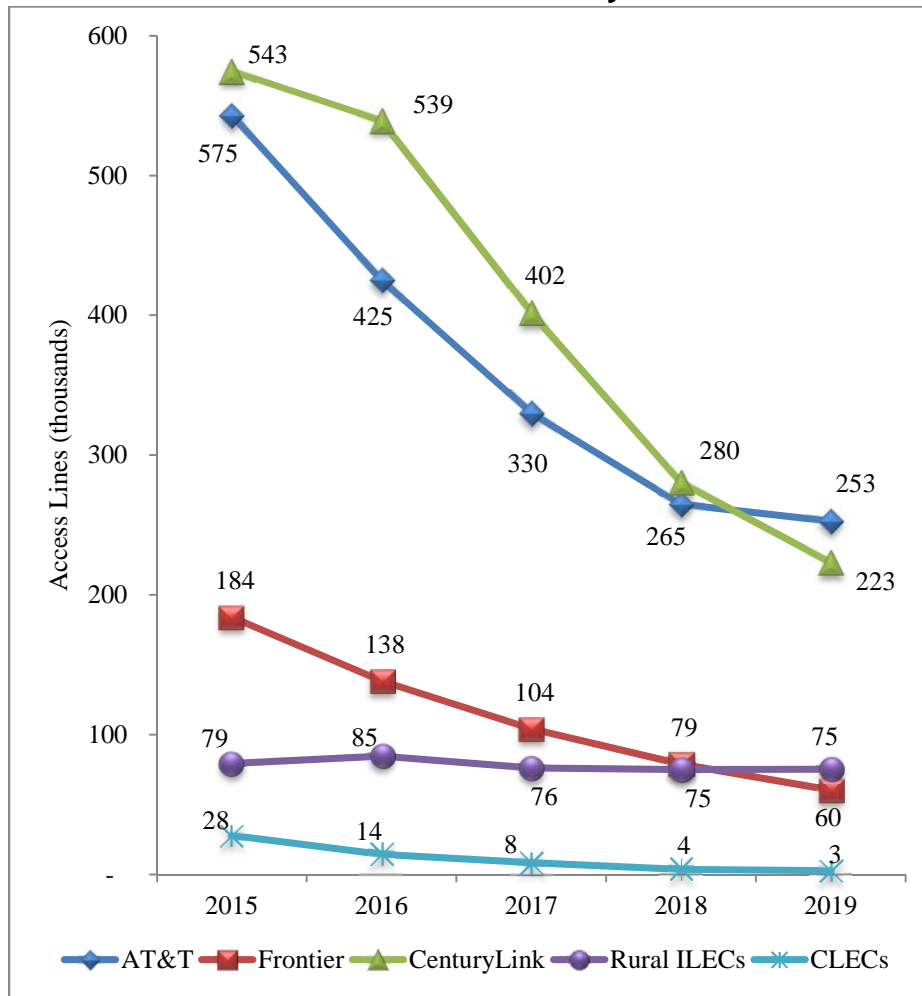
		ILECs	CLECs	Total
<b>2016</b>	Residential	1,187,615	14,415	1,202,030
	Business	1,104,197	681,398	1,785,595
	Total	2,291,812	695,813	2,987,625
<b>2017</b>	Residential	911,814	8,341	920,155
	Business	976,768	591,089	1,567,857
	Total	1,888,582	599,430	2,488,012
<b>2018</b>	Residential	698,975	3,695	702,670
	Business	803,240	409,122	1,212,362
	Total	1,502,215	412,817	1,915,032
<b>2019</b>	Residential	611,329	2,600	613,929
	Business	658,040	341,707	999,747
	Total	1,269,369	344,307	1,613,676
<b>Change 2018- 2019</b>	Residential	-12.5%	-29.6%	-12.6%
	Business	-18.1%	-16.5%	-17.5%
	Total	-15.5%	-16.6%	-15.7%

Source: Responses to local competition data request (2017-2020)

### 4. Residential Wireline Access Line Trends

Figure 2-5 displays the wireline residential access line trends separately for AT&T, Frontier, CenturyLink, aggregate rural ILECs, and aggregate CLECs. Over the past five years, AT&T and CenturyLink have both averaged losses of around 18 percent per year, while Frontier has experienced an average of about 23 percent decline per year in residential access lines. During that period, CLEC residential lines declined by an annual average of 29.4 percent, while rural ILEC access lines declined by an average of 3.2 percent.

**Figure 2-5  
Florida Residential Wireline Trends by ILECs and CLECs**



Source: Responses to local competition data request (2016-2020)

AT&T experienced residential wireline losses of 19.8 percent in 2018 and 4.6 percent in 2019. Frontier lost 24.1 percent of its residential wirelines in 2018 and 23.6 percent in 2019, while CenturyLink lost 30.2 percent of its residential lines in 2018 and 20.4 percent in 2019. The rural ILECs reported line losses of 1.6 percent in 2018 and gains of 0.4 percent in 2019, and the CLECs reported residential wireline declines of 55.7 percent in 2018 and 29.6 percent in 2019. The ILECs and CLECs experienced a moderation in the rate of line losses, while the rural ILECs experienced a slight gain in residential lines.

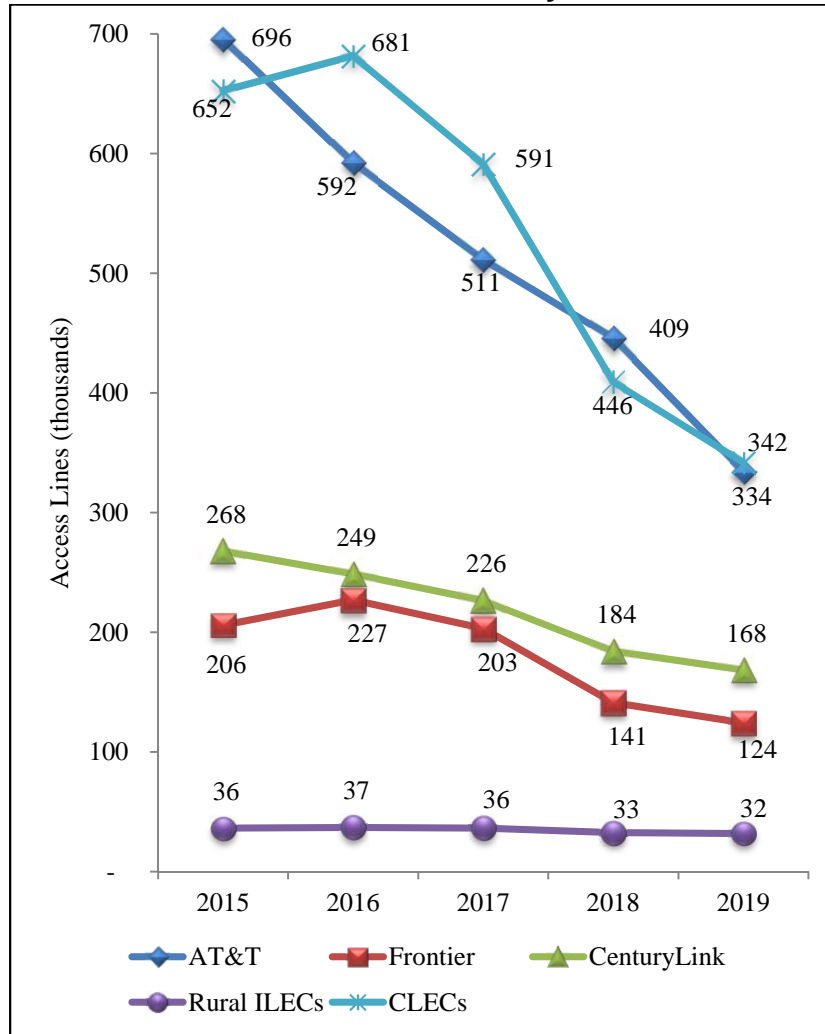
### 5. Business Wireline Access Line Trends

Figure 2-6 displays the wireline business access line levels separately for AT&T, Frontier, CenturyLink, aggregate rural ILECs, and aggregate CLECs. Over the past five years, AT&T has experienced an average decline of around 16 percent per year, while Frontier and CenturyLink have experienced average annual declines of around 10 percent, respectively. The average annual



decline in rural ILEC business access lines over the past five years is four percent, while CLEC business access lines declined by 16 percent annually over the same period.

**Figure 2-6**  
**Florida Business Wireline Trends by ILECs and CLECs**



Source: Responses to local competition data request (2016-2020)

AT&T experienced business wireline losses of 12.8 percent in 2018 and 25.1 percent in 2019. Frontier lost 30.5 percent of its business wirelines in 2018 and 12.0 percent in 2019, while CenturyLink lost 18.7 percent of its business lines in 2018 and 8.5 percent in 2019. The rural ILECs reported line losses of 10.4 percent in 2018 and 2.3 percent in 2019, and the CLECs reported business wireline declines of 30.8 percent in 2018 and 16.5 percent in 2019. AT&T's rate of business line losses accelerated, while the rates for all others moderated.



## Chapter III. Intermodal Competition Overview

Total wireline access lines in Florida peaked 20 years ago at approximately 12 million.<sup>48</sup> Florida's population has increased over 40 percent since then, and communications services have continued to expand, yet as previously shown in Table 2-1, wirelines were down to 1.6 million by the end of 2019. So where did 87 percent of the access lines in 2000 go?

While the ILECs have continued to dominate the traditional wireline markets as discussed in the previous chapter, competition has exploded in other modes of communication, namely broadband, wireless, and VoIP services. At their core, these other modes are just a technologically different way to communicate over distance, so they can act as a substitute for voice service. However, the additional capabilities available with these technologies have led residential consumers and businesses to make the transition to these modes in droves. This chapter summarizes what is currently going on with these technologies.

### A. Broadband

Broadband service equates to high-speed Internet access and data services; this makes it the least similar to traditional voice service, and thus not a direct substitute for it. However, broadband service is the backbone of wireless and VoIP services and its availability is imperative to making those other two platforms attractive. There are many ways broadband can be delivered: through traditional copper wires as Digital Subscriber Line service (DSL), coaxial or fiber optic cable, or wirelessly via satellite, cellular service, etc.

Broadband deployment has become so popular that it is now integrally incorporated into several state and federal agencies' infrastructure programs. Many of these projects have the end goal of expanding broadband to rural Americans who currently lack it. Broadband access also allows expanded communications abilities to be realized, such as telehealth, telework, distance learning, and video communications.

The latest report published by the FCC indicated that nationwide nearly 99 million households had fixed internet connections by the end of 2017, averaging download speeds of 60 megabits per second (Mbps). Of those, 86 million had connection speeds of at least 10 Mbps.<sup>49</sup>

The FCC also reported a 71 percent subscription rate of 25Mbps or greater fixed broadband connections in Florida in 2017. Cable modem services accounted for roughly five million of non-mobile broadband connections in Florida, while mobile broadband connections accounted for almost 20 million Florida connections.<sup>50</sup>

In order to help the expansion of broadband infrastructure, states have taken the initiative to create broadband deployment programs to better identify target areas that lack the FCC's

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<sup>48</sup> Florida Public Service Commission, "Competition in Telecommunications Markets in Florida," Tallahassee, FL, December 2000, p. 46.

<sup>49</sup> FCC, Internet Access Services: Status as of December 31, 2017, released August 2019, <<https://www.fcc.gov/internet-access-services-reports>>, Figures 6 &7, accessed on March 31, 2020.

<sup>50</sup> Ibid, tables 3 and 4.

minimum 25 Mbps download speed for funding. The National Telecommunications and Information Administration administers grants that are focused on the deployment and use of broadband throughout the country. They oversee two programs: the Broadband Technology Opportunities Program and the State Broadband Initiative.<sup>51</sup> Previously, in Chapter 364.0135, F.S., the Florida Department of Management Services was the primary agency to apply for grants and lead broadband development efforts. However, the Florida Legislature passed SB 1166, which assigned the Florida Department of Economic Opportunity to house the new Office of Broadband.<sup>52</sup>

## **B. Wireless**

Past reports have consistently shown that adoption of wireless services in the United States, and Florida specifically, far surpasses the adoption of other modes of communications. In the early 1990s, wireless service was still new, signal strength and network availability were limited, and the services were marketed primarily to enterprise and other business users. The general population of consumers could not afford the cost of the cellular phone, and the limited availability of network access meant that mass adoption of the platform would take time. Few analysts envisioned wireless services and the devices they would spawn would become the primary form of interpersonal communication.

### **1. Market Share**

According to Statista.com and as shown in Figure 3-1, US market share among the top five wireless companies was split between AT&T with 39.9%, followed by Verizon at 29.2%, T-Mobile at 16.4%, Sprint at 13.3%, and US Cellular at 1.2%.<sup>53</sup>

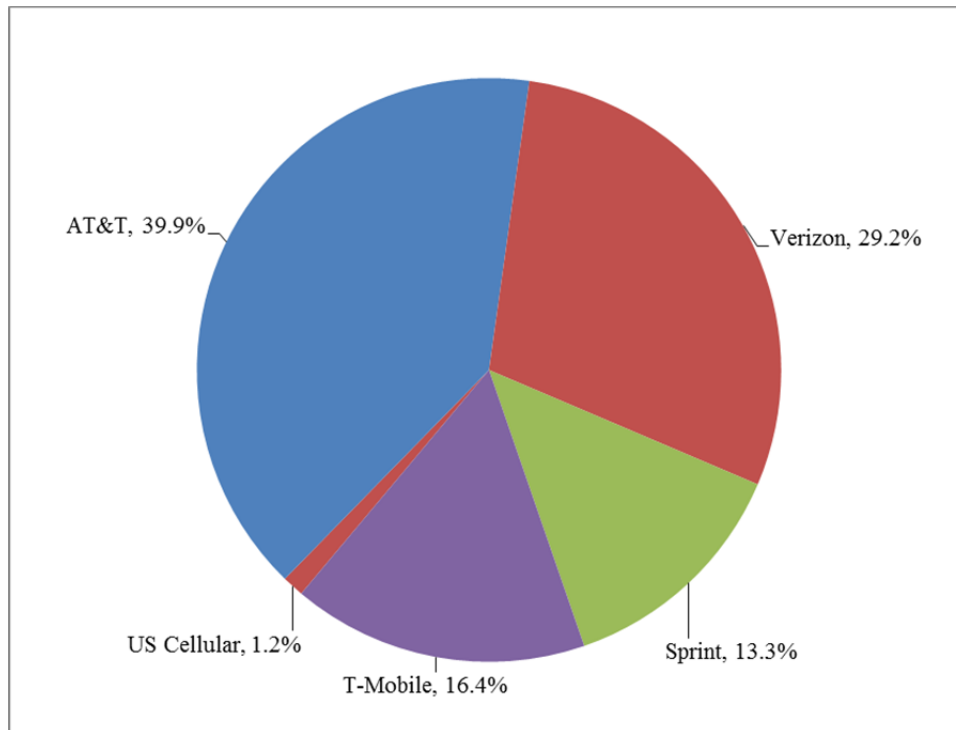
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<sup>51</sup> National Telecommunications and Information Administration, “Grants”, <[https://www.ntia.doc.gov/category/grants?type=All&field\\_month\\_list\\_value=All&field\\_press\\_release\\_date\\_value%5Bvalue%5D%5Byear%5D=2010](https://www.ntia.doc.gov/category/grants?type=All&field_month_list_value=All&field_press_release_date_value%5Bvalue%5D%5Byear%5D=2010)>, accessed July 7, 2020.

<sup>52</sup> Fla. Stat. § 364.0135(2).

<sup>53</sup> Statista, Wireless subscriptions market share by carrier in the U.S. from 1st quarter 2011 to 3rd quarter 2019, December 2019, <<https://www.statista.com/statistics/199359/market-share-of-wireless-carriers-in-the-us-by-subscriptions/>>, accessed on April 8, 2020.

**Figure 3-1**  
**U.S. Wireless Market Share as of 3<sup>rd</sup> Quarter 2019**



Source: Statista

## 2. Wireless Substitution

According to the most recent data from carriers' financial reports, the four largest wireless service providers in the United States – AT&T, Sprint, T-Mobile, and Verizon Wireless – accounted for over 400 million connections at the end of the third quarter of 2019.<sup>54</sup> The number of connections in the United States is enough for every US citizen to have a wireless device, and still have over 25 million remaining.

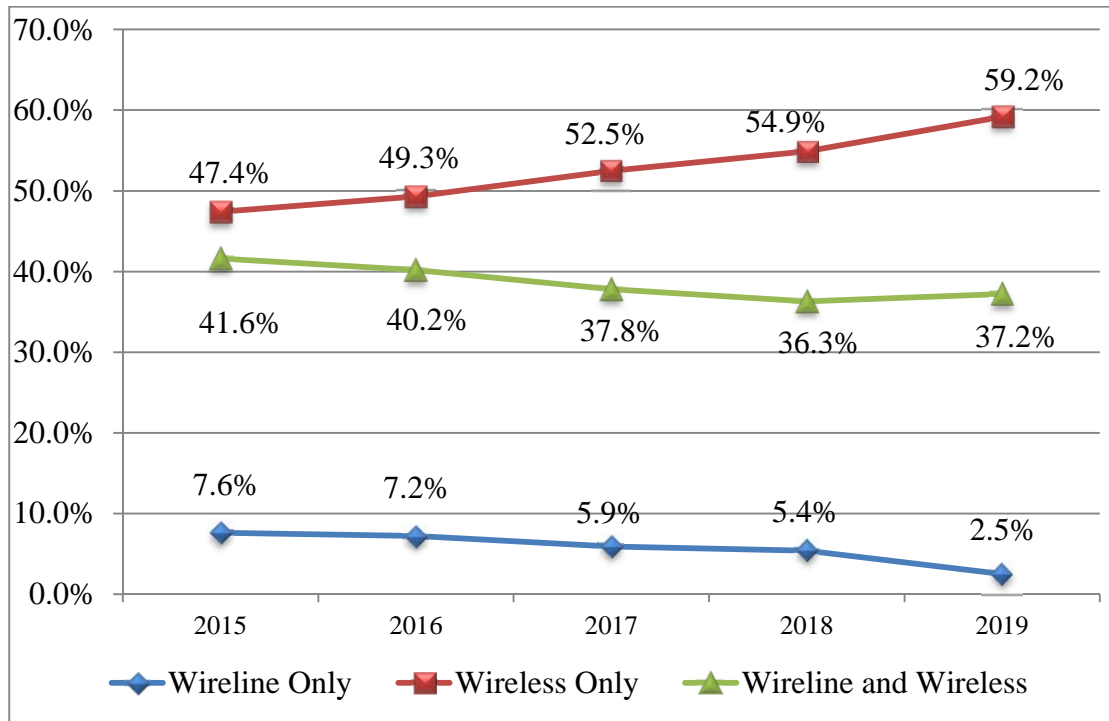
Over the last five years, the number of households with both wireline and wireless service has trended downward, but in 2019 increased slightly. Less than 38 percent of U.S. households subscribe to both wireline and wireless service. As shown in Figure 3-2, wireless-only households in the United States rose from 54.9 percent in June 2018 to 59.2 percent one year later.<sup>55</sup>

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<sup>54</sup> Companies' 2020 Annual 10-K filings with the SEC.

<sup>55</sup> Stephen Blumberg and Julian Luke, "Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-June 2019," National Center for Health Statistics, May 2020, <<https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless202005-508.pdf>>, accessed on June 8, 2020.

**Figure 3-2  
U.S. Wireless Substitution Rates**



Source: CDC/NCHS, National Health Interview Survey

### 3. Florida Trends

Florida’s wireless trends, generally, track closely with national trends. The most recent data available from the FCC, from December 2018, estimated Florida’s wireless subscriptions to be 21,884,000. This is an increase of approximately 3.1 percent from 2017 (21,218,000).<sup>56</sup>

Florida’s wireless-only households increased to 60.9 percent in 2018, ahead of the national average of 57.1 percent. Nearly 73 percent of Florida’s children live in wireless-only households.<sup>57</sup> This percentage is higher than the national average of 67.5 percent for the same period.<sup>58</sup> Though Florida’s rate of substitution continues to maintain a level similar to the national average, it appears to be increasing.

<sup>56</sup> FCC, “Voice Telephone Services Report, State-Level Subscriptions,” released March 6, 2020, <[https://www.fcc.gov/sites/default/files/vts\\_state\\_table\\_1.xlsx](https://www.fcc.gov/sites/default/files/vts_state_table_1.xlsx)>, accessed on April 10, 2020.

<sup>57</sup> National Center for Health Statistics, “Wireless Substitution: State-Level Estimates from the National Health Interview Survey,” released December 2019, <[https://www.cdc.gov/nchs/data/nhis/earlyrelease/Wireless\\_state\\_201912-508.pdf](https://www.cdc.gov/nchs/data/nhis/earlyrelease/Wireless_state_201912-508.pdf)>, accessed on April 8, 2020.

<sup>58</sup> Stephen Blumberg and Julian Luke, “Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2018,” National Center for Health Statistics, June 2019, <<https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201906.pdf>>, accessed on April 8, 2020.

#### 4. New Technology

The demand for wireless broadband service continues to grow with each new evolution of technology. The fifth generation of wireless connectivity, known as “5G,” will bring a more robust broadband experience to wireless services. The newest generation of devices will benefit from increased spectrum, a reduction in latency, and improved signal quality. Technological advances notwithstanding, the switched access network is still necessary. Wireline facilities are the backbone of the new generation of wireless tools available to consumers, and will continue to be instrumentally critical to current wireless technology and its future evolutions. Consumers use their devices wirelessly, but once their signal reaches a cell tower/receiver, the voice and data signals are transported primarily through landline facilities to the termination point. The wireline network will continue to be vital to the development of current 5G services as well as those yet to come.

Verizon launched 5G Ultra-Wideband Network in 31 markets in 2019 and hopes to expand that footprint to 60 cities in 2020.<sup>59</sup> In Florida, Verizon’s 5G service is available in Miami and Panama City.<sup>60</sup>

AT&T began offering 5G services to consumers in 20 communities in December 2019, and plans to have mobile 5G service nationwide to more than 200 million people by the second quarter 2020.<sup>61</sup> In January 2020, AT&T announced its 5G network was available in parts of Miami and Miami Gardens, Florida,<sup>62</sup> and in April the company announced the addition of Bradenton, Dixie County, Fort Pierce, Hamilton County, Hardee County, Ocala, Pensacola, Sarasota, and Tampa.<sup>63</sup>

In April 2020, T-Mobile and Sprint (T-Mobile US) completed their merger. In its annual report, T-Mobile noted that by the end of 2019, its 5G network covered more than 200 million people and 5,000 communities.

#### C. Voice over Internet Protocol (VoIP)

VoIP technology utilizes digital computer protocols in order to complete telephony voice calls over the Internet. Interconnected VoIP allows users to make and receive calls between their VoIP

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<sup>59</sup> Fortune.com, “Verizon to double the number of cities with its 5G mobile service this year”, by Arron Pressman, February 13, 2020, <<https://fortune.com/2020/02/13/verizon-5g-mobile-network-double-number-of-cities/>>, accessed on May 2, 2020.

<sup>60</sup> Verizon News, “Verizon 5G Ultra Wideband service available in more cities” January 30, 2020, <<https://www.verizon.com/about/news/verizon-5g-ultra-wideband-service-available-more-cities>>, accessed on May 2, 2020.

<sup>61</sup> AT&T Annual 10-K, <<https://otp.tools.investis.com/clients/us/atnt2/sec/sec-outline.aspx?FilingId=13936660&Cik=0000732717&PaperOnly=0&HasOriginal=1>>, pg. 7, accessed on May 2, 2020.

<sup>62</sup> AT&T Technology Blog, “New Year, New Way for AT&T Customers to Connect” by Scott Mair, January 3, 2020, <[https://about.att.com/innovationblog/2020/01/2019\\_5g\\_recap.html](https://about.att.com/innovationblog/2020/01/2019_5g_recap.html)>, accessed on May 2, 2020.

<sup>63</sup> AT&T News, “AT&T 5G Now Covers More Than 120 Million People in the U.S.”, <[https://about.att.com/newsroom/2020/5g\\_announcements.html](https://about.att.com/newsroom/2020/5g_announcements.html)>, accessed on May 2, 2020.

networks and the public switched telephone network (PSTN).<sup>64</sup> These calls can be provided via separate interconnected digital channels, privately managed, or “over the top” of existing Internet traffic. Interconnected VoIP is a substitute for traditional TDM-based service, and so is included in this report to the extent information is available. Non-interconnected VoIP services lack the capability of interconnecting with the PSTN, and therefore are not a substitute for TDM.<sup>65</sup> Non-interconnected VoIP is not discussed in this report.

VoIP providers include cable companies, ILECs, CLECs, and Over the Top (OTT) providers. Customers usually subscribe to a broadband service and lease/purchase telephone equipment from the VoIP provider. Calls are sent through the broadband connection.

OTT companies include Magic Jack, Vonage and Skype. OTT calls can be viewed as interconnected VoIP services because of their ability to connect to internet infrastructure and route calls through the PSTN. These companies require the customer to have a broadband internet connection. Some use plugin converters between the consumer’s existing phone and their standard phone jack. Calls are made through an existing internet connection.

FCC data from June 2014 through the end of 2018 shows a continued growth rate for VoIP of four percent per year, while subscribership to traditional wireline services decreased by 12 percent.<sup>66</sup> The FCC also reported that there were approximately 67 million VoIP subscribers in the U.S.<sup>67</sup> Table 3-1 shows U.S. VoIP subscribership by customer type as of December 2018. Data collected by the FPSC also shows nearly 2.5 million residential VoIP subscribers in Florida as of December 2019.<sup>68</sup>

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<sup>64</sup> 47 C.F.R. § 9.3.

<sup>65</sup> 47 U.S.C. § 153(36). An example of a non-interconnected VoIP network is a video game console service such as Xbox Live.

<sup>66</sup> FCC, Voice Telephone Services: Status as of December 31, 2018, released March 6, 2020, <<https://www.fcc.gov/voice-telephone-services-report>>, accessed on March 23, 2020.

<sup>67</sup> Ibid, Table 3-1, accessed on March 23, 2020.

<sup>68</sup> Responses to local competition data request 2020.



**Table 3-1**  
**U.S. Interconnected VoIP Subscriberhip by Customer Type**  
**(In Thousands)**

<b>Total</b>	<b>Over-the-Top</b>	<b>All Other VoIP</b>	<b>Total</b>
ILEC	69	13,132	13,201
Non-ILEC	10,082	43,644	53,726
<b>Total</b>	<b>10,152</b>	<b>56,776</b>	<b>66,927</b>
<b>Residential</b>			
ILEC	2	9,034	9,036
Non-ILEC	2,325	27,246	29,571
<b>Total</b>	<b>2,327</b>	<b>36,280</b>	<b>38,607</b>
<b>Business</b>			
ILEC	67	4,098	4,165
Non-ILEC	7,757	16,3997	24,155
<b>Total</b>	<b>7,825</b>	<b>20,495</b>	<b>28,320</b>

Source: FCC Voice Telephone Services Report, December 2018

### 1. National Market

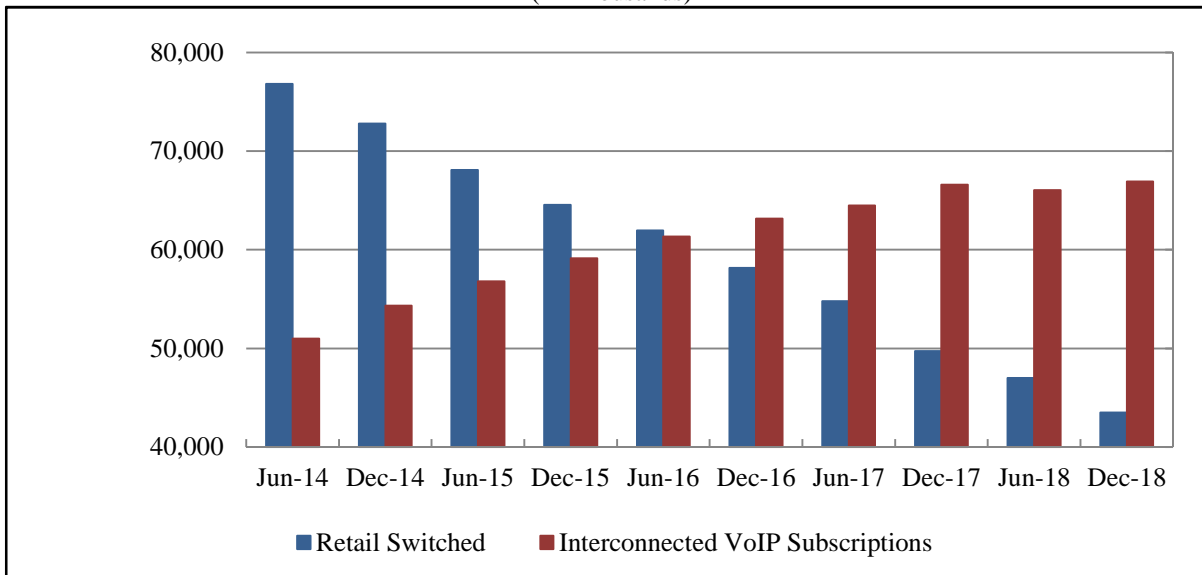
VoIP subscriptions have enjoyed steady increases for the past several years, both nationally and in Florida, while traditional switched lines have decreased. However, recent data indicates that customer migration to VoIP, particularly for residential customers, may have plateaued. As shown in Figure 3-3, the FCC reported approximately 67 million VoIP subscriptions and 43.5 million retail switched lines by year end 2018. These figures total approximately 110 million wireline voice retail connections.<sup>69</sup> Of those 110 million connections, 51 percent were residential and 49 percent were business.<sup>70</sup>

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<sup>69</sup> Ibid, p. 2.

<sup>70</sup> Ibid, Figure 3-1.

**Figure 3-3**  
**U.S. Retail Voice Telephone Subscriptions**  
(In Thousands)



Source: FCC Voice Telephone Services Report, December 2018

### a. Facilities-Based VoIP Providers

According to the FCC, non-ILEC companies accounted for nearly 29.5 million residential VoIP subscribers as of December 2018, compared to 9 million ILEC VoIP subscribers. This represents a market share of 76.6 percent for the non-ILECs in this market.<sup>71</sup> Comcast, the country’s largest cable provider, reported a decrease of nearly three percent from 2018 (10.2 million) to 2019 (9.9 million).<sup>72</sup> The second largest cable provider, Charter Communications, reported a total of approximately 9.4 million residential VoIP subscribers at year-end 2019, a decrease of nearly seven percent from 2018.<sup>73</sup> AT&T reported approximately 3.8 million U-verse consumer VoIP subscribers at year-end 2019, nearly a 17.4 percent decrease from the previous year.<sup>74</sup>

Each of these top three facilities-based providers reported that improvements in wireless carriers’ broadband infrastructure is a factor in consumers’ decisions to leave wireline broadband and VoIP services. These providers have developed wireless and video services and bundle them in an attempt to retain customers.

<sup>71</sup> Ibid, Table 3-1.

<sup>72</sup> Comcast Corporation, Comcast 2019 Annual Report on Form 10-K, released January 01, 2019, <https://www.cmcsa.com/financials/annual-reports>, accessed on April 22, 2019.

<sup>73</sup> “Charter Investors: Results, SEC Filings & Tax Information,” Charter Communications, Inc. News Release, released February 2, 2019, <https://ir.charter.com/financial-information/annual-reports>, accessed on March 24, 2020.

<sup>74</sup> AT&T Inc. 2019 Annual Report 10-K, <https://otp.tools.investis.com/clients/us/atnt/SEC/sec-filing.aspx?comingfrom=secshow>, accessed on March 24, 2020.

## **b. Over the Top VoIP Providers**

Routing voice calls over a customer's existing Internet connection allows over-the-top providers to have a much lower cost of service than wireline and wireless competition. According to the FCC, there were nearly 10.2 million OTT VoIP subscribers in the U.S. as of December 2018. This total included more than 2.3 million residential subscribers and over 7.8 million business subscribers nationwide. The FCC's figures showed an increase of approximately 10.8 percent in residential subscribers, and a 17.1 percent increase in business subscribers from 2017 to 2018.<sup>75</sup>

### **2. Florida Market**

The FPSC does not have jurisdiction over VoIP services, which limits the agency's ability to determine an accurate estimate of the total number of VoIP subscribers in Florida. However, several ILECs and CLECs in Florida voluntarily responded to the Commission's data request and provided information on the number of residential VoIP subscribers. The Florida Internet and Television Association reported nearly 1.9 million residential VoIP subscribers for the five largest member providers, but it has not historically provided business line data. The FCC reported non-ILECs in Florida served approximately 1.7 million business interconnected VoIP subscribers by December 2018, an increase of 10.9 percent from 2017.<sup>76</sup>

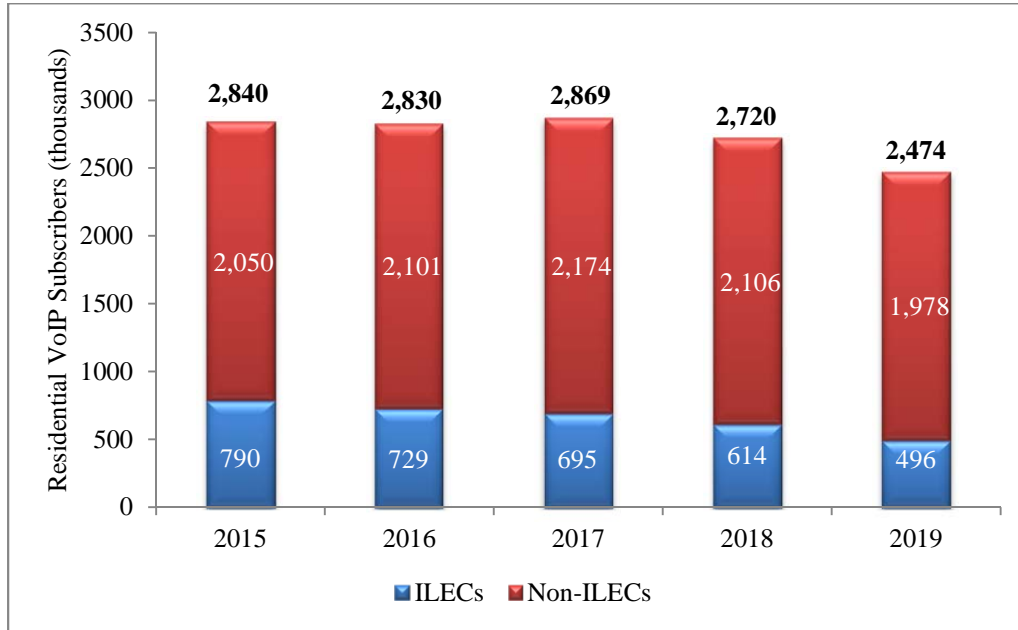
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<sup>75</sup> FCC, Voice Telephone Services: Status as of December 31, 2018 Table 1, released March 06, 2020, <https://www.fcc.gov/voice-telephone-services-report>, accessed on March 24, 2020.

<sup>76</sup> FCC, Voice Telephone Services Report, State-Level Subscriptions, Supplemental Table 1, Florida, released March 2020, <https://www.fcc.gov/voice-telephone-services-report>, accessed on March 24, 2020.

Figure 3-4 shows an estimated 2.5 million residential VoIP subscribers in Florida as of December 2019. This data indicates a decrease of nearly 250,000 residential VoIP subscriptions in 2019. The five year trend indicates that the residential VoIP market in Florida may have matured and/or stagnated. As previously stated, the major VoIP carriers have indicated that increased competition from wireless competitors has affected VoIP subscriptions.

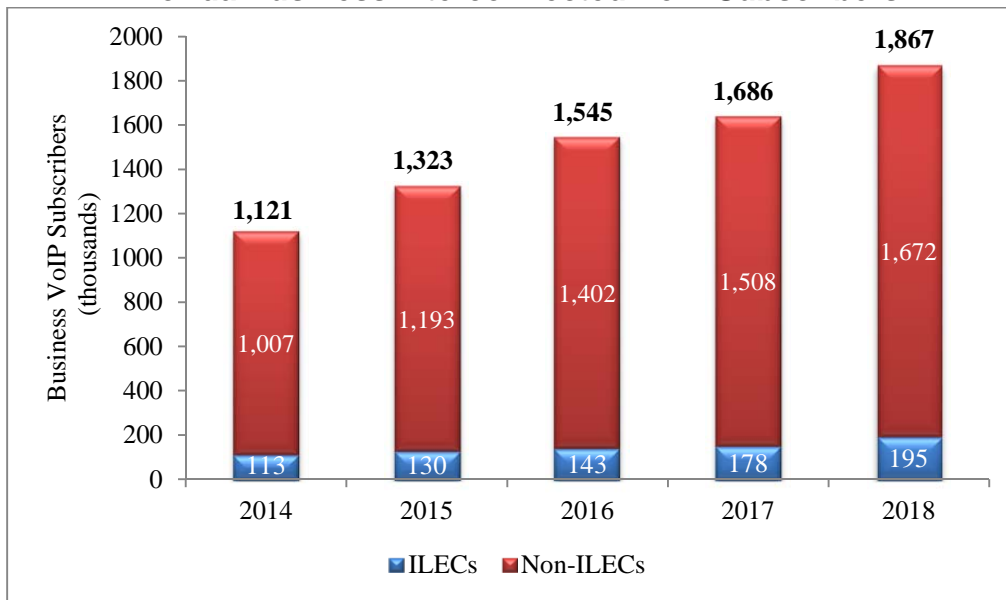
**Figure 3-4**  
**Florida Residential Interconnected VoIP Subscribers**



Source: Responses to FPSC data requests (2015-2019)

Alternatively, the business VoIP market in Florida continues to expand. Figure 3-5 displays VoIP business subscribers by ILEC and Non-ILEC carriers as reported by the FCC. ILECs and non-ILECs combined for double-digit growth in 2018, adding to the aggressive growth Florida business VoIP subscribers have enjoyed for several years. Business VoIP growth lagged behind residential growth for several years as cable companies concentrated on the residential market, but as that market matured they turned their attention towards business customers.

**Figure 3-5**  
**Florida Business Interconnected VoIP Subscribers**



Source: FCC, Voice Telephone Services Report, State Level Subscriptions



## Chapter IV. Competitive Market Analysis & Statutory Issues

### A. Statutory Issue – Competitive Providers

**The ability of competitive providers to make functionally equivalent local exchange services available to both residential and business customers at competitive rates, terms, and conditions.**

Functionally equivalent services are available to consumers via wireline telephony, wireless telephony, or VoIP. As of June 22, 2020, 227 CLECs had responded to the Local Competition Report data request. Of those responding, 54 companies indicate they provided local voice service in Florida in 2019.<sup>77</sup> Many offer multiple services and/or bundled packages.

As discussed in Chapter III, total wireline residential and business markets in Florida declined by 15.7 percent. CLEC total lines decreased 16.6, while ILEC total lines decreased by 15.5 percent. The CLEC wireline market share in Florida decreased from 21.6 percent in 2018 to 21.3 percent in 2019.

Florida residential VoIP subscribership accounted for 2.5 million connections by December 2019, representing a nine percent decrease in lines.<sup>78</sup> Comparable 2019 end of year data was not available for business VoIP segments of the market. However, data for 2018 from the FCC indicated that the number of Florida business VoIP lines grew 10.7 percent from end of year 2017 through December 2018.<sup>79</sup> With the decline in CLEC and ILEC wirelines as well as residential VoIP lines in the state of Florida, consumers appear to be migrating to wireless services. Several CLECs reported providing a number of services: local phone service (54 CLECs), VoIP (82), broadband Internet access (67), video service (8), and bundled services (67).

The data suggests that CLECs, VoIP, and wireless carriers are able to provide functionally equivalent services to residential and business customers at rates, terms and conditions acceptable to consumers. Responses to FPSC data requests indicate that a substantial number of CLECs offer a variety of functionally equivalent services at comparable terms.

In response to FPSC data request questions, the majority of CLECs reported no barriers to competition or elected not to respond. However, the companies that did report competitive concerns mentioned issues with ILEC pricing practices and the lack of a formal plan for IP transition.<sup>80</sup> We note that the CLECs have not filed any petitions with the Commission to address these issues. Some of these issues may be addressed by the FCC.

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<sup>77</sup> Responses to local competition data request 2020.

<sup>78</sup> Ibid.

<sup>79</sup> FCC, “Voice Telephone Services as of December 31, 2018,” State-Level Subscriptions spreadsheets, released March 6, 2020, <https://www.fcc.gov/voice-telephone-services-report>, accessed on April 2, 2020.

<sup>80</sup> Responses to local competition data request 2020.

**Conclusion:** Dozens of competitors offered multiple combinations of services to attract customers. Also, subscriptions to wireline telephony decreased again in 2019, indicating consumer choice continues to be primarily wireless and VoIP services. Based on the multiple services offered by alternative providers and their significant market share, companies are offering functionally equivalent services to both business and residential customers.

## ***B. Statutory Issue – Consumers***

**The ability of consumers to obtain functionally equivalent services at comparable rates, terms, and conditions.**

If companies are making functionally equivalent services available at comparable rates, terms, and conditions, as concluded in the previous issue, this issue determines whether or not there are significant impediments to consumers obtaining those services. One of the best determinants of whether consumers can obtain alternative services is the degree to which they are actually subscribing to them in large numbers.

Over the past 20 years, total traditional access lines have declined by around 87 percent in Florida, as the population has increased substantially by around 40 percent. Given the importance of telecommunications service and the large percentage decline in traditional access lines, consumers must be finding service elsewhere. Competitors have been successfully maintaining substantial and increasing shares in traditional access lines and other technologies, such as wireless and VoIP. By December 2018, the number of wireless connections in Florida reached 21.8 million, which equates to more than one connection per person.<sup>81</sup> Some consumers have migrated to VoIP. The ILEC residential VoIP market share has averaged 17 percent over the last eleven years, while peaking in 2015 at 26.3 percent.<sup>82</sup>

**Conclusion:** The ILEC wireline residential market share continues to increase; however, the traditional wireline market continues to decrease despite population growth. Increasing demand for service is being met by wireless subscription growth and VoIP. There are more wireless connections in Florida than people. Consumers are choosing to obtain a majority of wireless subscriptions and VoIP from competitors. Given competitors' substantial wireless and VoIP market shares, consumers are able to obtain functionally equivalent services at comparable rates, terms, and conditions.

## ***C. Statutory Issue – Affordability & Reliability***

**The overall impact of competition on the maintenance of reasonably affordable and reliable high-quality telecommunications services.**

In order to successfully compete in a free market, a business needs to provide equivalent value to consumers. The value of telecommunications service is most broadly determined by affordability and reliability. As shown in Figure 4-1, the average Florida household telephone subscription

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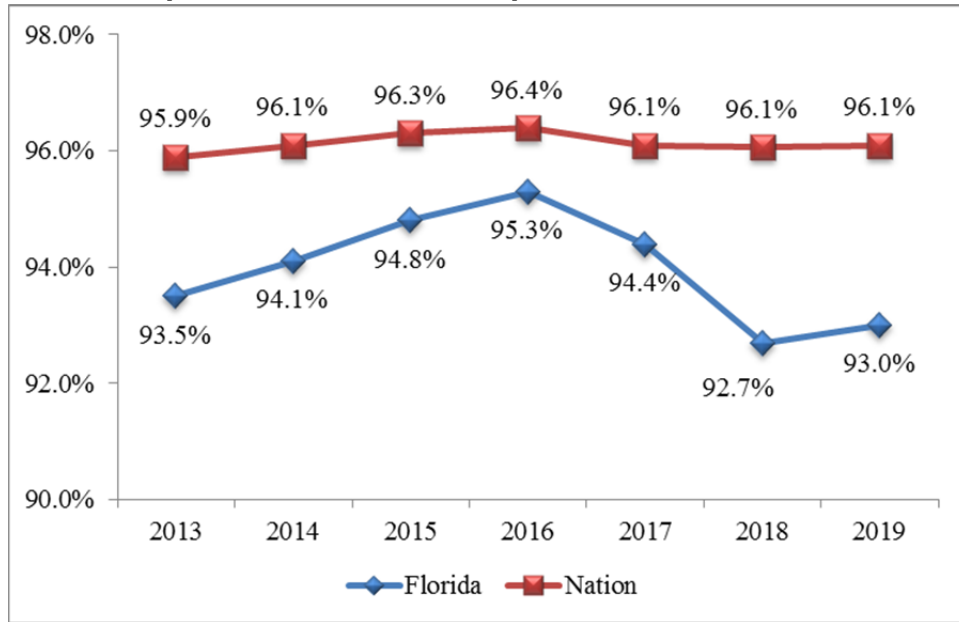
<sup>81</sup> FCC, Voice Telephone Services Report, State-Level Subscriptions, released March 6, 2020, [https://www.fcc.gov/sites/default/files/vts\\_state\\_table\\_1.xlsx](https://www.fcc.gov/sites/default/files/vts_state_table_1.xlsx), accessed on April 10, 2020.

<sup>82</sup> FCC, Voice Telephone Services as of 12/31/18, Nationwide and State-Level Data for 2008-Present, released March 6, 2020, <https://www.fcc.gov/voice-telephone-services-report>, accessed on June 20, 2020.



rate has been nearly 94 percent over the last seven years.<sup>83</sup> This high telephone subscription rate is not a recent occurrence; the average household telephone subscription rate has been 93.2 percent over the past 35 years.<sup>84</sup>

**Figure 4-1**  
**Telephone Service Subscription: Florida vs. Nation**



Source: FCC staff interview

Following the passage of the Florida Regulatory Reform Act in 2011, the FPSC no longer retains jurisdiction over telecommunications consumer complaints and holds no data on quality of service.<sup>85</sup> However, consumers freely choosing competitors for telecommunications service suggests that they view competitors' services as having reliability that is sufficiently comparable to ILEC service.

**Conclusion:** A competitive market requires comparable affordability and reliability of service. The vast majority of Florida households subscribe to telephone service. Consumers are willing and able to choose telecommunications service from competitors using a variety of technologies, so competitors have been maintaining significant market share over an extended period of time. Based on competitors' substantial market share and market pressures requiring comparable affordability and reliability, competition is having a positive effect on the maintenance of reasonably affordable, reliable telecommunications services.

<sup>83</sup> FCC Staff, telephone interview, March 19, 2020.

<sup>84</sup> FCC staff, telephone interviews (1985-2020).

<sup>85</sup> Regulatory Reform Act, ch. 36, 2011 Fla. Laws 1231.

***D. Statutory Issue – Carrier Disputes***

**A listing and short description of any carrier disputes filed under Section 364.16, F.S.**

**Conclusion:** There were no carrier disputes filed with the FPSC under Section 364.16, F.S., in 2019.

## Chapter V. State Activities

This chapter provides a summary of state activities affecting local telecommunications competition in 2019. The state activities discussed in this chapter are important in helping to gauge how well the market is functioning for Florida businesses and consumers.

### **A. Intercarrier Matters**

Wholesale performance measurement plans provide a standard against which the Commission can monitor performance over time to detect and correct any degradation in the quality of service ILECs provide to CLECs. The Commission adopted performance measurements for AT&T in August 2001 (revised in 2010), for CenturyLink in January 2003 (revised in 2013 and 2016), and for Verizon in June 2003 (revised in 2007). Trending analysis is applied to monthly performance measurement data provided by each ILEC.<sup>86</sup>

AT&T is the only ILEC that is required to make payments to CLECs when certain performance measures do not comply with established standards and benchmarks. AT&T's approved Performance Assessment Plan consists of 47 measurements; financial remedies are applied to 24 of these measures. In 2019, AT&T paid \$324,814 in remedies to CLECs, which is a decrease of 41.6 percent from 2018. The greatest cause of this decrease was the avoidance of any trunk line incidents, which often result in a substantial number of blocked and redialed calls.

On October 15, 2015, CenturyLink filed proposed revisions to its Performance Measurement Plan as a result of a negotiated settlement with the Nevada Public Utilities Commission. The revisions included revising reporting requirements from monthly to quarterly, eliminating several performance measures from the plan, and amending two measures. The proposal was approved for Florida by the Commission on February 15, 2016.<sup>87</sup> CenturyLink has reported no noncompliances in the three years since the settlement.

Frontier Communications completed its purchase of Verizon Florida's wireline operations in April 2016. In its role as a major ILEC, Frontier is responsible for a Performance Measurement Plan that includes 29 measures. In 2019, Frontier maintained an average monthly compliance rate of 77.3 percent, ranging from 73.0 percent to 83.9 percent. This result represented a slight decline from 2018's average monthly compliance rate of 78.6 percent.

The Commission processed a number of other telecommunications-related items in 2019. The Commission processed 46 service schedule and tariff filings, 61 interconnection agreements and amendments, 11 carrier certifications, five certificate cancellations, and over 150 general inquiries/informal complaints.

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<sup>86</sup> FPSC Dockets: No. 20000121A-TP (AT&T), No. 20000121B-TP (CenturyLink), and No. 20000121C-TP (Frontier FL).

<sup>87</sup> FPSC Order No. PSC-2016-0072-PAA-TP, Docket No. 000121B-TP, Investigation into the establishment of operations support systems permanent performance measures for incumbent local exchange telecommunications companies. (CenturyLink Florida Track), issued February 15, 2016, <<http://www.psc.state.fl.us/library/filings/2016/00858-2016/00858-2016.pdf>>, accessed on May 9, 2020.

## **B. Lifeline**

As a part of the FCC's Lifeline Modernization Order, released on April 27, 2016, the FCC directed the Universal Service Administrative Company (USAC) to develop the National Lifeline Eligibility Verifier (National Verifier). The purpose of the National Verifier is to determine initial subscriber eligibility, conduct annual recertification, populate a national database consisting of Lifeline customers, and provide support payments to providers serving these customers. Throughout 2019, USAC conducted quarterly launches that transitioned states and U.S. territories into the National Verifier.

On December 31, 2019, USAC finished their final launch, encompassing all 50 states, as well as all U.S. territories into the National Verifier. Upon inception into the National Verifier, states entered a soft launch period in which usage of the National Verifier was encouraged, but not mandatory, to determine customer eligibility for the Lifeline program. During this period, carriers were still able to determine Lifeline customer eligibility using previously acceptable processes.

During the soft launch period, USAC conducts a one-time reverification process. During this process, all current Lifeline customers are required to have their eligibility for the Lifeline program re-determined in order to populate the previously mentioned database. Customers being served by ETCs who do not have on hand documentation proving their eligibility for the Lifeline program are contacted by USAC, and given 60 days to provide their Lifeline eligibility documentation. Those who are non-responsive or who are not able to provide this documentation are de-enrolled from the Lifeline program.<sup>88</sup> After a determinate amount of time in soft launch status, USAC transitions states to hard launch status, in which customers must be verified through National Verifier eligibility processes. Florida entered hard launch status on March 24, 2020.

In 2007, the FPSC established the Lifeline Electronic Coordinated Enrollment Process (Coordinated Enrollment) in conjunction with the Florida Department of Children and Families (DCF).<sup>89</sup> The Coordinated Enrollment process establishes a computer interface between the FPSC and DCF, in which prospective Lifeline customers applying for either the Supplemental Nutrition Assistance Program, or Medicaid, could automatically be enrolled into the Lifeline program. Customers opting to be enrolled in the Lifeline program would then be directed to choose an ETC from which to receive Lifeline service. That customer's information would be uploaded to an FPSC database, and would be accessible to the relevant ETC. Due to the National Verifier's hard launch requiring all eligibility determination to be conducted by USAC, the Coordinated Enrollment process was no longer able to automatically enroll potential Lifeline customers.

FPSC staff has made all Florida ETCs aware of a shift in functionality of the Coordinated Enrollment database. DCF continues to populate the database with customer information;

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<sup>88</sup> The reverification process begins during the inception of a state's soft launch period but is not usually completed by the time the soft launch process ends.

<sup>89</sup> Fla. Stat. § 364.10(g)(2).

however, these customers are no longer deemed eligible at the time ETCs access this information. ETCs are now charged with contacting and directing their customers to apply for the Lifeline program with USAC before being able to provide Lifeline service to them.

Though consumers are encouraged to apply for the Lifeline program online through the National Verifier portal, ETCs have been instructed by USAC on how to assist customers applying for the National Verifier.<sup>90</sup> Upon completion of an application, and subsequent approval for the Lifeline program, customers are able to find a Lifeline service provider through USAC’s “Companies Near Me” tool.<sup>91</sup> Consumers who wish to receive a paper application, or who do not have access to the internet, may call the Lifeline customer service hotline.<sup>92</sup> Individuals who are disabled may request assistance in completing an application by phone using the same Lifeline customer service hotline.

Based upon June 2019 SNAP participants, Lifeline eligible households decreased by 7 percent, while the participation rate of those households in the Lifeline program decreased by 2.7 percent from the prior year.<sup>93</sup> This decline in subscribership follows a trend of National decline in subscribership and does not necessarily reflect the impacts of the National Verifier on Florida. Table 5-1 shows the Lifeline eligibility and participation rates in Florida for the last five years.<sup>94</sup>

**Table 5-1  
Florida Lifeline Eligibility and Participation Rate**

<b>Year</b>	<b>Lifeline Enrollment</b>	<b>Eligible Households</b>	<b>Participation Rate</b>
Jun-15	833,426	2,011,166	41.4 %
Jun-16	852,255	1,712,005	49.8%
Jun-17	685,864	1,662,374	41.3%
Jun-18	694,647	1,628,111	42.7%
Jun-19	604,693	1,513,284	40.0%

Source: U.S. Department of Agriculture

<sup>90</sup> USAC, National Verifier Application Portal, <<https://nationalverifier.servicenowservices.com/lifeline>>, accessed on April 20, 2020.

<sup>91</sup> USAC, Companies Near Me Tool, <<https://data.usac.org/publicreports/CompaniesNearMe/Download/Report>>, accessed on April 20, 2020.

<sup>92</sup> USAC, Lifeline Customer Service Hotline, 1 (800) 234-9473.

<sup>93</sup> FPSC, 2019 Florida Lifeline Report, released December 2019, <<http://www.psc.state.fl.us/Files/PDF/Publications/Reports/Telecommunication/LifelineReport/2019.pdf>>, Figure 3, accessed on April 20, 2020.

<sup>94</sup> Ibid.

### **C. Telephone Relay Service**

Telecommunications Relay Services (TRS) facilitates telephone calls between people with hearing loss or speech disabilities and other individuals by using special equipment and a communications assistance operator to relay information. Section 427.704, F.S., charges the Commission with overseeing the administration of a statewide telecommunications access system which provides TRS. Funding for TRS in Florida is through a surcharge on telephone landlines. The current assessment rate is \$0.10 per landline.<sup>95</sup> In 2017, the contract for the provision of relay service was due for renewal. The FPSC oversaw the bidding process and awarded the contract to Sprint, which began in March 2018.

The COVID-19 pandemic had a significant impact on relay service in Florida and throughout the country. It was recognized by the FCC and state TRS programs as a force majeure event that triggered the need for a number of temporary adaptations to TRS operations throughout the country. The FCC has granted TRS providers temporary waivers of rules relating to call answer times.<sup>96</sup> These waivers are effective from March 1, 2020, through May 15, 2020.

Sprint has made adjustments to its operations to respond to the crisis and maintain the availability of relay services for users. For example, Sprint temporarily suspended in-state routing rules when service levels are deteriorating due to high call volumes. Instead, Sprint routed to the next available agent in an attempt to handle calls as quickly as possible. In addition, all forms of quality assessments and test calls that divert communications assistance operators away from handling calls were temporarily suspended.

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<sup>95</sup> The rate may not exceed \$0.25 per landline.

<sup>96</sup> FCC, DA 20-281, CG Docket No. 03-123 and 10-51, adopted March 16, 2020, <<https://ecfsapi.fcc.gov/file/0316280882515/DA-20-281A1.pdf>>, accessed on May 20, 2020.

## Chapter VI. Federal Activities

### A. Mergers and Acquisitions

Telecommunication carriers seeking to transfer assets or corporate control in mergers and acquisitions must first receive approval from the FCC, which examines the public interest impact of proposed mergers or acquisitions. In 2019, there were approximately 80 telecommunications mergers and acquisitions nationally. Recent transactions of interest to Florida are described below.

#### 1. Sprint/T-Mobile

During the past several years, AT&T, Verizon, T-Mobile and Sprint have been the four major wireless carriers in the U.S. These four carriers represented over 98 percent of the wireless market in 2019.<sup>97</sup> In April 2018, T-Mobile announced its decision to acquire Sprint.<sup>98</sup> This was done in order to gain access to new spectrum holdings, and to gain a greater scale of service which would be supported by their developing 5G wireless market.<sup>99</sup> The merger was met with opposition from the Federal Trade Commission, the Department of Justice, and numerous State Attorneys General. A February 2020 court decision finalized the deal, creating the \$26.5 billion merger. Sprint was required to sell off its prepaid services, Boost mobile, Virgin Mobile, as well as its 800 MHz spectrum.<sup>100</sup>

#### 2. Frontier Communications/Everest/WaveDivision

Early in 2019, Frontier Communications (Frontier) sold off close to 100 U.S cell sites for \$80 million to Everest Infrastructure.<sup>101</sup> Frontier is currently in the process of selling off wireline assets in four western states for a total of \$1.35 billion to WaveDivision.

### B. FCC Forbearance

On May 4, 2018, the United States Telecom Association (USTelecom) filed a petition with the FCC seeking forbearance from several ILEC regulatory obligations under the 1996 Act, such as

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<sup>97</sup> Statista, Wireless subscriptions market share by carrier in the U.S. from 1st quarter 2011 to 3rd quarter 2019, <<https://www.statista.com/statistics/199359/market-share-of-wireless-carriers-in-the-us-by-subscriptions/>>, December 2019, accessed on April 8, 2020.

<sup>98</sup> T-Mobile CEO John Legere announces merger with Sprint, Twitter, <<https://twitter.com/JohnLegere/status/990622865522348035?s=19>>, accessed on May 25, 2020.

<sup>99</sup> Barrons.com, “T-Mobile Finally Bought Sprint. It Wasn’t Easy.” April 1, 2020 <<https://www.barrons.com/articles/t-mobile-us-finally-completes-its-sprint-acquisition-it-wasnt-easy-51585752809>>, accessed on June 17, 2020.

<sup>100</sup> Justice.gov, “Court Enters Final Judgement in T-Mobile/Sprint Transaction”, released April 1, 2019, <<https://www.justice.gov/opa/pr/court-enters-final-judgment-t-mobilesprint-transaction>> accessed on June 17, 2020.

<sup>101</sup> FierceTelecom.com, “Frontier sells off some of its wireline assets for \$1.35B”, released May 29, 2019, <<https://www.fiercetelecom.com/telecom/frontier-sells-off-some-its-wireline-assets-for-1-35b>>, accessed on March 25, 2020.

requirements to provide wholesale access to unbundled network elements (UNEs) and resale.<sup>102</sup> USTelecom also requested that states not be allowed to issue similar unbundling and resale rules if forbearance is granted.<sup>103</sup>

Since the USTelecom petition, the FCC has issued orders forbearing from requirements that price cap ILECs provide their competitors with legacy transport facilities on an unbundled basis at regulated rates between wire centers. It also relaxed requirements that price cap ILECs offer CLECs analog voice-grade copper loops on an unbundled basis at regulated rates and legacy services for resale at regulated rates. These orders do not apply to unbundling obligations enabling the provision of broadband services. These FCC forbearance orders have been challenged by the trade association Incompas, the California Public Utilities Commission, and others in federal court.<sup>104</sup>

On November 25, 2019, the FCC proposed additional forbearance to eliminate and/or reduce requirements that ILECs provide the following UNEs used for broadband and legacy voice: dark fiber transport where competitive fiber exists within one-half mile of a wire center, voice-grade loops, DS0 Loops for voice and/or broadband in urban census blocks, and DS1 and DS3 Loops for broadband in areas deemed competitive. The FCC also proposes to forbear from the requirement that non-price cap ILECs resell retail legacy telecommunications services at statutorily prescribed rates.<sup>105</sup>

Following these ordered and proposed forbearances, many CLECs will find competition to be more difficult because they will no longer be guaranteed access to interconnection or resale at regulated rates. The CLECs that can best compete are those affiliated with ILECs and the larger CLECs that have invested in their own networks. In Florida, the impact on residential customers should be minimal given that CLECs comprise less than one percent of the market. Businesses would also be somewhat insulated given that the business market is mostly served by facilities-based, large CLECs, ILEC-affiliated CLECs, and ILECs.

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<sup>102</sup> USTelecom, “Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks,” filed May 4, 2018, <<https://www.fcc.gov/ecfs/filing/1050419048916>>, accessed on March 27, 2020.

<sup>103</sup> FCC Electronic Comment Filing System, “USTelecom, Petition for Forbearance. Section II B, pp. 30-31,” posted May 7, 2018, <<https://www.fcc.gov/ecfs/filing/1050419048916>>, accessed on June 6, 2020.

<sup>104</sup> *Comptel d/b/a Incompas v. FCC*, No. 19-1164 (D.C. Cir. Mar. 25, 2020).

<sup>105</sup> FCC, “FCC Seeks Comment on Eliminating Unbundling Requirements,” released November 25, 2019, <<https://www.fcc.gov/document/fcc-seeks-comment-eliminating-outdated-unbundling-requirements-0>>, accessed on March 27, 2020.



### **C. Broadband Deployment**

FCC Chairman Ajit Pai has stated that his number one priority is expanding broadband access.<sup>106</sup> The FCC and the federal government have been using several strategies to pursue this goal. One method that the FCC is using to facilitate the process of broadband deployment is the creation of the Broadband Deployment Advisory Committee, a federal advisory committee that is intended to provide an effective means for stakeholders to exchange ideas and develop recommendations and advice on how to accelerate the deployment of high-speed internet access.<sup>107</sup> The FCC gauges its progress through the issuance of broadband deployment reports. The 2020 Broadband Deployment Report provides the most detailed view of broadband expansion, showing significant progress particularly in rural America.<sup>108</sup>

The FCC has authorized rural broadband expansion support through the Alternative Connect America Model consisting of more than \$5.6 million over ten years for 1,025 locations in Florida.<sup>109</sup> The FCC has also authorized rural broadband expansion support through the Connect America Phase II auction consisting of \$5 million over ten years for 9,859 locations in Florida.<sup>110</sup> Other major developments include the launch of the Rural Digital Opportunity Fund, which will award \$20.4 billion nationally in support of rural broadband networks over ten years.<sup>111</sup> The FCC has also proposed the 5G Fund for Rural America, which would provide \$9 billion nationally over ten years to support mobile 5G connectivity.<sup>112</sup>

The FCC is not the only agency that has been working to improve broadband deployment. The United States Department of Agriculture has also been active in promoting broadband expansion including making \$550 million available to rural areas in 2020.<sup>113</sup> The National

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<sup>106</sup> FCC, “Bridging The Digital Divide For All Americans,” <<https://www.fcc.gov/about-fcc/fcc-initiatives/bridging-digital-divide-all-americans>>, accessed on April 2, 2020.

<sup>107</sup> FCC, “Broadband Deployment Advisory Committee,” <<https://www.fcc.gov/broadband-deployment-advisory-committee>>, accessed on April 2, 2020.

<sup>108</sup> FCC, “New FCC Report Shows Digital Divide Continuing to Close,” released April 24, 2020, <<https://www.fcc.gov/document/new-fcc-report-shows-digital-divide-continuing-close-0>>, accessed on April 27, 2020.

<sup>109</sup> FCC, “FCC OKs \$4.9 Billion to Maintain, Improve, and Expand Rural Broadband,” released August 22, 2019, <<https://www.fcc.gov/document/fcc-oks-49-billion-maintain-improve-and-expand-rural-broadband>>, accessed on April 1, 2020.

<sup>110</sup> FCC, “FCC Authorizes \$89.2 million for Rural Broadband in 21 States,” released December 16, 2019, <<https://www.fcc.gov/document/fcc-authorizes-892-million-rural-broadband-21-states>>, accessed on April 2, 2020.

<sup>111</sup> FCC, “FCC Launches \$20 Billion Rural Digital Opportunity Fund,” released January 30, 2020, <<https://www.fcc.gov/document/fcc-launches-20-billion-rural-digital-opportunity-fund>>, accessed on April 1, 2020.

<sup>112</sup> FCC, “Chairman Pai Moves Forward to Establish 5G Fund for Rural America,” released April 1, 2020, <<https://www.fcc.gov/document/chairman-pai-moves-forward-establish-5g-fund-rural-america>>, accessed on April 3, 2020.

<sup>113</sup> USDA, “USDA to Make \$550 Million in Funding Available in 2020 to Deploy High-Speed Broadband Internet Infrastructure in Rural America,” released December 12, 2019, <<https://www.usda.gov/media/press->

Telecommunications and Information Administration’s American Broadband Initiative Milestones Report details strategies from over 20 Federal agencies for increasing broadband access and encouraging private-sector broadband investment.<sup>114</sup>

#### **D. Open Internet/Net Neutrality**

In 2018, the FCC reversed its net neutrality policy as outlined in previous reports, and opted to return to a less restrictive framework of regulating broadband as an information service under the Communications Act. As a result of this reversal, 34 states and the District of Columbia proposed net neutrality legislation, and five passed net neutrality laws or resolutions.<sup>115</sup> Six state governors issued executive orders that effectively bar state agencies from doing business with ISPs that violate net neutrality principles.<sup>116</sup>

Multiple parties, including attorneys general from 22 states, also filed legal challenges to the new policy.<sup>117</sup> On October 1, 2019, the DC Circuit Court of Appeals upheld the majority of the FCC’s deregulation of net neutrality rules, while remanding to the FCC questions on how public safety, pole attachments and Lifeline program rules would apply to information service providers if those companies are not subject to rules for common carriers.<sup>118</sup> Following the ruling, the FCC issued a public notice seeking comment on these issues.<sup>119</sup>

#### **E. Universal Service**

Universal service is the policy that all Americans should have equal access to communications services. While Florida consumers benefit from being able to make and receive calls from all parts of the nation, there is a cost associated with this policy. The Universal Service Fund (USF) is the federal fund that supports the budgets of universal service programs. The USF is funded by telecommunications providers based on an assessment of interstate and international end-user revenues.

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[releases/2019/12/12/usda-make-550-million-funding-available-2020-deploy-high-speed](#)>, accessed on April 2, 2020.

<sup>114</sup> NTIA, “American Broadband Initiative” updated March 26, 2020, <<https://www.ntia.doc.gov/category/american-broadband-initiative>>, accessed on April 2, 2020.

<sup>115</sup> NCSL, “Net Neutrality Legislation in States,” published January 23, 2019, <<http://www.ncsl.org/research/telecommunications-and-information-technology/net-neutrality-legislation-in-states.aspx>>, accessed on March 27, 2020.

<sup>116</sup> NRRI, “Net Neutrality State Actions Tracker,” updated May 30, 2018, <<https://www.naruc.org/nrri/nrri-activities/net-neutrality-tracker/>>, accessed on March 27, 2020.

<sup>117</sup> Ibid.

<sup>118</sup> The National Law Review, “The FCC’s “Restoration of Internet Freedom Order” Largely Survives on Appeal; But Net Neutrality is Not Dead Yet,” published October 8, 2019, <<https://www.natlawreview.com/article/fcc-s-restoration-internet-freedom-order-largely-survives-appeal-net-neutrality-not>>, accessed on March 27, 2020.

<sup>119</sup> FCC, “FCC Seeks Comment on Mozilla Decision,” issued February 19, 2020, <<https://www.fcc.gov/document/wcb-seeks-comment-discrete-issues-arising-mozilla-decision>>, accessed on March 27, 2020.

In general, Florida consumers pay more into the USF than what is returned to eligible service providers in Florida.<sup>120</sup> For 2018, only consumers in New York and California were larger net contributors than consumers in Florida. The FPSC monitors and participates in ongoing proceedings at the FCC and with the Federal-State Joint Board on Universal Service. Table 6-1 shows Florida’s estimated contribution and receipts for 2018 and provides a comparison of net contributions for 2016 and 2017.

**Table 6-1**  
**Federal Universal Service Programs in Florida**  
**(Annual Payments and Contributions in Thousands of Dollars)**

	2016	2017	2018		
	Estimated Net	Estimated Net	Service Providers Payments	Estimated Consumer Contributions	Estimated Net
High-Cost	(\$211,994)	(\$225,547)	\$55,575	\$285,611	(\$230,036)
Low Income	4,004	(928)	79,977	68,636	\$11,342
Schools & Libraries	(48,257)	(27,616)	86,341	129,047	(\$42,707)
Rural Health Care	(13,639)	(12,188)	4,225	17,637	(13,412)
Total	(\$280,312)	(\$276,681)	\$226,118	\$513,019	(\$286,901)

Source: FCC Universal Service Monitoring Report, various years, Table 1.9

### 1. Contribution System Reform

Telecommunications service providers fund the USF based on a quarterly FCC assessment factor applied to interstate and international telecommunications revenues. Mobile wireless carriers and interconnected VoIP providers are also required to participate.<sup>121</sup> As detailed in Figure 7-2, the assessment factor has reached a high of 25 percent for the first time in the fourth quarter of 2019. Since 2016, the assessment factor has averaged about 20 percent.<sup>122</sup> The assessment factor has increased over time as the fund size of the universal service programs has grown and the assessable base (interstate and international revenues) has shrunk. By way of comparison, for 2001, the average assessment factor for the year was 7 percent. While the FCC opened various proceedings to address the growth in the assessment factor, no significant reforms have been

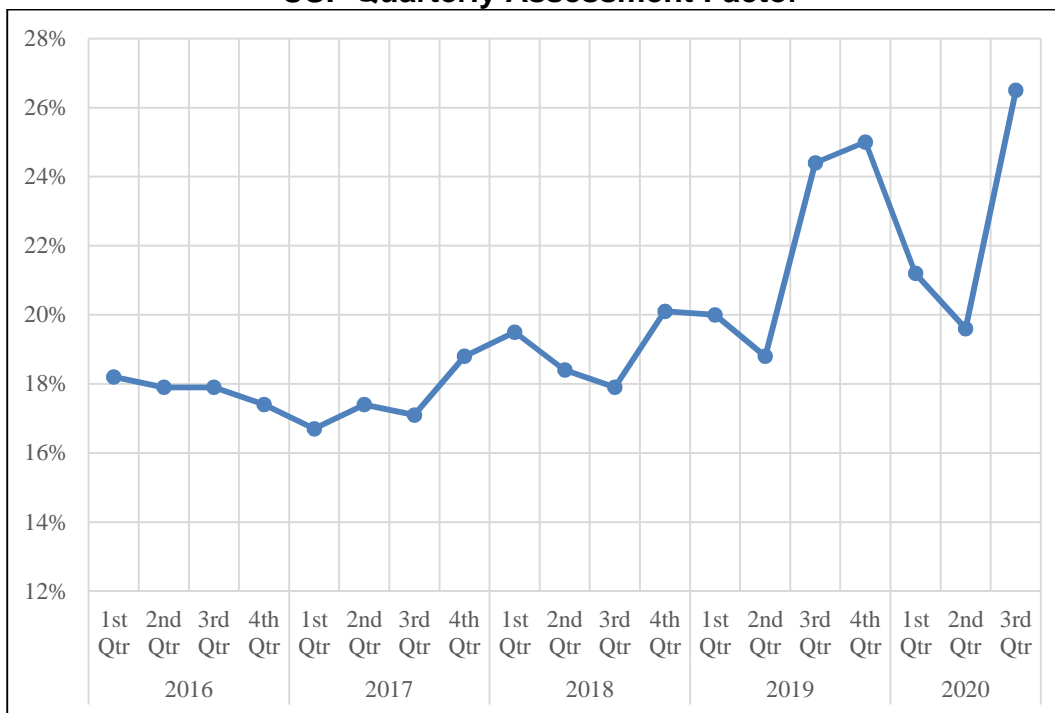
<sup>120</sup> FCC, “Universal Service Monitoring Report-2018,” released February 4, 2020, <<https://docs.fcc.gov/public/attachments/DOC-362272A1.pdf>>, accessed on April 16, 2020.

<sup>121</sup> Wireless carriers and interconnected VoIP providers may use the interim safe harbor percentages to estimate the interstate portion of their revenues.

<sup>122</sup> FCC, “Contribution Factor & Quarterly Filings - Universal Service Fund (USF) - Management Support,” <<http://www.fcc.gov/encyclopedia/contribution-factor-quarterly-filings-universal-service-fund-usf-management-support>> accessed on April 16, 2020.

forthcoming from the FCC. Figure 6-1 illustrates assessment factor rates and projected rates since 2016.

**Figure 6-1**  
**USF Quarterly Assessment Factor**



Source: FCC Public Notices on Proposed Contribution Factors, various quarters.

## 2. High Cost

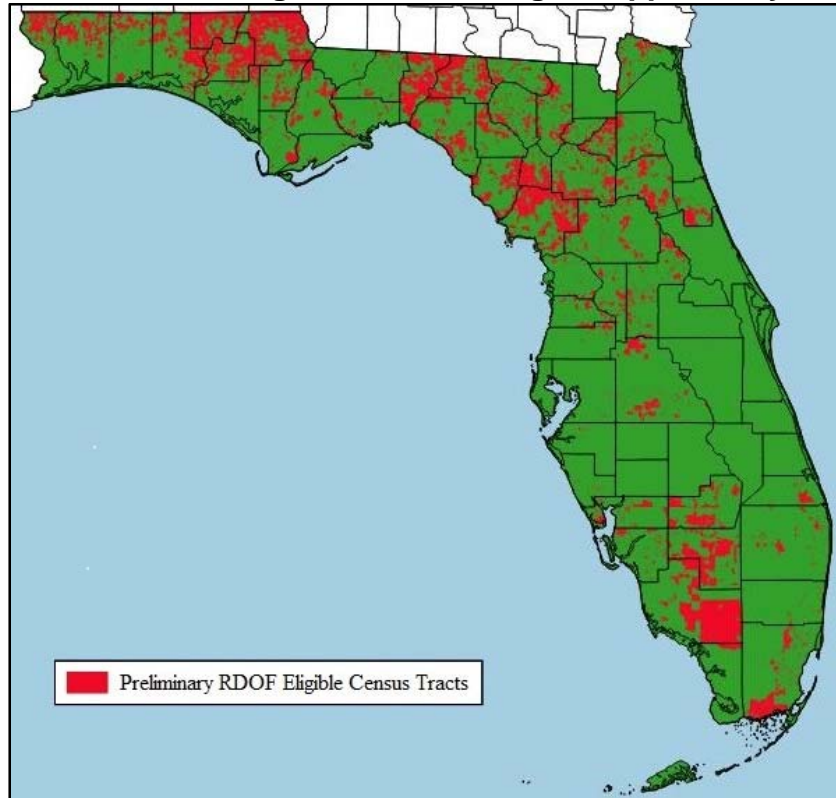
Since 2011, the FCC has been modernizing the federal high-cost programs to maintain voice services and extend broadband capable infrastructure.<sup>123</sup> In 2019, the FCC adopted a Notice of Proposed Rulemaking (NPRM) proposing to establish the \$20.4 billion Rural Digital Opportunity Fund (RDOF) to bring high speed fixed broadband service to rural homes and small businesses that lack it.<sup>124</sup> On January 30, 2020, the FCC adopted a Report and Order, which established the framework for the RDOF, building on experience of FCC’s Connect American Fund auction by using reverse auctions in two phases.

The Phase I auction, which is scheduled to begin on October 22, 2020, will target over six million homes and businesses in census blocks that are entirely unserved by voice and broadband with download speeds of at least 25 Mbps. The RDOF is structured to prioritize higher network speeds and lower latency. Phase II will cover locations in census blocks that are partially served, as well as locations not funded in Phase I. Figure 6-2 provides a map identifying areas in Florida that will be part of Phase I.

<sup>123</sup> Connect America Fund, 26 FCC Rcd. 17663, FCC 11-161 (November 18, 2011).

<sup>124</sup> Rural Digital Opportunity Fund, FCC 19-77, 2019 WL 3605128, proposed on August 2, 2019.

**Figure 6-2**  
**Areas in Florida Eligible for Rural Digital Opportunity Fund**



Source: FCC, Shapefile by Census Tracts

In April 2020, the FCC released another NPRM relating to high-cost support for the deployment of 5G wireless technology in rural areas.<sup>125</sup> In the NPRM, the FCC considered the establishment of a budget of up to \$9 billion, to be distributed in two phases. Phase I would budget \$8 billion to support eligible rural areas, whereas Phase II would focus on harder to serve areas such as farms and ranches. Like the RDOF, the 5G Fund for Rural America would use a competitive reverse account format to award funding for wireless broadband service. The FCC is considering different options that would begin the auctions either in 2021 or a couple of years later to provide additional time for better wireless broadband data to be collected.

### **3. Schools and Libraries**

The schools and libraries support program, commonly known as the E-rate Program, provides financial support to eligible schools and libraries for connectivity. This support helps to reduce the cost associated with telecommunications services, Internet access, and eligible equipment. The discounts range from 20 percent to 90 percent of the costs of eligible services, depending on the level of poverty and whether the school or library is located in an urban or rural area. The E-Rate program has two funding categories that support schools and libraries. Category one

<sup>125</sup> Establishing a 5G Fund for Rural America, FCC 20-52, 2020 WL 1977100, proposed on April 24, 2020.

provides connectivity to schools and libraries and category two provides connectivity for services within schools and libraries.

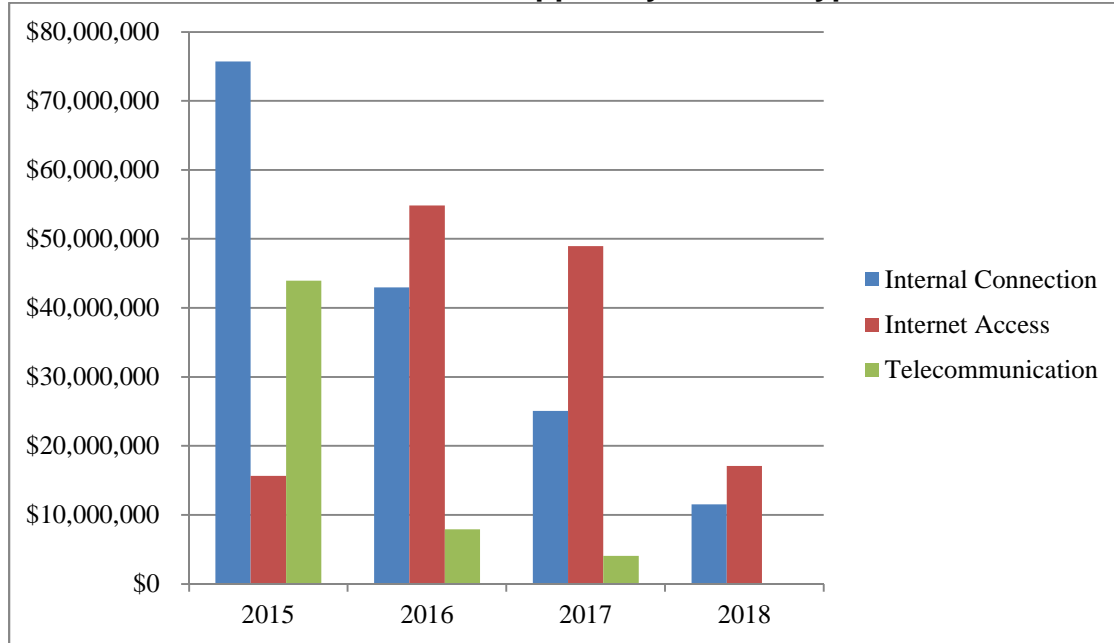
In 2014, the FCC took steps to continue to modernize the E-Rate program by adopting a new budget approach for category two funding. The FCC established a five-year trial period (from 2015 to 2019) to help determine if this approach would be a more effective means to ensure greater access to E-Rate discounts for internal connections. In 2017, the FCC sought comment and received near-unanimous support of the new category two budget approach. It found that under this approach greater funding was available for internal connections, funding was distributed to more applicants in a more equitable and predictable manner, and it gave applicants more flexibility to determine how best to upgrade their systems. Therefore, in December 2019, the FCC released an Order making the category two budget approach permanent.<sup>126</sup>

Figure 6-3 shows the amount of support distributed to Florida by service type between 2015 to 2018. Although the FCC has noted greater availability of funding for internal connections under the category two budget approach, support to Florida for internal connections continues to decline.

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<sup>126</sup> Modernizing the E-Rate Program for Schools and Libraries, FCC 19-117, 2019 WL 6606682, proposed on December 3, 2019.

**Figure 6-3  
Florida E-Rate Support by Service Type**



Source: USAC

Schools and libraries have been greatly affected by COVID-19 as they close for extended periods of time to protect their students and patrons. In response, the FCC has temporarily waived and extended several E-Rate filing, information request and service implementation deadlines.<sup>127</sup> Also, acknowledging the need for increased connectivity during this pandemic, the FCC waived the E-Rate program gift rules through September 30, 2020.<sup>128</sup> This waiver will enable service providers to offer, and E-rate program participants to solicit and accept improved broadband connections or equipment for remote learning without running afoul of FCC rules.

#### **4. Low Income**

The Lifeline program provides a monthly discount on phone or broadband service for qualifying low-income consumers to ensure that all Americans have the opportunities and security that phone service brings. On April 27, 2016, the FCC released its Lifeline Modernization Order that further reformed the Lifeline program by establishing a budget of \$2.25 billion in federal funding, indexed to inflation. The FCC stated that in order to be sustainable and achieve its goals of providing low-income consumers with robust, affordable, and modern services, a forward-

<sup>127</sup> Schools and Libraries Universal Service Support Mechanism, FCC 20-364, CC Docket No. 02-6, accessed on April 1, 2020.

<sup>128</sup> Rural Health Care Universal Service Support Mechanism, Schools and Libraries Universal Service Support Mechanism, FCC 20-290, CC Docket No. 02-6, accessed on March 18, 2020.

looking, broadband focused Lifeline program should be adopted. Authorized support for the Lifeline program in 2019 was \$981 million, down from \$1.14 billion in 2018.<sup>129</sup>

Included in the Lifeline Modernization Order were reforms that began a phase-down of federal funding support for voice-only services. Reductions in support are scheduled each year, eventually phasing out completely by December 1, 2022. Lifeline customers who receive voice-only service now receive a \$7.25 discount on their monthly bills. Lifeline customers who select either broadband or a bundle of broadband and voice services that meets the FCC’s minimum service standards are entitled to continue to receive a \$9.25 Lifeline discount. Prior to the complete phase out of support for voice-only services, the FCC will reevaluate its conclusion as part of a 2021 report on the state of the Lifeline marketplace. Table 6-2 outlines the FCC’s phase down schedule.

**Table 6-2  
Lifeline Support Phase Down Schedule**

<b>Effective Dates</b>	<b>Fixed Voice</b>	<b>Mobile Voice</b>	<b>Fixed Broadband</b>	<b>Mobile Broadband</b>
Through 11/30/20	\$7.25	\$7.25	\$9.25	\$9.25
From 12/1/20 to 11/30/21	\$5.25	\$5.25	\$9.25	\$9.25
After 11/30/21	0	0	\$9.25	\$9.25

Source: FCC 2016 Lifeline Modernization Order (FCC 16-38)

At the 2019 National Association of Regulatory Utility Commissioners (NARUC) Summer Policy Summit, resolutions were passed urging the FCC to halt its planned phase down of fixed and mobile voice support on December 1, 2019.<sup>130</sup> The resolutions also urged the FCC to completely forego their plans to ultimately eliminate voice-only Lifeline support. According to NARUC, if ETCs are unable to invest in the technologies required to provide the ever-increasing minimum broadband standards, they may be forced to relinquish their ETC designations. NARUC also asserts that if voice-only ETCs opt to relinquish, many elderly and low-income individuals will be forced to purchase higher cost bundled Lifeline service from the remaining service providers.

<sup>129</sup> USAC, Universal Service Administrative Company 2019 Annual Report, <<https://www.usac.org/wp-content/uploads/about/documents/annual-reports/2019/USAC-2019-Annual-Report.pdf>>, page 8, accessed on April 20, 2020.

<sup>130</sup> NARUC, Resolution on the Lifeline National Verifier Launch and Minimum Service Standards, adopted July 24, 2019, <<https://pubs.naruc.org/pub/3C86755C-FD04-1CF1-7558-180073A15B6A>>, accessed on April 20, 2020.



On March 17, 2020, the FCC released an Order suspending the usage requirement rule of the Lifeline program as a result of the COVID-19 pandemic.<sup>131</sup> The Order also suspends de-enrollment due to customer reverification non-response, halts USAC from requesting new reverification eligibility information from customers, and waives the recertification rules of the Lifeline program. A follow-up Order, released on April 29, 2020, amended the income eligibility rules for the Lifeline program.<sup>132</sup> Under these new provisions, customers qualifying for the Lifeline program under income eligibility documentation need only provide three consecutive months of documentation proving they make at or less than 135 percent of the Federal Poverty Guidelines.<sup>133</sup> The amendment allows customers to provide documentation proving recent unemployment due to COVID-19, such as a notice of unemployment benefits, or notice of a successful application for unemployment benefits. The follow-up Order extends the suspension of March 17, 2020's rules, and institutes the amendment of the income eligibility rules, until June 30, 2020.

## 5. Rural Health Care

The goal of the Rural Health Care (RHC) Program is to ensure the affordability of telehealth services in rural communities to promote healthcare in underserved and hard to reach geographic areas. To achieve these goals, RHC Program provides funding to eligible rural healthcare providers for broadband and telecommunications services.<sup>134</sup> Funding is distributed through two programs: the Telecommunications (Telecom) Program and the Healthcare Connect Fund Program.

The Telecom Program subsidizes the difference between urban and rural rates for telecommunications services. By comparison, the Healthcare Connect Fund Program promotes the use of broadband services by providing a flat 65% discount on an array of communications services to both individual rural healthcare providers and any related healthcare consortia.<sup>135</sup> In June 2018, the FCC increased the cap of the RHC Program from \$400 million to \$571 million. This cap is annually adjusted for inflation. Figure 6-4 illustrates a comparison of the amounts disbursed for funding years 2015-2019 by program in the state of Florida.

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<sup>131</sup> Lifeline and Link Up Reform Modernization, FCC Order, DA 20-285, accessed on March 17, 2020.

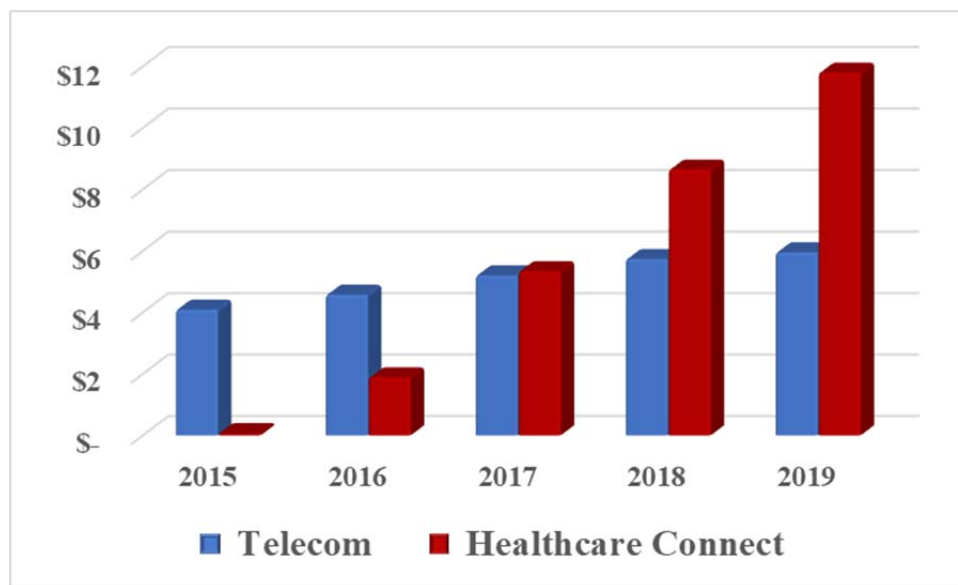
<sup>132</sup> Lifeline and Link Up Reform and Modernization, FCC Order, DA 20-462, accessed on April 29, 2020.

<sup>133</sup> USAC, Federal Poverty Guidelines for Lifeline, <[https://www.usac.org/wp-content/uploads/lifeline/documents/handouts/Income\\_Requirements.pdf](https://www.usac.org/wp-content/uploads/lifeline/documents/handouts/Income_Requirements.pdf)>, accessed on April 30, 2020.

<sup>134</sup> Universal Service Administrative Company 2019 Annual Report, <<https://www.usac.org/wp-content/uploads/about/documents/annual-reports/2019/USAC-2019-Annual-Report.pdf>>, page 16, accessed on April 6, 2020.

<sup>135</sup> FCC, "Universal Service Monitoring Report-2019," <<https://docs.fcc.gov/public/attachments/DOC-362272A1.pdf>>, accessed on April 20, 2020.

**Figure 6-4**  
**Rural Health Care Funding Disbursements for Florida by Program**  
(In Millions)



Source: Universal Service Monitoring Report

On August 1, 2019, the FCC adopted an Order reforming the RHC Program.<sup>136</sup> The reforms are intended to ensure funds are disbursed efficiently and equitably and promote transparency in the program’s administration. Among other changes, the Order restructured how funding was distributed by identifying different rural classes: Extremely Rural, Rural, and Less Rural. Should demand exceed the funds available, the support will be prioritized based on rural class tiers, with extremely rural areas getting the highest priority over less rural areas, and whether the area is medically underserved.

## ***F. Major Calling Actions***

Federal and state agencies routinely initiated regulatory actions and enforcement proceedings to deter noncompliance with government regulations. In 2019 and 2020, the FCC and Federal Trade Commission (FTC) took several actions to protect Florida residents and businesses, from robocalls, calling violations, call completion issues, cramming, customer privacy violations, and Universal Service Fund violations.

### **1. Robocalls**

The FCC took several actions in 2019 to build on its previous efforts to halt the proliferation of robocalls. These actions including issuing a declaratory ruling allowing carriers to block illegal and unwanted calls before they reach consumers’ phones and beginning work on a report on

<sup>136</sup> FCC, “FCC Strengthens Rural Health Care Program,” released August 20, 2019, <<https://docs.fcc.gov/public/attachments/FCC-19-78A1.pdf>>, accessed on April 7, 2020.

consumer call blocking options.<sup>137,138</sup> Following the adoption of the Telephone Robocall Abuse Criminal Enforcement and Deterrence Act, which provides for a longer statute of limitations and enhanced fines for robocalls, the FCC sent letters to several telecom carriers that provide international gateway service to encourage cooperation in efforts to trace robocalls that originate on or pass through their networks.<sup>139,140</sup> The FCC also mandated the adoption of caller identification authentication standards to reduce spoofing and identify robocalls.<sup>141</sup>

## 2. Call Completion Issues

The FCC is charged by the Communications Act with making communications service available for national defense and safety of life and property. In keeping with that responsibility, the FCC takes enforcement actions when calls are not or cannot be completed. On November 4, 2019, the FCC announced settlements of \$400,000 and \$175,000 and compliance plans with CenturyLink and West Safety Communications, respectively, to conclude investigations into a multi-state 911 outage that took place on August 1, 2018.<sup>142</sup>

## 3. Calling Violations

The Truth in Caller ID Act prohibits callers from deliberately falsifying caller ID information. Disguising one's identity with the intent to harm, defraud, or wrongfully obtain anything of value is called "spoofing."<sup>143</sup> Changes in technology have made it easier and cheaper for scammers to make robocalls and to spoof caller ID information. To address this consumer problem, the FCC and FTC have focused both on enforcement actions and on pursuing policies to help consumers and their service providers block malicious robocalls. Some recent examples of calling violation enforcement actions include:

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<sup>137</sup> FCC, "FCC Affirms Robocall Blocking by Default to Protect Consumers," released June 7, 2019, <<https://www.fcc.gov/document/fcc-affirms-robocall-blocking-default-protect-consumers-0>>, accessed on March 23, 2020.

<sup>138</sup> FCC, "Chairman Pai Announces Review of Consumers' Robocall Blocking Options," released December 20, 2019, <<https://www.fcc.gov/document/chairman-pai-announces-review-consumers-robocall-blocking-options>>, accessed on March 23, 2020.

<sup>139</sup> Telephone Robocall Abuse Criminal Enforcement and Deterrence Act, Pub. L. No. 116-105, 133 Stat. 3274 (2019).

<sup>140</sup> FCC, "FCC Moves to Trace Back to International Fraudsters," released February 4, 2020, <<https://www.fcc.gov/document/fcc-moves-trace-robocalls-back-international-fraudsters>>, accessed on March 23, 2020.

<sup>141</sup> FCC, "FCC Mandates Adoption of STIR/SHAKEN," released April 1, 2020, <<https://www.fcc.gov/document/chairman-pai-demands-industry-adopt-protocols-end-illegal-spoofing>>, accessed on April 1, 2020.

<sup>142</sup> FCC, "Companies Agree to Pay \$575,000 for Multi-State 911 Outage in Aug 2018" released November 4, 2019, <<https://www.fcc.gov/document/companies-agree-pay-575000-multi-state-911-outage-aug-2018>>, accessed on March 24, 2020.

<sup>143</sup> Truth in Caller ID Act of 2009, Pub. L. No. 111-131, 124 Stat. 3572 (2010).

- On January 13, 2020, the FTC announced settlements totaling more than \$7.8 million against Christopher Cotroneo and call center Cabb Group, LLC, and Christina and Robert Peterson II for making millions of illegal robocalls from 2014 through 2017, on behalf of Florida-based Grand Bahama Cruise Line LLC and others.<sup>144</sup>
- On January 31, 2020, the FCC fined Scott Rhodes nearly \$13 million for using caller ID spoofing in thousands of robocalls in 2018 that targeted specific communities with the intent to cause harm in several states, including making racist attacks about a Florida gubernatorial candidate.<sup>145</sup>

#### **4. Cramming**

“Cramming” is the illegal act of placing unauthorized charges on a customer’s telephone bill. Crammers often rely on confusing telephone bills to trick consumers into paying for services they did not authorize or receive, or that cost more than the consumer was led to believe. On August 13, 2019, CenturyLink agreed to a settlement of \$550,000 and a compliance plan to resolve an investigation into the company’s placement of unauthorized third-party charges and fees onto consumers’ bills.<sup>146</sup>

#### **5. Customer Privacy Violations**

The Communications Act requires telecommunications carriers to protect the confidentiality of certain customer data related to the provision of telecommunications service, including location information. Carriers that violate those rules are subject to enforcement action. On February 28, 2020, the FCC proposed fines totaling \$208 million against the nation’s four largest wireless carriers for selling access to their customers’ location information without taking reasonable measures to protect against unauthorized access.<sup>147</sup>

#### **6. Universal Service Fund Violations**

In order to maximize the efficiency of limited funding for universal service programs, the FCC takes enforcement action against companies that commit Universal Service Fund violations. On April 2, 2020, the FCC proposed fines of over \$6 million against the prepaid wireless carrier TracFone Wireless for seeking federal Lifeline support for ineligible subscribers and for

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<sup>144</sup> FTC, “Defendants Who Helped Blast Consumers with Millions of Cruise Line Robocalls Settle FTC Complaint” released January 10, 2020, <<https://www.ftc.gov/news-events/press-releases/2020/01/defendants-who-helped-blast-consumers-millions-cruise-line>>, accessed on March 24, 2020.

<sup>145</sup> FCC, “FCC Proposes Nearly \$13 Million Fine for Illegal Spoofed Robocalls” released January 31, 2020, <<https://www.fcc.gov/document/fcc-proposes-nearly-13-million-fine-illegal-spoofed-robocalls-0>>, accessed on March 24, 2020.

<sup>146</sup> FCC, “FCC Reaches \$550,000 Cramming Settlement with CenturyLink” released August 13, 2019, <<https://www.fcc.gov/document/fcc-reaches-550000-cramming-settlement-centurylink-0>>, accessed on March 24, 2020.

<sup>147</sup> FCC, “FCC Proposes Over \$200M in Fines for Wireless Location Data Violations,” released February 28, 2019, <<https://www.fcc.gov/document/fcc-proposes-over-200m-fines-wireless-location-data-violations>>, accessed on March 4, 2020.

fabricating fictitious subscriber data for hundreds of subscriber accounts in Florida and thousands of subscriber accounts in Texas in 2018.<sup>148</sup>

## **G. Public Safety**

Florida has faced numerous public safety challenges in the use of its telecom networks.

### **1. Hurricanes**

On August 28, 2019, Florida Governor Ron DeSantis declared a state of emergency for 26 counties in Florida that were in the path of Hurricane Dorian.<sup>149</sup> The eye of the hurricane did not directly strike Florida, although the edges did some damage to the coasts. According to the FCC, at the peak level of damage in the affected Florida counties, nearly 0.2 percent of cell sites were rendered nonfunctional, while more than 35,430 cable and wireline subscribers experienced service outages.<sup>150</sup>

The FCC took several steps to prepare and respond to these issues by promoting public safety and connectivity. These steps included updating status and restoration efforts with status reports and granting an extension of the deadline for the Commission to certify carriers for high-cost support.<sup>151</sup> Additionally, on November 7, 2019, the Intergovernmental Advisory Committee of the FCC released reports that offer recommendations and best practices based on the experience and expertise of state, local, Tribal, and territorial officials and lessons learned from Hurricane Michael.<sup>152</sup> On March 27 2020, the BDAC approved a report and recommendations from its Disaster Response and Recovery Working Group. The report discussed best practices during disaster planning, response and recovery, as well as recommendations for enhancing resilience and promoting further coordination between stakeholders.<sup>153</sup> The FCC also proposed a framework to share information from its Network Outage Reporting System and Disaster Information Reporting System with qualified federal, state, Tribal and local government agencies that reasonably require the information for public safety.<sup>154</sup>

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<sup>148</sup> FCC, “FCC Proposes \$6M Fine Against TracFone in Lifeline Case” released April 2, 2020, <<https://www.fcc.gov/document/fcc-proposes-6m-fine-against-tracfone-lifeline-case>>, accessed on April 3, 2020.

<sup>149</sup> Flagov, “Governor Ron DeSantis Declares State of Emergency, Urges Floridians to Prepare for Hurricane Dorian”, released August 28, 2019, <<https://www.flgov.com/2019/08/28/governor-ron-desantis-declares-state-of-emergency-urges-floridians-to-prepare-for-hurricane-dorian/>>, accessed on March 24, 2020.

<sup>150</sup> FCC, “Communications Status Report for September 3, 2019” and “Communications Status Report for September 4, 2019”, released September 3-4, 2019, <<https://www.fcc.gov/dorian>>, accessed on March 24, 2020.

<sup>151</sup> FCC, “FCC Waives 54.314 Deadline for the FPSC until October 11”, released September 16, 2019, <<https://www.fcc.gov/document/wcb-waives-54314-deadline-fl-psc-until-october-11>>, accessed on March 24, 2020.

<sup>152</sup> FCC, “FCC Issues Advisory Committee Public Safety and Telehealth Reports”, released November 7, 2019, <<https://www.fcc.gov/document/fcc-issues-advisory-committee-public-safety-and-telehealth-reports>>, accessed on March 24, 2020

<sup>153</sup> FCC, BDAC Disaster Response and Recovery Working Group Report, released March 27, 2020, <<https://www.fcc.gov/news-events/events/2020/03/broadband-deployment-advisory-committee-meeting-march-2020>>, accessed on March 27, 2020.

## **2. COVID-19**

COVID-19 was declared a pandemic by the World Health Organization. The virus and virus control efforts are causing great disruptions in the United States and in Florida. In order to help ameliorate the situation, the FCC has taken several actions including granting waivers for Lifeline recertifications and reverifications, TRS telework, extending E-Rate application deadlines, issuing Special Temporary Authority to several carriers for spectrum sharing, and allowing competitive ETCs flexibility in use of USF support. The FCC has also issued the Keep Americans Connected Pledge for broadband and telephone service providers. The pledge commits providers to not terminate service and to waive any late fees for any residential or small business customers impacted by COVID-19, and to open access to Wi-Fi hotspots for 60 days. As of March 24, 2020, more than 550 companies and associations have taken the pledge. A list of FCC COVID-19 actions is available at the agency's website.<sup>155</sup>

Also in response to COVID-19, on March 27, 2020, President Trump signed the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act), which in addition to many other provisions, grants an additional \$100 million for rural broadband support under the Rural Utilities Service (RUS) of the USDA, \$200 million for the Rural Health Care Program of the FCC, \$25 million for the RUS Distance Learning, Telemedicine and Broadband Program, and \$50 million for museum and library digital network funding through the Institute of Museum and Library Services.<sup>156,157</sup>

## **3. Cybersecurity**

In 2019, following increasing concerns of cybersecurity threats from foreign components in US telecommunications networks, President Trump signed an executive order prohibiting ownership of communications technology in US networks by foreign adversaries.<sup>158</sup> The FCC subsequently issued an order barring use of Universal Service Fund support for equipment or services from companies posing a national security threat.<sup>159</sup> The FCC also opened an online portal where

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<sup>154</sup> FCC, "FCC Proposes Promoting Public Safety Through Fed-State Info Sharing", released February 28, 2020, <<https://www.fcc.gov/document/fcc-proposes-promoting-public-safety-through-fed-state-info-sharing-0>>, accessed on March 26, 2020.

<sup>155</sup> FCC, Coronavirus, Updated March 20, 2020, <<https://www.fcc.gov/coronavirus>>, accessed on March 24, 2020.

<sup>156</sup> CARES Act, Pub. L. No. 116-136, accessed on March 27, 2020.

<sup>157</sup> Cooley, "CARES Act Provisions That Impact Telecommunications Industry," published March 29, 2020, <<https://www.cooley.com/news/insight/2020/2020-03-29-cares-act-provisions-that-impact-telecommunications-industry>>, accessed on April 2, 2020.

<sup>158</sup> White House, "Executive Order on Securing the Information and Communications Technology and Services Supply Chain", released May 15, 2019, <<https://www.whitehouse.gov/presidential-actions/executive-order-securing-information-communications-technology-services-supply-chain/>>, accessed on March 26, 2020.

<sup>159</sup> FCC, "Protecting National Security Through FCC Programs", released November 26, 2019, <<https://www.fcc.gov/document/protecting-national-security-through-fcc-programs-0>>, accessed on March 26, 2020.

participants in the FCC's Universal Service Fund programs must report on use of impermissible equipment and services and costs of replacement.<sup>160</sup> To help with those costs, President Trump also signed into law the Secure and Trusted Communications Act into law, which provides financial support for providers to replace equipment in their networks that poses a security risk.<sup>161</sup>

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<sup>160</sup> FCC, "FCC Opens Supply Chain Information Collection Reporting Portal", released February 26, 2020, <<https://www.fcc.gov/document/fcc-opens-supply-chain-information-collection-reporting-portal-0>>, accessed on March 26, 2020.

<sup>161</sup> Secure and Trusted Communications Networks Act of 2019, Pub. L. No. 116-124, 134 Stat. 158 (2020).





## Appendix A. List of Certified CLECs as of December 31, 2019

\*\* Indicates companies that did not respond to the Commission's data request as of July 6, 2020

382 Networks, Inc.  
\*\*A.SUR Net, Inc.  
Access One, Inc.  
ACN Communication Services, LLC  
Airespring, Inc.  
Airus Inc.  
Altaworx LLC  
American Dark Fiber, LLC  
American Telephone Company LLC  
ANEW Broadband, Inc.  
ANPI Business, Inc.  
AT&T Corp.  
AT&T Florida  
ATC Outdoor DAS, LLC  
Atlantic Broadband Enterprise, LLC  
Atlantis Communications LLC  
ATN, Inc.  
Bandwidth.com CLEC, LLC  
Barr Tell USA, Inc.  
Batchlink, Inc.  
BCM One, Inc.  
BCN Telecom, Inc.  
BeCruising Telecom LLC d/b/a BeCru  
BellSouth Telecommunications, LLC d/b/a  
AT&T Florida d/b/a AT&T Southeast  
Benchmark Communications, LLC d/b/a  
TotalComUSA  
BetterWorld Telecom LLC d/b/a  
BetterWorld Telecom  
Bright House Networks Information  
Services (Florida), LLC  
Broadband Dynamics, L.L.C.  
BroadRiver Communication Corporation  
Broadsmart Florida, Inc.  
Broadview Networks, Inc.  
Broadvox-CLEC, LLC  
Broadwing Communications, LLC  
BT Communications Sales LLC  
BullsEye Telecom, Inc.  
Business Telecom, LLC d/b/a EarthLink  
Business  
Call One Inc. of Illinois  
Callis Communications, Inc.  
Campus Communications Group, Inc.  
CBTS Technology Solutions LLC  
CenturyLink  
CenturyLink Communications, LLC d/b/a  
Embarq Communications  
Citadel Design & Construction, LLC  
\*\*City Communications, Inc  
City of Bartow  
City of Gainesville, a municipal corporation  
d/b/a GRUCom  
City of Lakeland  
City of Leesburg  
City of Ocala d/b/a Ocala Electric Utility  
Clear Rate Communications, Inc.  
Cloud Computing Concepts, d/b/a C3  
Cogent Communications of Florida LHC,  
Inc.  
Comcast Business Communications, LLC  
Comcast Phone of Florida, LLC d/b/a  
Comcast Digital Phone  
Comity Communications,  
Communications Authority, Inc  
ComNet (USA) LLC  
\*\*Compu-Design USA Inc. dba Dade  
Institute of Technology  
COMTECH 21, LLC  
Consolidated Communications Enterprise  
Services, Inc.  
Consolidated Communications/GTC  
Conterra Ultra Broadband, LLC  
Convergia, Inc.  
CoreTel Florida, Inc.  
Cox Florida Telcom, L.P.  
Crexendo Business Solutions, Inc.  
\*\*Crosstel Tandem, Inc.  
\*\*Crown Castle Fiber LLC  
\*\*Crown Castle NG East LLC  
\*\*Crown Castle NG East LLC  
CTI Fiber Services, LLC

Custom Network Solutions, Inc.  
Custom Tel, LLC  
\*\*Dais Communications, LLC  
Dedicated Fiber Systems, Inc.  
DeltaCom, LLC d/b/a EarthLink Business  
DIGITALIPVOICE, INC.  
Discount CLEC Services Corporation  
dishNET Wireline L.L.C.  
DSCI, LLC  
DSL Internet Corp. d/b/a DSLi d/b/a  
EarthLink Business, LLC  
Easy Telephone Services Company  
Electronet Broadband Communications, Inc.  
ENA Services, LLC  
eNetworks, LLC d/b/a eNetworks NC, LLC  
Enhanced Communications Network, Inc.  
d/a Asian American Association  
Entelegant Solutions, Inc.  
ExteNet Asset Entity , LLC  
ExteNet Systems, Inc.  
\*\*Faster.IO, Inc.  
FiberLight, LLC  
Fibernet Direct Florida LLC  
First Choice Technology, Inc.  
First Communications, LLC  
FL Network Transport, LLC  
Florida Hearing and Telephone Corporation  
Florida Phone Systems, Inc.  
Fort Pierce Utilities Authority d/b/a  
FPUAnet Communications  
France Telecom Corporate Solutions L.L.C.  
Frontier Communications of America, Inc.  
Frontier Communications of the South, LLC  
Frontier Florida LLC  
Frontier Florida LLC  
Fusion Cloud Services, LLC  
Fusion Communications, LLC d/b/a Fusion  
Communication Services, LLC  
Fusion, LLC dba Fusion Connect, LLC  
GC Pivotal, LLC d/b/a Global Capacity  
Georgia Public Web, Inc.  
GetGo Communications LLC  
GigaMonster, LLC  
Global Connection Inc. of America (of  
Georgia)

Global Crossing Local Services, Inc.  
Goff Network Technologies - Florida, Inc.  
d/b/a USA FIBER  
Granite Telecommunications, LLC  
Great America Networks, Inc.  
GRU Communication  
Services/GRUCom/GRU  
Harbor Communications, LLC  
Hargray of Florida, Inc.  
Hayes E-Government Resources, Inc.  
HD Carrier, LLC  
HFA of Florida LLC  
Home Town Telephone, LLC  
Hotwire Communications, Ltd.  
Hudson Fiber Network Inc  
IDT America, Corp. d/b/a IDT  
inContact, Inc.  
INDIGITAL, INC d/b/a INdigital  
\*\*INNOVATIVE TECH PROS, CORP  
D/B/A INNOVATIVE TECH PROS  
Integrated Path Communications, LLC  
InteleTel, LLC  
Intelletrace, Inc.  
Intellifiber Networks, LLC  
Interactive Services Network, Inc. d/b/a ISN  
Telcom d/b/a IPFone  
InterGlobe Communications, Inc.  
InterMetro Fiber, LLC  
IPC Network Services, Inc.  
ITS Fiber, LLC d/b/a ITS Fiber  
ITS Telecommunications Systems, Inc.  
ITS Telecommunications Systems, Inc.  
d/b/a ITS Fiber  
J C Telecommunication Co., LLC  
JEA  
\*\*Joytel Wireless Communications, Inc.  
Keys Energy Services  
Knology of Florida, Inc. d/b/a WOW!  
Internet, Cable and Phone  
Latin American Nautilus U.S.A. Inc.  
Level 3 Communications, LLC  
Level 3 Telecom of Florida, LP  
Lightspeed CLEC, Inc.  
Lingo Telecom of the South, LLC  
Litestream Holdings, LLC  
Local Access LLC

Local Telecommunications Services - FL, LLC  
Luxury Telecommunications LLC d/b/a  
Luxury Telecommunications  
Magna5 LLC  
Maryland TeleCommunication Systems, Inc.  
MassComm, LLC  
Matrix Telecom, LLC d/b/a Impact Telecom  
d/b/a Startec d/b/a Americatel d/b/a Matrix  
Business Technologies d/b/a Trinsic  
Communications d/b/a Vartec Telecom  
d/b/a Excel Telecommunications d/b/a Clear  
Choice Communications d/b/a Lingo  
\*\*MCC Telephony of Florida, LLC  
MCImetro Access Transmission Services  
Corp. d/b/a Verizon Access Transmission  
Services  
McLeodUSA Telecommunications Services,  
L.L.C.  
Metro Fibernet, LLC d/b/a MetroNet  
Metropolitan Telecommunications of  
Florida, Inc. d/b/a MetTel  
Miami-Dade Broadband Coalition I LLC  
Micro-Comm, Inc.  
Mitel Cloud Services, Inc.  
MIX Networks, Inc.  
\*\*Mobex, Inc.  
Mobilitie Management, LLC  
Mobilitie, LLC  
MOSAIC NETWORKX LLC  
MULTIPHONE LATIN AMERICA, INC.  
Myakka Communications, Inc.  
Nebula Telecommunications of Florida LLC  
NEFCOM  
Network Innovations, Inc.  
Network Telephone, LLC  
Neutral Tandem-Florida, LLC  
New Horizons Communications Corp.  
NGA 911, L.L.C.  
Norstar Telecommunications, LLC  
\*\*North County Communications  
Corporation

NOS Communications, Inc. d/b/a  
International Plus d/b/a O11  
Communications d/b/a The Internet  
Business Association d/b/a I Vantage  
Network Solutions d/b/a Blueridge Telecom  
Systems  
Offramp, LLC  
One Voice Communications, Inc.  
Onvoy, LLC  
Opextel LLC d/b/a Alodiga  
\*\*Optical Telecommunications, Inc. d/b/a  
HControl Corporation d/b/a SH Services  
LLC  
\*\*Orlando Telephone Company, Inc. d/b/a  
Summit Broadband  
PacOptic Networks, LLC  
PaeTec Communications, LLC  
\*\*Paradigm Telecom II, LLC  
Paradigm Telecom, Inc.  
PeakNet, LLC  
Peerless Network of Florida, LLC  
Phone Club Corporation  
\*\*PNG Telecommunications, Inc. d/b/a  
PowerNet Global Communications  
Preferred Long Distance, Inc.  
Protection Plus of the Florida Keys, Inc.  
d/b/a ENGAGE COMMUNICATIONS  
\*\*Pure Telephone Corp  
QCSTelecom, Inc.  
QuantumShift Communications, Inc.  
RCLEC, Inc.  
Real Fast Networks LLC  
Reddot Networks Inc.  
Sandhills Telecommunications Group, Inc.  
d/b/a SanTel Communications  
SBA DAS & Small Cells, LLC  
Seminole Telecom of Florida, LLC  
Simwood, Inc.  
\*\*SKYNET360, LLC  
Smart Choice Communications, LLC  
Smart City Networks, Limited Partnership  
Smart City Solutions II, LLC  
Smart City Solutions, LLC d/b/a Smart City  
Communications  
Smart City Telecom

Southeastern Services, Inc.  
Southern Light, LLC  
Southern Light, LLC  
Southern Telecom, Inc. d/b/a Southern  
Telecom of America, Inc.  
Spectrotel, Inc. d/b/a OneTouch  
Communications d/b/a Touch Base  
Communications  
Sprint Communications Company Limited  
Partnership  
SQF, LLC  
Stratus Networks, Inc.  
\*\*Sunesys, LLC  
Synergem Technologies, Inc.  
T3 Communications, Inc.  
Talk America Services, LLC  
Talk America, LLC d/b/a Windstream Talk  
America, LLC  
TALKIE COMMUNICATIONS, INC.  
TampaBay DSL Inc d/b/a PBX-Change  
TDS Telecom  
Telapex Long Distance, Inc.  
TelCentris Communications, LLC  
Telco Experts, LLC  
TelCove Operations, LLC  
Tele Circuit Network Corporation  
Telecom Management, Inc. d/b/a Pioneer  
Telephone  
Teleport Communications America, LLC  
Teliix, Inc.  
Telrite Corporation  
Terra Nova Telecom, Inc.  
\*\*TerraNovaNet, Inc.  
The Other Phone Company, LLC  
TIME CLOCK SOLUTIONS, LLC  
Time Warner Cable Business LLC  
\*\*Tone Communication Services LLC

Total Marketing Concepts, LLC  
Touchtone Communications Inc.  
Tristar Communications Corp.  
Triton Networks LLC  
United Commercial Telecom, LLC  
Uniti Fiber LLC  
US LEC of Florida, LLC d/b/a PAETEC  
Business Services  
US Signal Company, L.L.C.  
Vanco US, LLC  
\*\*Vector Axis Florida LLC  
Velocity The Greatest Phone Company  
Ever, Inc.  
Verizon Select Services Inc.  
Vero Fiber Networks, LLC d/b/a Vero  
Networks  
Vesta Solutions, Inc.  
VoDa Networks, Inc.  
Vodafone US Inc.  
Voxbeam Telecommunications Inc.  
\*\*WAHL TV INC.  
WANRack, LLC  
Webpass Florida LLC  
West Safety Communications Inc.  
West Telecom Services, LLC  
Wholesale Carrier Services, Inc.  
Wide Voice, LLC  
WiMacTel, Inc.  
Windstream Florida, LLC  
Windstream KDL, LLC  
Windstream Norlight, LLC  
Windstream NuVox, LLC  
WonderLink Communications, LLC  
WTI Communications, Inc.  
XO Communications Services, LLC  
YMax Communications Corp.  
Zayo Group, LLC

## Glossary

4G	4G is the short name for fourth-generation wireless, the stage of broadband mobile communications that superseded the third generation (3G). A 4G network requires a mobile device to be able to exchange data at 100 Mbit/sec or greater.
5G	5G is the short name for fifth-generation wireless broadband technology. 5G provide higher bandwidth, faster speeds and coverage than the current 4G. 5G offers speeds of up to 1 Gb/s for tens of connections or tens of Mb/s for tens of thousands of connections.
Access Line	The circuit or channel between the demarcation point at the customer's premises and the serving end or class 5 central office.
Backhaul	In wireless networks, the connection from an individual base station (tower) to the central network (backbone). Typical backhaul connections are wired high-speed data connections (T1 line, etc.), but they can be wireless as well (using point-to-point microwave or WiMax, etc.).
Broadband	A term describing evolving digital technologies offering consumers integrated access to voice, high-speed data services, video on demand services, and interactive information delivery services.
Circuit	A fully operational two-way communications path.
CLEC	<i>Competitive Local Exchange Company</i> . Any company certificated by the Florida Public Service Commission to provide local exchange telecommunications service in Florida on or after July 1, 1995.
Communications Act, 1996 Act or The Act	The federal Communications Act of 1934, as amended by the Telecommunications Act of 1996, established a national framework to enable CLECs to enter the local telecommunications marketplace.
Dark Fiber	Installed but currently unlit/unused fiber-optic cable.
Digital Signal 0, 1, 3 (DS0, DS1, DS3)	DS0 is a basic digital signaling rate of 64 kilobits per second, equal to the capacity of one analog voice channel. DS1 has a signaling rate of 1.544 megabits per second (24 voice channels). DS3 has a signaling rate of 44.736 Mbps (672 voice channels).
DSL	Digital Subscriber Line, a technology that connects the user to broadband connections across a telephone network. It uses the same copper loops as wireline telephone service.
Facilities-based VoIP service	VoIP service provided by the same company that provides the customer's broadband connection. Facilities-based VoIP services are generally provided over private managed networks and are capable of being provided according to most telephone standards. While this service uses Internet Protocol for its transmission, it is not generally provided over the public Internet.

ILEC	<i>Incumbent Local Exchange Company.</i> Any company certificated by the FPSC to provide local exchange telecommunications service in Florida on or before June 30, 1995.
Interconnected VoIP service	According to the FCC, it is a VoIP service that (1) enables real-time, two-way voice communications; (2) requires a broadband connection from the user's location; (3) requires Internet protocol-compatible customer premises equipment; and (4) permits users generally to receive calls that originate and terminate on the public switched telephone network.
Intermodal	The use of more than one type of technology or carrier to transport telecommunications services from origination to termination. When referring to local competition, intermodal refers to non-wireline voice communications such as wireless or VoIP.
Internet Protocol (IP)	The term refers to all the standards that keep the Internet functioning. It describes software that tracks the Internet address of nodes, routes outgoing messages, and recognizes incoming messages.
Over-the-Top VoIP service	VoIP service that is provided independently from a particular broadband connection and is transmitted via the public Internet.
Switched Access	Local exchange telecommunications company-provided exchange access services that offer switched interconnections between local telephone subscribers and long distance or other companies.
TDM	Time Division Multiplexing is a method of transmitting and receiving independent signals over a common signal path. TDM circuit switched lines represent the traditional wireline access line data within this report and do not include VoIP connections.
U-verse	U-verse is the brand name of AT&T for a group of services provided via Internet Protocol (IP), including television service, Internet access, and voice telephone service.
Universal Service	The financial support mechanisms that constitute the national universal service fund. This fund provides compensation to communications entities for providing access to telecommunications services at reasonable and affordable rates throughout the country, including rural, insular, high-cost areas, and public institutions.
Universal Service Administrative Company (USAC)	An independent American nonprofit corporation designated as the administrator of the federal Universal Service Fund by the Federal Communications Commission. USAC is a subsidiary of the National Exchange Carrier Association.
VoIP	<i>Voice over Internet Protocol.</i> The technology used to transmit voice conversations over a data network using Internet Protocol.
Wireline	Synonymous with "landline" or land-based technology for providing telephone service.