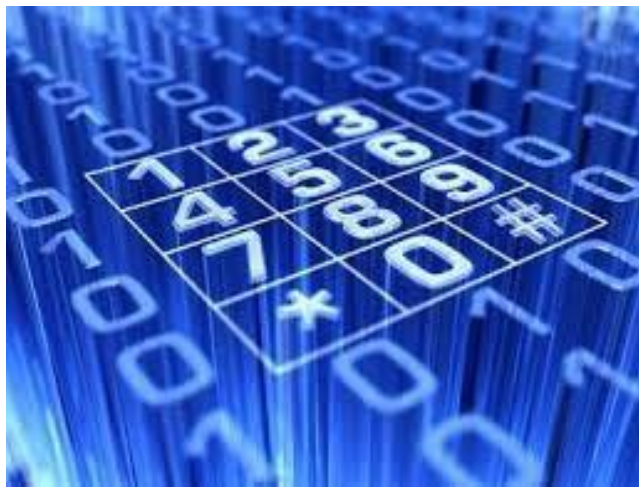


Report on the

Status of Competition in the Telecommunications Industry



AS OF DECEMBER 31, 2023



Florida Public Service Commission

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List of Acronyms

ACP	Affordable Connectivity Program
CDC	Centers for Disease Control and Prevention
CLEC	Competitive Local Exchange Carrier
ETC	Eligible Telecommunications Carrier
FCC	Federal Communications Commission
FPSC	Florida Public Service Commission
F.S.	Florida Statutes
ICC	Interstate Commerce Commission
ILEC	Incumbent Local Exchange Carrier
IP	Internet Protocol
LTE	Long-Term Evolution
Mbps	Megabits per second
NANPA	North American Numbering Plan Administrator
NCHS	National Center for Health Statistics
NPA	Numbering Plan Area
OTT	Over-the-top
PSTN	Public Switched Telephone Network
RDOF	Rural Digital Opportunity Fund
TDM	Time Division Multiplexing
UNE	Unbundled Network Elements
USF	Universal Service Fund
USAC	Universal Service Administrative Company
VoIP	Voice over Internet Protocol

Executive Summary

Section 364.386, Florida Statutes (F.S.), 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, 2023, there were 10 incumbent local exchange carriers (ILECs) and 231 competitive local exchange carriers (CLECs) certificated by the Commission to operate in Florida.

In 2023, AT&T and CenturyLink experienced overall access line losses in Florida, while Frontier had a slight gain, due to an increase in business customers. The local and national markets continued to consolidate with several mergers and acquisitions. Several intrastate issues were resolved or initiated in 2023. Lifeline subscriptions in Florida fell slightly to 300,229 households in 2023.

Consumers in Florida continue to migrate from traditional switched wireline service to wireless and Voice over Internet Protocol (VoIP) services. Carriers reported approximately 764,000 total wireline access lines in Florida for 2023, about 15.1 percent fewer than the previous year. Residential and business wirelines both experienced significant drops in 2023.

Total residential access lines declined 21.8 percent. The transition to VoIP and wireless-only services continues to be responsible for much of this decline. For the fifth consecutive year, AT&T exceeded CenturyLink as Florida's largest residential access line provider. AT&T experienced a 27.2 percent decline in residential lines during 2023 while CenturyLink declined 19.9 percent. Frontier experienced the largest residential loss with a 25.6 percent decline in residential access lines during the same period.

For the 13th year in a row, total business access lines exceeded total residential access lines; however, total business access lines declined 15 percent in 2023. More than half of AT&T's and Frontier's wireline subscribers were business lines, while CenturyLink's business wireline subscribers made up less than half of its total access lines. Over 98 percent of CLEC access lines were business lines, although their total business market share declined to 24.7 percent in 2023.

As reported for the past several years, intermodal competition from wireless and VoIP services continued to drive the telecommunications markets in 2023. According to the most recent data from the Federal Communications Commission (FCC), there are nearly 24 million wireless subscriptions in Florida, and over 4.5 million VoIP connections, far eclipsing the 764,000 remaining wireline access lines.

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

- Many CLECs reported offering a variety of services and packages comparable to those offered by ILECs. Subscribers to wireless and business VoIP services continued to increase while 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 of Florida and the need for telecommunications services continues 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

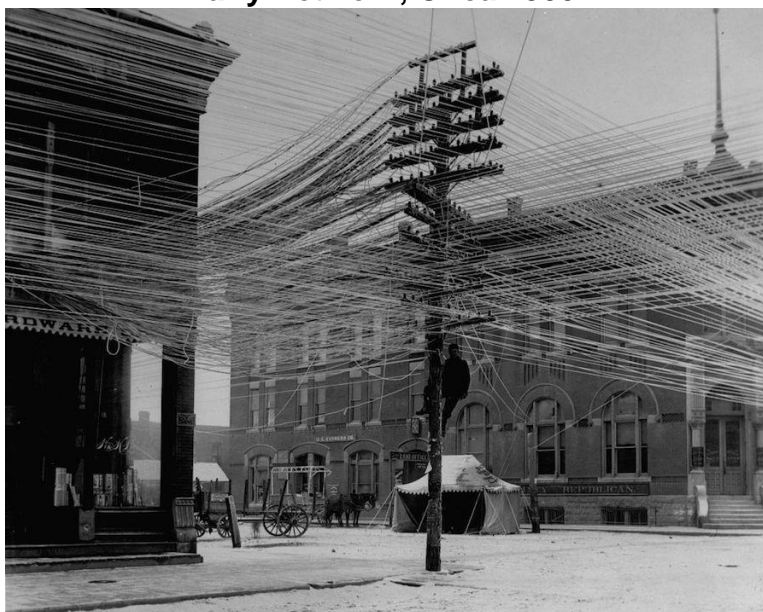
Telephone service has been regulated to some degree since nearly the moment the technology was patented by Alexander Graham Bell (Bell) in 1876.¹ This section summarizes the major historical regulatory events both at the federal and state levels. For the purposes of this report, the history of federal 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 a nationwide telephone network. In the 18 years Bell held the patents, the average daily calls per 1,000 population 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 June 12, 2024.

²Adam D. Thierer, "Unnatural Monopoly: Critical Moments in the Development of the Bell System Monopoly," Washington, D.C.; *The Cato Journal*, Vol. 14, No. 2, (Fall 1994), p. 270, <https://www.cato.org/sites/cato.org/files/serials/files/cato-journal/1994/11/cj14n2-6.pdf>, accessed June 12, 2024.

³Ibid.

Bell's American Telephone and Telegraph Company (AT&T) responded to 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 an antitrust settlement with the Department of Justice. 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 at that time 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.

⁴Richard Gabel, "The Early Competitive Era in Telephone Communication, 1893-1920," 34 *Law and Contemporary Problems*, Vol. 34, No. 2, (Spring 1969), p. 350, <https://scholarship.law.duke.edu/lcp/vol34/iss2/8>, accessed June 12, 2024.

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 June 12, 2024.

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 June 12, 2024.

⁷Matthew Lasar, "How AT&T Conquered the 20th Century," *Wired*, September 3, 2011, <https://www.wired.com/2011/09/att-conquered-20th-century/>, accessed June 12, 2024.

⁸Ibid.

⁹Ibid.

¹⁰Ibid.

By enacting the Communications Act of 1934 (1934 Act) as part of President Roosevelt's New Deal, Congress created a new agency, the FCC, and transferred to it the ICC's telecommunications jurisdiction.¹¹ The new law enabled the FCC to codify its rate-of-return regulation of AT&T while also protecting AT&T's monopoly market position.¹² This regulatory regime 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 top five 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

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

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).

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

¹⁶Ibid.

ILECs, were required to lease elements of their networks to the new competitors, called 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 escape the voluminous interconnection rules if they could demonstrate to the state utility commission 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 disagreements between companies require arbitration. While the FCC was responsible for establishing the national framework for executing the 1996 Act, it took several years for the States and the FCC to complete the initial implementation of the 1996 Act.

While Congress hoped that the 1996 Act would settle the endless litigation in the telecommunications market, the opposite proved true. 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, after four tries and over eight years after the 1996 Act was passed, the FCC's "Triennial Review Remand Order" was issued.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 telecommunications services provided by 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

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.

¹⁹See 1911 Fla. Laws 6186.

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.

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

Competition for more services developed and, by 1995, the emergence of cable companies made it obvious that competition for all local services was inevitable. In anticipation of a federal law becoming imminent, the Florida Legislature passed a sweeping revision to Chapter 364, F.S., finding that “the competitive provision of telecommunications services, including local exchange service, is in the public interest.”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 publishing 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 less 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 VoIP services, which at that time were largely utilized by cable companies to provide telephone service.²⁵

In 2005, the Legislature again amended Chapter 364, F.S., 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 exempted advanced services from the FPSC’s jurisdiction, which included 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 damage caused by named tropical storms.²⁶

²¹See 1990 Fla. Laws 244.

²²See 1995 Fla. Laws 403.

²³Ibid.

²⁴See 1998 Fla. Laws 277.

²⁵See 2003 Fla. Laws 32.

²⁶See 2005 Fla. Laws 107 and 132.

In 2006, carrier of last resort obligations in multitenant environments were amended, and some previously enacted rate requirements were repealed.²⁷ In 2007, changes included further rate reductions, rebalancing, and repeals. Also, an automated enrollment process for 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 non-basic services was decreased. Service quality oversight for non-basic services was eliminated and company tariffs were no longer required to be filed with the Commission. Lifeline eligibility was again expanded. The Florida Department of Management Services was designated as the agency to oversee broadband deployment in Florida. In 2010, the rate-of-return sections in Chapter 364, F.S., were repealed.²⁹

In 2011 the deregulation of all retail services by ILECs was finalized. This included the elimination of rate caps, the consumer protection and assistance duties of the FPSC, and all service quality oversight. It also repealed the previously-enacted storm damage recovery provisions.³⁰

The most recent revision to Chapter 364, F.S. came in 2024, when the FPSC's authority to designate eligible telecommunications carriers (ETCs) was expanded. Wireless carriers may now be designated as ETCs by the FPSC for the purpose of providing Lifeline service.³¹

Although telecommunications is largely deregulated in Florida at this time, 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 to provide telecommunications service. The FPSC has continuing authority over numbering issues, including area code relief, number conservation, and local number portability. The FPSC also resolves 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.

²⁷See 2006 Fla. Laws 080.

²⁸See 2007 Fla. Laws 029.

²⁹See 2009 Fla. Laws 226.

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

³¹See 2024 Fla. Laws 88.

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 28, 2024, to 10 ILECs and 231 CLECs. Responses were due April 15, 2024. The data and analyses that follow accurately reflect the information provided by the ILECs and the reporting CLECs.

This report is divided into chapters that summarize key events and data that may have a short-term or long-term effect on the Florida telecommunications market. Chapter II presents data regarding wireline access line competition in Florida, including access line trends, residential/business access line mix, and market share. Chapter III discusses the continued development of the wireline market's principle forms of intermodal competition: broadband, wireless, and VoIP. Chapter IV primarily uses data outlined in the other chapters to address the four statutory issues delineated above. Chapter V provides a summary of state activities affecting local telecommunications competition in 2023, 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 copper wires and Time Division Multiplexing (TDM) are traditionally referred to as switched access lines, or more commonly known by consumers today as landlines. This legacy wireline technology is 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 their 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.³² 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 over 56,000 (16.9 percent) in 2023, with residential access lines decreasing by nearly 40,000 (27.2 percent) and business lines by over 16,000 (8.7 percent).³³ Nationwide, AT&T reported losses of approximately 377,000 switched access lines (18.6 percent). AT&T is the only major ILEC in Florida that reports access line numbers at the national level in its annual reports. Despite these line losses, AT&T reported a nearly 3.3 percent increase in national consumer wireline operating revenues to over \$34 billion.³⁴

³²Responses to local competition data request 2024.

³³AT&T's response to the local competition data request 2024.

³⁴AT&T Inc., "Form 10-K," December 31, 2023, <https://investors.att.com/~media/Files/A/ATT-IR-V2/financial-reports/annual-reports/2023/2023-complete-annual-report.pdf> p. 12 of 117, accessed June 12, 2024; responses to local competition data request 2024.

CenturyLink's Florida switched access lines declined over 52,000 (21.5 percent), with residential access lines decreasing over 24,000 (19.9 percent) and business access lines decreasing nearly 28,000 (23.2 percent).³⁵ Nationwide, CenturyLink reported operating revenues of approximately \$14.6 billion in 2023, reflecting a decline of nearly 16.7 percent from 2022.³⁶

Frontier's switched access lines in Florida increased by nearly 300 (0.2 percent), with residential access lines decreasing over 7,000 (25.6 percent) while business lines increased by nearly 8,000 (10.2 percent).³⁷ Nationwide, Frontier reported 2023 revenue of \$5.7 billion, reflecting a decline of one percent.³⁸

The seven rural Florida ILECs experienced a contraction in the number of switched access lines. In 2023, rural carriers in Florida saw their total access lines decline by approximately 10,100 (12.2 percent). Residential lines decreased nearly 6,700 (11.6 percent) and business lines decreased by over 3,400 (13.7 percent).³⁹

B. Wireline Trends in Florida

Figure 2-1 illustrates the overall trend in Florida for both residential and business switched access lines. Beginning in 2011, business lines exceeded residential lines. Based on current data, the rate of decline in residential lines accelerated, while the rate of decline in business lines moderated somewhat in 2023. Residential access lines totaled nearly 280,000 as of December 2023, representing a decline of 21.8 percent from 2022. Business access lines totaled over 484,000, representing a decline of 15.0 percent from the previous year. Total combined access lines for ILECs and CLECs declined 17.7 percent, from nearly 928,000 in December 2022 to nearly 764,000 as of December 2023. Over the past five years, the total number of switched access lines decreased by nearly 1.2 million, or 60.1 percent.

³⁵CenturyLink/Lumen's response to local competition data request 2024.

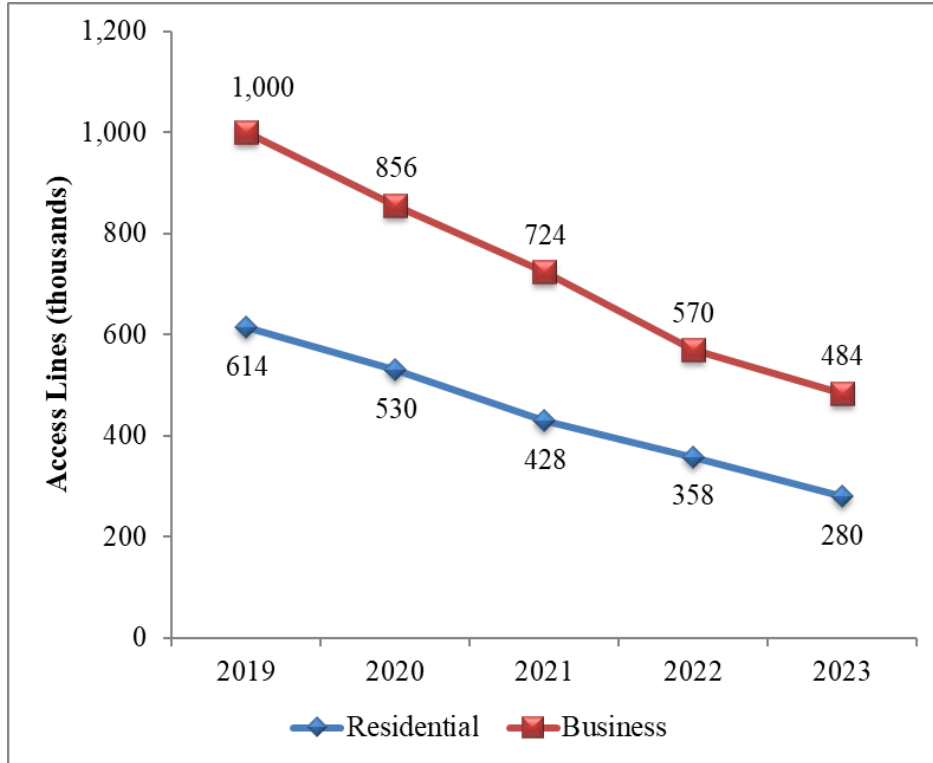
³⁶Lumen Technologies, Inc., "Form 10-K," December 31, 2023, <https://d18rn0p25nwr6d.cloudfront.net/CIK-0000018926/eee2e2ce-b927-4070-8d11-ec4b9e312cdc.html>, accessed June 12, 2024.

³⁷Frontier's response to local competition data request 2024.

³⁸Frontier Communications Corporation, "Form 10-K," December 31, 2023, <https://d18rn0p25nwr6d.cloudfront.net/CIK-0000020520/600c8acd-91ce-4ff7-a460-02ddecdfefbac.html>, accessed June 12, 2024.

³⁹Responses to local competition data request 2024.

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



Source: Responses to local competition data request (2020-2024)

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

1. Market Mix

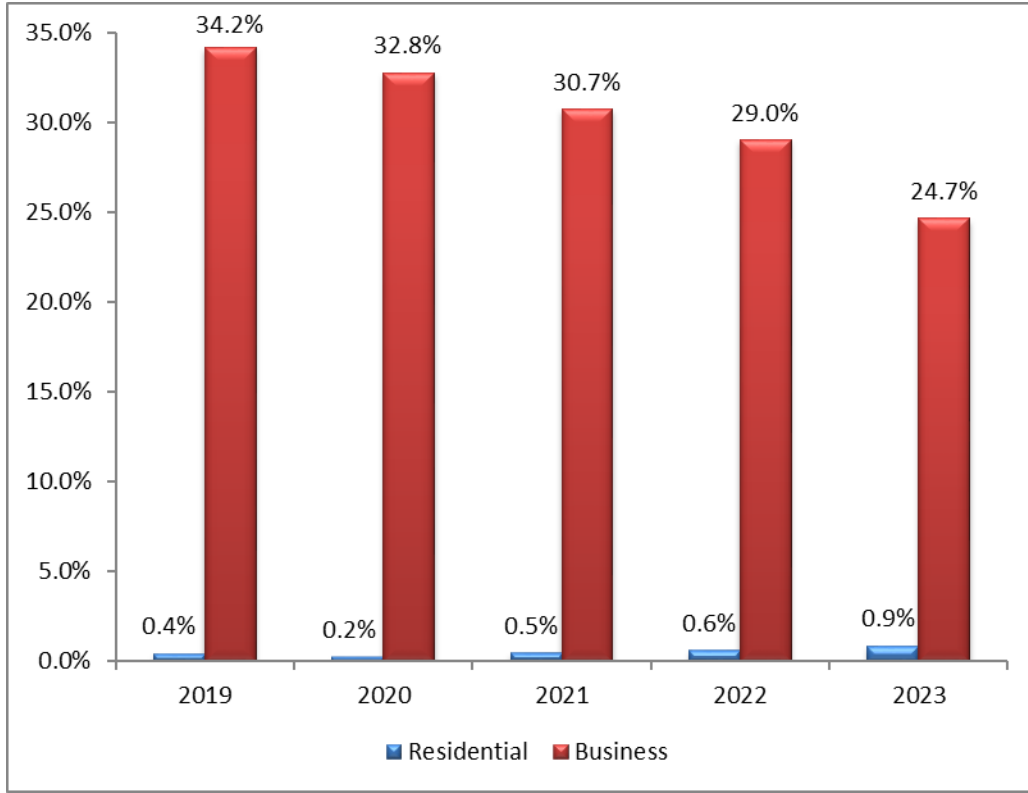
The business-to-residential ratio of customers served by ILECs and CLECs has shifted over time. In general, both ILECs and CLECs have seen an increased concentration of traditional wireline business customers as residential customers migrate to other options. The business-to-residential customer mix 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. In 2023, the ILECs’ ratio was 57 percent business lines to 43 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 to 37 percent residential. In 2023, the CLEC customer mix was around 98 percent business lines.

2. Market Share

CLECs have traditionally focused more 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 0.6 percent in 2022 to 0.9 percent in 2023, while the CLEC business market share decreased from 29.0 percent in 2022 to 24.7 percent in 2023.

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



Source: Responses to local competition data request (2020-2024)

3. Market Composition

The market composition of access lines served by local exchange companies is illustrated in Table 2-1. In 2023, ILEC residential access lines decreased by 22.0 percent, while ILEC business lines decreased by 9.8 percent. The CLECs experienced a slight increase in the number of residential access lines, but given their small market presence, this yielded a percentage gain of 11.8 percent. CLEC business access lines decreased by 27.8 percent.

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

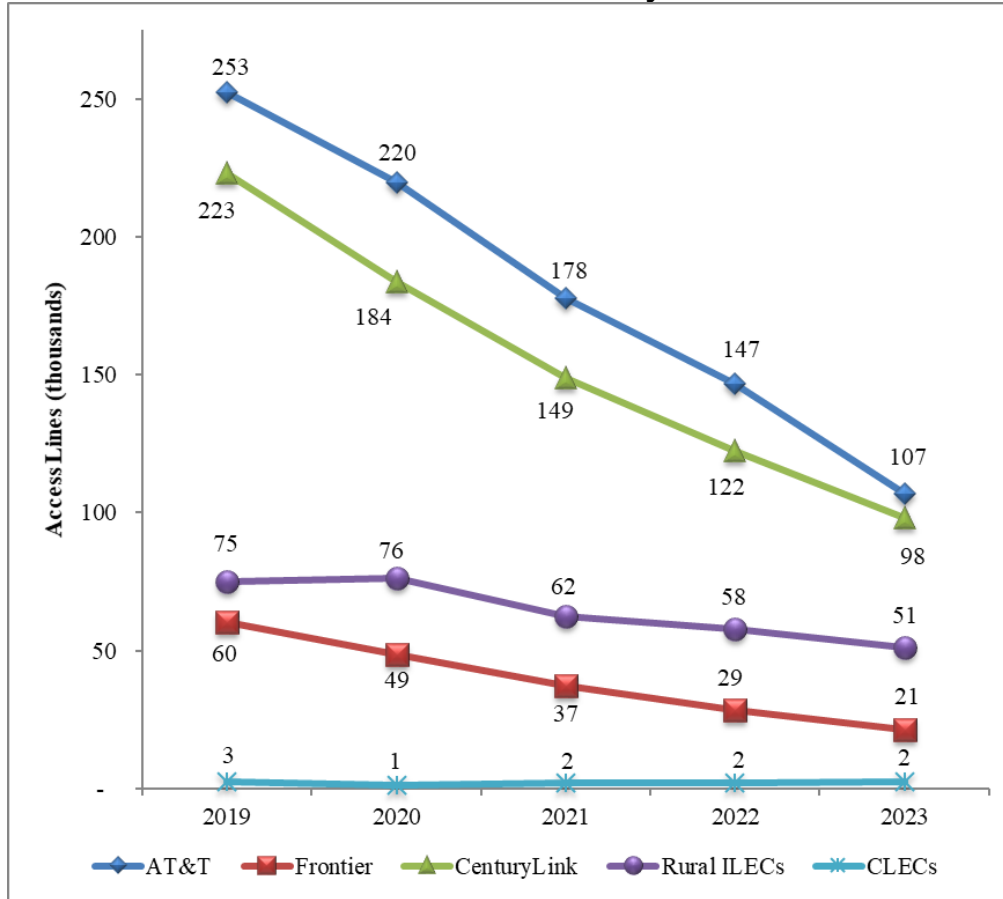
		ILECs	CLECs	Total
2020	Residential	528,480	1,265	529,745
	Business	575,682	280,541	856,223
	Total	1,104,162	281,806	1,385,968
2021	Residential	426,460	1,971	428,431
	Business	501,370	222,608	723,978
	Total	927,830	224,579	1,152,409
2022	Residential	355,425	2,153	357,578
	Business	404,564	165,519	570,083
	Total	759,989	167,672	927,661
2023	Residential	277,115	2,406	279,521
	Business	364,881	119,464	484,345
	Total	641,996	121,870	763,866
Change 2022-2023	Residential	-22.0%	11.8%	-21.8%
	Business	-9.8%	-27.8%	-15.0%
	Total	-15.5%	-27.3%	-17.7%

Source: Responses to local competition data request (2021-2024)

4. Residential Wireline Access Line Trends

Figure 2-3 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 23 percent and approximately 19 percent per year. During that period, rural ILEC access lines declined by an average of over seven percent, while CLEC residential lines declined by an annual average of around one percent.

**Figure 2-3
Florida Residential Wireline Trends by ILECs and CLECs**



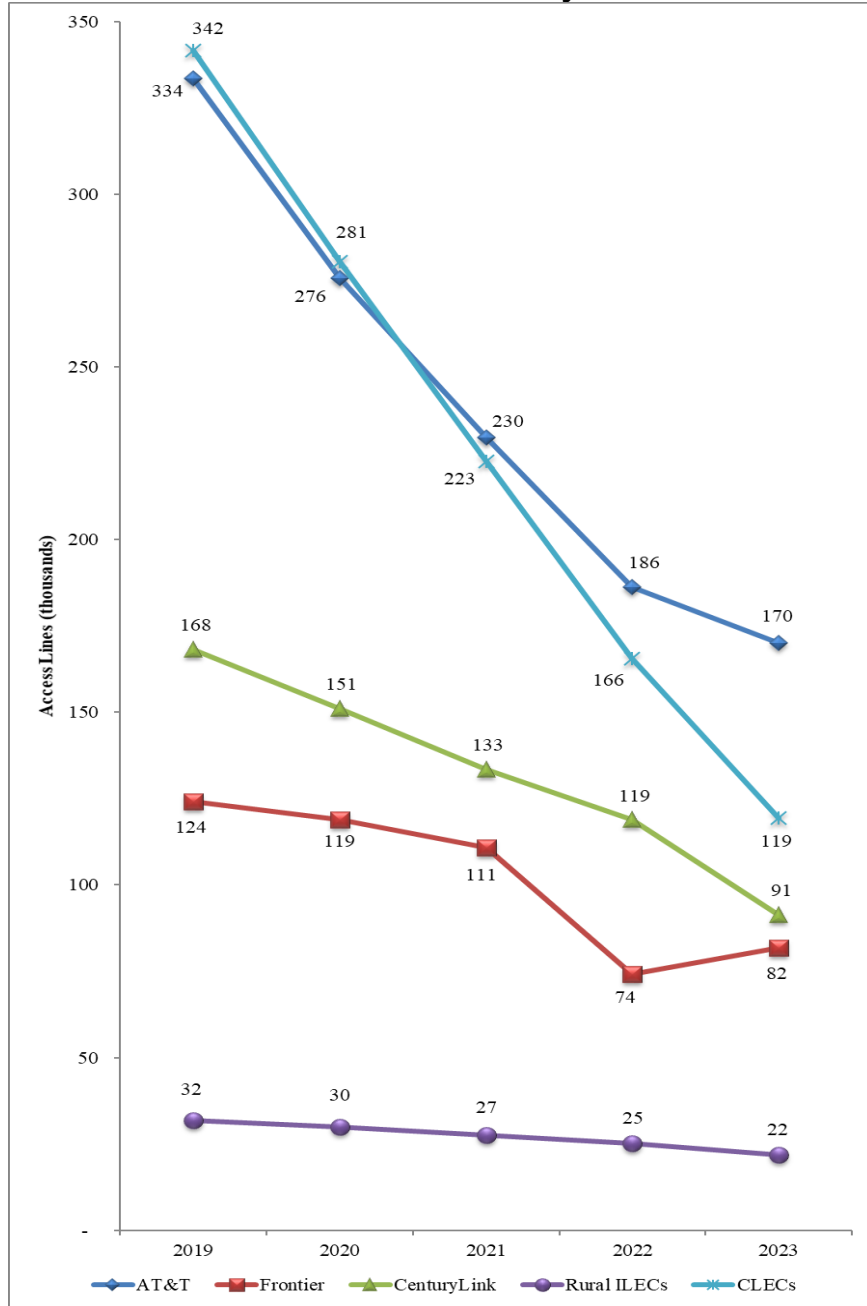
Source: Responses to local competition data request (2020-2024)

AT&T experienced residential wireline losses of 17.4 percent in 2022 and 27.2 percent in 2023. Frontier lost 23.7 percent of its residential wirelines in 2022 and 25.6 percent in 2023, while CenturyLink lost 17.8 percent of its residential lines in 2022 and 19.9 percent in 2023. The rural ILECs reported line losses of 7.5 percent in 2022 and 11.6 percent in 2023, and the CLECs reported residential wireline gains of 9.2 percent in 2022 and 11.8 percent in 2023. The rate of line loss accelerated for all categories, except for CLECs, which reported a small increase in residential lines.

5. Business Wireline Access Line Trends

Figure 2-4 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 over 17 percent per year, while Frontier and CenturyLink have experienced average annual declines of approximately nine percent and 13 percent, respectively. The average annual decline in rural ILEC business access lines over the past five years is nearly eight percent, while CLEC business access lines declined by nearly 22 percent annually over the same period.

**Figure 2-4
Florida Business Wireline Trends by ILECs and CLECs**



Source: Responses to local competition data request (2020-2024)

AT&T experienced business wireline losses of 18.8 percent in 2022 and 8.7 percent in 2023. Frontier lost 33.0 percent of its business wirelines in 2022, but it gained 10.2 percent in 2023. CenturyLink lost 11.0 percent of its business lines in 2022 and 23.2 percent in 2023. The rural ILECs reported line losses of 8.3 percent in 2022 and 13.7 percent in 2023, while the CLECs reported business wireline declines of 25.6 percent in 2022 and 27.8 percent in 2023. The rate of line loss accelerated for CenturyLink, the rural ILECs, and the CLECs while AT&T experienced a moderation in losses. Only Frontier experienced growth in business lines in 2023.

Chapter III. Intermodal Competition Overview

Total switched access lines in Florida peaked over 20 years ago at approximately 12 million.⁴⁰ Florida's population has increased significantly since that time and communications services have continued to expand, yet as previously shown in Table 2-1, access lines decreased to around 764,000 by the end of 2023. So where did over 93 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 sought authorization 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 many customers to these technologies is the speed and volume of information that can be transmitted. 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 retail customers, but they have also 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 remotely broadcast events due to travel restrictions. Historically, long distance interviews have been done via satellite with a noticeable delay between transmission and reception. With broadband, however, sports events were broadcast live with announcers thousands of miles apart. John McEnroe announcing the 2020 French Open tennis tournament from his home office in Malibu, California, nine time zones away, could only be accomplished by using terrestrial broadband facilities that carried his voice across the globe nearly instantaneously.⁴²

⁴⁰Florida Public Service Commission, "Competition in Telecommunications Markets in Florida," Tallahassee, FL, December 2002, p. 21, <https://www.floridapsc.com/pscfiles/website-files/PDF/Publications/Reports/Telecommunication/TelecommunicationIndustry/2002.pdf>, accessed June 12, 2024.

⁴¹Statement of Anne K. Bingaman 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, p. 3, October 12, 1995, <https://www.justice.gov/sites/default/files/atr/legacy/2015/05/06/0460.pdf>, accessed June 12, 2024.

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 June 12, 2024.

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 five wireless companies was split with T-Mobile leading at 34.0 percent (119.7 million subscribers), Verizon at 32.6 percent (approximately 114.9 million), followed by AT&T at 30.1 percent (106.0 million), Dish Network at 2.1 percent (7.4 million), and UScellular at 1.3 percent (approximately 4.6 million).^{43,44,45,46,47}

⁴³Verizon Communications Inc., “Form 10-K,” 2/9/2024, <https://quotes.quotemedia.com/data/downloadFiling?webmasterId=104600&ref=318048243&type=PDF&formType=10-K&formDescription=Annual+report+pursuant+to+Section+13+or+15%28d%29&dateFiled=2024-02-09&cik=0000732712>, accessed June 12, 2024.

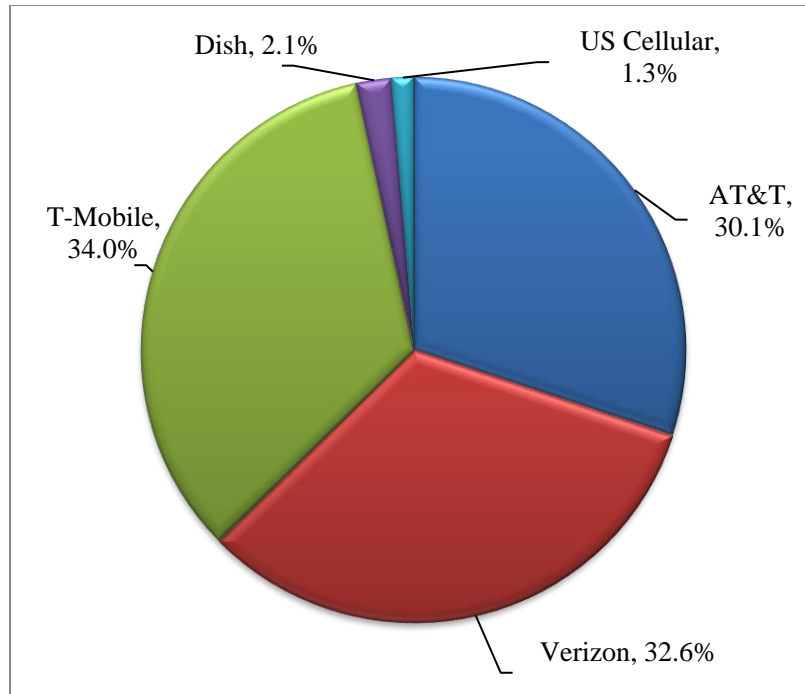
⁴⁴T-Mobile US Inc., “Form 10-K,” February 2, 2024, <https://d18m0p25nwr6d.cloudfront.net/CIK-0001283699/343f9a39-0412-408d-ba03-371ab8223411.html>, accessed June 12, 2024.

⁴⁵AT&T Corp., “Complete 2023 Annual Report,” February 2024, https://investors.att.com/~/_media/Files/A/ATT-IR-V2/financial-reports/annual-reports/2023/2023-complete-annual-report.pdf, accessed June 12, 2024.

⁴⁶EchoStar Corporation, “Form 10-K,” February 29, 2024, <https://ir.echostar.com/sec-filings/sec-filing/10-k/0001558370-24-002209>, accessed June 12, 2024.

⁴⁷United States Cellular Corporation, “Form 10-K,” February 16, 2024, <https://investors.uscellular.com/financials/sec-filings/sec-filings-details/default.aspx?FilingId=17282220>, accessed June 12, 2024.

Figure 3-1
U.S. Wireless Market Share, Fourth Quarter 2023



Source: Companies' 2024 10K Earnings Reports

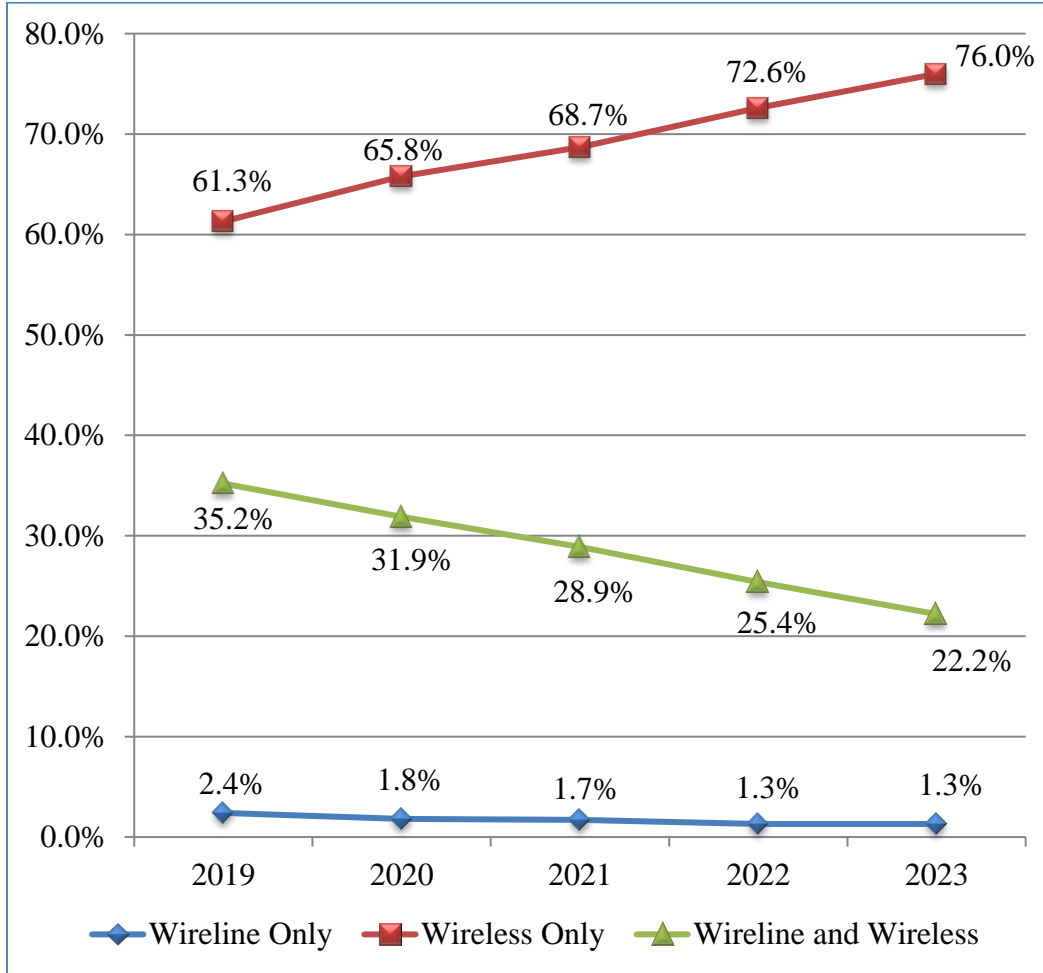
2. Wireless Substitution

According to the most recent data from carriers' financial reports, the five largest wireless service providers in the United States accounted for over 352 million subscribers by year-end 2023.⁴⁸ Less than 30 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 72.6 percent in December 2022 to 76.0 percent in 2023.⁴⁹

⁴⁸Companies' 2024 Annual filings with the SEC.

⁴⁹Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December 2023. National Center for Health Statistics. June 2024. DOI: <https://doi.org/10.15620/cdc/156660>, accessed June 18, 2024.

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



Source: CDC/NCHS, National Health Interview Survey

3. Florida Trends

Updated information for Florida’s wireless trends is not regularly available, but in the past Florida’s wireless subscription distribution has tracked closely with national trends. The most recent data available from the FCC, from June 2022, estimated Florida’s wireless subscriptions to be 23,879,000. This was an increase of approximately 4.65 percent from June 2021 (22,817,000).⁵⁰ Florida’s population was estimated at 22.4 million in 2022, and with over 23.8 million wireless subscriptions in 2022, Florida continues to have more connected wireless devices than people.^{51,52}

⁵⁰FCC, “Voice Telephone Services Report,” released August 18, 2023, <https://www.fcc.gov/voice-telephone-services-report>, accessed June 12, 2024.

⁵¹Macrotrends, Florida Population 1900-2023, <https://www.macrotrends.net/global-metrics/states/florida/population>, accessed June 12, 2024.

4. New Technology

Convergence of new technology combined with existing technologies may mean that there are fewer areas with limited coverage and access to 4G and 5G services. A combined network of cellular, fiber and satellite can fill the gaps in coverage.

Next-Gen Radio over Coax or Next-Gen over Cable is a developing technology to overlay 5G signals on hybrid fiber-coaxial networks at higher frequencies, up to 4GHz or 5GHz. This would increase capacity of the network and provide faster speeds by allowing fixed and mobile services to use the same platform.⁵³

In 2023, AT&T announced plans to collaborate with Ericsson to deploy open radio access network (Open RAN) in its network. Open RAN separates hardware and software functions allowing for vendor-neutral hardware, which lowers network costs and improves operational efficiencies. AT&T expects to have fully-integrated Open RAN sites operating in 2024, with about 70% of its wireless network traffic using open-capable platforms by 2026.⁵⁴

As of December 31, 2023, Verizon's medium frequency (mid-band) spectrum enabled the provision of 5G service to approximately 242 million people.⁵⁵ By December 31, 2023, T-Mobile's total 5G coverage included 330 million people, reaching 98 percent of Americans. Its "Ultra Capacity 5G" utilizing mid-band and mmWave service covered 300 million.⁵⁶ Dish Network is continuing to build out its network, using the 5G standard for voice over new radio (VoNR).⁵⁷

During 2023, UScellular continued to invest in 5G with a focus on deployment of mid-band spectrum, which largely overlaps portions of areas already covered with low-band 5G service.⁵⁸

⁵²FCC, "Voice Telephone Services Report," released August 18, 2023, <https://www.fcc.gov/voice-telephone-services-report>, accessed June 12, 2024.

⁵³Light Reading, "Cable's secretive 'NRoC' project explores way to run 5G on HFC," published May 20, 2024, <https://www.lightreading.com/5g/cable-s-secretive-nroc-project-explores-way-to-run-5g-on-hfc>, accessed June 12, 2024.

⁵⁴AT&T Corp., "Complete 2023 Annual Report," released February 2024, <https://investors.att.com/~media/Files/A/ATT-IR-V2/financial-reports/annual-reports/2023/2023-complete-annual-report.pdf>, accessed June 12, 2024.

⁵⁵Verizon Communications Inc., "Form 10-K," released February 9, 2024, <https://quotes.quotemedia.com/data/downloadFiling?webmasterId=104600&ref=318048243&type=PDF&formType=10-K&formDescription=Annual+report+pursuant+to+Section+13+or+15%28d%29&dateFiled=2024-02-09&cik=0000732712>, accessed June 12, 2024.

⁵⁶T-Mobile US Inc., "Form 10-K," released February 2, 2024, <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001283699/343f9a39-0412-408d-ba03-371ab8223411.html>, accessed June 12, 2024.

⁵⁷EchoStar Corporation, "Form 10-K," released February 29, 2024, <https://ir.echostar.com/sec-filings/sec-filing/10-k/0001558370-24-002209>, accessed June 12, 2024.

⁵⁸United States Cellular Corporation, "Form 10-K," released February 16, 2024, <https://investors.uscellular.com/financials/sec-filings/sec-filings-details/default.aspx?FilingId=17282220>, accessed June 12, 2024.

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).⁵⁹ These calls can be provided via separate interconnected digital channels 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 are not considered a substitute for TDM.⁶⁰ 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.

Because VoIP is not regulated in Florida, the FPSC has no direct way to access VoIP access line data. The FPSC therefore estimates residential VoIP from responses to data requests. Florida Internet and Television (FiTV) is able to provide some information on residential VoIP subscriptions, but the FPSC staff relies on FCC data for Florida business VoIP subscriptions.⁶¹ However, the FCC’s currently-published data only includes information through June 2022. FPSC estimates show slightly over 2 million residential VoIP subscribers in Florida as of June 2022, while FCC data shows nearly 2.5 million business VoIP subscribers.

FCC data from June 2017 through June 2022 showed an annual growth rate for VoIP of 1.1 percent per year.⁶² The FCC also reported nearly 68 million US Interconnected VoIP subscribers.⁶³ Table 3-1 shows U.S. VoIP subscribership by customer type as of June 30, 2022.

⁵⁹47 C.F.R. § 9.3.

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

⁶¹FiTV represents several of Florida’s largest cable-based communications providers.

⁶²FCC, “Voice Telephone Services: Status as of June 30, 2022,” released August 1st, 2022, <https://www.fcc.gov/voice-telephone-services-report>, accessed June 12, 2024.

⁶³Ibid, Figure 3.

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

Total	Over-the-Top	All Other VoIP	Total
ILEC	60	10,373	10,433
Non-ILEC	19,599	38,002	57,602
Total	19,659	48,375	68,035
Residential			
ILEC	1	5,903	5,904
Non-ILEC	1,656	21,892	23,548
Total	1,671	27,795	29,453
Business			
ILEC	58	4,470	4,529
Non-ILEC	17,943	16,110	34,053
Total	18,001	20,581	29,453

Source: FCC Voice Telephone Services Report, June 30, 2022 (Figure 3)

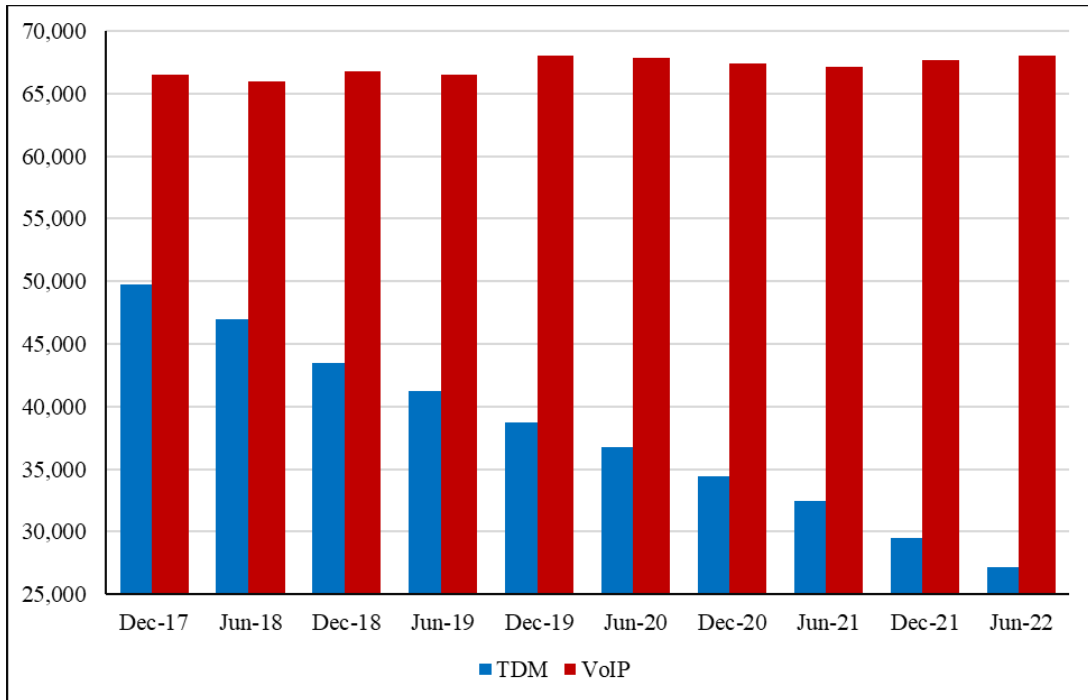
1. National Market

VoIP subscriptions have remained steady, both nationally and in Florida, while traditional switched access lines have decreased. As shown in Figure 3-3, the FCC reported approximately 68 million VoIP subscriptions and nearly 27.2 million switched access lines (TDM) as of June 2022, resulting in approximately 95.2 million total voice telephone subscriptions.⁶⁴ Of those 95.2 million connections, 43 percent (41 million) were residential and 57 percent (57 million) were business.⁶⁵

⁶⁴FCC, “Voice Telephone Services: Status as of June 30, 2022,” released August 1, 2023, <https://www.fcc.gov/voice-telephone-services-report>, accessed June 12, 2024.

⁶⁵Ibid.

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



Source: FCC Voice Telephone Services Report, June 2022

a. Facilities-Based VoIP Providers

According to the FCC, non-ILEC companies accounted for over 23.5 million residential VoIP subscribers as of June 2022, compared to nearly 5.9 million residential ILEC VoIP subscribers. This represents a market share of 80 percent for the non-ILECs in this market.⁶⁶ Comcast, the country’s largest cable provider, did not report VoIP line numbers for 2023, but it stated that residential revenue declines in 2022 and 2023 were primarily driven by customer losses.⁶⁷ The second largest cable provider, Charter Communications, reported approximately 6.7 million residential VoIP subscribers at year-end 2023, a 12.8 percent decrease from the previous year.⁶⁸ AT&T reported approximately 2.5 million U-verse VoIP subscribers at year-end 2023, which is nearly a 13 percent decrease from the previous year.⁶⁹

⁶⁶Ibid.

⁶⁷SEC, Comcast Corporation Form 10-K, released January 31, 2024, <https://www.sec.gov/Archives/edgar/data/1166691/000116669123000010/cmcsa-20221231.htm>, accessed June 12, 2024.

⁶⁸Charter Communications, Inc., “Charter Investors: Results, SEC Filings & Tax Information,” News Release, released January 27, 2024, <https://ir.charter.com/financial-information/annual-reports>, accessed June 12, 2024.

⁶⁹AT&T Inc. “Form 10-K,” February 23, 2024, <https://otp.tools.investis.com/clients/us/atnt2/sec/sec-outline.aspx?FilingId=17303532&Cik=0000732717&PaperOnly=0&HasOriginal=1>, accessed June 12, 2024.

Each of these major facilities-based providers reported that improvements in wireless carriers' broadband infrastructure is a factor in consumer decisions to leave wireline broadband and VoIP services. These providers have developed wireless and video service bundles 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 19.7 million OTT VoIP subscribers in the U.S. as of June 2022. This total included more than 1.7 million residential subscribers and 18 million business subscribers nationwide. The FCC's figures showed a decrease of approximately 11.5 percent in residential subscribers, and approximately 30.2 percent increase in business subscribers from June 2021 to June 2022.⁷⁰

2. Florida Market

As previously stated, 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. For the Florida VoIP residential market, several ILECs and CLECs in Florida voluntarily responded to the Commission's data request and provided information on the number of residential VoIP subscribers. FiTV reported roughly 561,000 residential VoIP subscribers for the four member providers in 2023.⁷¹ For the Florida VoIP business market, the FCC reported non-ILECs in Florida served approximately 2.5 million business interconnected VoIP subscribers by June 2022, an increase of just over 9.4 percent from the end of June 2021.⁷² In total, the FCC reported that Florida had over 4.5 million Interconnected VoIP subscriptions in June 2022.⁷³

Figure 3-4 shows an estimated 1.5 million residential VoIP subscribers in Florida as of 2023. This data indicates a decrease of roughly 344,000 residential VoIP subscriptions from 2022. Over a four-year time frame, the Florida residential VoIP market had declined an average of 11.6 percent per year. As previously stated, the major VoIP carriers have expressed that increased competition from wireless competitors has affected VoIP subscriptions.

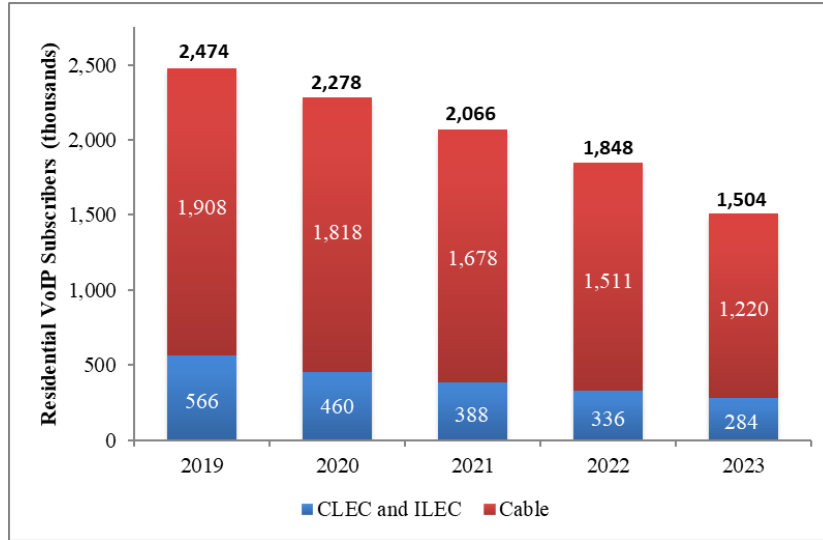
⁷⁰FCC, "Voice Telephone Services: Status as of June 30, 2021," Table 1, released August 1, 2022, <https://www.fcc.gov/voice-telephone-services-report>, accessed June 12, 2024.

⁷¹Charter Communications is no longer a member of FiTV.

⁷²FCC, "Voice Telephone Services Report, State-Level Subscriptions," Supplemental Table 1, Florida, released August 1, 2023, <https://www.fcc.gov/voice-telephone-services-report>, accessed June 12, 2024.

⁷³Ibid.

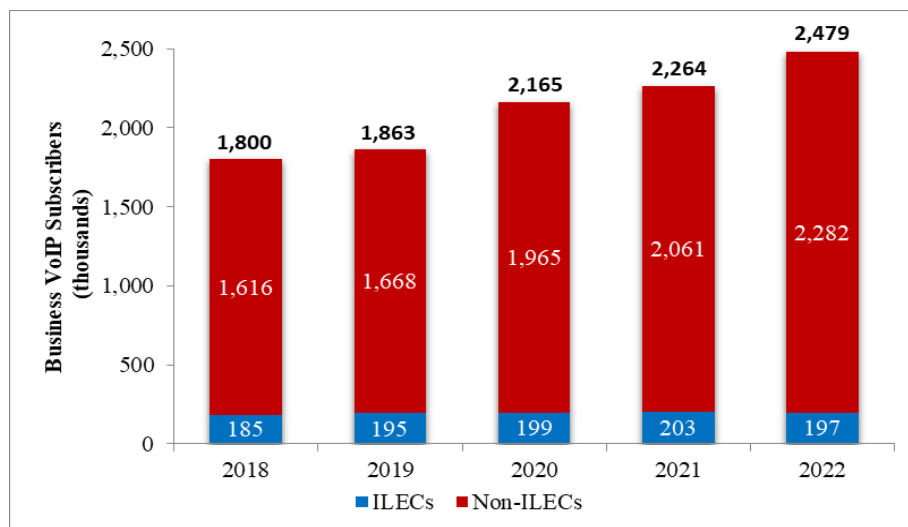
Figure 3-4
Florida Residential Interconnected VoIP Subscribers



Source: Responses to local competition data request (2020-2024)

While Florida’s residential VoIP market contracted over the past five years, its business VoIP market continued to expand, at least through 2022. Figure 3-5 displays VoIP business subscribers by ILEC and non-ILEC carriers as reported by the FCC. Over a four-year time frame, the Florida business VoIP market had grown an average of eight percent per year. 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, June 2022, 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.

The data discussed in previous chapters suggests that competitive carriers are able to provide functionally equivalent services to residential and business customers at acceptable rates, terms, and conditions. As of May 28, 2024, 213 CLECs responded to the Local Competition Report data request. Several CLECs reported providing a number of services: local phone service (56), VoIP (103), broadband Internet access (71), video services (12), and bundled services (66).⁷⁴

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 regulatory complexity, permitting process, access to infrastructure, community engagement, access to funding for smaller companies, restrictive interconnection policies, increasing costs due to pricing deregulation, and monopolistic control over transport services.⁷⁵ We note that no CLECs have filed 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 2023, 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 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 92 percent in Florida, even as the population has grown significantly. 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 shares in traditional access lines as well as other technologies, such as wireless and VoIP.

⁷⁴Responses to local competition data request 2024 as of May 12, 2024.

⁷⁵Responses to local competition data request 2024.

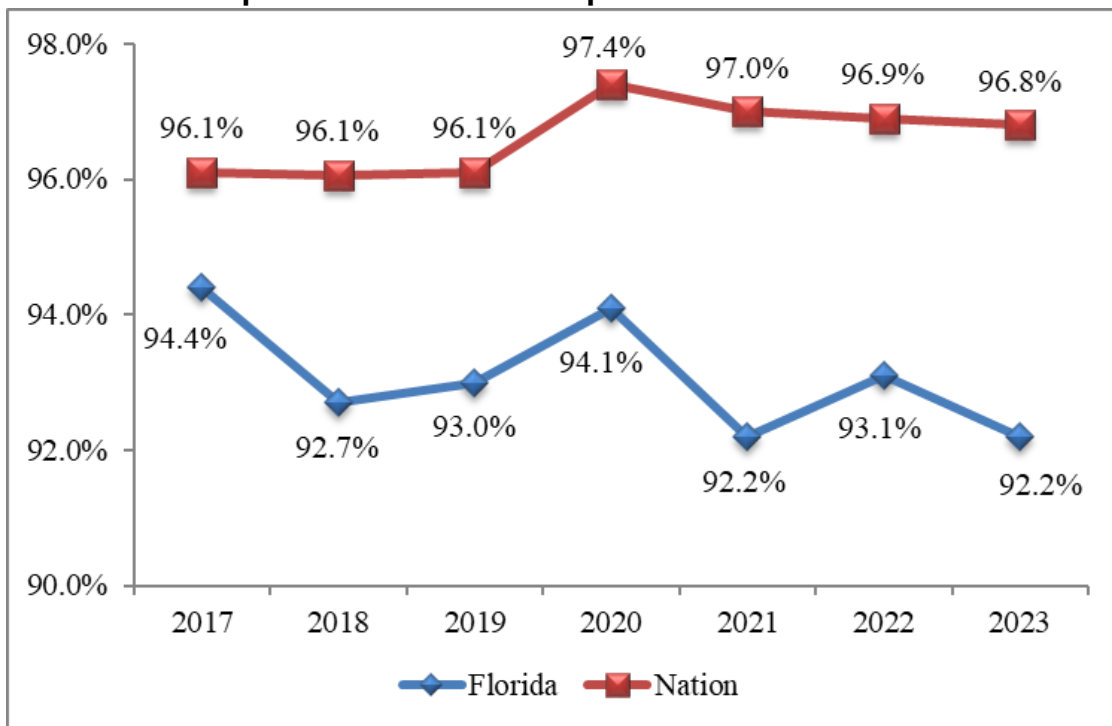
Conclusion: The traditional wireline market continues to decrease despite population growth. Increasing demand for service is being met by wireless subscription growth and VoIP, and the majority of consumers are choosing to obtain wireless and VoIP service from competitors. Given competitors’ substantial wireless and VoIP market shares, consumers are able to obtain functionally equivalent services at comparable rates, terms, and conditions.

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 compete successfully 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 93.1 percent over the last seven years.⁷⁶ This high telephone subscription rate is not a recent occurrence; the average household telephone subscription rate has been 93.0 percent over the past 40 years.⁷⁷

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



Source: FCC staff interviews

⁷⁶FCC staff, interview, March 27, 2024.

⁷⁷FCC staff, interviews (1986-2024).

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.⁷⁸ 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. 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 2023.

⁷⁸Regulatory 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 2023. 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.⁷⁹

AT&T 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. On February 3, 2023, AT&T declared a force majeure event for Ordering and Billing measures statewide as a result of Winter Storm Mara; the declaration was lifted eight days later.⁸⁰ Also on August 30, 2023, AT&T declared a force majeure event for Provisioning, Trunk Group Performance and Maintenance & Repair measures in 83 affected wire centers as a result of Hurricane Idalia; the declaration was lifted on September 6, 2023.⁸¹ AT&T paid \$48,550 in remedies in 2023, representing a decrease of 67.1 percent from 2022.⁸²

⁷⁹FPSC Dockets: Nos. 20000121A-TP (AT&T) and 20000121C-TP (Frontier FL).

⁸⁰FPSC 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 (AT&T FLORIDA TRACK), issued February 13, 2023, <https://www.floridapsc.com/pscfiles/library/filings/2023/01086-2023/01086-2023.pdf>, accessed June 12, 2024.

⁸¹FPSC 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 (AT&T FLORIDA TRACK), issued September 6, 2023, <https://www.floridapsc.com/pscfiles/library/filings/2023/05101-2023/05101-2023.pdf>, accessed June 12, 2024.

⁸²Remedies are paid two months in arrears; amounts shown are for amounts incurred in 2022 and 2023.

On October 15, 2015, CenturyLink filed proposed revisions to its Performance Measurement Plan (PMP) 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, 2016.⁸³ Following its approval by the Nevada Public Utilities Commission, on April 26, 2023, CenturyLink filed a request for forbearance from following its PMP in Florida, citing changes in the telecommunications market. Noting that CenturyLink stated that it had consistently performed well in the remaining PMP measures and that Florida CLECs had not accessed the website that provides the PMP data since 2017, the FPSC granted CenturyLink's request on December, 13, 2023.⁸⁴

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 2023, Frontier maintained an average monthly compliance rate of 81.9 percent, yielding a 1.3 percent increase from 2022's average monthly compliance rate of 80.6 percent.

The Commission processed a number of other telecommunications-related items in 2023. The items processed include 35 service schedule and tariff filings, 37 interconnection agreements and amendments, 11 carrier certifications, 12 certificate cancellations, and 12 general inquiries/informal complaints.

B. Numbering Resources

Numbering resources are administered by the North American Numbering Plan Administrator (NANPA). NANPA's responsibilities include assigning area codes and prefixes, and tracking numbering usage to ensure effective and efficient utilization. Also, NANPA is responsible for forecasting the exhaust of geographic area codes and area code relief planning. While NANPA is responsible for forecasting the exhaust of area codes, the FPSC is responsible for determining the appropriate form of area code relief when telephone numbers exhaust within a Numbering Plan Area (NPA).

Several methods are available to handle area code exhaust issues; however an overlay has been the preferred method. An overlay adds a new area code to the same geographic area served by the area code requiring relief. This results in assigning more than one area code to the same NPA. Current customers keep their existing area code and number; however, new customers or customers adding additional lines receive the new area code. Once an overlay is implemented, the FCC requires 10-digit dialing for all local calls within the NPA.

⁸³FPSC 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 June 12, 2024.

⁸⁴FPSC 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, <https://www.floridapsc.com/pscfiles/library/filings/2023/06568-2023/06568-2023.pdf>, accessed June 12, 2024.

In 2022, the Commission approved two overlay relief plans. The first approved overlay was for the 305/786 area code, which serves Miami-Dade County and the Florida Keys.⁸⁵ The new area code, 645, was implemented in the third quarter of 2023. The second approved overlay was for the 904 area code, which serves all or most of Nassau, Duval, Baker, Bradford, Clay, St Johns, and Union Counties.⁸⁶ The new area code, 324, was implemented in the first quarter of 2024.

C. Lifeline

The Lifeline program is a federal Universal Service Fund (USF) program designed to enable low-income households to obtain and maintain basic telephone and broadband services by offering qualifying households a discount on their monthly bills. The rules affecting the Lifeline program are established by the FCC, which has designated the Universal Service Administrative Company (USAC), an independent not-for-profit corporation, as the program's administrator. USAC is responsible for data collection and maintenance, support calculation, and disbursement for the Lifeline program along with other federal USF programs. The FPSC has oversight over the Lifeline program in Florida pursuant to Section 364.10, F.S.

Customers apply for Lifeline through the National Verifier, which is an electronic system established by the FCC to determine customer eligibility. Customers can complete their application online through the National Verifier portal, and ETCs can assist customers applying by utilizing an interconnected provider portal.⁸⁷ Upon completion of an application, and subsequent approval for the Lifeline program, customers are able to find a Lifeline service provider through USAC's "Companies Near Me" tool.⁸⁸

The FPSC has a Lifeline promotion process to encourage participation in the Lifeline program. This process involves a computer interface between the FPSC and the Florida Department of Children and Families identifying clients who are eligible for Lifeline due to their approval for the Medicaid and SNAP programs. ETCs access this system and contact their customers to determine if they have already been approved for the Lifeline program through the National Verifier. For those customers who have not yet applied for the program, ETCs will either instruct customers on how to apply or assist these customers with their applications in person. If a

⁸⁵FPSC Order No. PSC-2022-0050-PAA-TP, Docket No. 20210190-TP, Petition on behalf of the Florida telecommunications industry for expeditious approval of the industry's consensus recommendation to implement Alternative No. 1, the all-services distributed overlay of the 305/786 NPA overlay, by North American Numbering Plan Administrator. issued February 2, 2022, <https://www.floridapsc.com/pscfiles/library/filings/2022/00988-2022/00988-2022.pdf>, accessed June 12, 2024.

⁸⁶FPSC Order No. PSC-2022-0178-PAA-TP, Docket No. 20220036-TP, Petition of North American Numbering Plan Administrator on behalf of the Florida telecommunications industry, in the matter of the implementation for relief of the 904 numbering plan area., issued May 10, 2022, <https://www.floridapsc.com/pscfiles/library/filings/2022/02883-2022/02883-2022.pdf>, accessed June 12, 2024.

⁸⁷USAC, "National Verifier Application Portal," https://getinternet.gov/apply?id=nv_home&ln=RW5nbGlzaA%3D%3D, accessed April 15, 2024.

⁸⁸USAC, "Companies Near Me Tool," <https://data.usac.org/publicreports/CompaniesNearMe/Download/Report>, accessed June 12, 2024.

customer mistakenly identifies an ETC that does not serve the area in which they live, the FPSC sends instructions on how to apply with the National Verifier, along with a list of each ETC’s contact information.

Using SNAP participation as a proxy for Lifeline eligible households, as of June 2023, eligible households increased by 4.3 percent, while enrollment of those households in the Lifeline program remained virtually unchanged from the prior year.⁸⁹ Overall, the Lifeline participation rate was 18.10 percent in 2023, a slight decrease from the prior year. Table 5-1 shows the Lifeline eligibility and participation rates in Florida for the last six years.⁹⁰

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

Year	Lifeline Enrollment	Eligible Households	Participation Rate
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%
Jun-21	273,641	1,882,842	14.53%
Jun-22	300,285	1,590,216	18.88%
Jun-23	300,229	1,658,694	18.10%

Source: Florida DCF, ACCESS Florida: Standard Data Reports

⁸⁹FPSC, “2023 Florida Lifeline Report,” released December 2023, <https://www.floridapsc.com/pscfiles/website-files/PDF/Publications/Reports/Telecommunication/LifelineReport/2023.pdf>, Table 2, accessed June 12, 2024.

⁹⁰Ibid.

D. Telecommunications Relay Service

Telecommunications Relay Service (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 assessment rate will decline to \$0.08 per line effective September 1, 2024 from the current assessment rate of \$0.09 per line per month.⁹¹

Relay services are currently provisioned under contract by T-Mobile USA, Inc. (T-Mobile). The current contract will expire on February 28, 2025. On March 5, 2024, Commission staff opened a docket to initiate a new Request for Proposals (RFP) to provide relay service in Florida beginning March 1, 2025.⁹² It is anticipated that the Commission will vote on staff's recommendation to select a new provider at the Commission's November 5, 2024 Agenda Conference.

⁹¹The rate may not exceed \$.25 per landline.

⁹²Docket No. 20240043-TP, Request for submission of proposals for relay service, beginning in March 2025, for the deaf, hard of hearing, deaf/blind, or speech impaired, and other implementation matters in compliance with the Florida Telecommunications Access System Act of 1991, <https://www.floridapsc.com/pscfiles/library/filings/2024/01047-2024/01047-2024.pdf>, accessed June 12, 2024.

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. The FCC lists 38 completed telecommunications mergers and acquisitions nationally in 2023.⁹³ Recent transactions of interest to Florida are described below.

1. Pavlov Media & Dial Communications

On March 21, 2024, Pavlov Media acquired a 45 mile fiber ring in Tallahassee, Florida from Dial Communications Inc. Pavlov Media operates municipal networks throughout the U.S providing fiber optic internet services, and Dial Communications is a fiber optic provider in the city of Tallahassee, Florida. Pavlov Media said that acquiring the fiber ring serves as a step forward in creating a high-speed network in the state of Florida.⁹⁴

2. ResortNet LLC & Broadband MDU

On April 11, 2024, ResortNet LLC, a broadband and cable provider focused in the multi dwelling unit (MDU) market, acquired the assets of Broadband MDU, another provider of broadband and video services. Broadband MDU operates primarily in southern Florida.⁹⁵

B. Broadband Deployment

The federal government has recognized there is no one-size-fits-all solution to delivering broadband service to rural areas. The 2021 Infrastructure Investment and Jobs Act (IIJA) allocates \$65 billion in broadband infrastructure investment, creating multiple programs that envision using many technologies, including fiber, fixed wireless, and satellites.⁹⁶

Multiple federal agencies are responsible for broadband deployment and affordability programs through existing mechanisms as well as the IIJA. The FCC is in charge of several programs, including the Rural Digital Opportunity Fund (RDOF), detailed in the High Cost discussion under the Universal Service section of this chapter.⁹⁷

⁹³ FCC, 2024 Completed Domestic Section 214 Transfer of Control Transactions, updated January 2, 2024, <https://www.fcc.gov/2024-completed-domestic-section-214-transfer-control-transactions>, accessed June 12, 2024.

⁹⁴Telecompetitor, “Pavlov Media Buy Fiber Ring From Dial Communications,” published March 21, 2024, <https://www.telecompetitor.com/pavlov-media-buys-fiber-ring-from-dial-communications/>, accessed June 12, 2024.

⁹⁵Telecompetitor, “One MDU Focused Broadband Provider Buys Another,” published April 11, 2024, <https://www.telecompetitor.com/one-mdu-focused-broadband-provider-buys-another/>, accessed June 12, 2024.

⁹⁶117th Congress (2021-2022), “H.R.3684 - Infrastructure Investment and Jobs Act,” November 15, 2021, <https://www.congress.gov/bill/117th-congress/house-bill/3684>, accessed June 12, 2024.

⁹⁷FCC, Auction 904: Rural Digital Opportunity Fund, January 13, 2023, <https://www.fcc.gov/auction/904>, accessed June 12, 2024.

On October 30, 2023, the FCC authorized approximately \$18.28 billion in Enhanced Alternative Connect America Cost Model (E-ACAM) support for broadband service to upgrade over 700,000 locations to at least 100/20 Mbps service and maintain or improve existing 100/20 Mbps service in approximately 2 million locations in 44 states across the United States.⁹⁸ In Florida, Northeast Florida Telephone Company d/b/a NEFCOM was awarded \$512,761 per year, while Quincy Telephone Company d/b/a TDS Telecom was awarded \$524,863 per year.⁹⁹

The FCC's Affordable Connectivity Program (ACP) was created from the Emergency Broadband Benefit Program with an allocation of \$14.2 billion from the IIJA. The ACP provided a discount of up to \$30 per month toward internet service for eligible households and up to \$75 per month for households on qualifying Tribal lands, as well as a one-time discount of up to \$100 to purchase a laptop, desktop computer, or tablet from participating providers.^{100,101} ACP funding was exhausted in April 2024, and it has yet to be renewed. As of February 8, 2024, 1,707,856 households in Florida were enrolled in the ACP through 169 providers offering mobile and/or fixed broadband access.^{102,103}

⁹⁸FCC, "FCC Authorizes Over \$18 Billion to Expand Rural Broadband," October 30, 2023, <https://www.fcc.gov/document/fcc-authorizes-over-18-billion-expand-rural-broadband>, accessed June 12, 2024.

⁹⁹Ibid.

¹⁰⁰FCC, "FCC Launches Affordable Connectivity Program," December 31, 2021, <https://www.fcc.gov/document/fcc-launches-affordable-connectivity-program>, accessed June 12, 2024.

¹⁰¹FCC, "FCC Adopts Rules To Implement Affordable Connectivity Program," January 14, 2022, <https://www.fcc.gov/document/fcc-adopts-rules-implement-affordable-connectivity-program>, accessed June 12, 2024.

¹⁰²FCC, Affordable Connectivity Program Providers, March 4, 2024, <https://www.fcc.gov/affordable-connectivity-program-providers>, accessed June 12, 2024.

¹⁰³USAC, ACP Enrollment and Claims Tracker, February 8, 2024, <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/>, accessed June 12, 2024.

The National Telecommunications and Information Administration (NTIA) has been charged by the IJA with administering nearly a dozen different broadband deployment programs. These programs will invest over \$47 billion in broadband infrastructure.^{104,105,106} On May 13, 2022, the NTIA announced the launch of the Biden Administration’s Internet for All initiative, which will help organize \$45 billion in broadband support.¹⁰⁷ On November 29, 2022, NTIA announced that Florida received an “Internet for All” grant of \$7.4 million in funding, which is comprised of \$5 million in Broadband Equity, Access and Deployment (BEAD) Program Support for planning, infrastructure deployment and adoption programs and \$2.4 million for the Digital Equity Act planning efforts.¹⁰⁸

On June 26, 2023, NTIA announced that it has allocated BEAD Program funding for grants to states for broadband planning, deployment, mapping, equity, and adoption activities to all 50 states, the District of Columbia, and five territories; Florida’s allocation is nearly \$1.17 billion.¹⁰⁹ On December 28, 2023, the Florida Department of Commerce announced that State of Florida’s initial proposal to access its BEAD Program allocation has been submitted to the NTIA. The initial proposal includes:

- **\$971 million for broadband infrastructure** to serve Florida’s remaining unserved and underserved communities. This includes \$200 million set aside for our federally recognized tribal partners, the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida.
- **\$110 million for workforce education and training programs** that support broadband-related infrastructure and maintenance needs.

¹⁰⁴NTIA, “Commerce Department’s NTIA Announces \$288 Million in Funding Available to States to Build Broadband Infrastructure,” May 19, 2021, <https://www.ntia.doc.gov/press-release/2021/commerce-department-s-ntia-announces-288-million-funding-available-states-build>, accessed June 12, 2024.

¹⁰⁵NTIA, Connecting Minority Communities Pilot Program, December 2, 2021, <https://broadbandusa.ntia.doc.gov/funding-programs/connecting-minority-communities>, accessed June 12, 2024.

¹⁰⁶NTIA, “NTIA’s Role in Implementing the Broadband Provisions of the 2021 Infrastructure Investment and Jobs Act,” November 16, 2021, <https://broadbandusa.ntia.doc.gov/news/latest-news/ntias-role-implementing-broadband-provisions-2021-infrastructure-investment-and>, accessed June 12, 2024.

¹⁰⁷NTIA, “Biden-Harris Administration Launches \$45 Billion “Internet for All” Initiative to Bring Affordable, Reliable High-Speed Internet to Everyone in America,” May 13, 2022, <https://www.ntia.doc.gov/press-release/2022/biden-harris-administration-launches-45-billion-internet-all-initiative-bring>, accessed June 12, 2024.

¹⁰⁸NTIA, “Biden-Harris Administration Awards More Than \$7.4 Million to Florida in ‘Internet for All’ Planning Grants,” November 29, 2022, <https://www.ntia.doc.gov/press-release/2022/biden-harris-administration-awards-more-74-million-florida-internet-all-planning>, accessed June 12, 2024.

¹⁰⁹NTIA, “Biden-Harris Administration Announces State Allocations for \$42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda,” June 26, 2023, <https://www.ntia.doc.gov/press-release/2023/biden-harris-administration-announces-state-allocations-4245-billion-high-speed>, accessed June 12, 2024.

- **\$30 million for grants to community-based organizations** to provide individual Floridians with digital literacy and cybersecurity skills, helping Floridians to safely utilize and benefit from their increased access to broadband.¹¹⁰

On March 29, 2024, NTIA announced Florida’s digital equity allocation of nearly \$42 million from \$811 million in nationwide funding to help individuals and communities with the tools, skills, and opportunities to benefit from meaningful access to high-speed Internet service.¹¹¹

Other NTIA programs include the Enabling Middle Mile Broadband Infrastructure Program and the Tribal Broadband Connectivity Program. The Enabling Middle Mile Broadband Infrastructure Program aims to expand regional networks to connect to national Internet networks. On June 16, 2023, NTIA announced over \$930 million for the program across 35 states and Puerto Rico.¹¹² In Florida, NTIA awarded \$2,812,086 to WANRack to apply towards a \$5,738,951 project to build 44.8 miles of open access middle mile infrastructure from north of Lakeland, FL going through Pasco and Zephyrhills/Dade City and then continuing north on Route 98 into Hernando County.¹¹³ The Tribal Broadband Connectivity Program aims to establish and implement a Tribal-wide digital training program, providing broadband equipment to support schools, libraries, and workforce development. On May 17, 2023, NTIA awarded nearly \$500,000 to the Seminole Tribe of Florida through the Tribal Broadband Connectivity Program.¹¹⁴

The Rural Utilities Service of the United States Department of Agriculture (USDA) maintains several programs for broadband deployment. The Consolidated Appropriations Act of 2023 includes \$364 million for the ReConnect Program, \$65 million for the Distance Learning, Telemedicine, and Broadband Program, \$35 million for the Community Connect Grant Program, and \$690 million for direct, Treasury-rate, telecommunications loan authorizations.¹¹⁵ On April

¹¹⁰FloridaCommerce, “FloridaCommerce Submits State of Florida’s BEAD Initial Proposal to the National Telecommunications and Information Administration,” December 28, 2023, <https://www.floridajobs.org/news-center/DEO-Press/2023/12/28/floridacommerce-submits-state-of-florida-s-bead-initial-proposal-to-the-national-telecommunications-and-information-administration>, accessed June 12, 2024.

¹¹¹NTIA, “Biden-Harris Administration Allocates More Than \$800 Million to Increase Digital Inclusion Efforts,” March 29, 2024, <https://www.ntia.gov/press-release/2024/biden-harris-administration-allocates-more-800-million-increase-digital>, accessed June 12, 2024.

¹¹²NTIA, “Biden-Harris Administration Announces \$930 Million to Expand and Strengthen America’s High-Speed Internet Networks as Part of the Investing in America Agenda,” June 16, 2023, <https://www.ntia.doc.gov/press-release/2023/biden-harris-administration-announces-930-million-expand-and-strengthen-america>, accessed June 12, 2024.

¹¹³Ibid.

¹¹⁴NTIA, “Biden-Harris Administration Announces Nearly \$5 Million in Internet for All Grants to Tribal Lands,” May 17, 2023, <https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-announces-nearly-5-million-internet-all-grants-tribal>, accessed June 12, 2024.

¹¹⁵Congress.gov, “H.R.2617 - Consolidated Appropriations Act, 2023,” <https://www.congress.gov/bill/117th-congress/house-bill/2617>, accessed June 12, 2024.

17, 2023, USDA announced the availability of \$20 million for the Broadband Technical Assistance Program (BTAP) from ReConnect Program funding. The BTAP aims to deliver broadband technical assistance resources for rural communities, and to support the development and expansion of broadband cooperatives. Following that announcement, on April 24, 2024, USDA awarded \$325,923 to IBT Group USA LLC to study existing barriers to broadband access in DeSoto County, Florida, design feasible networks to expand broadband access, and create a strategic plan to target resources to finance broadband facilities.^{116,117}

The United States Department of the Treasury awards support from its State and Local Fiscal Recovery Funds program and its Capital Projects Fund to support states' response to and recovery from the COVID-19 public health emergency through various projects, including broadband infrastructure.^{118,119} In Florida, funds from these programs are administered by the Florida Department of Commerce. On February 2, 2024, Governor DeSantis awarded nearly \$223 million to expand broadband internet access to Floridians, including \$135 million in state funding appropriated from the US Treasury's State and Local Fiscal Recovery Funds through the Broadband Opportunity Program (BOP) and \$86 million in the US Treasury's Capital Projects Fund through the Multipurpose Community Facilities Program. The BOP awards will support 54 projects in 33 counties for broadband expansion to over 27,000 unserved residential, educational, agricultural, business and community locations, while Multipurpose Facility Program awards will support 29 projects including health clinics, schools and workforce development internet infrastructure programs across 18 counties.¹²⁰

Given the plethora of federal broadband programs, NTIA maintains a Federal Funding site, which serves as a comprehensive, "one-stop shop" of resources for potential applicants seeking federal broadband funding. The site includes broadband funding opportunities and information on more than 80 federal programs across 14 federal agencies.¹²¹

¹¹⁶USDA, "USDA Offers New Funding to Promote the Expansion of High-Speed Internet in Rural Areas," April 17, 2023, <https://www.rd.usda.gov/newsroom/news-release/usda-offers-new-funding-promote-expansion-high-speed-internet-rural-areas>, accessed June 12, 2024.

¹¹⁷USDA, "USDA Partners with IBT Group USA to Expand Access to High-Speed Internet in DeSoto County," April 24, 2024, <https://www.rd.usda.gov/newsroom/news-release/usda-partners-ibt-group-usa-expand-access-high-speed-internet-desoto-county>, accessed June 12, 2024.

¹¹⁸U.S. Department of the Treasury, "State and Local Fiscal Recovery Funds," <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds>, accessed June 12, 2024.

¹¹⁹U.S. Department of the Treasury, "Capital Projects Fund," <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/capital-projects-fund>, accessed June 12, 2024.

¹²⁰FloridaCommerce, "ICYMI: Governor Ron DeSantis Delivers \$223 Million to Expand Rural Broadband Access," February 2, 2024, [https://www.floridajobs.org/news-center/DEO-Press/2024/02/02/icymi-governor-ron-desantis-delivers-\\$223-million-to-expand-rural-broadband-access](https://www.floridajobs.org/news-center/DEO-Press/2024/02/02/icymi-governor-ron-desantis-delivers-$223-million-to-expand-rural-broadband-access), accessed June 12, 2024.

¹²¹BroadbandUSA, NTIA Launches Updated Federal Broadband Funding Guide, <https://broadbandusa.ntia.doc.gov/news/latest-news/ntia-launches-updated-federal-broadband-funding-guide-0>, accessed June 12, 2024.

C. 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) supports the budgets of universal service programs. The USF is funded by telecommunications providers based on an assessment of interstate and international revenues. Carriers are allowed by federal rules to pass these costs on to their customers through their bills.

In general, Florida consumers pay more into the USF than what is returned to eligible service providers in Florida.¹²² For 2022, only consumers in California and New York were larger net contributors than consumers in Florida. The FCC annually publishes contributions to and disbursements from the fund. The most current data for this report is through December 2022. Table 6-1 shows Florida’s estimated contribution and receipts for 2022 and provides a comparison of net contributions for 2020 and 2021. The total estimated consumer contribution for 2022 includes approximately \$19 million related to USAC’s administrative expense.

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

	2020	2021	2022		
	Estimated Net	Estimated Net	Service Providers Payments	Estimated Contributions	Estimated Net
High-Cost	(248,298)	(250,799)	24,627	240,462	(215,836)
Low Income	(8,978)	(12,309)	24,384	35,507	(11,123)
Schools & Libraries	(31,925)	(40,654)	83,714	120,483	(36,769)
Rural Health Care	(12,255)	(24,346)	4,979	28,704	(23,725)
Admin. Expense	(11,648)	(14,276)		19,127	(19,127)
Total	(313,104)	(342,384)	137,703	444,284	(306,580)

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

1. High Cost

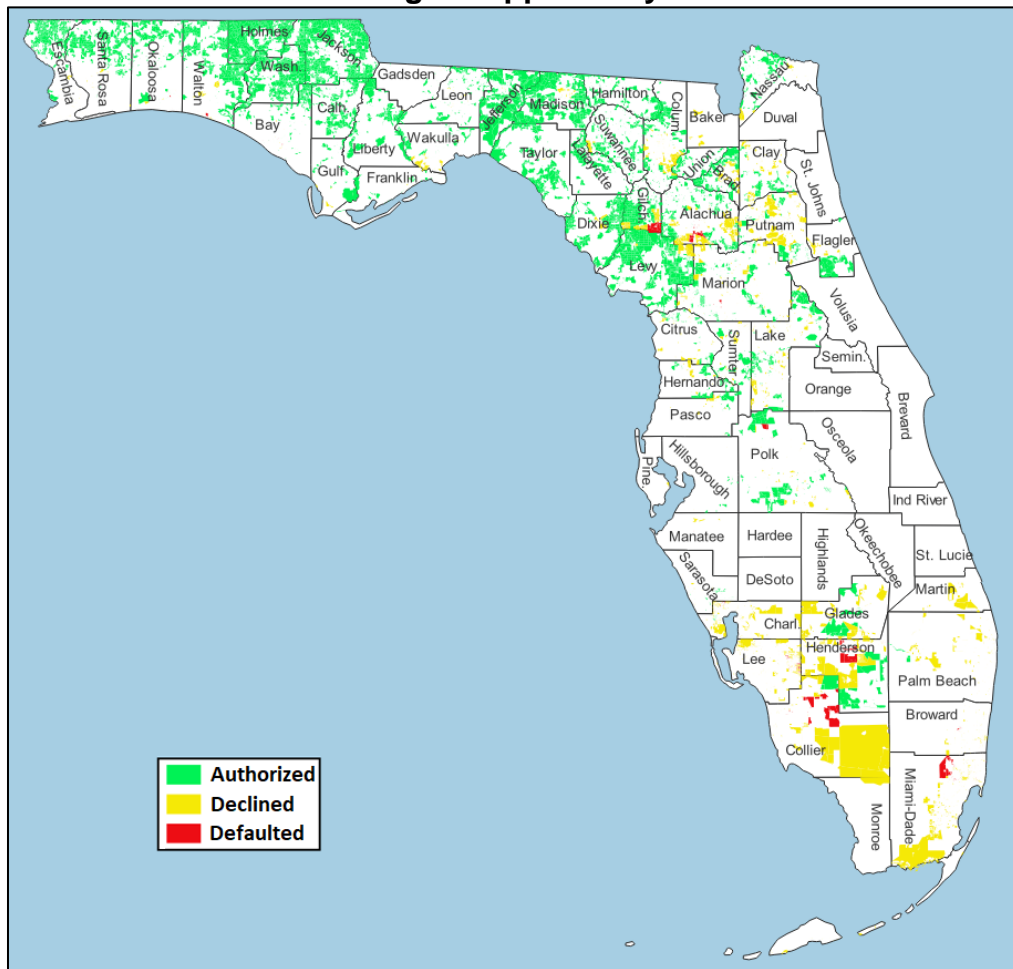
Since 2011, the FCC has been modernizing the federal high-cost programs to maintain voice services and extend broadband capable infrastructure.¹²³ On January 30, 2020, the FCC adopted a Report and Order establishing the framework for the \$20.4 billion RDOF to bring high speed fixed broadband service to rural homes and small businesses, using reverse auctions in two phases.

¹²²FCC, Universal Service Monitoring Report-2023, released February 14, 2024, <https://docs.fcc.gov/public/attachments/DOC-401168A1.pdf>, accessed June 12, 2024.

¹²³FCC, FCC 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 June 12, 2024.

The Phase I auction targeted 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 6-1 provides a map identifying areas in Florida that will receive RDOF support in the first phase of the program.

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



Source: FCC, US Census Bureau Shapefile

Seven providers in Florida were authorized by the FCC to receive RDOF support of over \$152.1 million over ten years.¹²⁴ The FCC declined Starlink’s final application, determining that Starlink failed to demonstrate that it could deliver the promised service. AB Indiana LLC and Hotwire Communications, Ltd. defaulted on their RDOF bids in Florida by violating FCC auction rules. The second phase of RDOF will provide \$4.4 billion to cover unserved locations not previously

¹²⁴Designated by the FCC as “authorized” include: Bright House Network Information Services, Conexon Connect LLC, Consolidated Communications of Florida Company, Embarq Florida, Inc, Frontier Florida LLC, Mediacom Wireless of Florida LLC, and Windstream Florida LLC.

funded.¹²⁵ Locations in census blocks that are partially served will also be eligible to receive support in the second phase.

In addition to RDOF, other High Cost programs include the E-ACAM program and the 5G Fund for Rural America, that will offer up to \$9 billion to bring 5G mobile broadband service to rural areas unlikely to see deployments.¹²⁶ The FCC is currently considering comments on 5G Fund implementation issues.¹²⁷

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. 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 (e.g. access lines, broadband connections, etc.) and Category Two provides connectivity for services within schools and libraries (e.g. routers, servers, etc.). The E-Rate program has a funding cap that is annually adjusted for inflation. For 2024, the adjustment is a 3.6 percent increase, establishing a new cap of \$4.94 billion.¹²⁸ Figure 6-2 illustrates a comparison of the amounts disbursed in Florida for funding years 2018-2022 (the latest data years available).

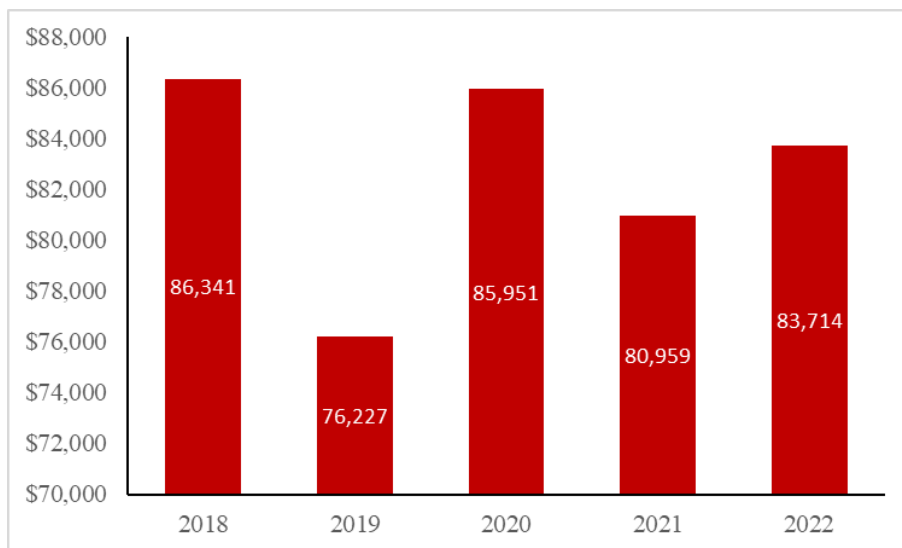
¹²⁵FCC 19-77, WC Docket No 19-126, Notice of Proposed Rulemaking, released August 2, 2019 <https://docs.fcc.gov/public/attachments/FCC-19-77A1.pdf>, accessed June 12, 2024.

¹²⁶FCC, “FCC Seeks Further Comment on 5G Fund for Rural America”, released September 22, 2023, <https://www.fcc.gov/document/fcc-seeks-further-comment-5g-fund-rural-america>, accessed June 12, 2024.

¹²⁷Ibid.

¹²⁸FCC, DA 24-229, Public Notice, released March 8, 2024, <https://docs.fcc.gov/public/attachments/DA-24-229A1.pdf>, accessed June 12, 2024.

Figure 6-2
Schools and Libraries Funding Disbursements in Florida
(In Thousands)



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

3. Low Income

The Lifeline program provides a monthly discount on phone or broadband service for qualifying low-income consumers. In 2016, the FCC reformed the Lifeline program to transition to a more broadband-focused program, which included a phase-down of federal support for voice-only services.¹²⁹ Broadband services that include a voice component will continue to be eligible to receive Lifeline support after the final voice-only phase-out date of December 1, 2024. As discussed in Chapter V above, 300,229 Floridians participated in the Lifeline program as of June 2023.

4. Rural Health Care

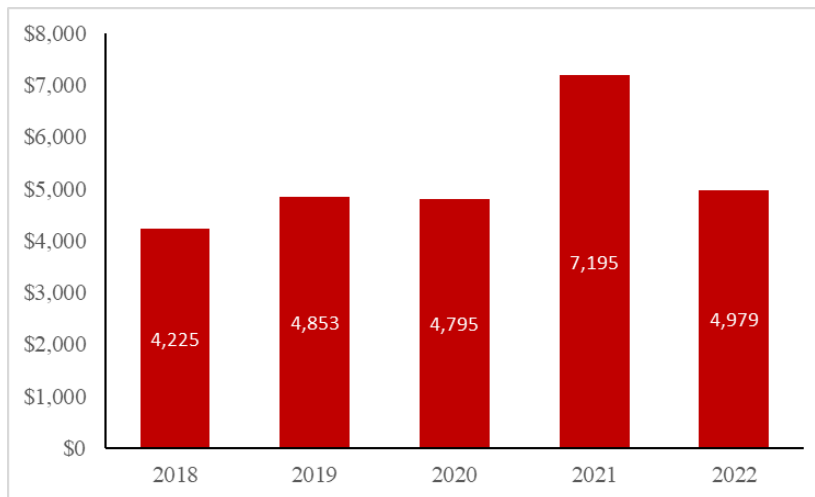
The goal of the Rural Health Care (RHC) Program is to ensure the affordability of telehealth services in rural communities to promote healthcare in underserved and hard to reach geographic areas. To achieve these goals, the RHC Program provides funding to eligible rural healthcare providers for broadband and telecommunications services. The new RHC funding cap for 2024 was established by the FCC at \$707 million.¹³⁰ This represents a 3.6 percent increase from the prior year's cap to adjust for inflation. Funding is distributed through two programs: the Telecommunications Program and the Healthcare Connect Fund Program. In 2020, the FCC added a three-year Connected Care Pilot Program to the RHC program.

¹²⁹FCC, FCC 16-38, WC Docket No. 11-42, 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 June 12, 2024.

¹³⁰FCC, DA 24-229, Public Notice, released March 8, 2024, <https://docs.fcc.gov/public/attachments/DA-24-229A1.pdf>, accessed June 12, 2024.

The Telecommunications Program subsidizes the difference between urban and rural rates for telecommunications services, and 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.¹³¹ The Connected Care Pilot Program provides funding for selected projects to cover 85% of the broadband connectivity, equipment, and information services to provide connected care services to patient populations.¹³² From inception through June 30, 2023, 84 percent of RHC funds in Florida have been committed to the Healthcare Connect Fund program, while the Telecommunications Program has received 14 percent. The Connected Care Program has received around 2 percent.¹³³ Figure 6-3 illustrates a comparison of the amounts disbursed in Florida for funding years 2018-2022 (the latest data years available).

Figure 6-3
Rural Health Care Funding Disbursements in Florida
(In Thousands)



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

D. Public Safety

Florida faces numerous public safety challenges, including hurricanes, in the use of its telecom networks. On August 30, 2023, Category 3 Hurricane Idalia made landfall about 20 miles south of Perry, Florida. Along with other infrastructure, the telecommunications network sustained significant damage. The initial FCC communications status report included 44 Florida counties. At the peak level of damage, slightly over 50 percent of cell sites in the most affected counties (Hamilton, Lafayette, Madison, and Suwannee) were rendered nonfunctional, while the peak of

¹³¹FCC, “Universal Service Monitoring Report - 2023,” <https://docs.fcc.gov/public/attachments/DOC-401168A1.pdf>, accessed June 12, 2024.

¹³²FCC, Connected Care Pilot Program, <https://www.usac.org/rural-health-care/connected-care-pilot-program/>, accessed June 12, 2024.

¹³³Ibid, Table 5.2.

cable and wireline service outages reached nearly 59,000 subscribers. Other outages included: two FM radio stations, one AM stations, and four Public Safety Answering Points.¹³⁴

In preparation and response, the FCC took several steps to promote public safety and connectivity. These steps included updating status and restoration efforts with status reports and granting partial and full waivers of its number aging rule, as well as some Universal Service Fund and broadband programs rules. The FCC also granted conditional spectrum use waivers to several parties.¹³⁵ In addition to service restoration efforts, providers responded with several steps including: opening up free Wi-Fi hotspots, waiving overage and late charges, deploying additional satellites, and allowing unlimited talk, text, and data.

To improve response and recovery efforts for future storms, the FCC has issued several orders and notices of proposed rulemaking. These changes aim to improve communications network reliability, resiliency, and transparency through the expanded use of the FCC’s Disaster Information Reporting System. They also proposed rules that would make it easier for emergency managers to send alerts in non-English languages over television and radio.^{136,137} Recent actions also establish a new supplemental coverage from space framework to ensure smartphone users stay connected even in areas where there is no terrestrial mobile service, and propose a new event code option to deliver critical messages to the public over television and radio about missing and endangered adult persons.^{138,139}

¹³⁴FCC, Hurricane Idalia: Communications Status Reports, released August 30 - September 4, 2023, <https://www.fcc.gov/Idalia>, accessed June 12, 2024.

¹³⁵FCC, Hurricane Idalia: Public Notices and Orders, released August 30, September 1, and September 5, 2023, <https://www.fcc.gov/Idalia>, accessed June 12, 2024.

¹³⁶FCC, “FCC Acts to Improve Network Reliability During Disasters,” released January 26, 2024, <https://www.fcc.gov/document/fcc-acts-improve-network-reliability-during-disasters-0>, accessed June 12, 2024.

¹³⁷FCC, “FCC Proposes Solution to Expand Multilingual Emergency Alerts”, released February 15, 2024, <https://www.fcc.gov/document/fcc-proposes-solution-expand-multilingual-emergency-alerts>, accessed June 12, 2024.

¹³⁸FCC, “FCC Advances Supplemental Coverage from Space Framework”, released March 15, 2024, <https://www.fcc.gov/document/fcc-advances-supplemental-coverage-space-framework-0>, accessed June 12, 2024.

¹³⁹FCC, “FCC Proposes New Emergency Alert Code for Missing & Endangered Adults”, released March 15, 2024, <https://www.fcc.gov/document/fcc-proposes-new-emergency-alert-code-missing-endangered-adults>, accessed June 12, 2024.

E. Open Internet/Net Neutrality

In 2015, the FCC established a policy of “net neutrality,” which banned blocking, throttling, and paid prioritization by internet service providers.¹⁴⁰ In 2017, the FCC reversed its net neutrality policy and opted to return to a less restrictive framework of regulating broadband service.¹⁴¹ However, following a change in administration and a notice of proposed rulemaking, on April 25, 2024, the FCC issued an order restoring a policy of net neutrality.^{142,143}

The Order restores the ability of the FCC to prohibit blocking, throttling, or engaging in paid prioritization of lawful content. The Order also allows the FCC to revoke the authorizations of foreign-owned entities who pose a threat to national security to operate broadband networks in the U.S. The FCC has previously only had authority for voice services in the United States.

¹⁴⁰FCC, “FCC Releases Open Internet Order,” published March 12, 2015, <https://www.fcc.gov/document/fcc-releases-open-internet-order>, accessed on June 12, 2024.

¹⁴¹FCC, “FCC Releases Restoring Internet Freedom Order,” published January 4, 2018, <https://www.fcc.gov/document/fcc-releases-restoring-internet-freedom-order>, accessed on June 12, 2024.

¹⁴²FCC, “FCC to Start Proceeding on Reestablishing Open Internet Protections,” published October 20, 2023, <https://www.fcc.gov/document/fcc-start-proceeding-reestablishing-open-internet-protections-0>, accessed on June 12, 2024.

¹⁴³FCC, “FCC Restores Net Neutrality,” published April 25, 2024, <https://www.fcc.gov/document/fcc-restores-net-neutrality>, accessed on June 12, 2024.

Appendix - List of Certificated ILECs and CLECs as of 12/31/2023

** Indicates the company did not respond to the Commission's data request as of May 28, 2024

Accelecom GA LLC	City of Ocala
Access One, Inc.	Clear Rate Communications, LLC
ACN Communication Services, LLC	CNS Networks LLC
Airespring, Inc.	Cogeco US Enterprise, LLC d/b/a Breezeline
Airus, Inc.	Cogent Communications of Florida
Allstream	Comcast Business Communications, LLC
altafiber connected services	Comcast Digital Phone
Altaworx LLC	Communications Authority, Inc
American Dark Fiber, LLC	Comtech21, LLC **
American Telephone Company LLC	Consolidated Communications Enterprise
ANEW Broadband, Inc.	Services, Inc.
ANPI Business, LLC	Consolidated Communications/GTC
AT&T Corp.	Conterra Ultra Broadband, LLC
AT&T Florida	Convergia, Inc.
ATC Outdoor DAS, LLC	CoreTel Florida, Inc. **
Atlantis Communications LLC	Cox Florida Telcom, L.P.
ATN, Inc.	Crexendo Business Solutions, Inc.
Bandwidth.com CLEC, LLC	Crosstel Tandem, Inc.
Barr Tell USA, Inc.	Crosstown Fiber IL LLC
BCM One, Inc.	Crown Castle Fiber LLC **
BeCru	CSG-Cloud, LLC d/b/a Citrus Phones **
BellSouth d/b/a AT&T Southeast	Custom Network Solutions, Inc.
BIF IV Intrepid OpCo LLC **	Dais Communications, LLC
Blue Stream Fiber	Data Stream Telecom of Florida Inc. **
Boldyn Networks US LLC	DeltaCom LLC
Branch Communications, LLC	dishNET Wireline L.L.C.
Bright House Networks Information Services (Florida), LLC	DSCI, LLC
Broadband Dynamics, L.L.C.	EarthGrid PBC
Broadview Networks, Inc.	Easton Telecom Services, L.L.C.
Broadvox-CLEC, LLC	Easy Telephone Services Company
Broadwing Communications, LLC	Embarq Communications
BT Communications Sales LLC	ENA Services, LLC
BullsEye Telecom, Inc. **	eNetworks NC, LLC
Business Telecom, LLC	ENGAGE COMMUNICATIONS
C3	Enhanced Communications Network, Inc.
Cablevision Lightpath LLC	Entelegant Solutions, Inc.
Callis Communications, Inc.	ExteNet Asset Entity, LLC
Campus Communications Group, Inc.	ExteNet Systems, LLC
Catnect Communications Inc. **	ExteNet Telecom Solutions, Inc.
CBTS Technology Solutions LLC	Faster.IO, Inc. **
CenturyLink	FiberLight, LLC
Cirion Technologies Solutions, LLC **	First Choice Technology, Inc.
City of Lakeland	First Communications, LLC
	FL Network Transport, LLC

Florida Phone Systems, Inc.
FPUAnet Communications
France Telecom Corporate Solutions L.L.C.
Frontier Communications of the South, LLC
Frontier Florida LLC
Fusion
Fusion Cloud Services, LLC
Gainesville Regional Utilities dba GRU
GetGo Communications LLC **
GIGAMONSTER NETWORKS, LLC **
Gigapower, LLC
Global Capacity
Global Crossing Local Services, Inc.
Gold Data USA Inc. **
Granite Telecommunications, LLC
Great America Networks, Inc.
GRUCom
Harbor Communications, LLC
Hargray of Florida, LLC
Hargray of Tallahassee LLC **
Hayes E-Government Resources, Inc.
HD Carrier, LLC
HFA of Florida LLC
Home Town Telephone, LLC
Hypercube Networks, LLC
HyperFiber, LLC d/b/a HyperFiber of Florida
LLC
inContact, Inc. **
INdigital
INNOVATIVE TECH PROS **
Integrated Path Communications, LLC
Intellectrace, Inc.
Intellifiber Networks, LLC
Interactive Services Network, Inc.
InterGlobe Communications, Inc.
InterMetro Fiber, LLC
Intrado Safety Communications, Inc.
IPC Network Services, Inc.
ITS Telecommunications Systems, Inc.
JEA **
Keys Energy Services
Level 3 Communications, LLC
Level 3 Telecom of Florida, LP
Light Source Communications, LLC
Lightspeed CLEC, Inc. **
Lingo Telecom, LLC
LIVEWIRE TELECOM LLC
Luxury Telecommunications LLC d/b/a Luxury
Telecommunications
Maryland TeleCommunication Systems, Inc.

MassComm, LLC
MasTec Network Solutions, LLC **
MCC Telephony of Florida, LLC
McLeodUSA Telecommunications Services,
L.L.C.
MetroNet
MetTel
Micro-Comm, Inc.
MIX Networks, Inc.
MOSAIC NETWORKX LLC **
Motorola Solutions Connectivity, Inc.
MULTIPHONE LATIN AMERICA, INC. **
Myakka Communications, Inc.
Nebula Telecommunications of Florida LLC **
NEFCOM
Neo Network Development, Inc.
Network Innovations, Inc.
Network Telephone, LLC
Neutral Tandem-Florida, LLC
New Horizons Communications Corp.
NextCity Networks, LLC
NGA 911, L.L.C.
NOS Communications, Inc.
Office Management Systems, Inc.
One Voice Communications, Inc.
Onvoy, LLC
Open Infra East Inc.
Opextel LLC d/b/a Alodiga **
PacOptic Networks, LLC
PaeTec Communications, LLC
PBX-Change
PeakNet, LLC
Peering Hub Inc.
Peerless Network of Florida, LLC
Phone Club Corporation
Pioneer Telephone
Point Broadband Fiber Holding, LLC
PowerNet Global Communications
Preferred Long Distance, Inc.
QuantumShift Communications, Inc.
Rapid Fiber Internet, LLC
RCLEC, Inc.
Reddot Networks Inc.
RingSquared Telecom LLC
SanTel Communications
SBA DAS & Small Cells, LLC
Seminole Telecom of Florida, LLC **
SH Services LLC **
Simwood Inc.
SKYNET360, LLC **

Skywire, LLC **
Smart Choice Communications, LLC
Smart City Metro
Smart City Networks, Limited Partnership
Smart City Solutions, LLC
Smart City Telecom
Southeastern Services, Inc.
Southern Light, LLC
Southern Telecom **
Spectrotel of Florida LLC d/b/a Touch Base
Communications
Spectrum Fiberlink Florida, LLC
SQF, LLC
Stanley Utility Contractor, Inc.
Stratus Networks, Inc.
Summit Broadband
Synergem Technologies, Inc.
T3 Communications, Inc.
TDS Telecom
Telco Experts, LLC
TelCove Operations, LLC
Telepak Networks, Inc.
Teleport Communications America, LLC
TELETECH COMMUNICATIONS INC
Teliix, Inc.
Telrite Corporation
Tel-Star Communications of Florida Inc.
Terra Nova Telecom, Inc.

TerraNovaNet, Inc.
Tillman FiberCo Florida, LLC
TIME CLOCK SOLUTIONS, LLC
Time Warner Cable Business LLC
Tone Communication Services LLC **
TotalComUSA
Touchtone Communications Inc. of Delaware
Tristar Communications Corp.
Triton Networks LLC
Ubiquity Florida, LLC
United Commercial Telecom, LLC
Uniti Fiber LLC
Uniti National LLC
US LEC of Florida, LLC
US Signal Company, L.L.C.
USA FIBER
Vanco US, LLC
Velocity, A Managed Services Company, Inc.
Verizon Access Transmission Services
Verizon Select Services Inc.
Vero Networks
VoDa Networks, Inc.
Vodafone US Inc.
Voxbeam Telecommunications Inc. **
WANRack, LLC
Wholesale Carrier Services, Inc.
Wide Voice, LLC
WiMacTel, Inc.

Glossary

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.
Broadband	A term describing evolving digital technologies offering consumers integrated access to voice, high-speed data, video on demand, and interactive information delivery services.
C-Band	The electromagnetic radio spectrum between 4GHz and 8GHz. Specifically, 3.7-3.98GHz is being used to transmit 5G cellular data.
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.
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.
Fixed Wireless Access (FWA)	Wireless broadband Internet service provided through stationary customer premise equipment that connects to a cellular network.
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 standards that keep the Internet functioning. It describes software that tracks the Internet address of nodes, routes outgoing messages, and recognizes incoming messages.
Millimeter Wave (mmWave)	The band of electromagnetic radio frequency spectrum with wavelengths between 10 millimeters (30GHz) and 1 millimeter (300GHz) and are often associated with 5G deployments. mmWave signals are capable of high bandwidth transmission, but are limited to relatively short range, line-of-sight applications vs. longer range Wi-Fi (2.4GHz, 5GHz, 6GHz) and cellular (2.5-3.7GHz, 600MHz-700MHz) networks.
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.
Time Division Multiplexing (TDM)	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	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.
Voice over Internet Protocol (VoIP)	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.