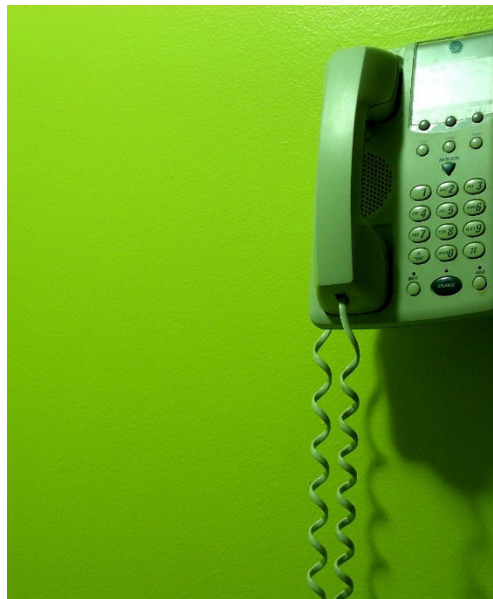


Report on the

Status of Competition in the Telecommunications Industry



AS OF DECEMBER 31, 2020



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, 2020, there were 10 incumbent local exchange companies and 244 competitive local exchange companies certificated by the Commission to operate in Florida.

In 2020, 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 371,180 in 2020, a 38.6 percent 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 1.4 million total wireline access lines in Florida for 2020, about 14.1 percent fewer than the previous year.

For the tenth year in a row, total wireline business access lines exceeded total residential access lines. Residential and business wirelines again experienced significant drops in 2020. Total residential access lines declined 13.4 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 17.6 percent decline in residential lines during 2020 while AT&T only declined 13 percent. Frontier also experienced the biggest residential loss with a 19.5 percent decline in residential access lines during the same period.

Total business access lines declined 14.5 percent. The wireline competitors' business market share declined to 32.6 percent in 2020. 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. Nearly 99 percent of competitors' access lines were business lines.

As reported for the past several years, intermodal competition from wireless and VoIP services continued to drive the telecommunications markets in 2020. According to the most recent FCC data, there are an estimated 22 million wireless subscriptions in Florida, and greater than 4.6 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 and business VoIP services continued to increase while cable, residential VoIP and switched

access lines decreased. 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

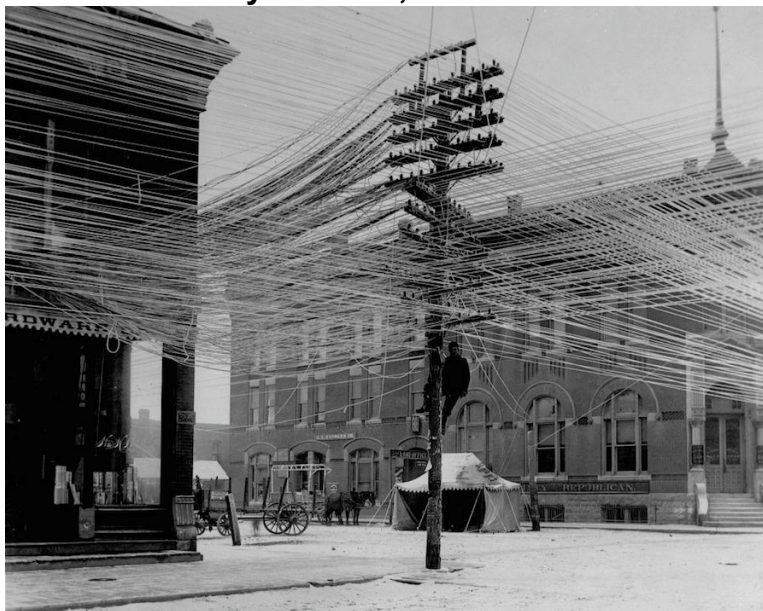
Telephone service has been regulated to some degree nearly since the moment it was patented by Alexander Graham Bell (Bell) in 1876.¹ This section summarizes the major historical regulatory events both at the federal and state levels. For the purposes of this report, the history of federal telecommunications 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.² Competitors gained over 50 percent market share by 1907.³

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

¹Diane Katz and Theodore Bolema, "Crossed Lines: Regulatory Missteps in Telecom Policy," Mackinac Center, December 3, 2003, <<https://www.mackinac.org/6033>>, accessed on June 9, 2021.

²Adam 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 9, 2021.

³Ibid.

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.⁴ 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 1910.⁵

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.⁶ 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.⁷

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.⁸ 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.⁹ AT&T's market share rebounded during this period until it controlled nearly 80 percent of the national market.¹⁰

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 rate base and a revenue requirement, and the companies' rates were set to recover that amount. 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 transferred to it the ICC's telecommunications jurisdiction.¹¹ The new law enabled the FCC to

⁴Richard 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 9, 2021.

⁵Frank 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 9, 2021.

⁶Milton 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 9, 2021.

⁷Matthew Lasar, "How AT&T Conquered the 20th Century," *Wired*, September 3, 2011, <<https://www.wired.com/2011/09/att-conquered-20th-century/>>, accessed on June 9, 2021.

⁸Ibid.

⁹Ibid.

¹⁰Ibid.

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

codify its rate-of-return regulation of AT&T while also protecting AT&T's monopoly market position.¹² 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.¹³

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.¹⁴ 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 1934 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.¹⁵ The new law encouraged local competition nationwide, and required massive rulemakings from both the FCC and state regulators to ensure wholesale prices, consumer protections, and universal service principles were fair and reasonable.¹⁶ This effectively ended rate-of-return 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). 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

¹²Ibid.

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

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

¹⁵Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56.

¹⁶Ibid.

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.¹⁷

Companies were encouraged to negotiate interconnection agreements, 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" stuck.¹⁸ The Triennial Review Remand Order, 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. The UNE Platform was the primary method non-cable CLECs used to provide residential service. Once the courts struck down UNE Platform 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 added telephone and telegraph regulation to the Florida Railroad Commission's responsibilities in 1911.¹⁹ The agency's name was changed to the Florida Public Service Commission (FPSC or Commission) in 1965.

As previously described, rate-of-return 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.²⁰ If the FPSC decided that effective 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.²¹

¹⁷47 U.S.C. § 251(f).

¹⁸FCC 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.

¹⁹FPSC, "Facts and Figures," <http://www.floridapsc.com/Files/PDF/Publications/Consumer/Brochure/Facts_Figures.pdf>, accessed on June 9, 2021.

²⁰Price 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.

²¹See 1990 Fla. Laws 244.

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, Florida Statutes (F.S.), finding that “the competitive provision of telecommunications services, including local exchange service, is in the public interest.”²² Competitive entry into the local market was allowed, and CLECs were able to enter subject to a lesser degree of regulatory oversight than ILECs. Also, ILECs were allowed to elect price caps for all their services, eliminating them from rate-of-return regulation altogether.²³ 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.²⁴

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 ILECs 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 from FPSC jurisdiction Voice-over-Internet-Protocol (VoIP) services, which at that time were largely utilized by cable companies to provide telephone service.²⁵

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. The Amendment 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.²⁶

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.²⁷ Also in 2008, an automated enrollment process for

²²See 1995 Fla. Laws 403.

²³Ibid.

²⁴See 1998 Fla. Laws 277.

²⁵FPSC, “Condensed Legislative Wrap-Up – 2003 Session, June 6, 2003, <<http://www.psc.state.fl.us/Files/PDF/Utilities/Liaison/StateLegislation/2003.pdf>>, accessed on June 9, 2021.

²⁶See 2005 Fla. Laws 107.

²⁷See 2006 Fla. Laws 080.

Lifeline was created, and the ILECs' overall carrier of last resort obligations were allowed to sunset.²⁸

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.²⁹

The most recent revision to Chapter 364, F.S., came in 2011. This amendment finalized the deregulation of all retail services by the ILECs. 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.³⁰

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 certificates of authority. The FPSC also has authority over numbering issues, including area code relief, number conservation, and local number portability. The FPSC also continues to resolve complaints relating to Lifeline, relay service, and payphones.

C. Status of Competition Report

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.

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 26, 2021, to 10 ILECs and 244 CLECs. Responses were due April 15, 2021. The data and

²⁸See 2007 Fla. Laws 029.

²⁹See 2009 Fla. Laws 226.

³⁰Regulatory Reform Act, ch. 36, 2011 Fla. Laws 1231.

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 2020, 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 copper wires and Time Division Multiplexing (TDM) 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, which is the primary subject of this report, is still used throughout the country and Florida. In fact, 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

Florida's ILECs have been experiencing switched access line losses for well over a decade. These losses appear consistent with the companies' national trends 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.³¹ 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.

In Florida, AT&T's switched access lines declined by nearly 91,000 (15.5 percent), with residential access lines decreasing by over 33,000 (13.0 percent) and business lines by nearly 58,000 (17.4 percent). Nationwide, AT&T reported losses of approximately 1,224,000 switched access lines (14.4 percent) in 2020 as well as a nearly 2.5 percent decrease in operating revenues in their \$3.5 billion communications segment.³²

CenturyLink's Florida switched access lines declined by nearly 57,000 (14.5 percent), with residential access lines decreasing more than 39,000 (17.6 percent) and business access lines decreasing over 17,000 (10.3 percent). Nationwide, CenturyLink reported operating revenues of approximately \$20.71 million, reflecting a decline of nearly 3.5 percent from revenue of \$21.45 million in 2019.³³

³¹Responses to local competition data request 2021.

³²AT&T Inc., Form 10-K, December 31, 2020, <<https://otp.tools.investis.com/clients/us/atnt2/sec/sec-outline.aspx?FilingId=14746187&Cik=0000732717&PaperOnly=0&HasOriginal=1>>, accessed on April 12, 2021; Responses to local competition data request 2021.

³³CenturyLink Form 10-K, December 31, 2019, <<https://d18rn0p25nwr6d.cloudfront.net/CIK-0000018926/483bb1c4-31c8-4f51-abad-0cae29c19992.html>>, p. 55, accessed on April 24, 2021. Note: CenturyLink no longer reports national wireline access line totals in its 10-K report; Ibid, p. 63.

Frontier's switched access lines in Florida declined by over 17,000 (9.2 percent), with residential access lines decreasing nearly 12,000 (19.5 percent) and business lines by nearly 5,000 (4.3 percent).³⁴ Nationwide, Frontier reported a loss in revenue of \$504 million, and ended 2020 with revenue of \$7.15 billion, reflecting a decline of 11.7 percent.³⁵ On April 15, 2020, Frontier filed for Chapter 11 bankruptcy protection. On April 23, 2021, Frontier announced it would exit Chapter 11 bankruptcy on April 30, 2021.³⁶

The seven rural Florida ILECs experienced a more modest contraction in the number of switched access lines. In 2020, rural carriers in Florida saw their total access lines decline by nearly 800 (0.7 percent). While residential lines increased by over 1,000 (1.4 percent), business lines decreased by nearly 1,800 (5.6 percent).³⁷

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 2020. Business access lines totaled approximately 900,000, representing a decrease of 14.5 percent from 2019 to 2020. Residential access lines totaled over 500,000 as of December 2020, representing a decline of 13.4 percent from the previous year. Total combined traditional wirelines for ILECs and CLECs declined 14.1 percent, from approximately 1.6 million in December 2019 to 1.4 million as of December 2020. From 2016 through 2020, the total number of traditional wirelines decreased by over 1.6 million, a decline of 53.6 percent.

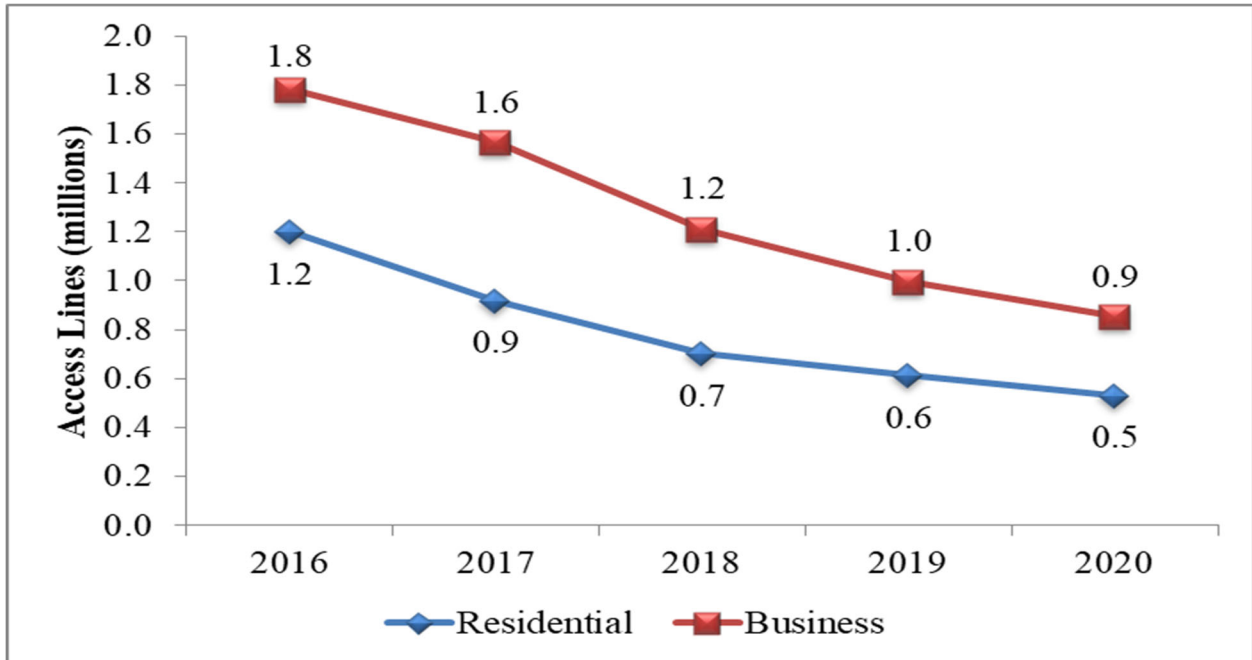
³⁴Responses to local competition data request 2021.

³⁵Annual 10-K filing for year ending 12/31/2020, Frontier Communications Corporation, 3/3/2021, <<https://d18rn0p25nwr6d.cloudfront.net/CIK-0000020520/6b950dad-b24b-4079-ac7e-b089a4f71e59.pdf>>, accessed on June 12, 2021.

³⁶Frontier Communications Makes Significant Progress in Accelerating Strategic Transformation, Frontier Communications, April 23, 2021, <<https://investor.frontier.com/news-and-events/press-releases/news-details/2021/Frontier-Communications-Makes-Significant-Progress-in-Accelerating-Strategic-Transformation/default.aspx>>, accessed on April 25, 2021.

³⁷Responses to local competition data request 2021.

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



Source: Responses to local competition data request (2017-2021)

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

1. Market Mix

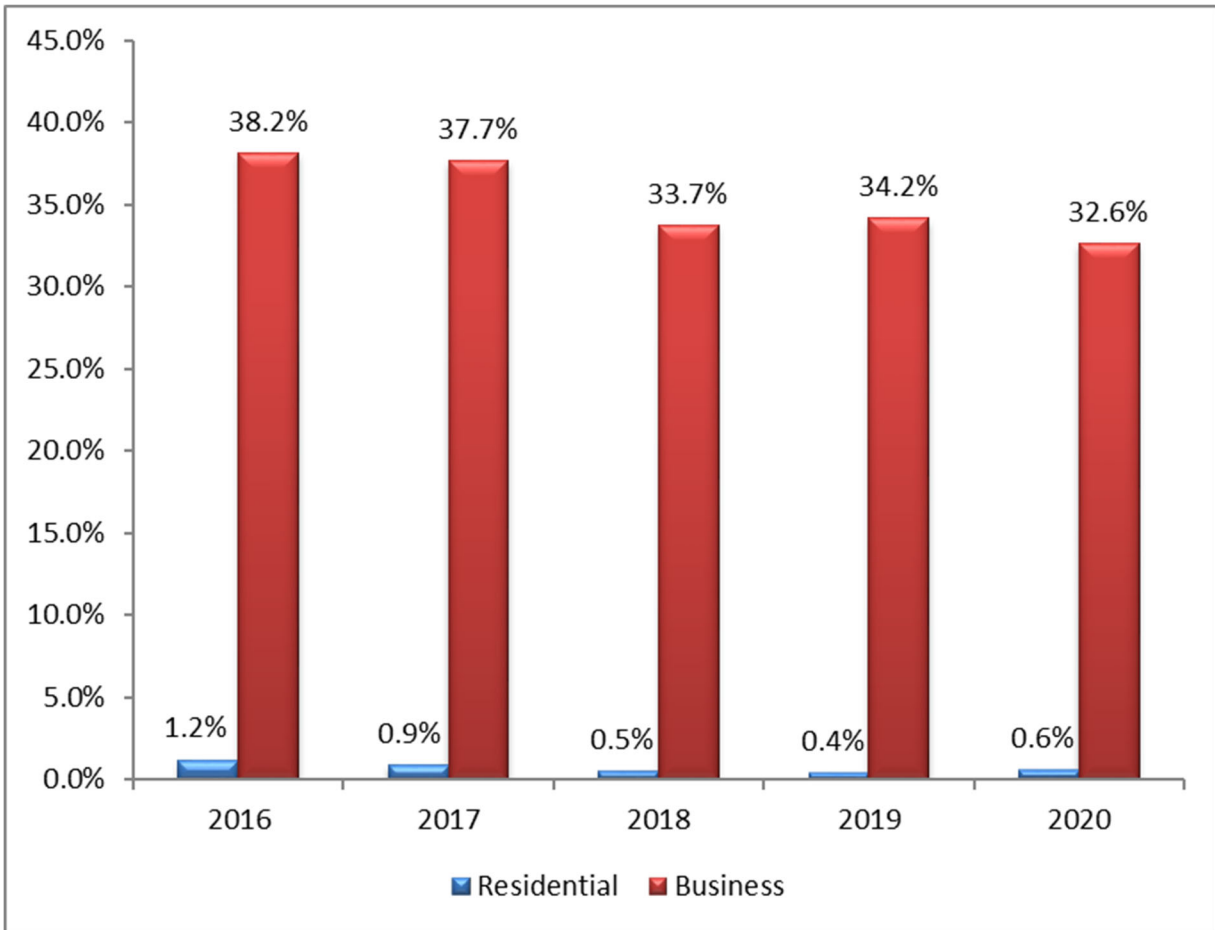
The business-to-residential ratio of customers served by ILECs and CLECs has shifted over time. In general, both ILECs and CLECs have seen an increased concentration of traditional wireline business customers as residential customers migrate to other options. The business-to-residential customer mix 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 2020, the ILECs' ratio had exceeded 52 percent business lines to 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 nearly 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 increased slightly from 0.4 percent in 2019 to 0.6 percent in 2020, while the CLEC business market share decreased from 34.2 percent in 2019 to 32.6 percent in 2020.

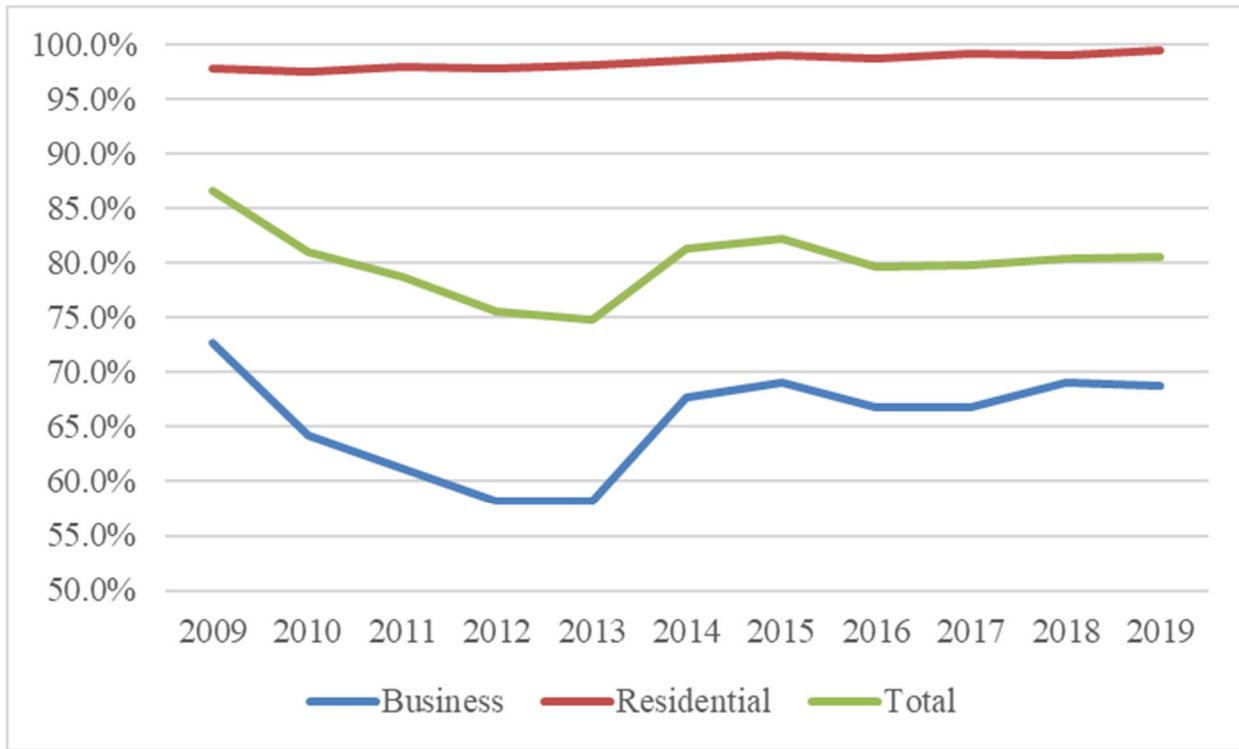
Figure 2-2
Florida Residential & Business CLEC Market Share



Source: Responses to local competition data request (2017-2021)

As shown by the latest FCC data available in Figure 2-3, ILECs have held an average 80.1 percent share of the traditional wireline market over the most recent eleven years. This share has remained relatively stable, varying from 74.9 to 86.6 percent.³⁸

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

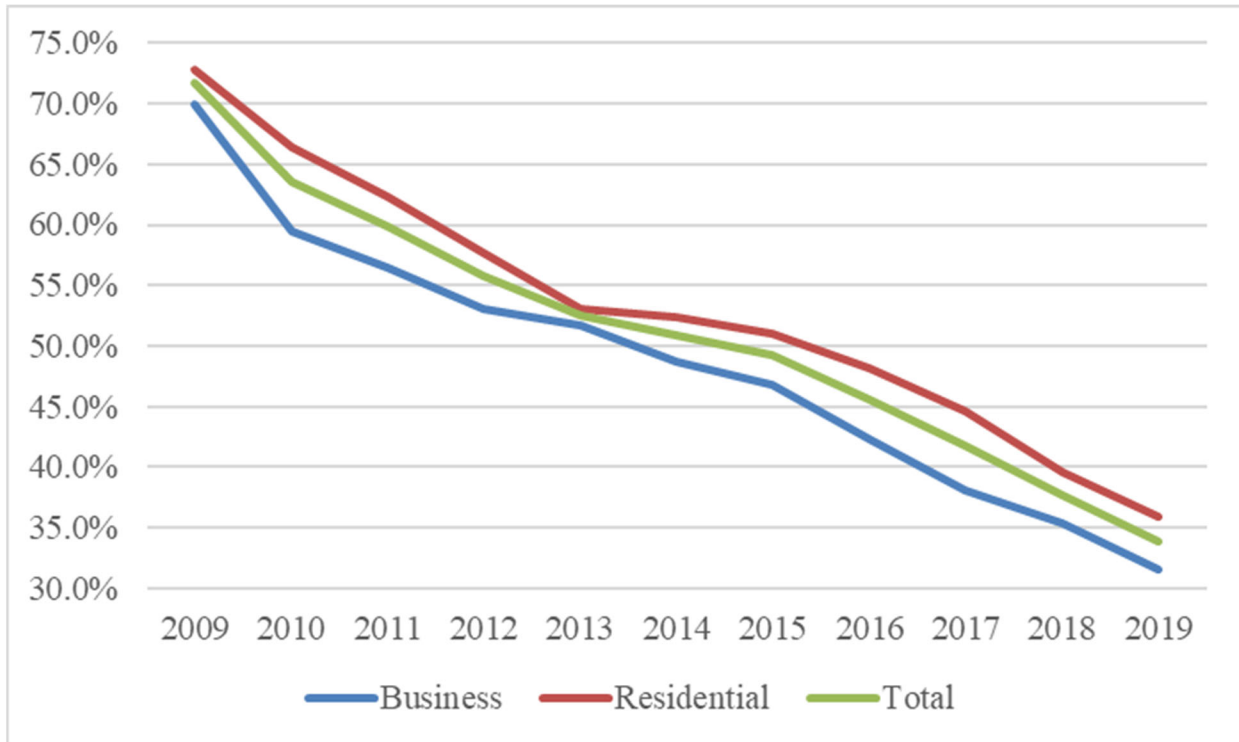


Source: FCC Voice Telephone Services Report

³⁸FCC, “Voice Telephone Services: Status as of 06/30/19,” released May 7, 2021, <<https://fcc.gov/voice-telephone-services-report>>, accessed on May 7, 2021.

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.³⁹

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



Source: FCC Voice Telephone Services Report

³⁹Ibid.

3. Market Composition

The market composition of access lines served by local exchange companies is illustrated in Table 2-1. In 2020, ILEC residential access lines decreased by 13.6 percent, while ILEC business lines decreased by 12.5 percent. The CLECs experienced a slight increase in the number of residential access lines, but given their small market presence, this yielded a substantial percentage gain of 16.6 percent. CLEC business access lines decreased by 18.4 percent.

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

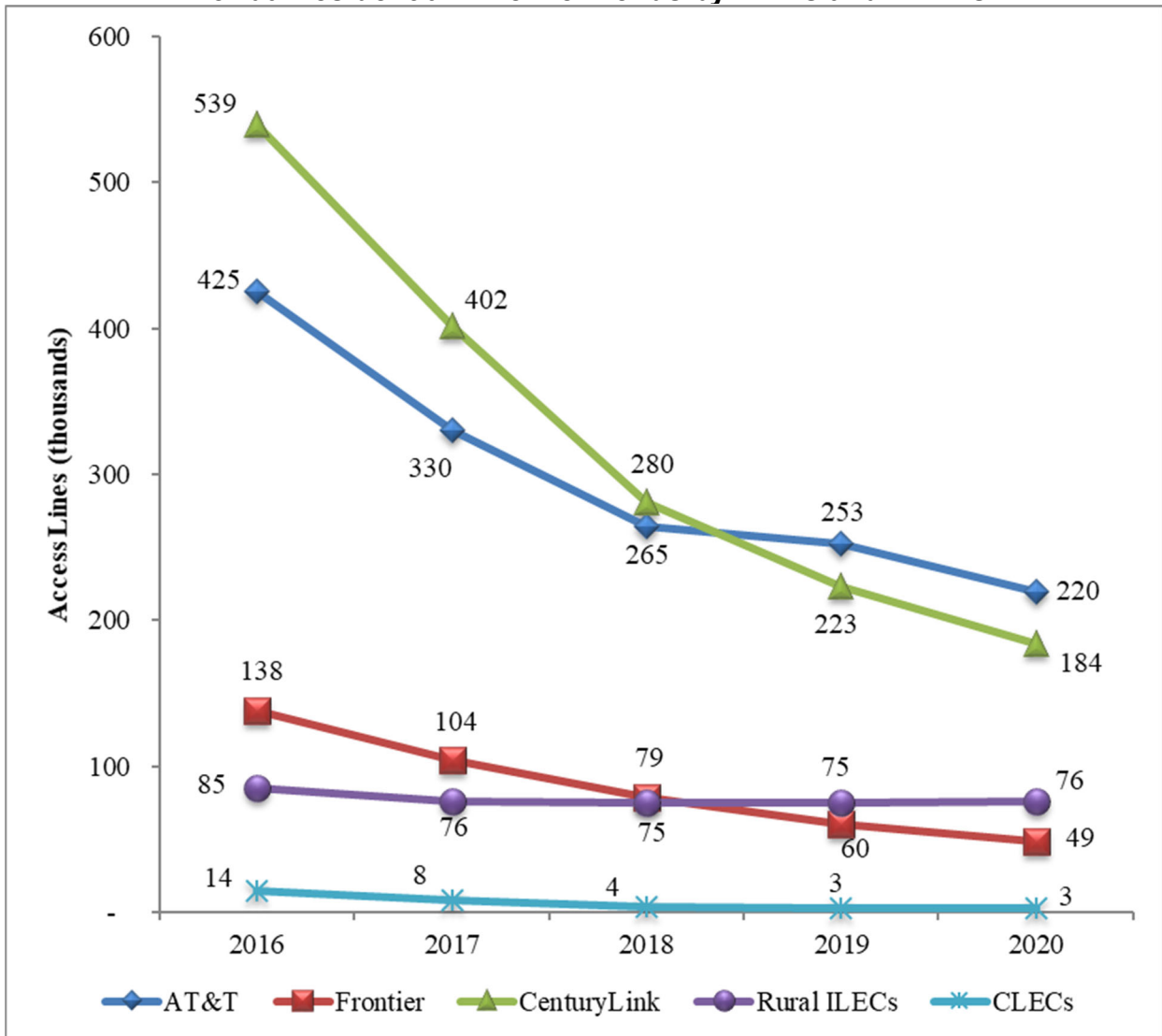
		ILECs	CLECs	Total
2017	Residential	911,814	8,341	920,155
	Business	976,768	591,089	1,567,857
	Total	1,888,582	599,430	2,488,012
2018	Residential	698,975	3,695	702,670
	Business	803,240	409,122	1,212,362
	Total	1,502,215	412,817	1,915,032
2019	Residential	611,329	2,600	613,929
	Business	658,040	341,707	999,747
	Total	1,269,369	344,307	1,613,676
2020	Residential	528,480	3,032	531,512
	Business	575,682	278,990	854,672
	Total	1,104,162	282,022	1,386,184
Change 2019-2020	Residential	-13.6%	16.6%	-13.4%
	Business	-12.5%	-18.4%	-14.5%
	Total	-13.0%	-18.1%	-14.1%

Source: Responses to local competition data request (2018-2021)

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 has averaged losses of over 16 percent per year. Frontier and CenturyLink exceeded AT&T with average respective losses of over 23 percent and around 20 percent per year. During that period, CLEC residential lines declined by an annual average of nearly 32 percent, while rural ILEC access lines declined by an average of nearly one percent.

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



Source: Responses to local competition data request (2017-2021)

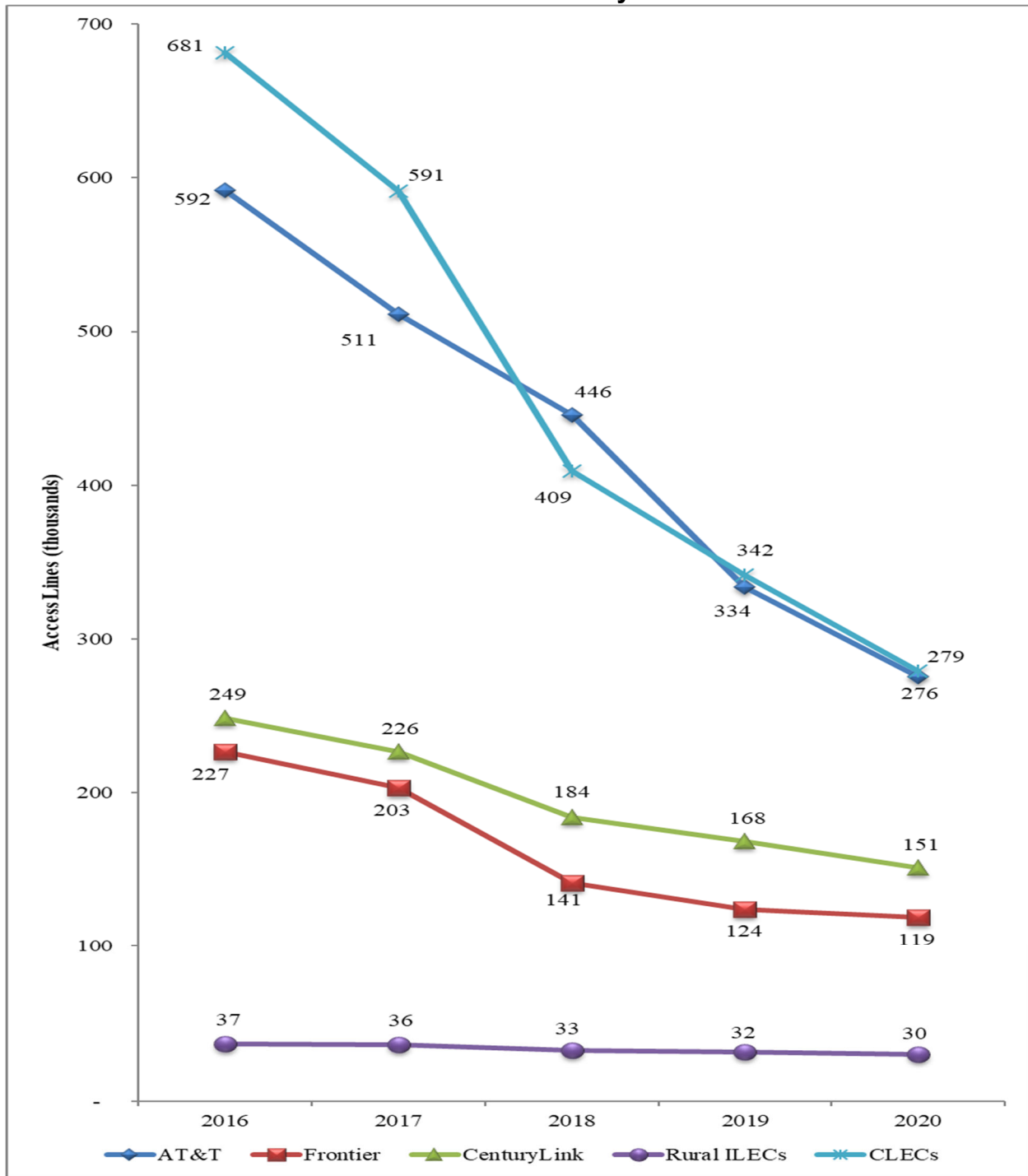
AT&T experienced residential wireline losses of 4.6 percent in 2019 and 13.0 percent in 2020. Frontier lost 23.6 percent of its residential wirelines in 2019 and 19.5 percent in 2020, while

CenturyLink lost 20.4 percent of its residential lines in 2019 and 17.6 percent in 2020. The rural ILECs reported line gains of 0.4 percent in 2019 and gains of 1.4 percent in 2020, and the CLECs reported residential wireline declines of 29.6 percent in 2019 and gains of 16.6 percent in 2020. AT&T's rate of line loss accelerated, while Frontier's and CenturyLink's rates slowed. The CLECs and 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 nearly 17 percent per year, while Frontier and CenturyLink have experienced average annual declines of over 9 percent and nearly 11 percent, respectively. The average annual decline in rural ILEC business access lines over the past five years is around four percent, while CLEC business access lines declined by nearly 15 percent annually over the same period.

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



Source: Responses to local competition data request (2017-2021)

AT&T experienced business wireline losses of 25.1 percent in 2019 and 17.4 percent in 2020. Frontier lost 12.0 percent of its business wirelines in 2019 and 4.3 percent in 2020, while

CenturyLink lost 8.5 percent of its business lines in 2019 and 10.3 percent in 2020. The rural ILECs reported line losses of 2.3 percent in 2019 and 5.6 percent in 2020, and the CLECs reported business wireline declines of 16.5 percent in 2019 and 18.4 percent in 2020. AT&T and Frontier's rates of business line losses moderated, while the rate of loss for all others accelerated.

Chapter III. Intermodal Competition Overview

Total wireline access lines in Florida peaked over 20 years ago at approximately 12 million.⁴⁰ 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 1.4 million by the end of 2020. So where did 88 percent of the access lines go?

Wireless companies began attracting customers in the 1980s and by 1995 there were over 24 million cellular subscribers in the U.S.⁴¹ Cable companies discovered that they could provide telephone service using VoIP and so sought the ability from Congress to do so. These pressures resulted in the 1996 Act, which set up rules for these technologies to directly compete with ILECs, as well as companies that wished to compete using the ILECs' own technology and networks. While the ILECs have continued to dominate the traditional wireline markets, demand and competition has exploded for the wireless and VoIP services. These other modes are simply different technological evolutions of telephone service, much as connecting a call through an operator was replaced by direct dialing many decades ago. The additional capabilities available with these technologies have led the vast majority of residential consumers and businesses to make the transition to these modes.

A major development that has attracted so many customers to these technologies is the speed and volume of information they can transmit with them. High-speed Internet and data services, generically known as broadband, allow customers to do much more than talk: they can send and receive audio, video, and other large streams of data to meet many of their business and entertainment needs. Broadband facilities not only serve the retail customers, but they also have become the backbone of wired and wireless interoffice data transport.

The benefit of real-time broadband services became evident during the recent COVID-19 pandemic. Sportscasters and other announcers needed to be able to broadcast events live, but also remotely as there were many travel restrictions. Normally, long distance interviews have been done via satellite with a noticeable delay between transmission and reception. Yet sports events were broadcast live with announcers thousands of miles apart. John McEnroe announcing the French Open tennis tournament from his home office in Malibu, California, nine time zones away, could only be accomplished by using terrestrial broadband facilities to carry his voice across the globe nearly instantaneously.⁴²

⁴⁰Florida Public Service Commission, "Competition in Telecommunications Markets in Florida," Tallahassee, FL, December 2000, p. 46, <<http://www.floridapsc.com/Files/PDF/Publications/Reports/Telecommunication/TelecommunicationIndustry/2000.pdf>>, accessed on June 4, 2021.

⁴¹Statement of Anne K. Bingham Assistant Attorney General Antitrust Division United States Department of Justice, Submitted to the Subcommittee on Oversight and Investigations United States House of Representatives On Competition in the Cellular Telephone Service Industry, October 12, 1995, <<https://www.justice.gov/archive/atr/public/testimony/0460.pdf>>, accessed on June 16, 2021.

⁴²Marc Berman, "Mary Carillo will call French Open remotely amid 'shabby' COVID-19 protocols" New York Post, September 23, 2020, <<https://nypost.com/2020/09/23/mary-carillo-will-call-french-open-remotely-amid-covid-19-spike/>>, accessed on July 6, 2021.

A. Wireless

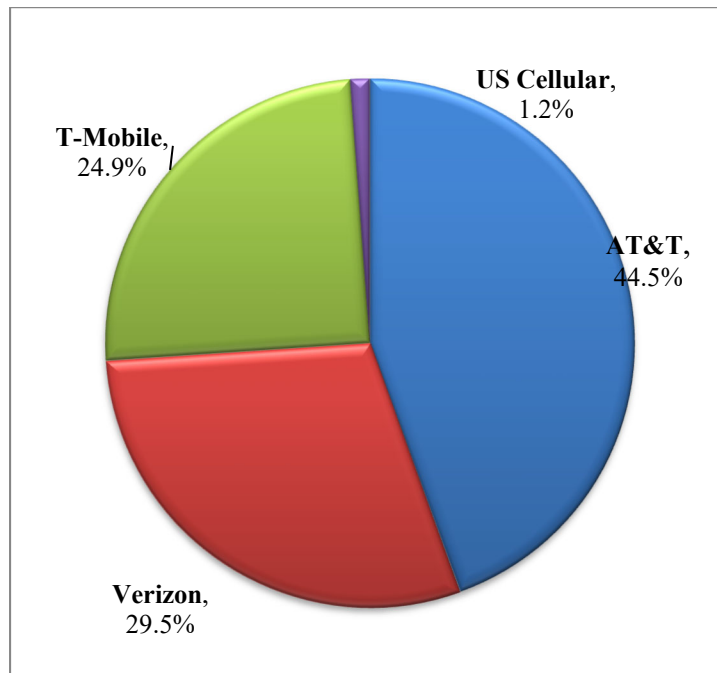
In the early 1990s, wireless service was still new, signal strength and network availability were limited, and the services were marketed primarily to enterprise and other business users. The general population of consumers could not afford the cost of the cellular phone, and the limited availability of network access meant that mass adoption of the platform would take time.

However, as technology became more affordable and easier to upgrade, consumers started to enter the wireless market en masse. Eventually this led to the integration of wireless technology and broadband internet connections. 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.

1. Market Share

As shown in Figure 3-1, US market share among the top four wireless companies was split among AT&T with 44.5%, followed by Verizon at 29.5%, T-Mobile at 24.9%, , and US Cellular at 1.2%.⁴³

Figure 3-1
U.S. Wireless Market Share as of 4th Quarter 2020



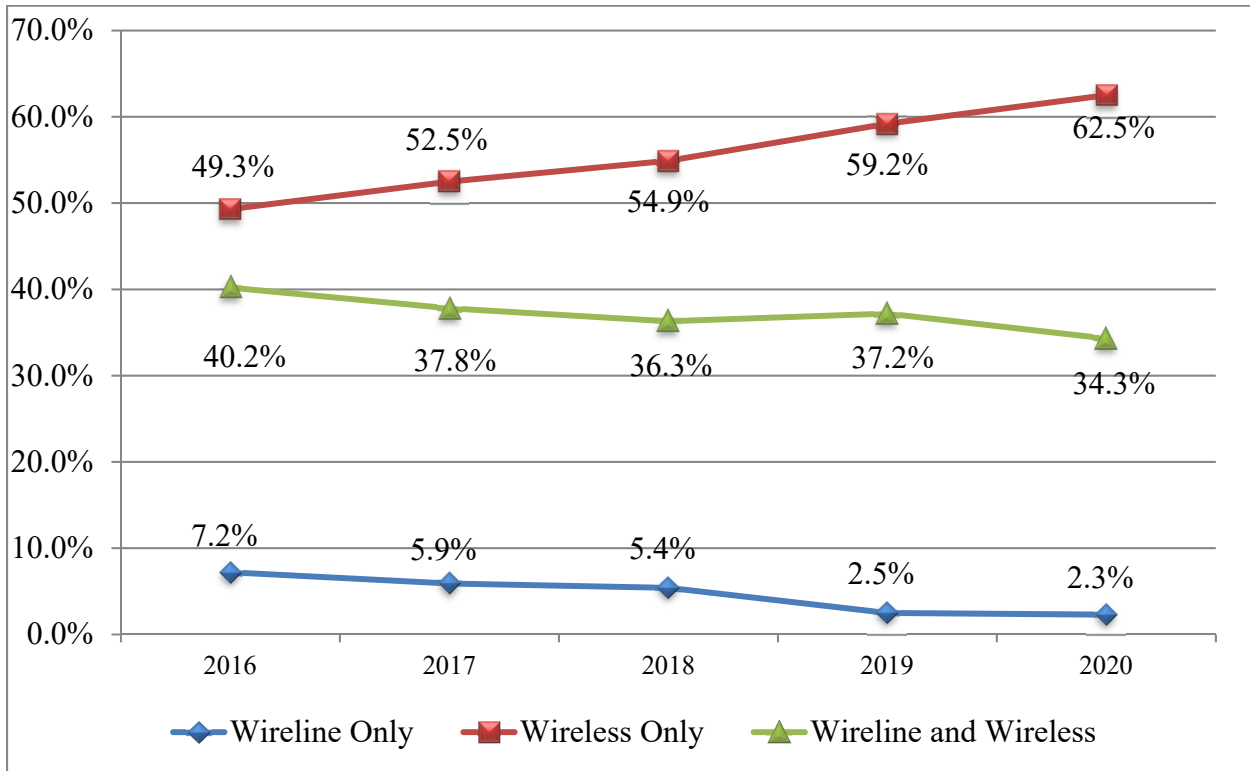
Source: Statista Wireless Market Share 4th Quarter 2020⁴⁴

⁴³Statista, “Wireless subscription market share by carrier in the U.S. from 1st quarter 2011 to 4th quarter 2020,” January 2021, <<https://www.statista.com/statistics/199359/market-share-of-wireless-carriers-in-the-us-by-subscriptions/>>, accessed on April 29, 2021.

2. Wireless Substitution

According to the most recent data from carriers’ financial reports, the three largest wireless service providers in the United States – AT&T, T-Mobile, and Verizon – accounted for over 405 million connections by year-end 2020.⁴⁵ Less than 35 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 59.2 percent in June 2019 to 62.5 percent in 2020.⁴⁶

Figure 3-2
U.S. Wireless Substitution Rates



Source: CDC/NCHS, National Health Interview Survey⁴⁷

⁴⁴Statista, Wireless subscription market share by carrier in the U.S. from 1st quarter 2011 to 4th quarter 2020, January 2021, <<https://www.statista.com/statistics/199359/market-share-of-wireless-carriers-in-the-us-by-subscriptions/>>, accessed on April 29, 2021.

⁴⁵Companies’ 2020 Annual 10-K filings with the SEC.

⁴⁶Stephen Blumberg and Julian Luke, “Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-June 2020,” National Center for Health Statistics, February 2021, <<https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless202102-508.pdf>>, accessed on April 30, 2021.

⁴⁷Blumberg SJ, Luke JV, Wireless substitution: early release of estimates from the National Health Interview Survey, January-June 2020. National Center for Health Statistics. February 2021, <https://doi.org/10.15620/cdc:100855>, accessed on April 7, 2021.

3. Florida Trends

Florida's wireless trends track closely with national trends. The most recent data available from the FCC, from June 2019, estimated Florida's wireless subscriptions to be 22,078,000. This is an increase of approximately 3.08 percent from June 2018 (21,419,000).⁴⁸

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. 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.

By year-end 2020, Verizon launched 5G fixed wireless technology for the home in 12 U.S. markets. By the end of 2020, the company launched its Long-Term Evolution (LTE) Home Fixed wireless access internet service in rural parts of 189 markets across 48 U.S. states, and 5G Ultra Wideband Network in 61 U.S. markets.⁴⁹

AT&T's 5G service went nationwide in July 2020. The company's virtualized network will be able to support next-generation applications like 5G and broadband-based services quickly and efficiently. The company also hopes the introduction of 5G handsets and devices will generate renewed interest in equipment upgrades.⁵⁰

By December 31, 2020, T-Mobile's Extended Range 5G covers 280 million people in over 9,000 communities covering 1.6 million square miles. The Ultra Capacity 5G service covers 106 million people by the end of 2019.⁵¹

B. 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 networks and the public switched telephone network (PSTN).⁵² These calls can be provided via

⁴⁸FCC, "Voice Telephone Services Report, State-Level Subscriptions," released April 2021, <https://www.fcc.gov/sites/default/files/vts_state_table1.xlsx>, accessed on May 12, 2021.

⁴⁹Verizon Communications Inc. Form 10-K, December 31, 2021, <http://verizon.api.edgar-online.com/EFX_dll/EdgarPro.dll?FetchFilingHTML1?SessionID=AklnU34S-_cpLTQ&ID=14744806>, pp. 5, 9, accessed on April 30, 2021.

⁵⁰AT&T Inc. Form 10-K, December 31, 2020, <<https://otp.tools.investis.com/clients/us/atnt2/sec/sec-outline.aspx?FilingId=14746187&Cik=0000732717&PaperOnly=0&HasOriginal=1>>, pp. 46, 3, accessed on April 12, 2021.

⁵¹T-Mobile US, Inc. Form 10-K, December 31, 2020, <https://s24.q4cdn.com/400059132/files/doc_financials/2020/q4/NG_TMUS-12_31_2020-FORM-10-K.pdf>, p. 7, accessed on April 30, 2021.

⁵²47 C.F.R. § 9.3.

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.⁵³ 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 2016 through June 2019 shows an annual growth rate for VoIP of three percent per year, while subscribership to traditional wireline services decreased by 13 percent.⁵⁴ The FCC also reported that there were approximately 66.4 million VoIP subscribers in the U.S.⁵⁵ Table 3-1 shows U.S. VoIP subscribership by customer type as of June 30, 2019. Data collected by the FPSC also shows nearly 2.2 million residential VoIP subscribers in Florida as of December 2020.⁵⁶

⁵³47 U.S.C. § 153(36). An example of a non-interconnected VoIP network is a video game console service such as Xbox Live.

⁵⁴FCC, “Voice Telephone Services: Status as of June 30, 2019,” released May 7, 2021, <<https://www.fcc.gov/voice-telephone-services-report>>, accessed on May 10, 2021.

⁵⁵Ibid, Figure 3, accessed on May 10, 2021.

⁵⁶Responses to local competition data request.

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

Total	Over-the-Top	All Other VoIP	Total
ILEC	70	12,594	12,663
Non-ILEC	10,830	42,970	53,800
Total	10,900	55,563	66,463
Residential			
ILEC	2	8,514	8,516
Non-ILEC	2,225	26,610	28,834
Total	2,227	35,124	37,350
Business			
ILEC	68	4,080	4,147
Non-ILEC	8,606	16,360	24,965
Total	8,673	20,440	29,113

Source: FCC Voice Telephone Services Report, June 30, 2019 (Figure 3)

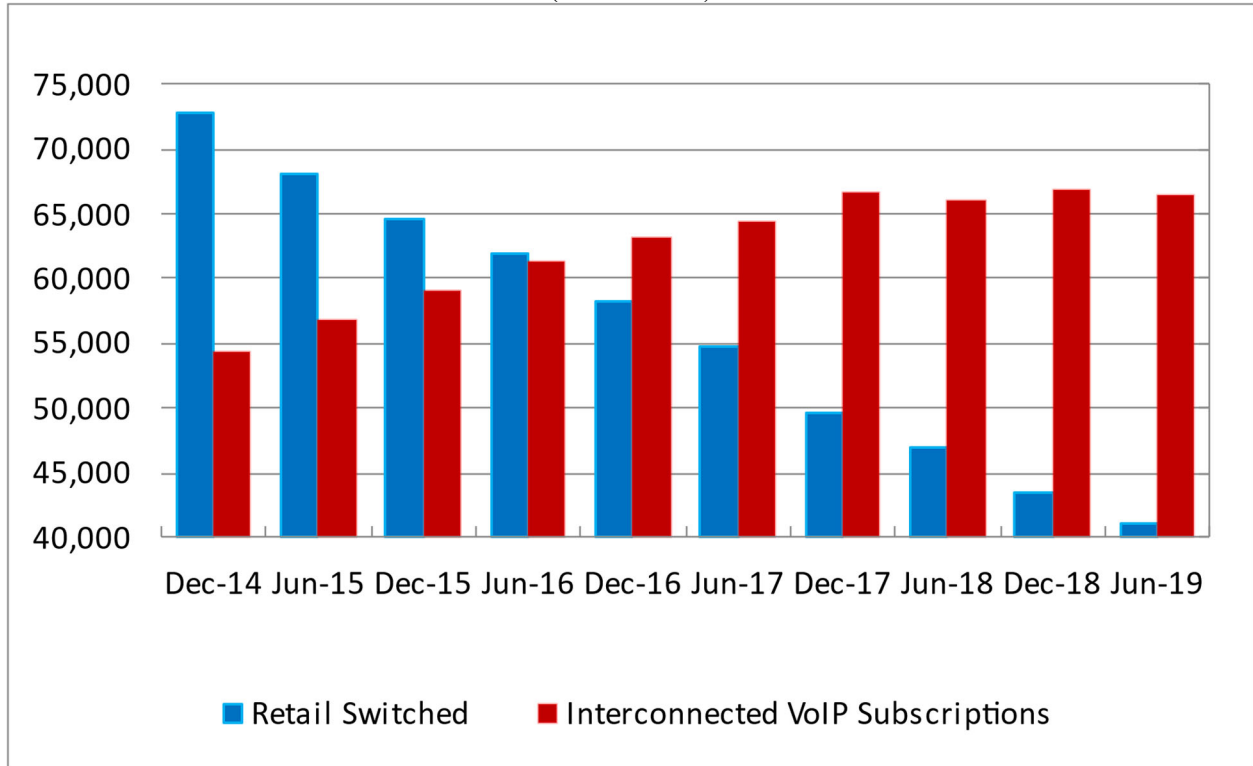
1. National Market

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 66.4 million VoIP subscriptions and nearly 41 million retail switched lines by June 2019. These figures total approximately 107 million wireline voice retail connections.⁵⁷ Of those 107 million connections, 50 percent (54 million) were residential and 50 percent were business.⁵⁸

⁵⁷FCC, "Voice Telephone Services: Status as of June 30, 2019," released May 7, 2021, <<https://www.fcc.gov/voice-telephone-services-report>>, accessed on May 10, 2021.

⁵⁸Ibid.

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



Source: FCC Voice Telephone Services Report, June 2019

a. Facilities-Based VoIP Providers

According to the FCC, non-ILEC companies accounted for nearly 28.8 million residential VoIP subscribers as of June 2019, compared to nearly eight and a half million residential ILEC VoIP subscribers. This represents a market share of 77.2 percent for the non-ILECs in this market.⁵⁹ Comcast, the country’s largest cable provider, reported a decrease of nearly three percent from 2019 (9.9 million) to 2020 (9.6 million).⁶⁰ The second largest cable provider, Charter Communications, reported a total of approximately 9.2 million residential VoIP subscribers at year-end 2020, a decrease of just over two percent from 2019.⁶¹ AT&T reported approximately

⁵⁹Ibid.

⁶⁰Comcast Corporation, Comcast 2020 Annual Report on Form 10-K, released January 30, 2020, <<https://www.emcsa.com/financials/annual-reports>>, accessed on May 4, 2021.

⁶¹Charter Communications, Inc., “Charter Investors: Results, SEC Filings & Tax Information,” News Release, released February 7, 2020, <<https://ir.charter.com/financial-information/annual-reports>>, accessed on May 4, 2021.

3.2 million U-verse consumer VoIP subscribers at year-end 2020, which is nearly a 14.8 percent decrease from the previous year.⁶²

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.

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 10.9 million OTT VoIP subscribers in the U.S. as of June 2019. This total included more than 2.2 million residential subscribers and over 8.6 million business subscribers nationwide. The FCC's figures showed a decrease of nearly four percent in residential subscribers, and approximately an 11 percent increase in business subscribers from December 2018 to June 2019.⁶³

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 over 1.8 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 June 2019, an increase of 6.4 percent from 2018.⁶⁴ In total the FCC reported that Florida had 4.6 million Interconnected VoIP subscriptions.⁶⁵

Figure 3-4 shows an estimated 2.2 million residential VoIP subscribers in Florida as of 2020. This data indicates a decrease of nearly 195,000 residential VoIP subscriptions from 2019 through 2020. The five-year trend indicates that the residential VoIP market in Florida has matured and is showing signs of decline. As previously stated, the major VoIP carriers have indicated that increased competition from wireless competitors has affected VoIP subscriptions.

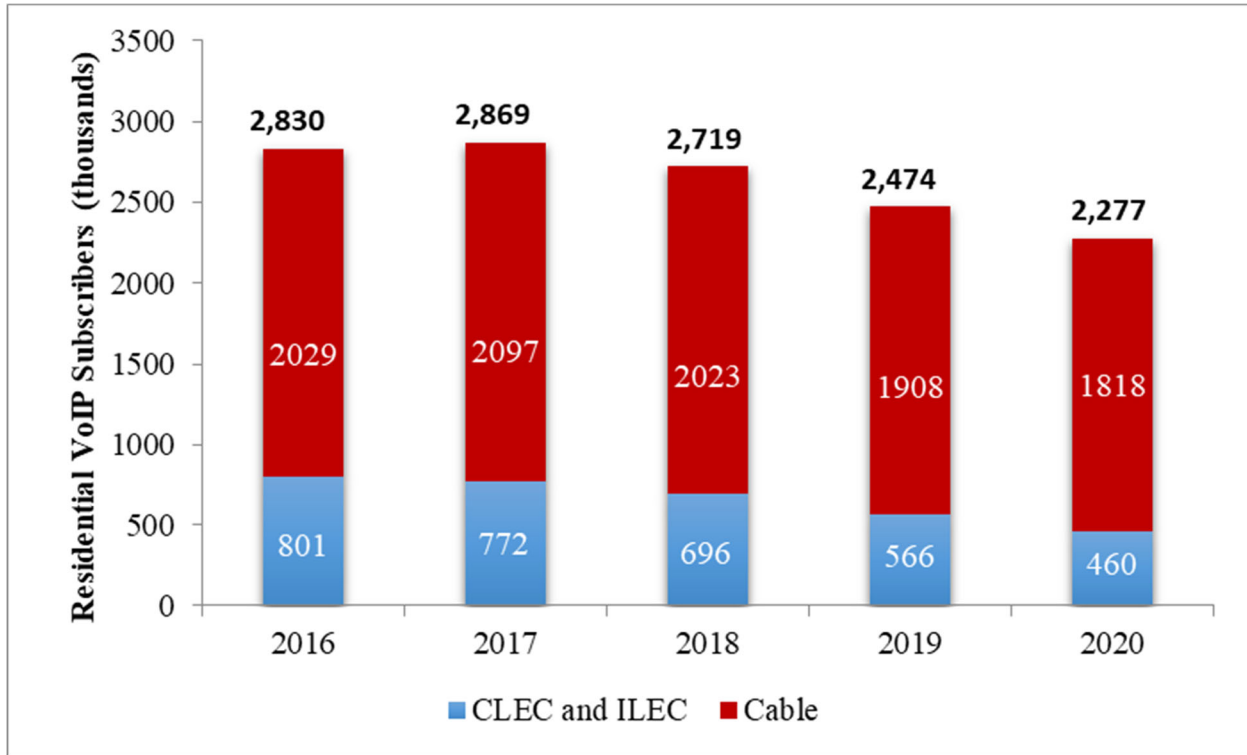
⁶²AT&T Inc., 2020 Annual Report 10-K, released February 20, 2020, <<https://otp.tools.investis.com/clients/us/atnt/SEC/secfiling.aspx?comingfrom=secshow>>, accessed on May 4, 2021.

⁶³FCC, "Voice Telephone Services: Status as of June 30, 2019," Table 1, released May 7, 2021, <<https://www.fcc.gov/voice-telephone-services-report>>, accessed on May 10, 2021.

⁶⁴FCC, "Voice Telephone Services Report, State-Level Subscriptions," Supplemental Table 1, Florida, released May 7, 2021, <<https://www.fcc.gov/voice-telephone-services-report>>, accessed on May 10, 2021.

⁶⁵Ibid.

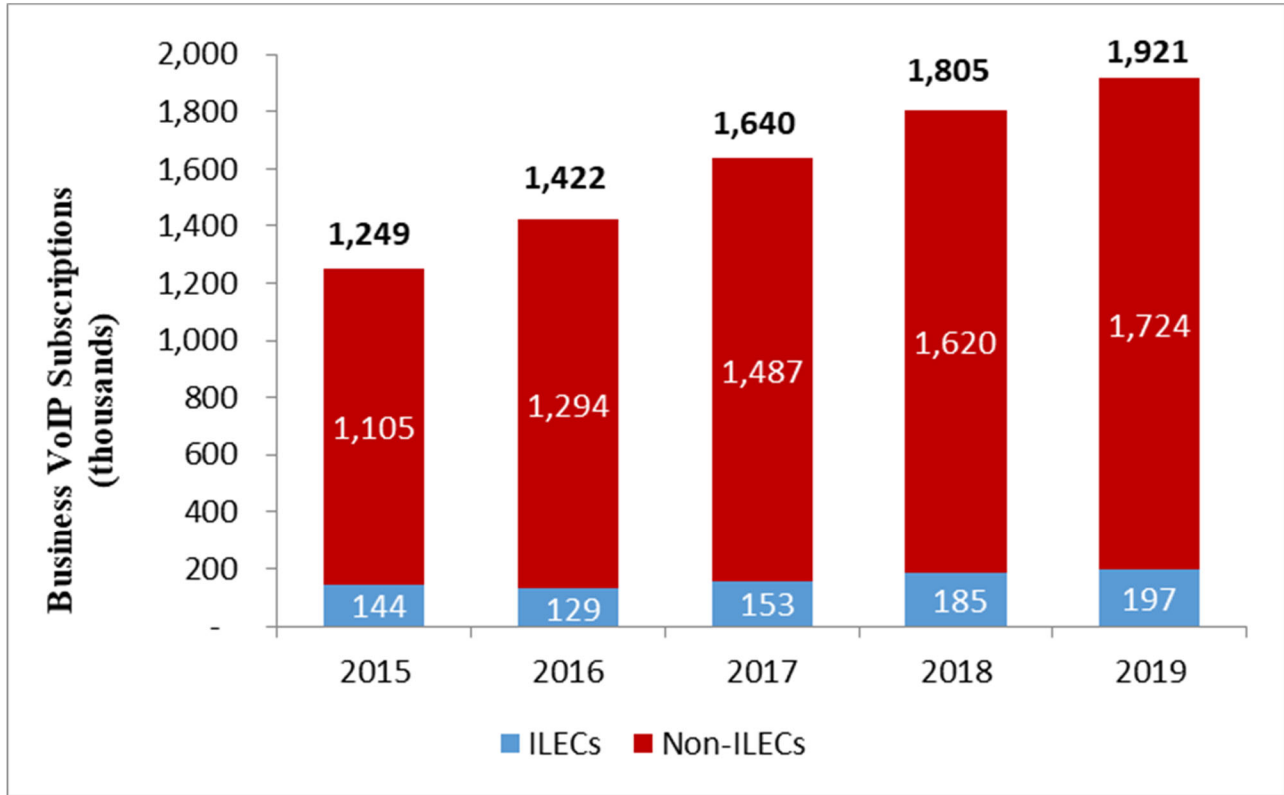
**Figure 3-4
Florida Residential Interconnected VoIP Subscribers**



Source: Responses to FPSC data requests (2016-2020)

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 account for double digit growth between 2016 and 2020. 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 9, 2021, 238 CLECs had responded to the Local Competition Report data request. Of those responding, 63 companies indicate they provided local voice service in Florida in 2020.⁶⁶ Many offer multiple services and/or bundled packages.

As discussed in Chapter III, total wireline residential and business markets in Florida declined by 6.3 percent from June 2018 through June 2019.⁶⁷ CLEC total lines decreased by less than a percent, while ILEC total lines decreased by 15.7 percent. The CLEC wireline market share in Florida has increased nearly four percent from June 2018 to June 2019.

Florida residential VoIP subscribership accounted for 2.2 million connections by December 2020, representing nearly an eight percent decrease in lines from the previous year.⁶⁸ Comparable 2020 end of year data was not available for business VoIP segments of the market. However, data from the FCC indicated that the number of Florida business VoIP lines grew 6.4 percent from June 2018 through June 2019.⁶⁹ With the decline in CLEC and ILEC wirelines as well as declining growth in residential VoIP lines in Florida, consumers appear to be migrating to wireless services based off of sustained growth in subscriber numbers.

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. Several CLECs reported providing a number of services: local phone service (63), VoIP (81), broadband Internet access (65), video service (8), and bundled services (43).

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 the speed of how Interconnection agreements are processed by ILEC carriers and the need to improve communications between the involved entities.⁷⁰ We note

⁶⁶Responses to local competition data request 2021.

⁶⁷ FCC, “Voice Telephone Services as of June 30, 2019,” State-Level Subscriptions spreadsheets, released May 7, 2021, <<https://www.fcc.gov/voice-telephone-services-report>>, accessed on May 12, 2021.

⁶⁸Ibid.

⁶⁹Ibid.

⁷⁰Responses to local competition data request 2021.

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.

Conclusion: Dozens of competitors offered multiple combinations of services to attract customers. Also, subscriptions to wireline telephony decreased again in 2020, 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.

Since reaching a peak in the year 2000, total traditional access lines have declined by over 88 percent in Florida, as the population has increased by over 40 percent. Given the importance of telecommunications service and the large 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 June 2019, the number of wireless connections in Florida reached over 22 million, which equates to more than one connection per person.⁷¹ Some consumers have migrated to VoIP. The ILEC residential VoIP market share has averaged 23.9 percent since peaking at 26.4 percent in 2015.⁷²

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. The majority of consumers are choosing to obtain wireless and VoIP service from competitors. Given competitors' substantial wireless and VoIP market shares, consumers are able to obtain functionally equivalent services at comparable rates, terms, and conditions.

⁷¹FCC, "Voice Telephone Services Report, Nationwide and State-Level Data for 2008-Present," released May 7, 2021, <<https://www.fcc.gov/voice-telephone-services-report>>, accessed on May 12, 2021.

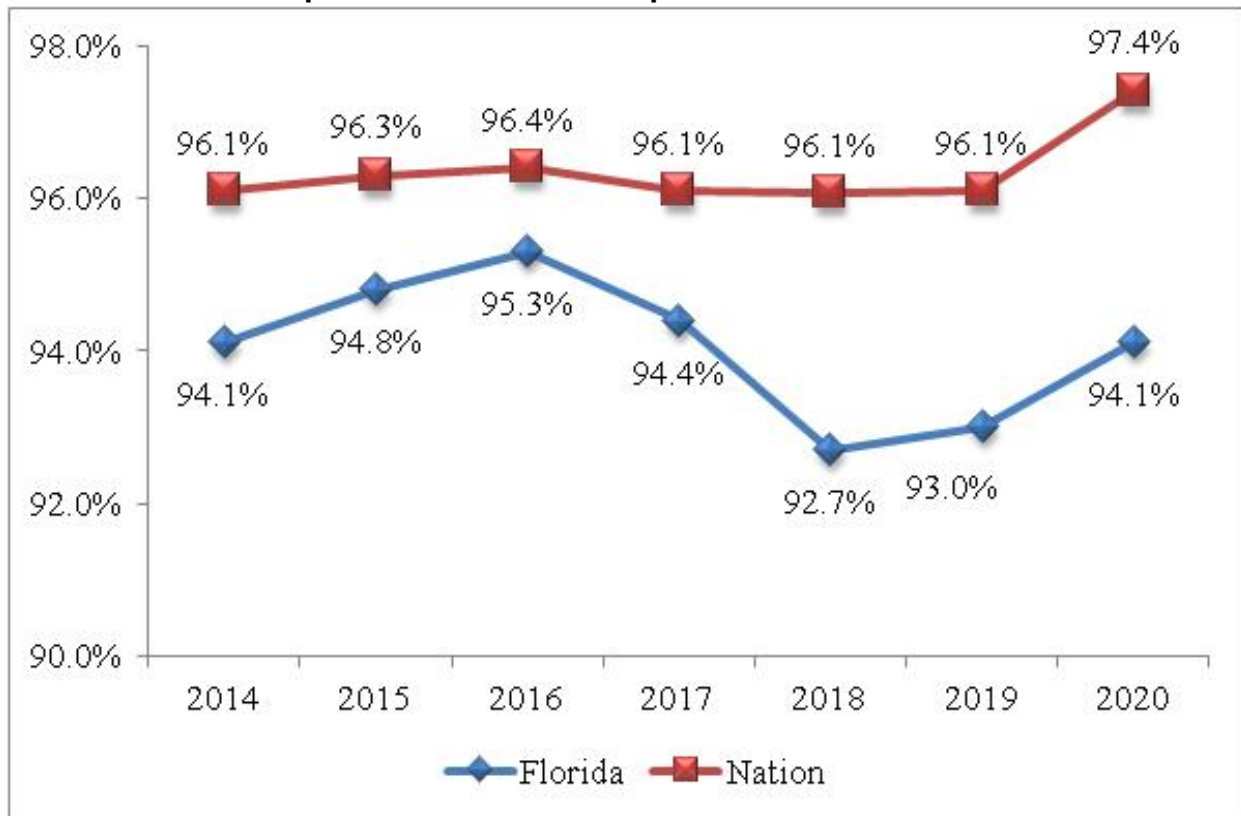
⁷²Ibid.

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 rate has averaged 94.1 percent over the last seven years.⁷³ 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.⁷⁴

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



Source: FCC staff interviews

⁷³FCC staff, telephone interview, March 19, 2021.

⁷⁴FCC staff, telephone interviews (1986-2021).

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.⁷⁵ 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.

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 2020.

⁷⁵ Regulatory Reform Act, Ch. 36, 2011 Fla. Laws 1231.

Chapter V. State Activities

This chapter provides a summary of state activities affecting local telecommunications competition in 2020. 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 and later adopted by Frontier). Trending analysis is applied to monthly performance measurement data provided by each ILEC.⁷⁶

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 current Performance Assessment Plan consists of 47 measurements; financial remedies are applied to 24 of these measures. In 2020, AT&T declared localized force majeure events for Hurricanes Sally and Zeta and statewide force majeure events for Hurricane Eta, winter storms, and for COVID-19, allowing it to suspend measurements and remedies during the pendency of the declarations. The weather-related events were of short duration, but the COVID-19 declaration persists for Maintenance and Repair and Provisioning measures. Consequently, AT&T paid \$169,433 dollars in remedies in 2020, representing a decrease of 48 percent from 2019.

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, 2016.⁷⁷ CenturyLink has reported no noncompliances since the revisions were adopted.

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 2020, Frontier maintained an average monthly compliance rate of 83.1 percent, ranging from 73.1 percent to 90.2 percent. This result improved upon 2019's average monthly compliance rate of 77.3 percent.

The Commission processed a number of other telecommunications-related items in 2020. The Commission processed 26 service schedule and tariff filings, 70 interconnection agreements and amendments, 15 carrier certifications, 16 certificate cancellations, and 59 general inquiries/informal complaints.

⁷⁶FPSC Dockets: Nos. 20000121A-TP (AT&T), 20000121B-TP (CenturyLink), and 20000121C-TP (Frontier FL).

⁷⁷FPSC Order No. PSC-2016-0072-PAA-TP, Docket No. 20000121B-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

In 2007, the FPSC established the Lifeline Electronic Coordinated Enrollment Process (Coordinated Enrollment) in conjunction with the Florida Department of Children and Families (DCF).⁷⁸ The Coordinated Enrollment process establishes a computer interface between the FPSC and DCF. Prior to 2020, prospective Lifeline customers applying for either the Supplemental Nutrition Assistance Program (SNAP) 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.

This Coordinated Enrollment process can no longer directly enroll eligible consumers for the federal Lifeline program as a result of reforms by the FCC. Specifically, the FCC directed the Universal Service Administrative Company (USAC) to develop the National Lifeline Eligibility Verifier (National Verifier).⁷⁹ 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. On March 24, 2020, the National Verifier became the sole eligibility verification process for Florida Lifeline customers.⁸⁰ On December 18, 2020, the National Verifier was fully launched throughout the U.S. and U.S. territories.

Following the adoption of the National Verifier, the Coordinated Enrollment database functionality has shifted. While DCF continues to populate the database with customer information, 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.⁸¹ 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

⁷⁸§ 364.10(g) (2), F.S.

⁷⁹FCC 16-38, WC Docket No. 11-42, WC Docket No. 09-197, WC Docket No. 10-90, Lifeline and Link Up Modernization, Telecommunications Carriers Eligible for Universal Service Support, Connect America Fund, Third Report and Order, FCC 16-38, released April 27, 2016, <<https://docs.fcc.gov/public/attachments/FCC-16-38A1.pdf>>, accessed on June 11, 2021.

⁸⁰Prior to the National Verifier's hard launch status in Florida, Lifeline customer eligibility verification was conducted by ETCs for qualifying program participation, and by the Florida Office of Public Counsel for income eligibility verification.

⁸¹USAC, "National Verifier Application Portal," <<https://nationalverifier.servicenowservices.com/lifeline>>, accessed on June 9, 2021.

Near Me” tool.⁸² Consumers who wish to receive a paper application, or who do not have access to the internet, may call the Lifeline customer service hotline.⁸³ Individuals who are disabled may request assistance in completing an application by phone using the same Lifeline customer service hotline.

Using SNAP participation as a proxy for Lifeline eligible households, as of June 2020 eligible households increased by 39.6 percent, while the participation rate of those households in the Lifeline program decreased by 22 percent from the prior year.⁸⁴ The decline in subscribership for this year is largely attributed to the decline in subscribership of one major ETC. Table 5-1 shows the Lifeline eligibility and participation rates in Florida for the last six years.⁸⁵

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

Year	Lifeline Enrollment	Eligible Households	Participation Rate
Jun-15	833,426	2,040,236	40.85%
Jun-16	852,255	1,747,684	48.76%
Jun-17	685,864	1,690,899	40.56%
Jun-18	694,647	1,655,134	41.97%
Jun-19	604,693	1,540,682	39.25%
Jun-20	371,180	2,151,503	17.25%

Source: Florida DCF, ACCESS Florida: Standard Data Reports

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 \$.10 per landline.⁸⁶

⁸²USAC, “Companies Near Me Tool,” <<https://data.usac.org/publicreports/CompaniesNearMe/Download/Report>>, accessed on June 9, 2021.

⁸³USAC, Lifeline Customer Service Hotline, 1 (800) 234-9473.

⁸⁴FPSC, “2020 Florida Lifeline Report,” released December 2020, <<http://www.psc.state.fl.us/Files/PDF/Publications/Reports/Telecommunication/LifelineReport/2020.pdf>>, Figure 3, accessed on June 10, 2021.

⁸⁵Ibid.

⁸⁶The rate may not exceed \$.25 per landline.

Currently, relay services are provisioned under contract by Sprint Communications Company, L.P., a wholly-owned subsidiary of T-Mobile USA, Inc. (Sprint/T-Mobile). On March 1, 2021, Sprint/T-Mobile provided written notice to the FPSC that it did not intend to extend the relay provider contract an additional year past the expiration date, as permitted by the contract. On May 11, 2021, the FPSC issued a Request for Proposals for a new relay service contract beginning March 1, 2022. The FPSC is scheduled to select a provider in the fourth quarter of 2021.

Chapter VI. Federal Activities

A. Mergers and Acquisitions

Telecommunications 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 2020, there were approximately 53 completed telecommunications mergers and acquisitions nationally. Recent transactions of interest to Florida are described below.

1. ITS Fiber, LLC/ITS Telecommunications Systems, Inc. & Blue Stream Communications LLC

ITS Fiber, LLC and ITS Telecommunications Systems, Inc. are telecommunications companies that are currently regulated by the FPSC.⁸⁷ Both companies service the communities of Indiantown in Martin County Florida. ITS Telecommunications Systems Inc. is currently listed as an ILEC providing service to approximately 1,623 access lines.⁸⁸ ITS Telecommunications Systems also possesses a CLEC certificate but is reported that it does not currently offer any CLEC services⁸⁹. ITS Fiber offers services that are not regulated by the FPSC, such as cloud voice services, broadband internet and IT services.⁹⁰ Blue Stream Communications LLC is a communications company that provides internet, television and phone services to Florida residents. The acquisition filing with the FCC explains that the acquisition will not create any anti-competitive effects in the Florida market. The filing argues that current ITS customers will not be adversely affected nor alter the service delivery or billing.

2. Verizon & TracFone Wireless

Last fall Verizon announced that it was interested in acquiring TracFone Wireless from América Móvil for a sum of \$6.9 billion.⁹¹ TracFone is the nation's largest Mobile Virtual Network Operator (MVNO) and is also an Eligible Telecommunications Carrier (ETC) that participates in the Lifeline program.⁹² TracFone resells service to about 21 million customers, with nearly two thirds of them on Verizon's network while the rest are on AT&T's and T-Mobile's networks.

⁸⁷FPSC website.

⁸⁸Postco Inc., ITS Fiber LLC, and Blue Stream Communications LLC, Joint Application for transfer, <<https://fcc.report/IBFS/ITC-T-C-20200810-00154/2648029>>, accessed on July 6, 2021.

⁸⁹Ibid.

⁹⁰Ibid.

⁹¹Monica Allevan, Verizon's acquisition of TracFone gets additional review time, Fiercewireless, February 2021, <<https://www.fiercewireless.com/regulatory/verizon-s-acquisition-tracfone-gets-additional-review-time>>, accessed on May 7, 2021.

⁹²Ibid.

Stakeholders have argued that TracFone’s customers who are not on Verizon’s network should be divested.⁹³

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 Telecommunications Act of 1996, such as requirements to provide wholesale access to unbundled network elements (UNEs) and resale.⁹⁴ USTelecom also requested that states not be allowed to issue similar unbundling and resale rules if forbearance is granted.⁹⁵

Following the USTelecom petition, the FCC issued orders forbearing from various UNE requirements. The FCC’s August 2, 2019, order was challenged by the trade association Incompas, the California Public Utilities Commission, and others in federal court, and on November 3, 2020, the US Court of Appeals DC Circuit upheld the order.^{96,97}

After a compromise was reached between industry associations Incompas and USTelecom on October 27, 2020, the FCC released an order eliminating certain legacy unbundling and resale rules. This includes rules requiring unbundling of DS1 and DS3 loops in areas with competition, DS0 loops in densely populated areas, legacy narrowband voice-grade loops nationwide, and dark fiber transport originating or terminating at a wire center within one half of a mile of competitive fiber networks. The order also discontinues, subject to a three year transition period, a requirement that ILECs make their retail legacy voice services available for resale at cost-based rates. These services are predominately used by CLECs to provide legacy voice services to business and government customers.⁹⁸ These orders do not apply to unbundling obligations enabling the provision of broadband services.

Following these forbearances, many CLECs will find competition 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

⁹³Monica Allevan, “Concerns grow over Verizon’s acquisition of TracFone,” Fiercewireless, March 3, 2021, <<https://www.fiercewireless.com/operators/concerns-grow-over-verizon-s-acquisition-tracfone>>, accessed on May 7, 2021.

⁹⁴USTelecom, “Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investments in Broadband and Next-Generation Networks,” filed May 4, 2018, <<https://www.fcc.gov/ecfs/filing/1050419048916>>, accessed on April 21, 2021.

⁹⁵FCC, USTelecom Petition for Forbearance, Section II B, pp. 30-31,” posted May 7, 2018, <<https://www.fcc.gov/ecfs/filing/1050419048916>>, accessed on April 21, 2021.

⁹⁶*Comptel d/b/a Incompas v. FCC*, No. 19-1164 (D.C. Cir. Mar. 25, 2020), <<https://law.justia.com/cases/federal/appellate-courts/cadc/19-1164/19-1164-2020-11-03.html>>, accessed on July 6, 2021.

⁹⁷FCC, “D.C. Circuit denies petition for review – COMPTTEL v. FCC,” released November 3, 2020, <<https://www.fcc.gov/document/dc-circuit-denies-petitions-review-comptel-v-fcc>>, accessed on April 21, 2021.

⁹⁸FCC, “FCC Modernizes Unbundling and Resale Requirements,” released October 27, 2020, <<https://www.fcc.gov/document/fcc-modernizes-unbundling-and-resale-requirements>>, accessed on April 21, 2021.

CLECs comprise less than one percent of the market. Businesses should also be somewhat insulated given that the business market is mostly served by facilities-based CLECs, ILEC-affiliated CLECs, and ILECs.

C. Broadband Deployment

The FCC and the federal government have taken several steps to increase broadband deployment. To facilitate the process, the FCC has created 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.⁹⁹ The FCC gauges its progress through the issuance of broadband deployment reports. These reports provide the most detailed view of broadband expansion, showing significant progress particularly in rural America. The FCC also found that broadband is being deployed in a reasonable and timely fashion.¹⁰⁰

The FCC has also taken several steps to improve the accuracy of its deployment maps, including requiring fixed and mobile providers to submit standardized broadband availability maps and taking steps to develop a common dataset of homes and businesses where fixed broadband networks could be deployed, over which service providers' maps will be overlaid.¹⁰¹ The FCC has also established a Broadband Data Task Force to implement improvements to broadband data and mapping tools, while coordinating efforts across various expert agency teams.¹⁰² Additionally, the FCC has released a new version of its speed test app and established a website for public feedback on broadband availability and service quality and distribution of educational materials.^{103, 104}

The FCC is responsible for multiple broadband deployment and broadband grant programs. The FCC's Rural Digital Opportunity Fund will provide \$20.4 billion in support to providers nationally over ten years for unserved and underserved areas, including over \$191 million in

⁹⁹FCC, Broadband Deployment Advisory Committee, <<https://www.fcc.gov/broadband-deployment-advisory-committee>>, accessed on April 20, 2021.

¹⁰⁰FCC, "FCC Annual Broadband Report Shows Digital Divide is Rapidly Closing," released January 19, 2021, <<https://www.fcc.gov/document/fcc-annual-broadband-report-shows-digital-divide-rapidly-closing>>, accessed on April 20, 2021.

¹⁰¹FCC, "FCC Takes Next Step to Collect More Precise Broadband Mapping Data," released January 19, 2021, <<https://www.fcc.gov/document/fcc-takes-next-step-collect-more-precise-broadband-mapping-data>>, accessed on April 20, 2021.

¹⁰²FCC, "Rosenworcel Establishes Broadband Data Task Force," released February 17, 2021, <<https://www.fcc.gov/document/rosenworcel-establishes-broadband-data-task-force>>, accessed on April 20, 2021.

¹⁰³FCC, "FCC Releases New Version of Speed Test App & Updated Mobile Raw Data," released August 3, 2020, <<https://www.fcc.gov/document/fcc-releases-new-version-speed-test-app-updated-mobile-raw-data>>, accessed on April 20, 2021.

¹⁰⁴FCC, "FCC Reaches Out to Collect Consumer Broadband Availability Experiences," released March 22, 2021, <<https://www.fcc.gov/document/fcc-reaches-out-collect-consumer-broadband-availability-experiences>>, accessed on April 20, 2021.

support awarded over ten years to over 141 thousand locations in Florida.¹⁰⁵ The FCC has also proposed the 5G Fund for Rural America, which will provide \$9 billion nationally over ten years to support mobile 5G connectivity.¹⁰⁶ In response to the COVID-19 pandemic, the FCC has authorized grants for its Telehealth program, and following the Consolidated Appropriations Act of 2021, it recently established the Emergency Broadband Benefit program (EBB). The EBB provides a discount of up to \$50 per month towards broadband service for eligible households (\$75 per month on qualifying Tribal lands) and a one-time discount of up to \$100 to purchase a laptop, desktop computer, or tablet from participating providers.¹⁰⁷

The FCC is not the only agency that has been working to improve broadband deployment. The National Telecommunications and Information Administration (NTIA) maintains the American Broadband Initiative Milestones Report, which details strategies and programs from over 20 federal agencies for increasing broadband access and encouraging private sector broadband investment.¹⁰⁸ NTIA also oversees \$1 billion in grants for broadband infrastructure deployment and broadband service affordability through the Tribal Broadband Connectivity Program.¹⁰⁹ NTIA has also created the National Broadband Availability Map, which combines current broadband data sets from the FCC, US Census Bureau, Universal Service Administrative Company, US Department of Agriculture, Ookla, Measurement Lab, and thirty participating state governments, including Florida.¹¹⁰

D. Universal Service

Universal service is the policy that seeks to ensure all Americans have access to communications services through a series of financial support programs. 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. Carriers are allowed by federal rules to pass these costs on to their customers through their bills.

¹⁰⁵FCC, “Auction 904 Winning Bidders,” released December 7, 2020, <<https://www.fcc.gov/document/auction-904-winning-bidders>>, accessed on April 20, 2021.

¹⁰⁶FCC, 5G Fund, released November 24, 2020, <<https://www.fcc.gov/5g-fund>>, accessed on April 20, 2021.

¹⁰⁷FCC, Emergency Broadband Benefit Program, updated April 1, 2021, <<https://www.fcc.gov/emergency-broadband-benefit-program/>>, accessed on April 15, 2021.

¹⁰⁸NTIA, American Broadband Initiative, updated October 29, 2020, <<https://www.ntia.doc.gov/category/american-broadband-initiative>>, accessed on April 21, 2021.

¹⁰⁹NTIA, “NTIA Announces Tribal Consultations on New Program to Increase Broadband Access Across Indian Country,” released February 5, 2021, <<https://www.ntia.doc.gov/blog/2021/ntia-announces-tribal-consultations-new-program-increase-broadband-access-across-indian>>, accessed on April 20, 2021.

¹¹⁰NTIA, “NTIA’s NBAM Reaches 30 State Milestone,” updated February 24, 2021, <<https://www.ntia.doc.gov/blog/2021/ntia-s-nbam-reaches-30-state-milestone>>, accessed on April 20, 2021.

In general, Florida consumers pay more into the USF than what is returned to eligible service providers in Florida.¹¹¹ For 2019, only consumers in California and New York 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 2019 and provides a comparison of net contributions for 2017 and 2018. The total estimated consumer contribution for 2019 includes approximately \$11 million related to USAC’s administrative expense.

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

	2017	2018	2019		
	Estimated Net	Estimated Net	Service Providers Payments	Estimated Consumer Contributions	Estimated Net
High-Cost	(225,547)	(230,036)	48,288	297,898	(249,610)
Low Income	(928)	\$11,342	59,326	56,840	2,486
Schools & Libraries	(27,616)	(42,707)	76,227	113,956	(37,729)
Rural Health Care	(12,188)	(13,412)	4,853	14,558	(9,705)
Total	(\$276,681)	(\$286,901)	\$188,694	\$494,484	(\$305,791)

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

1. High Cost

Since 2011, the FCC has been modernizing the federal high-cost programs to maintain voice services and extend broadband capable infrastructure.¹¹² On January 30, 2020, the FCC adopted a Report and Order establishing the framework for the \$20.4 billion Rural Digital Opportunity Fund (RDOF) to bring high speed fixed broadband service to rural homes and small businesses, using reverse auctions in two phases.

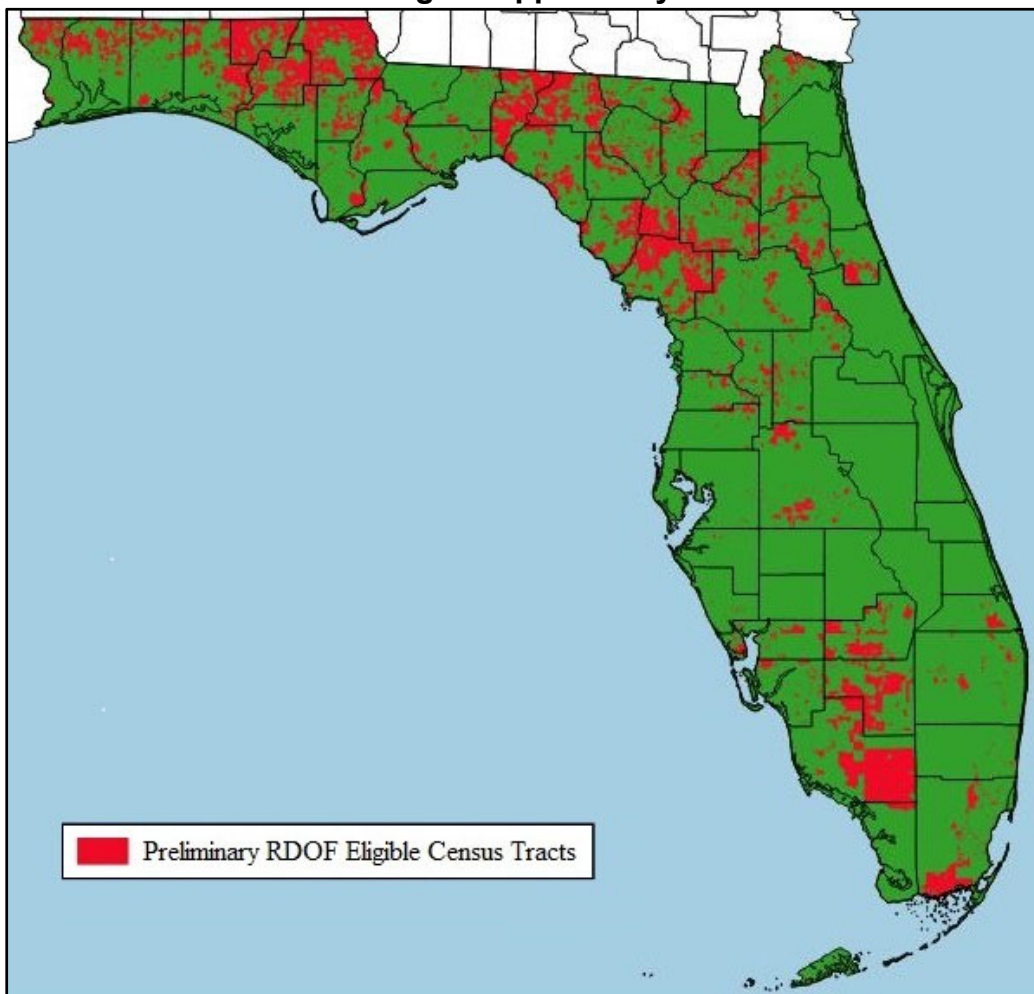
The Phase I auction will target over six million homes and businesses in census blocks that are entirely unserved by voice and broadband with download speeds of at least 25 Mbps. The RDOF is structured to prioritize higher network speeds and lower latency. Figure 6-2 provides a map identifying areas in Florida where carriers could compete for RDOF support in Phase I of the

¹¹¹FCC, “Universal Service Monitoring Report-2020,” released January 15, 2021, <<https://docs.fcc.gov/public/attachments/DOC-369262A1.pdf>>, accessed on June 8, 2021.

¹¹²FCC 11-161, WC Docket No. 10-90, Report and Order and Further Notice of Proposed Rulemaking, released November 18, 2011, <<https://docs.fcc.gov/public/attachments/FCC-11-161A1.pdf>>, accessed on June 8, 2021.

program. The FCC announced the winners of Phase I RDOF support on December 7, 2020.¹¹³ In Florida, eleven carriers submitted winning bids. The combined support for Phase I of RDOF support is \$192 million over ten years. However, these winning carriers must complete the qualification requirements established by the FCC or risk being removed from the program. Phase II will cover locations in census blocks that are partially served, as well as locations not funded in Phase I.

Figure 6-1
Areas in Florida Eligible for Phase I
Rural Digital Opportunity Fund



Source: FCC, Shapefile by Census Tracts

¹¹³FCC DA 20-1422, AU Docket No. 20-34, WC Docket No. 19-126, WC Docket No. 10-90, “Rural Digital Opportunity Fund Phase I Auction (Auction 904) Closes,” Public Notice, Attachment B, released December 7, 2020, <<https://docs.fcc.gov/public/attachments/DA-20-1422A3.pdf>>, accessed on June 8, 2021.

In October 2020, the FCC issued an order establishing rules for the 5G Fund for Rural America.¹¹⁴ In the Order, the FCC established a budget of up to \$9 billion, to be distributed in two phases. Phase I would budget \$8 billion to support eligible rural areas lacking unsubsidized 4G LTE or 5G mobile broadband. Phase II will provide at least an additional \$1 billion, along with any un-awarded funds from Phase I, to specifically target the deployment of technologically innovative 5G networks that facilitate precision agriculture.

2. 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 provides connectivity to schools and libraries and Category Two provides connectivity for services within schools and libraries.¹¹⁵

3. 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. The FCC released its 2016 Lifeline Modernization Order that reformed the Lifeline program.¹¹⁶ The FCC stated that in order to be sustainable and achieve its goals of providing low-income consumers with robust, affordable service, a broadband-focused Lifeline program should be adopted.¹¹⁷

¹¹⁴FCC 20-150, GN Docket No. 20-32, “Establishing a 5G Fund for Rural America,” Report and Order, released October 29, 2020, <<https://docs.fcc.gov/public/attachments/FCC-20-150A1.pdf>>, accessed on June 8, 2021.

¹¹⁵FCC 20-52, GN Docket No. 20-32, “Establishing a 5G Fund for Rural America,” Notice of Proposed Rulemaking and Order, released April 24, 2020, <<https://docs.fcc.gov/public/attachments/FCC-20-52A1.pdf>>, accessed on June 11, 2021

¹¹⁶FCC 16-38, WC Docket No. 11-42, WC Docket No. 09-197, WC Docket No. 10-90, Lifeline and Link Up Modernization, Telecommunications Carriers Eligible for Universal Service Support, Connect America Fund, Third Report and Order, Further Report and Order, and Order on Reconsideration, released April 27, 2016, <<https://docs.fcc.gov/public/attachments/FCC-16-38A1.pdf>>, accessed on June 11, 2021.

¹¹⁷USAC, “Universal Service Administrative Company 2020 Annual Report,” <https://www.usac.org/wp-content/uploads/about/documents/annual-reports/2020/USAC_Annual_Report_2020.pdf>, page 5, accessed on June 8, 2021.

Included in the 2016 Lifeline Modernization Order were reforms that began a phase-down of federal support for voice-only services. Reductions in voice-only support are scheduled each year, eventually phasing out completely by December 1, 2021. Lifeline customers who receive voice-only service currently receive a \$5.25 discount on their monthly bills. Lifeline customers who select either broadband or a bundle of broadband and voice services that meet 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 report on the state of the Lifeline marketplace, scheduled to be published on June 30, 2021. Table 6-2 outlines the FCC's phase down schedule.

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

Effective Dates	Fixed Voice	Mobile Voice	Fixed Broadband	Mobile Broadband
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)

The 2016 Lifeline Modernization Order included an exception to the complete phase-down of voice-only support in census blocks where there is only one Lifeline provider. On June 2, 2021, the FCC released a Public Notice identifying the census blocks eligible to continue receiving the \$5.25 support amount for voice-only Lifeline service through November 30, 2022.¹¹⁸ In Florida, 4,389 census blocks qualify for the continued voice-only support. Figure 6-3 highlights the areas eligible to continue receiving voice-only support in Florida.

¹¹⁸FCC DA 21-640, WC Docket Nos. 11-42, 09-197, 10-90, “Wireline Competition Bureau Announces Census Blocks in Which Eligible Lifeline Consumers Can Continue to Receive Discounted Voice-Only Lifeline Services,” Public Notice, released June 1, 2021, <<https://docs.fcc.gov/public/attachments/DA-21-640A1.pdf>>, accessed on June 10, 2021.

Figure 6-2
Areas in Florida Eligible for Continued Voice-Only Lifeline Support



Source: FCC, Shapefile by Census Blocks

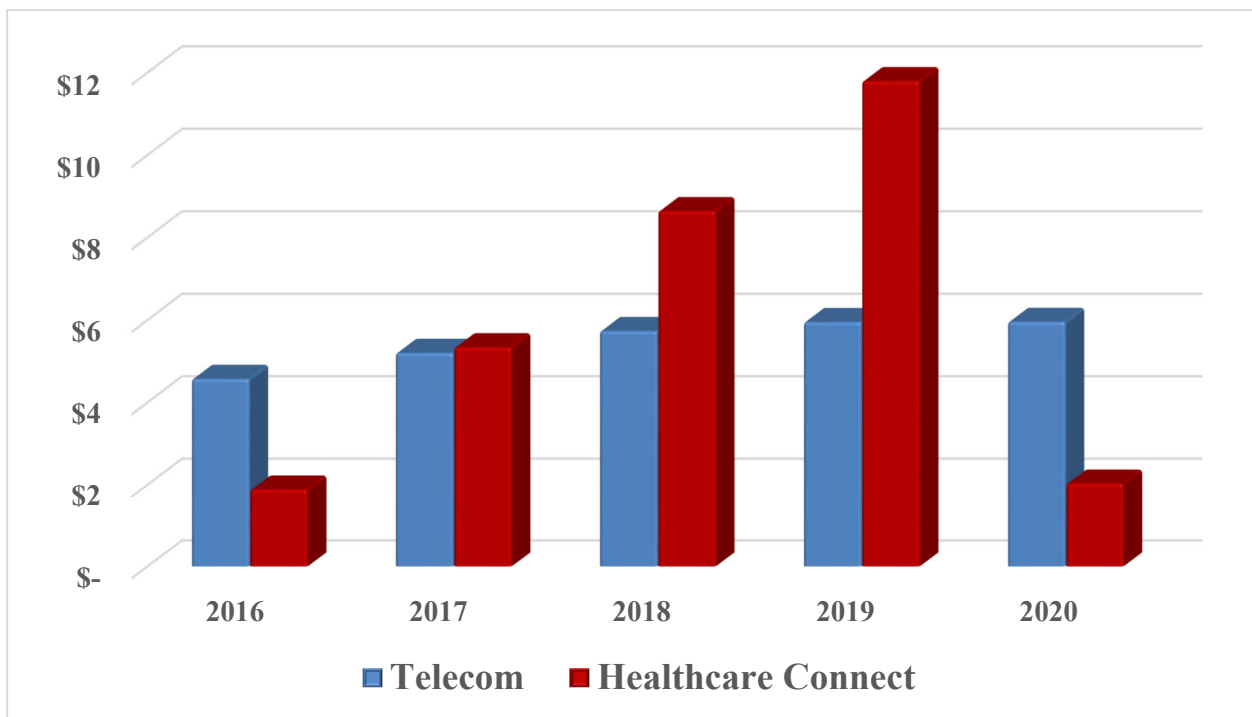
4. Rural Health Care

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, the RHC Program provides funding to eligible rural healthcare

providers for broadband and telecommunications services.¹¹⁹ 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.¹²⁰ Figure 6-3 illustrates a comparison of the amounts disbursed for funding years 2016-2020 by program in the state of Florida.

Figure 6-3
Rural Health Care Funding Disbursements for Florida by Program
(In Millions)



Source: Universal Service Monitoring Report

¹¹⁹Universal Service Administrative Company, “2020 Annual Report,” <https://www.usac.org/wp-content/uploads/about/documents/annual-reports/2020/USAC_Annual_Report_2020.pdf>, page 16, accessed on June 11, 2021.

¹²⁰FCC, “Universal Service Monitoring Report - 2020,” <<https://docs.fcc.gov/public/attachments/DOC-369262A1.pdf>>, accessed on June 11, 2021.

E. 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 FTC took several actions to protect Florida residents and businesses from robocalls, calling violations, call completion issues, and Universal Service Fund violations.

1. Robocalls

The FCC has taken several recent actions to build on its previous efforts to halt the impact and proliferation of robocalls. These actions include issuing a report finding substantial availability of robocall blocking tools, requiring voice providers to provide caller ID authentication on non-IP networks, and allowing blocking of one-ring scam calls.¹²¹ The FCC also proposed an online tip portal for robocalls and released a status report on the reassigned numbers database.¹²² Other FCC actions include releasing a list of best practices for protecting hospitals from robocalls and an annual report on robocall complaints and enforcement actions over the previous five year period, as required by Congress.¹²³

Another method of deterring robocalls is the threat of litigation. On April 4, 2021, the Supreme Court of the United States issued a ruling taking a more narrow view of Automatic Telephone Dialing Systems (ATDS) as defined in the Telephone Consumer Protection Act. The Court found that to be classified as ATDS, equipment must have the capacity to use and/or store telephone numbers using a random or sequential number generator.¹²⁴ This ruling will likely reduce the number of class action lawsuits against companies for automated unwanted contact.

¹²¹FCC, “FCC Report Finds Substantial Availability of Robocall Blocking Tools,” released June 25, 2020, <<https://www.fcc.gov/document/fcc-report-finds-substantial-availability-robocall-blocking-tools>>, accessed on April 20, 2021; FCC, “FCC Adopts New Rules to Combat Spoofed Robocalls,” released October 1, 2020, <<https://www.fcc.gov/document/fcc-adopts-new-rules-combat-spoofed-robocalls-0>>, accessed on April 20, 2021; FCC, “FCC Acts to Protect Consumers from One-Ring Scams,” released November 30, 2020, <<https://www.fcc.gov/document/fcc-acts-protect-consumers-one-ring-scams>>, accessed on April 20, 2021.

¹²²FCC, “FCC Proposes Online Tip Portal to Combat Robocallers,” released December 8, 2020, <<https://www.fcc.gov/document/fcc-proposes-online-tip-portal-combat-robocallers>>, accessed on April 20, 2021; FCC, “FCC Releases Status Report on Reassigned Numbers Database,” released December 8, 2020, <<https://www.fcc.gov/document/fcc-releases-status-report-reassigned-numbers-database>>, accessed on April 20, 2021.

¹²³FCC, “Hospital Robocall Protection Group Issues Best Practices,” released December 14, 2020, <<https://www.fcc.gov/document/hospital-robocall-protection-group-issues-best-practices>>, accessed on April 20, 2021; FCC, “FCC Submits TRACED Act Annual Report 2020 to Congress,” released December 23, 2020, <<https://www.fcc.gov/document/fcc-submits-traced-act-annual-report-2020-congress>>, accessed on April 20, 2021.

¹²⁴The National Law Review, “Supreme Court Issues Monumental TCPA Decision,” published April 1, 2021, <<https://www.natlawreview.com/article/supreme-court-issues-monumental-tcpa-decision>>, accessed on May 10, 2021.

2. 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."¹²⁵ Changes in technology have made robocalling and spoofing easier and cheaper. Recent FCC and FTC enforcement actions include the following:

- On January 14, 2021, the FCC issued a forfeiture order to Scott Rhodes for \$9,918,000 for illegally using caller ID spoofing while making thousands of robocalls in 2018 targeting specific communities with harmful pre-recorded messages, including attacking gubernatorial candidates in Florida and Georgia, an apparent attempt to influence the jury in a domestic terrorism case, and threatening language toward a local journalist.¹²⁶
- On March 4, 2021, the FTC announced that it, along with 46 agencies from 38 states and D.C., including Florida's Office of the Attorney General and the Florida Department of Agriculture and Consumer Services, has stopped a massive telefunding operation that bombarded 67 million consumers with 1.3 billion deceptive charitable fundraising calls, most of which were illegal robocalls. The defendants collected more than \$110 million using their deceptive solicitations.

The financial terms of the settlements with the defendants, now pending court approval, are as follows.

- Associated Community Services, Inc.; Community Services, Inc.; Central Processing Services, Inc.; Community Services Appeal, Inc.; Barbara Cole, Richard Cole, Amy Burland, Richard W. Burland, John Lucidi, and Scot Stepek are subject to a monetary judgement of \$110,063,843.
- Directele Inc., The Dale Corporation, Nikole Gilstorf, and Antonio Lia will be subject to a monetary judgement of \$1.6 million.

The funds surrendered by the defendants will be paid to an escrow fund held by the State of Florida and, following a motion by the participating states and approval by the court, be contributed to one or more legitimate charities that support causes similar to those for which the defendants solicited.¹²⁷

¹²⁵Truth in Caller ID Act of 2009, Pub. L. No. 111-131, 124 Stat. 3572 (2010).

¹²⁶FCC, "FCC Fines Robocaller Nearly \$10 Million for Malicious Spoofing," released January 14, 2021, <<https://www.fcc.gov/document/fcc-fines-robocaller-nearly-10-million-malicious-spoofing>>, accessed on April 20, 2021.

¹²⁷FTC, "FTC, 38 States, and D.C. Act to Shut Down Massive Charity Fraud Telefunding Operation," released March 4, 2021, <<https://www.ftc.gov/news-events/press-releases/2021/03/ftc-38-states-dc-act-shut-down-massive-charity-fraud-telefunding>>, accessed on April 20, 2021.

3. 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 November 4, 2020, the FCC announced that T-Mobile will pay a \$200 million penalty to the U.S. Treasury to resolve an investigation of its subsidiary Sprint claiming monthly subsidies for serving approximately 885,000 Lifeline subscribers even though those subscribers were not using the service.¹²⁸

F. Public Safety

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

1. Hurricanes

Hurricanes Sally and Zeta prompted FCC response in Florida in 2020. In order to assist in disaster mitigation efforts, the FCC tracks disaster data, issues status reports, and posts disaster-related information.¹²⁹ The FCC activated its Disaster Information Reporting system for Hurricane Sally on September 14, 2020, including Florida counties: Escambia, Okaloosa, Santa Rosa, and Walton.¹³⁰ At the peak level of damage in the affected Florida counties, 17.7 percent of cell sites and two FM radio stations were rendered nonfunctional, while across the entire disaster area, 217,766 cable and wireline subscribers lost service.¹³¹ The FCC activated its Disaster Information Reporting system for Hurricane Zeta on October 28, 2020, including Escambia and Santa Rosa counties.¹³² At the peak level of damage in the affected Florida counties, 4.8 percent of cell sites and 1,434 cable and wireline subscribers lost service.¹³³

¹²⁸FCC, “FCC Reaches \$200 Million Settlement in Sprint Lifeline Investigation,” released November 4, 2020, <<https://www.fcc.gov/document/fcc-reaches-200-million-settlement-sprint-lifeline-investigation-0>>, accessed on April 19, 2021.

¹²⁹FCC, “FCC Hurricane Response,” updated February 17, 2021, <<https://www.fcc.gov/fcc-hurricane-response>>, accessed on April 15, 2021.

¹³⁰FCC, “FCC Activates Disaster Information Reporting for Hurricane Sally,” released September 14, 2020, <<https://www.fcc.gov/document/fcc-activates-disaster-information-reporting-hurricane-sally>>, accessed on April 15, 2021.

¹³¹FCC, “Hurricane Sally Communications Status Report for September 18, 2020” and “Hurricane Sally Communications Status Report for September 19, 2020,” released September 18-19, 2020, <<https://www.fcc.gov/Sally>>, accessed on April 15, 2021.

¹³²FCC, “FCC Activates Disaster Information Reporting for Hurricane Zeta,” released October 28, 2020, <<https://www.fcc.gov/document/fcc-activates-disaster-information-reporting-hurricane-zeta>>, accessed on April 15, 2021.

¹³³FCC, “Hurricane Zeta Communications Status Report for October 29, 2020” and “Hurricane Zeta Communications Status Report for October 30, 2020,” released October 29-30, 2020, <<https://www.fcc.gov/Zeta>>, accessed on April 15, 2021.

On March 17, 2021, the FCC proposed rules to improve the way the public receives emergency alerts on their mobile phones, televisions, and radios, including creating a non-optional alert class called “National Alerts.”¹³⁴ In an effort to improve damage assessment and recovery efforts for future disasters, on March 18, 2021, the FCC released an order providing for the sharing of communications outage information with approved state, federal, and tribal agencies.¹³⁵

2. COVID-19

The increase in the use of telework, telemedicine, remote learning, and other network applications caused by COVID-19 has highlighted the importance of internet access. In response, the federal government has provided and proposed extensive support for broadband connectivity. Recently passed laws with provisions that apply or can be applied to connectivity include:

- The Coronavirus Aid, Relief, and Economic Security Act, which provides more than \$28.6 billion in support that can be applied towards rural broadband, rural telehealth, telemedicine, distance learning, and other broadband support.¹³⁶
- The Consolidated Appropriations Act, 2021, which provides more than \$7 billion in support that can be applied towards broadband infrastructure, telehealth, broadband connectivity, and connecting underserved minority communities.¹³⁷
- The American Rescue Plan Act, which provides more than \$362 billion in support of state, tribal, and local governments that can be applied towards broadband projects.¹³⁸

¹³⁴FCC, “FCC Proposes to Further Strengthen Emergency Alerting,” released March 19, 2021, <<https://www.fcc.gov/document/fcc-proposes-further-strengthen-emergency-alerting-0>>, accessed on April 19, 2021.

¹³⁵FCC, “FCC to Share Communications Outage Info with Federal & State Agencies,” released March 18, 2021, <<https://www.fcc.gov/document/fcc-share-communications-outage-info-federal-state-agencies-0>>, accessed on April 15, 2021.

¹³⁶KFF.org, “The Coronavirus Aid, Relief, and Economic Security Act: Summary of Key Health Provisions,” updated April 9, 2020, <<https://www.kff.org/coronavirus-covid-19/issue-brief/the-coronavirus-aid-relief-and-economic-security-act-summary-of-key-health-provisions/>>, accessed on April 15, 2021.

¹³⁷Davis Wright Tremaine LLP, “Summary of Consolidated Appropriations Act’s Broadband Deployment Provisions,” updated January 29, 2021, <<https://www.jdsupra.com/legalnews/summary-of-consolidated-appropriations-8990404/>>, accessed on April 15, 2021.

¹³⁸National Association of Counties, “American Rescue Plan Act Funding Breakdown,” updated April 12, 2021, <<https://www.naco.org/resources/featured/american-rescue-plan-act-funding-breakdown#:~:text=Funding%20to%20states%2C%20territories%2C%20and,and%20other%20housing%20related%20costs>>., accessed on April 15, 2021.

There are also several broadband supporting bills currently in Congress. One such bill is the Accessible Affordable Internet for All Act, which includes more than \$94 billion in support of broadband deployment to underserved persistently poor communities, low interest broadband deployment financing, and additional support for the Emergency Broadband Connectivity Program.¹³⁹

In addition to duties related to these recent and new laws, federal agencies have been taking other steps in response to COVID-19. The FCC has taken several steps such as granting and extending waivers for various Lifeline, Relay, E-Rate, and Rural Health Care program rules, issuing special temporary access licenses for spectrum sharing, as well as maintaining a web page with a list of FCC COVID-19 actions. In addition, the FCC has issued awards from Round 1 of its Telehealth Program, including more than \$7 million in Florida, its Connected Care Pilot Program with more than \$1.5 million in Florida, and it has recently been taking steps to implement Round 2 of the Telehealth Program and the Emergency Broadband Benefit Program.
140, 141, 142, 143

¹³⁹United States Senator Klobuchar, Klobuchar, Clyburn Introduce Comprehensive Broadband Infrastructure Legislation to Expand Access to Affordable High-Speed Internet, updated March 12, 2021, <<https://www.klobuchar.senate.gov/public/index.cfm/2021/3/klobuchar-clyburn-introduce-comprehensive-broadband-infrastructure-legislation-to-expand-access-to-affordable-high-speed-internet>>, accessed on April 15, 2021.

¹⁴⁰FCC, “Coronavirus,” updated April 2, 2021, <<http://www.fcc.gov/coronavirus/>>, accessed on April 15, 2021.

¹⁴¹FCC, “COVID-19 Telehealth Program (Invoices and Reimbursements),” updated April 2, 2021, <<http://www.fcc.gov/covid-19-telehealth-program-invoices-reimbursements/>>, accessed on April 15, 2021.

¹⁴²FCC, “Connected Care Pilot Program,” updated January 25, 2021, <<http://www.fcc.gov/wireline-competition/telecommunications-access-policy-division/connected-care-pilot-program/>>, accessed on April 15, 2021.

¹⁴³FCC, “Emergency Broadband Benefit Program,” updated April 1, 2021, <https://www.fcc.gov/emergency-broadband-benefit-program/>, accessed on April 15, 2021.

Appendix - List of Certificated CLECs as of 12/31/2020

** Indicates the company did not respond to the Commission's data request

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, LLC
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.
BeCru
BetterWorld Telecom
Branch Communications, LLC
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
C3
Call One Inc. of Illinois
Callis Communications, Inc.
Campus Communications Group, Inc.
CBTS Technology Solutions LLC
**Citadel Design & Construction, LLC
City Communications, Inc
City of Bartow
City of Lakeland
City of Ocala
Clear Rate Communications, Inc.
Cogent Communications of Florida
Comcast Business Communications, LLC
Comcast Digital Phone
Communications Authority, Inc
ComNet (USA) LLC
**Compu-Design USA Inc. dba Dade Institute of Technology
Comtech21, LLC
Consolidated Communications Enterprise Services, Inc.
Conterra Ultra Broadband, LLC
Convergja, Inc.
CoreTel Florida, Inc.
Cox Florida Telcom, L.P.
CREXENDO BUSINESS SOLUTIONS, INC.
Crosstel Tandem, Inc.
Crown Castle Fiber LLC
Custom Network Solutions, Inc.
Custom Tel, LLC
Dais Communications, LLC
Data Stream Telecom of Florida Inc.
DeltaCom LLC
Discount CLEC Services Corporation
dishNET Wireline L.L.C.
DSCI, LLC
Easton Telecom Services, L.L.C.
Easy Telephone Services Company
Embarq Communications
ENA Services, LLC
eNetworks NC, LLC
ENGAGE COMMUNICATIONS
Enhanced Communications Network, Inc.
Entelegant Solutions, Inc.
ExteNet Asset Entity, LLC
ExteNet Systems, Inc.
Faster.IO, Inc.
FiberLight, LLC
First Choice Technology, Inc.
First Communications, LLC
FL Network Transport, LLC
Florida Phone Systems, Inc.
FPUAnet Communications
France Telecom Corporate Solutions L.L.C.
Frontier Communications of America, Inc.
Frontier Florida LLC

Fusion
 Fusion Cloud Services, LLC
 Fusion Communications, LLC d/b/a Fusion
 Communication Services, LLC
 Georgia Public Web, Inc.
 GetGo Communications LLC
 GIGAMONSTER NETWORKS, LLC
 Global Capacity
 Global Crossing Local Services, Inc.
 Granite Telecommunications, LLC
 Great America Networks, Inc.
 GRU Communication Services/GRUCom/GRU
 GRUCom
 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.
 inContact, Inc.
 Indigital
 INNOVATIVE TECH PROS
 **Integrated Path Communications, LLC
 InteleTel, LLC
 Inteltrace, Inc.
 Intellifiber Networks, LLC
 Interactive Services Network, Inc.
 InterGlobe Communications, Inc.
 InterMetro Fiber, LLC
 Intrado Communications, LLC
 Intrado Safety Communications, Inc.
 IPC Network Services, Inc.
 ITS Fiber
 ITS Fiber
 JEA
 Joytel Wireless Communications, Inc.
 Keys Energy Services
 Level 3 Communications, LLC
 Level 3 Telecom of Florida, LP
 Light Source Communications, LLC
 **Lightspeed CLEC, Inc.
 Litestream Holdings, LLC
 Luxury Telecommunications LLC d/b/a Luxury
 Telecommunications
 Magna5 LLC
 Maryland TeleCommunication Systems, Inc.
 MassComm, LLC
 MasTec Network Solutions, LLC
 Matrix Telecom, LLC
 MCC Telephony of Florida, LLC
 McLeodUSA Telecommunications Services, L.L.C.
 MetroNet
 MetTel
 Micro-Comm, Inc.
 MIX Networks, Inc.
 Mobilite Management, LLC
 Mobilite, LLC
 MOSAIC NETWORKX LLC
 MULTIPHONETM LATIN AMERICA, INC.
 Myakka Communications, Inc.
 Nebula Telecommunications of Florida LLC
 Netsync Fiber Inc
 Network Innovations, Inc.
 Network Telephone, LLC
 Neutral Tandem-Florida, LLC
 New Horizons Communications Corp.
 NextCity Networks, LLC
 NGA 911, L.L.C.
 **Norstar Telecommunications, LLC
 NOS Communications, Inc.
 One Voice Communications, Inc.
 Onvoy, LLC
 **Opextel LLC d/b/a Alodiga
 PacOptic Networks, LLC
 PaeTec Communications, LLC
 PBX-Change
 PeakNet, LLC
 Peerless Network of Florida, LLC
 Phone Club Corporation
 Pioneer Telephone
 PowerNet Global Communications
 Preferred Long Distance, Inc.
 QCSTelecom, Inc.
 QuantumShift Communications, Inc.
 RCLEC, Inc.
 **Reddot Networks Inc.
 SanTel Communications
 SBA DAS & Small Cells, LLC
 Seminole Telecom of Florida, LLC
 **SH Services LLC
 Simwood Inc.
 **SKYNET360, LLC
 Smart Choice Communications, LLC
 Smart City Communications
 Smart City Networks, Limited Partnership
 Smart City Solutions II, LLC
 Southeastern Services, Inc.

Southern Light, LLC
Southern Light, LLC
Southern Telecom
**Spectrum Fiberlink Florida, LLC
Sprint Communications Company Limited Partnership
SQF, LLC
Stanley Utility Contractor, Inc.
Stratus Networks, Inc.
Summit Broadband
Synergem Technologies, Inc.
T3 Communications, Inc.
Talk America Services, LLC
TALKIE COMMUNICATIONS, INC.
Telco Experts, LLC
TelCove Operations, LLC
Telepak Networks, Inc.
Teleport Communications America, LLC
Teliix, Inc.
Telrite Corporation
**Tel-Star Communications of Florida Inc.
Terra Nova Telecom, Inc.
TerraNovaNet, Inc.
The Other Phone Company LLC
TIME CLOCK SOLUTIONS, LLC
Time Warner Cable Business LLC
Tone Communication Services LLC
TotalComUSA
Touch Base Communications
Touchtone Communications Inc. of Delaware
**Tristar Communications Corp.
Triton Networks LLC

United Commercial Telecom, LLC
Unifi Fiber LLC
Unifi National LLC
US LEC of Florida, LLC
US Signal Company, L.L.C.
USA FIBER
Vanco US, LLC
**Vector Axis Florida LLC
Velocity, A Managed Services Company, Inc.
Verizon Access Transmission Services
Verizon Select Services Inc.
Vero Networks
Vesta Solutions, Inc.
VoDa Networks, Inc.
Vodafone US Inc.
Voxbeam Telecommunications Inc.
WANRack, LLC
Webpass Florida LLC
Wholesale Carrier Services, Inc.
Wide Voice, LLC
WiMacTel, Inc.
Windstream KDL, LLC
Windstream New Edge, LLC
Windstream Norlight, LLC
Windstream NuVox, LLC
Windstream Talk America, LLC
**WonderLink Communications, LLC
WOW! Internet, Cable and Phone
XO Communications
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 provides 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, video on demand, 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 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.
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.