

Report on the Status of

Competition in the Telecommunications Industry



AS OF DECEMBER 31, 2016



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Office of Telecommunications

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List of Acronyms

CDC	Centers for Disease Control and Prevention
CLEC	Competitive Local Exchange Company
FCC	Federal Communications Commission
FiOS	Verizon's trademark name for its fiber-to-the-home package of services
FPSC	Florida Public Service Commission, the Commission
FTRI	Florida Telecommunications Relay, Inc.
F.S.	Florida Statutes
ILEC	Incumbent Local Exchange Company
IP	Internet Protocol
kbps	kilobits per second
Mbps	Megabits per second
TASA	Telecommunications Access System Act of 1991
TDM	Time Division Multiplexing
USF	Universal Service Fund
USAC	Universal Service Administrative Company
VoIP	Voice over Internet Protocol

Executive Summary

Section 364.386, Florida Statutes, requires the Florida Public Service Commission (FPSC or Commission) to report on the status of competition in the telecommunications industry to the Legislature by August 1 of each year. On February 23, 2017, information requests were sent to the ten incumbent local exchange companies and 260 competitive local exchange companies certificated by the Commission to operate in Florida, as of December 31, 2016.

In 2016, several national telecommunications issues remained at the forefront. AT&T abruptly ended its trial in West Delray Beach, before finishing converting a central office from traditional services to next-generation Internet Protocol technology. Although The Federal Communications Commission's Open Internet rules were upheld in federal court, the agency recently released its plans to reverse many of the upheld rules. Its preemption of state authority in two significant cases were reversed by the courts. Also, several bills were introduced in Congress in attempts to address some of the issues brought about by the appeals.

AT&T, CenturyLink and Frontier continued their access line losses in the national wireline market.¹ The market continued to consolidate with several mergers and acquisitions. Several intrastate issues were resolved or initiated in 2016. The Lifeline subscription rate in Florida increased measurably, from 41.4 percent of eligible households in 2015 to 49.8 percent in 2016.

Consumers in Florida continue to migrate from traditional wireline service to wireless and cable/Voice over Internet Protocol services. The data indicates that residential migration may be slowing down slightly. Business customers continue to migrate to Internet Protocol technology in large numbers. Carriers reported approximately three million total wireline access lines in Florida for 2016, about ten percent fewer than the previous year.

For the sixth year in a row, total wireline business access lines exceeded total residential lines. Wireline business access lines experienced a smaller drop than the previous four years. While residential lines declined an additional 15 percent in 2016, business line declines were only four percent. Much of this decline can continue to be attributed to the transition to Voice over Internet Protocol and wireless-only services. CenturyLink continues to be Florida's largest wireline residential provider. This may be a result of CenturyLink's ability to mitigate its decline in residential access lines or because it serves rural areas with less competition. Continuing a five-year trend, CenturyLink experienced a six percent decline in residential access lines during 2016, while AT&T declined 22 percent and Frontier declined 25 percent for the same period.

The wireline competitors experienced an increase in their market share in 2016, from 35 percent to 38 percent. Competitors continued to largely ignore the wireline residential market; their market share fell to one percent. AT&T's and Frontier's mix of residential and business lines continued their slow shift towards business lines, which now make up about 48 percent of their access lines. Competitors have almost 98 percent of their accounts in the business sector.

¹ On April 1, 2016, Verizon Florida LLC's certificate and territory in Florida were transferred to Frontier Florida LLC.

As reported for the past several years, intermodal competition from wireless, Voice over Internet Protocol, and broadband continued to drive the telecommunications markets in 2016. There are an estimated 21.1 million wireless handsets in Florida, and an additional 4.2 million cable Voice over Internet Protocol subscribers. Over 73 percent of Florida households have a broadband connection with download speeds of at least 3 megabits per second.

Analysis of the data produced the following conclusions:

- Many competitive local exchange companies reported offering a variety of services and packages comparable to those offered by incumbents. Subscribers to cable, wireless, and business Voice over Internet Protocol services continued to increase. These factors contribute to the conclusion that competitive providers are able to offer functionally equivalent services to both business and residential customers.
- The continued decrease in both business and residential incumbent local exchange carrier wireline access lines demonstrates customers are finding reasonable pricing packages and functionality with competitive local exchange companies, cable providers, and wireless providers, as well as Voice over Internet Protocol services from the incumbent local exchange carriers.
- Based on the continued growth of interconnected Voice over Internet Protocol services and wireless-only households, network reliability of non-incumbent providers is sufficient to satisfy customers. The Federal Communications Commission-reported telephone penetration rate of 95.3 percent for Florida suggests that the overwhelming majority of Florida residents are able to afford telephone service. The number and variety of competitive choices among all types of service providers suggest that competition is having a positive impact on the telecommunications market in Florida.

Chapter I. Introduction and Background

In 2011, the Florida Legislature amended Chapter 364, Florida Statutes (F.S.), to accommodate the continuing development of competition in the state's local telecommunications markets. The Legislature found that "the competitive provision of telecommunications services, including local exchange telecommunications service, is in the public interest and has provided customers with freedom of choice, encouraged the introduction of new telecommunications services, encouraged technological innovation, and encouraged investment in telecommunications infrastructure."

Chapter 364, F.S., requires the Florida Public Service Commission (Commission or FPSC) 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 issues:

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

The Commission is required to make an annual request to local exchange telecommunications providers each year for the data required to complete the report. The data request was mailed on February 23, 2017, and responses were due April 17, 2017. Data requests were mailed to 10 incumbent local exchange companies (ILECs) and 260 competitive local exchange companies (CLECs). The Commission continues its efforts to increase efficiency while gathering the data and information to produce this report. The data presented and the analyses that follow accurately reflect the information provided by the ILECs and the reporting CLECs.

The report also summarizes key events that may have a short term or long term effect on the Florida telecommunications market. National and state telecommunications issues, economic factors, mergers, universal service developments, Federal Communications Commission (FCC) enforcement actions, and state actions are presented to provide a more comprehensive picture of the market in 2016.

Chapter II. Industry Hot Topics

A. Introduction

External events affect how the Florida telecommunications markets react and develop. These effects can occur in a relatively short period of time or take years to filter through the market channels. The significant national issues for policymakers outlined in last year's report continued to shape the telecommunications market in 2016. Fundamental technology transitions, open Internet policies, and the beginnings of a complete overhaul of federal telecommunications regulation remained in the forefront in 2016.

B. Internet Protocol

The technological transition from Time Division Multiplexing (TDM) to Internet Protocol (IP) continues, as do the regulatory issues surrounding it. While the FCC contemplates the regulatory future of IP interconnection, action has begun to occur in the states.

As previously reported, AT&T conducted a trial of IP-based services in a Florida exchange in West Delray Beach. The trial began in 2014 with the primary goal of identifying and resolving operational, technical, and public policy issues associated with migrating customers from traditional TDM based services to IP-based services by the end of the trial period. AT&T designed its trial to proceed in three phases over three years:

- Phase one would have customers opt for new services voluntarily
- Phase two would grandfather TDM-based services
- Phase three would sunset all TDM-based services in these exchanges and require customers to migrate to IP-based products

AT&T filed quarterly reports with the FCC regarding the trial, encompassing the fourth quarter of 2014 through the third quarter of 2016. While much of the data was filed confidentially, the reports indicated that customers were voluntarily migrating to IP-based services in the trial areas. However, the reports also indicated that AT&T continued to lose more customers outright in the trial areas than it converted to its IP-based services.²

AT&T further reported that the company conducted significant outreach for both general consumers and special needs groups in the trial. Its work in the West Delray office concentrated on meetings and activities with customers and the general public as well as targeted engagements with seniors and the disability community. AT&T's reported outreach efforts for 2016 included additional senior technology trainings to improve IP awareness and adoption and Spanish language trainings about the IP transition and Internet safety.³ AT&T also focused on identifying

² AT&T, "AT&T Wire Center Trials: Data Collection and Reporting for 4th Quarter, 2015 - Redacted" and "AT&T Wire Center Trials: Data Collection and Reporting for 1st Quarter, 2016 - Redacted," filed July 1, 2016, <https://prodnet.www.neca.org/publicationsdocs/wwpdf/0705att.pdf>, accessed May 23, 2017.

³ AT&T, "AT&T Wire Center Trials: Final Report" – Redacted, filed January 19, 2017, <https://prodnet.www.neca.org/publicationsdocs/wwpdf/11917att2.pdf>, accessed May 23, 2017.

and connecting with community-based organizations to gain an understanding of the disability community within the trial area.

During the trials, the FCC released two Orders from its Technology Transitions proceeding on August 7, 2015. The Orders established the requirements for the retirement of copper facilities and services when deploying IP-based services and established backup power requirements to promote continued 911 access during commercial power outages.⁴ On November 4, 2015, and November 5, 2015, AT&T filed applications with the FCC to phase out certain rarely-used services in the trial areas.^{5,6,7} AT&T indicated that its plans were to “grandfather” the affected services, continuing service to existing customers and offering only next generation wireless and wireline IP-based alternatives for new orders. Subsequently, AT&T would “sunset” (discontinue) the services altogether.

AT&T’s application was approved by the FCC and AT&T grandfathered the rarely-used services on February 16, 2016.⁸ AT&T also provided notice of its plans to discontinue some of the services on October 14, 2016. The company planned to discontinue the remainder of the services on September 17, 2017.^{9,10} However, on January 19, 2017, AT&T informed the FCC of its decision to terminate the IP trials effective immediately.¹¹ The company stated that it plans to continue its technology transition from legacy TDM-based services on a broader scale outside the structure of the IP trials. While the trials were in effect for the planned three years, at the time of the trials’ termination only the first of the three planned phases had been completed.

C. Open Internet/Net Neutrality

As previously reported, the United States Court of Appeals for the District of Columbia (D.C. Circuit) struck down portions of the FCC’s 2010 Open Internet Order. The D.C. Circuit upheld the FCC’s authority to regulate broadband Internet access providers’ network management under Section 706 (advanced telecommunications incentives) of the Communications Act of 1934, as amended (Telecommunications Act or the Act). However, the D.C. Circuit found that the anti-discrimination and anti-blocking rules that the FCC adopted were too similar to the “common

⁴ FCC 15-97, GN Docket No. 13-5, Technology Transitions, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, released August 7, 2015, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-97A1.pdf, and FCC 15-98, PS Docket No. 14-174, Ensuring Continuity of 911 Communications, Report and Order, released August 7, 2015, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-98A1.pdf, accessed May 23, 2017.

⁵ AT&T, “Section 63.71 Application of Bellsouth Telecommunications, LLC d/b/a AT&T Southeast”, FCC GN Docket No. 13-5, filed November 4, 2015, <https://ecfsapi.fcc.gov/file/60001332987.pdf>, accessed May 23, 2017.

⁶ AT&T, “Section 63.71 Application of Bellsouth Telecommunications, LLC d/b/a AT&T Southeast”, FCC GN Docket No. 13-5, filed November 4, 2015, <https://ecfsapi.fcc.gov/file/60001333050.pdf>, accessed May 23, 2017.

⁷ AT&T, “Section 63.71 Application of Bellsouth Telecommunications, LLC d/b/a AT&T Southeast”, FCC GN Docket No. 13-5, filed November 4, 2015, <https://ecfsapi.fcc.gov/file/60001333332.pdf>, accessed May 23, 2017.

⁸ AT&T, “CLEC Accessible Letter CLECSE15-071,” issued December 31, 2015, accessed through https://clec.att.com/clec/access_letters/search.cfm, accessed May 23, 2017.

⁹ AT&T, “CLEC Accessible Letter CLECSE16-055”, issued June 30, 2016, accessed through https://clec.att.com/clec/access_letters/search.cfm, accessed May 23, 2017.

¹⁰ AT&T, “CLEC Accessible Letter CLECSE16-059”, issued July 12, 2016, accessed through https://clec.att.com/clec/access_letters/search.cfm, accessed May 23, 2017.

¹¹ AT&T, “AT&T Wire Center Trials: Final Report” – Redacted, filed January 19, 2017, <https://prodnet.www.neca.org/publicationsdocs/wwpdf/11917att2.pdf>, accessed May 23, 2017.

carrier” (Title II) obligations, and since the FCC did not classify the services as Title II services, vacated them. Under Title II of the Act, traditional telecommunications carriers must treat all customers equally and cannot block, slow, or discriminate among services.

On February 26, 2015, the FCC adopted further rules addressing Open Internet (or Network Neutrality).¹² These new rules were in response to the court decision that struck down the FCC’s previous Open Internet rules. The 2015 Open Internet Order (Order) established the FCC’s legal authority by reclassifying broadband Internet access as a telecommunications service under Title II of the Act.

Subsequently, in response to the FCC’s 2015 Open Internet Order, USTelecom appealed the Order and requested that implementation of the rules be stayed. On June 11, 2015, the D.C. Circuit denied USTelecom’s request for stay but agreed to expedite the proceeding.¹³ The rules became effective on June 12, 2015. Parties filed briefs in July and August, 2015. Oral arguments were held December 4, 2015. On June 14, 2016, the D.C. Circuit upheld the FCC’s order.

Although the D.C. Circuit upheld the FCC’s order, on May 23, 2017, the FCC released a proposal to undo the 2015 net neutrality rules.¹⁴ The Notice of Proposed Rulemaking (NPRM), also known as the Restoring Internet Freedom NPRM, was adopted on May 18, 2017, during the FCC’s Open Meeting.¹⁵ According to the FCC, the purpose of the NPRM is to end the utility-style regulatory approach that gives government control of the Internet and to restore the market-based policies necessary to preserve the future of Internet freedom, and to reverse the decline in infrastructure investment, innovation, and options for consumers put into motion by the FCC in 2015.¹⁶

The FCC’s Restoring Internet Freedom NPRM rule proposals are listed below. Comments and reply comments on the Notice of Proposed Rulemaking are due July 17, 2017, and August 16, 2017, respectively.

- Reinstate the information service classification of broadband Internet access service and return to the light-touch regulatory framework first established on a bipartisan basis during the Clinton Administration
- Reinstate the determination that mobile broadband Internet access service is not a commercial mobile service and in conjunction revisit the elements of the Title II Order

¹² FCC 15-24, GN Docket No. 14-28, “Protecting and Promoting the Open Internet,” Report and Order on Remand, Declaratory Ruling, and Order, released March 12, 2015, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A1.pdf, accessed May 24, 2017.

¹³ Order, U.S. Telecom Ass’n v. FCC (D.C. Circuit June 11, 2015), <https://www.fcc.gov/document/court-order-denying-stay-usta-v-fcc-usa-dc-cir>, accessed May 24, 2017.

¹⁴ FCC 17-60, WC Docket No. 17-108, “Restoring Internet Freedom,” Notice of Proposed Rulemaking, adopted May 18, 2017 and released May 23, 2017, https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-60A1.pdf, accessed May 24, 2017.

¹⁵ A Notice of Proposed Rulemaking or NPRM is a public notice that is issued by law during the rulemaking process when an independent U.S. agency, such as the FCC, adds, removes, or changes a rule or regulation.

¹⁶ FCC, Fact Sheet Restoring Internet Freedom Notice of Proposed Rulemaking – WC Docket No. 17-108, released April 27, 2017, https://apps.fcc.gov/edocs_public/attachmatch/DOC-344614A1.pdf, accessed May 24, 2017.

that modified or reinterpreted key terms in section 332 of the Communications Act and the FCC's implementing rules

- Return authority to the Federal Trade Commission to police the privacy practices of Internet service providers
- Eliminate the vague Internet conduct standard
- Seek comments on whether to keep, modify, or eliminate the bright-line rules set forth in the Title II Order
- Re-evaluate the FCC's enforcement regime to analyze whether ex ante regulatory intervention in the market is necessary
- Conduct a cost-benefit analysis as part of the rulemaking proceeding¹⁷

D. Federal Preemption

Two recent FCC cases have brought federal preemption and the balance of state vs. federal jurisdiction to the forefront. The FCC made clear its intent to limit states' ability to set the parameters for local municipal broadband networks and intrastate inmate calling rates.

1. Municipal Broadband

As previously reported, in February 2015, the FCC issued an order preempting state laws in Tennessee and North Carolina that prevented two community broadband providers from providing broadband service.¹⁸ The FCC found that provisions of the laws in North Carolina and Tennessee are barriers to broadband deployment, investment, and competition, and conflict with the FCC's mandate to promote these goals.

On August 10, 2016, the United States Court of Appeals for the Sixth Circuit (Sixth Circuit) reversed the FCC's efforts to preempt state laws that set limits on municipal broadband expansion in North Carolina and Tennessee.¹⁹ The Sixth Circuit decided that

the FCC order essentially serves to re-allocate decision-making power between the states and their municipalities. This is shown by the fact that no federal statute or FCC regulation requires the municipalities to expand or otherwise to act in contravention of the preempted state statutory provisions. This preemption by the FCC of the allocation of power between a state and its subdivisions requires at

¹⁷ FCC, Fact Sheet Restoring Internet Freedom Notice of Proposed Rulemaking – WC Docket No. 17-108, released April 27, 2017, https://apps.fcc.gov/edocs_public/attachmatch/DOC-344614A1.pdf, accessed May 24, 2017.

¹⁸ FCC 15-25, WC Docket Nos. 14-115 and 14-116, City of Wilson, North Carolina Petition for Preemption of North Carolina General Statute Sections 160A-340 et seq., The Electric Power Board of Chattanooga, Tennessee Petition for Preemption of a Portion of Tennessee Code Annotated Section 7-52-601, Memorandum Opinion and Order, released March 12, 2015, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-25A1.pdf, accessed May 24, 2017.

¹⁹ *State of Tennessee; North Carolina et al. v. FCC, et al*, Nos. 15-3291/3555 (6th Cir. 2016), <http://www.opn.ca6.uscourts.gov/opinions.pdf/16a0189p-06.pdf>, accessed May 24, 2017.

least a clear statement in the authorizing federal legislation. The FCC relies upon § 706 of the Telecommunications Act of 1996 for the authority to preempt in this case, but that statute falls far short of such a clear statement. The preemption order must accordingly be reversed.²⁰

After the Sixth Circuit's decision, the FCC decided that it would not appeal the decision.

2. Inmate Calling Services

In August 2013, the FCC approved an order to reduce the cost of interstate long distance calls from inmate facilities.²¹ The order concluded that some interstate inmate calling service (ICS) rates were not just and fair. The order required interstate rates to be cost-based. The FCC encouraged states to make similar changes to intrastate rates and sought comments for legal bases to compel reform of intrastate ICS rates.

In 2014, the D.C. Circuit issued an order that stayed portions of the FCC's inmate calling rules adopted in 2013.²² The rules that were stayed included rules that required cost-based rates, established an interim safe harbor, and required annual reporting and certification. On November 5, 2015, the FCC released its Second Report and Order and Third Further Notice of Proposed Rulemaking on inmate calling service.²³ The order established caps on all (interstate and intrastate) ICS rates. The order further established caps or bans on burdensome and needless ancillary service charges, and discouraged site commission payments to institutions. In addition the order banned flat-rate calling and ensured access for people with disabilities.

On December 18, 2015, Global Tel*Link petitioned the D.C. Circuit to vacate, enjoin, and set aside the FCC's order.²⁴ Global Tel*Link sought review on the grounds that the order exceeded the FCC's jurisdiction or authority and violated the Telecommunications Act and the notice and comment requirements of the Administrative Procedure Act. Global Tel*Link further contested that the FCC's order was arbitrary, capricious, an abuse of discretion, or otherwise contrary to law.

On January 27, 2016, Global Tel*Link followed its petition with a motion to stay the FCC's order.²⁵ The motion was granted in part and denied in part by the D.C. Circuit on March 7,

²⁰ Ibid.

²¹ FCC 13-113, WC Docket No. 12-375, Rates for Interstate Inmate Calling Services, Report and Order and Further Notice of Proposed Rulemaking, released September 26, 2013, http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-13-113A1.pdf, accessed May 24, 2017.

²² Order, Securus Technologies, Inc. v. FCC (D.C. Cir. Jan. 13, 2014), <https://www.fcc.gov/document/securus-stay-order>, accessed May 24, 2017.

²³ FCC 15-136, WC Docket No. 12-375, Rates for Interstate Inmate Calling Services, Second Report and Order and Third Further Notice of Proposed Rulemaking, released November 5, 2015, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-136A1.pdf, accessed May 24, 2017.

²⁴ No. 15-1461, Global Tel*Link Corporation v. FCC, Petition for Review, Doc. No. 1590552 (D.C. Cir. filed December 18, 2015) (and consolidated cases Nos. 15-1498, 16-1012, 16-1029, 16-1038, 16-1046, and 16-1057).

²⁵ No. 15-1461 (and consolidated cases), Global Tel*Link Corporation v. FCC, Motion for Partial Stay Pending Judicial Review, Doc. No. 1595450 (D.C. Circuit filed January 27, 2016), <https://ecfsapi.fcc.gov/file/10713407224982/ICS%20Litigation%20Record%207%2013%202016.pdf>, accessed May 24, 2017.

2016.²⁶ Global Tel*Link later filed another motion with the D.C. Circuit on March 17, 2016, asking the court “to enforce its prior order by clarifying that none of the FCC’s rate caps may be applied to intrastate calls pending judicial review.”²⁷ Global Tel*Link argued that “(t)he apparent purpose of the court’s order was to preserve, pending review, the status quo with respect to rate caps and thus to prevent the caps on intrastate rates from going into effect.” The D.C. Circuit agreed and on March 23, 2016, clarified that the stay also applied to intrastate calling rates.²⁸ As a result, the FCC issued a public notice on March 29, 2016, reflecting the court ruling and setting forth the amended rates and effective dates, noting that the ICS rate caps were applicable to interstate calls.²⁹

On August 4, 2016, the FCC adopted an Order on Reconsideration wherein the FCC raised the 2015 rate caps that were blocked by a court stay pending appeal. The rate caps that the FCC adopted on August 4, 2016, for debit/prepaid calls are listed below. For comparison, the 2015 rate caps are in parentheses.³⁰

- State or federal prisons: 13 cents/minute (11 cents/minute)
- Jails with 1,000 or more inmates: 19 cents/minute (14 cents/minute)
- Jails with 350-999 inmates: 21 cents/minute (16 cents/minute)
- Jails of up to 349 inmates: 31 cents/minute (22 cents/minute)

On November 2, 2016, the D.C. Circuit granted a motion for stay filed by Securus Technologies, Inc., on the FCC’s Order on Reconsideration thereby blocking the FCC’s proposed new rate caps.³¹ On January 31, 2017, the FCC notified the D.C. Circuit, via a letter to the court’s clerk, that the agency was abandoning its argument and would no longer defend limiting fees for intrastate inmate calls due to the belief of the majority of the FCC’s commissioners that the agency does not have the authority to cap intrastate rates under section 276 of the Act.³² On June

²⁶ No. 15-1461 (and consolidated cases), *Global Tel*Link Corporation v. FCC*, Order, Doc. No. 1602581 (D.C. Circuit filed March 7, 2016), <https://ecfsapi.fcc.gov/file/10713407224982/ICS%20Litigation%20Record%207%2013%202016.pdf>, accessed May 24, 2017.

²⁷ No. 15-1461 (and consolidated cases), *Global Tel*Link Corporation v. FCC*, Motion to Enforce March 7, 2016 Order Granting Partial Stay Pending Judicial Review, Doc. No. 1604580 (D.C. Circuit filed March 17, 2016), <https://cdn.arstechnica.net/wp-content/uploads/2016/03/global-tel-link.pdf>, accessed May 24, 2017.

²⁸ No. 15-1461 (and consolidated cases), *Global Tel*Link Corporation v. FCC*, Order, Doc. No. 1605455 (D.C. Circuit filed March 23, 2016), <https://ecfsapi.fcc.gov/file/10713407224982/ICS%20Litigation%20Record%207%2013%202016.pdf>, accessed May 24, 2017.

²⁹ FCC DA 16-332, WC Docket No. 12-375, Public Notice, released March 29, 2016, https://apps.fcc.gov/edocs_public/attachmatch/DA-16-332A1.pdf, accessed May 24, 2017.

³⁰ FCC 16-102, WC Docket No. 12-375, Order on Reconsideration, released August 9, 2017, https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-102A1.pdf, accessed May 25, 2017.

³¹ *Securus Technologies, Inc., v. FCC*, No. 16-1321 (6th Cir. 2016), <https://cdn.arstechnica.net/wp-content/uploads/2016/11/fcc-inmate-calling-court-loss.pdf>, accessed May 25, 2017.

³² FCC, Letter to U.S. Court of Appeals for the D.C. Circuit, January 31, 2017, <https://assets.documentcloud.org/documents/3455298/1-31-17-Letter-FCC-1.pdf>, accessed May 25, 2017.

13, 2017, the D.C. Circuit overturned most of the provisions of the FCC’s 2015 ICS Order, including FCC regulation of intrastate ICS rates, the use of industry-averaged cost data to set rate caps, and the exclusion of site commissions from FCC calculations of costs.³³ However, the Court did find that an FCC rule capping interstate rates was permissible.

E. Rights-of-Way

On November 15, 2016, Mobilitie, LLC filed a Petition for Declaratory Ruling titled “Promoting Broadband for All Americans by Prohibiting Excessive Charges for Access to Public Rights of Way.”³⁴ The petition is currently pending at the FCC.

Mobilitie is a wireless infrastructure provider and builds microwave, fiber, and other facilities to supply backhaul and transport to other carriers, including small cells and Wi-Fi networks in rights of way for use by wireless carriers. The company believes that “excessive and discriminatory rents, fees and other charges” place companies at a competitive disadvantage to those companies with existing rights of way agreements.

In its petition, Mobilitie argued the FCC should declare that:

- “Fair and reasonable compensation” means charges for rights of way application and access fees that enable a locality to recoup the costs reasonably related to reviewing and issuing permits and managing the rights of way; additional charges or those not related to actual use of the right of way, such as fees based on carriers’ revenues, are unlawful
- “Competitively neutral and nondiscriminatory” means charges imposed on a provider for access to rights of way that do not exceed the charges imposed on other providers for similar access; higher charges are discriminatory and therefore unlawful
- Localities must disclose to a provider seeking access to rights of way the charges that they previously assessed on others for access

Also in its petition, Mobilitie argued the FCC should adopt the following interpretation of Section 253(c) of the Telecommunications Act:

- “Just and Reasonable Compensation” is appropriately limited to a locality’s cost of managing its rights of way
- Localities must assess nondiscriminatory charges for similar access to rights of way
- Localities should disclose their charges on other carriers which were given rights of way access

³³ Order, *Global Tel*Link v. FCC* (D.C. Cir. June 13, 2017) , http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0613/DOC-345318A1.pdf, accessed June 19, 2017.

³⁴ Mobilitie, LLC, *Streamling Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies*, Petition for Declaratory Ruling, WT Docket No. 16-421, filed November 15, 2016, <https://ecfsapi.fcc.gov/file/122306218885/mobilitie.pdf>, accessed June 22, 2017.

F. Communications Act Rewrite

While all of these issues have been flowing through the states and the FCC at differing paces, there has been renewed interest in Congressional intervention. On December 3, 2013, House Energy and Commerce Committee Chairman Fred Upton (R-MI) and Communications and Technology Subcommittee Chairman Greg Walden (R-OR) announced plans for the Committee to examine and update the Act.³⁵ The plan was to begin the multi-year process through a series of white papers that would solicit public input. These papers would be followed with a bill sometime in 2015. While the white papers collectively generated nearly 600 responses from industry, academia, and other interested parties, a bill was not introduced.

In January 2017 Senate Commerce Committee Chairman John Thune announced plans to adjust key portions of the Communications Act in 2017.³⁶ However, it is not anticipated that a comprehensive bill will be considered before the end of the year. Instead, the committee will most likely take a piecemeal approach to the effort rather than attempt a full-scale rewrite. In addition, due to other issues that have risen to the forefront, such as the reversal of the net neutrality and the broadband privacy rules, the idea of rewriting or updating the Telecommunications Act has started to “fall off the radar.”

With the comprehensive rewrite at an impasse, many other bills have been introduced to address telecommunications issues and the structure of the FCC. The bills cover a number of topics including FCC process reform. The bills show the significant activity currently surrounding the telecommunications market. Presently, none of the bills have passed both houses of Congress.

The proceedings described in this chapter will likely have a continuing impact on Florida. As predicted in our previous report, none of these issues have reached finality, and they are still expected to take several years to complete and litigate. However, the core issues discussed here will form the basis of the telecommunications markets for the next generation.

³⁵ “Upton and Walden Announce Plans to Update the Communications Act,” United States House of Representatives, Energy & Commerce Committee Press Release, December 3, 2013, <http://energycommerce.house.gov/press-release/upton-and-walden-announce-plans-update-communications-act>, accessed May 24, 2017.

³⁶ “Thune Plans ‘Step-by-Step’ Comms Act Rewrite in New Congress,” Morning Consult, January 4, 2017, <https://morningconsult.com/2017/01/04/thune-plans-step-step-comms-act-rewrite-new-congress/>, accessed May 24, 2017.

Chapter III. Wireline Market Overview

A. Economy

According to the U.S. Commerce Department, the national economy continued to recover at a moderate pace in 2016. Gross Domestic Product, which many consider the best measure of overall economic activity, grew by 1.6 percent in 2016, less than the increase of 2.6 percent in 2015.³⁷ Corporate profits were up 0.5 percent, compared to a 5.3 percent decrease the previous year.³⁸ Profits of domestic financial corporations increased while profits of nonfinancial corporations decreased in 2016.³⁹ Unemployment figures leveled off in 2016, starting at 4.9 percent in January and finishing the year at 4.7 percent.⁴⁰ The Consumer Price Index rose 1.3 percent in 2016, compared to a 0.1 percent increase in 2015.⁴¹

In 2016, Florida's economic growth remained positive for the sixth consecutive year. The state's gross domestic product ranked Florida fifth in the nation in real growth with a gain of 3.0 percent.⁴² Florida's personal income grew 4.9 percent in 2016 over 2015, ranking Florida third in the country with respect to state personal income growth. The national average was 3.6 percent.⁴³

The unemployment rate in Florida closely tracked the national average throughout 2016. Florida's unemployment rate continued to show consistent improvement during each month, falling from a high of 5.0 percent in January to a low of 4.9 percent in December.⁴⁴

With the unemployment picture remaining positive and approaching the levels immediately preceding 2008, along with continued moderate economic growth during 2016, it is likely that Florida consumers are continuing to expand their discretionary expenditures. Increased competition from CLECs and the continued mass migration from wireline to wireless and cable/Voice over Internet Protocol (VoIP) services are likely the primary contributing factors to Florida ILECs losing approximately 295,000 access lines. This represents about an 11 percent decline of the ILEC wireline market in 2016.⁴⁵ By comparison, CLECs gained approximately 16,000 access lines in 2016, an increase of two percent.

³⁷ U.S. Department of Commerce, Bureau of Economic Analysis, "Gross Domestic Product, Fourth Quarter and Annual 2016 (Third Estimate), Corporate Profits, Fourth Quarter and Annual 2016," released March 30, 2017, https://www.bea.gov/newsreleases/national/gdp/2017/pdf/gdp4q16_3rd.pdf, accessed June 1, 2017, Table 7, Line 1.

³⁸ Ibid., Table 11, Line 3.

³⁹ Ibid., Table 12, Lines 3-4.

⁴⁰ U.S. Department of Labor, Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey," <http://data.bls.gov/timeseries/LNS14000000>, accessed June 1, 2017.

⁴¹ U.S. Department of Labor, Bureau of Labor Statistics, "CPI Detailed Report: Data for December 2016," <https://www.bls.gov/cpi/cpid1612.pdf>, accessed June 21, 2017, Table 24, page 75.

⁴² U.S. Department of Commerce, Bureau of Economic Analysis, "News Release: Gross Domestic Product by State, 4th Quarter and Annual 2016," released May 11, 2017, https://www.bea.gov/newsreleases/regional/gdp_state/2017/pdf/qgsp0517.pdf, accessed June 14, 2017, Table 4.

⁴³ U.S. Department of Commerce, Bureau of Economic Analysis, "News Release: State Personal Income, 2016," released March 28, 2017, <http://www.bea.gov/newsreleases/regional/spi/2016/pdf/spi0316.pdf>, accessed June 1, 2017.

⁴⁴ U.S. Department of Commerce, Bureau of Labor Statistics, "Local Area Unemployment Statistics," http://data.bls.gov/timeseries/LASST120000000000003?data_tool=XGtable, accessed June 3, 2016.

⁴⁵ Responses to FPSC Local Competition Data Request in 2016 and 2017.

B. Incumbent Carriers

AT&T, CenturyLink, and Frontier are the three largest ILECs in Florida providing wireline services.⁴⁶ These providers continued to face access line losses in the national wireline market in 2016. Customers have disconnected traditional landline services, switching to alternative technologies such as wireless and VoIP.

AT&T reported losses of 2.6 million switched access lines nationwide (16.1 percent) in 2016. In Florida, AT&T's total switched access lines declined by nearly 222,000 (17.9 percent), with residential access lines decreasing by nearly 118,000 lines (21 percent), and business access lines decreasing by nearly 104,000 lines (15 percent).^{47,48} These losses represent a slight moderation in the pace of the reduction from the 16.2 percent of lines lost nationwide and an acceleration in the pace of reduction from the 16.1 percent of lines lost in Florida in 2015.^{49,50} The number of AT&T wireless lines increased nationwide by more than 9.5 million lines, but wireless revenues were lower because of discounted offerings. The effect of the declines in AT&T's legacy wireline voice and data products revenue along with lower wireless revenues from discounted offerings were offset by an increase from service revenue due to AT&T's 2015 acquisition of DIRECTV and increases in IP broadband and fixed strategic service revenues. In 2016, AT&T's total operating revenues increased by \$3.7 billion.⁵¹

CenturyLink continued to experience declines in its switched access lines nationwide, losing around 600,000 lines (5.6 percent) in 2016. In Florida, CenturyLink's total switched access lines declined by around 54,000 (6.5 percent), with residential access lines decreasing 35,000 (6.1 percent), and business access lines decreasing 19,000 (7 percent).^{52,53} CenturyLink also experienced a nationwide 1.7 percent decrease in broadband subscribers. By the end of 2016, CenturyLink's operating revenues decreased by \$430 million, or 2.4 percent from 2015.⁵⁴

Frontier experienced an increase of more than 27 percent in minutes of switched access use in 2016 from 15.3 million in 2015 to 19.4 million in 2016 from business acquisitions. Frontier took over Verizon's wireline operations in April 2016 to become the third largest ILEC in Florida.^{55,56}

⁴⁶ Responses to Local Competition Data Request 2016.

⁴⁷ AT&T Inc., Form 10-K, December 31, 2016, Exhibit 13, p. 2, <https://www.sec.gov/Archives/edgar/data/732717/000073271717000021/ex13.htm>, accessed May 10, 2017.

⁴⁸ Responses to Local Competition Data Request for 2016.

⁴⁹ Ibid, Exhibit 13, Footnote 12.

⁵⁰ Responses to Local Competition Data Request 2015.

⁵¹ Ibid, Exhibit 13, Footnote 12.

⁵² CenturyLink Form 10-K, December 31, 2016, <https://www.sec.gov/Archives/edgar/data/18926/000001892617000013/ct12016123110k.htm>, p. 4, accessed May 5, 2017.

⁵³ Responses to Local Competition Data Request for 2016.

⁵⁴ Ibid, Exhibit 13, Footnote 18.

⁵⁵ Frontier, Form 10-K, December 31, 2016, https://www.sec.gov/Archives/edgar/data/20520/000002052017000003/ft-20161231x10k.htm#Selected_Financial_Data, p. 4, accessed May 5, 2017.

⁵⁶ Responses to Local Competition Data Request for 2016.

Frontier also experienced a nationwide 73 percent increase in broadband subscribers. By the end of 2016, Frontier's operating income increased by \$143 million, or 19 percent from 2015.⁵⁷

The seven rural Florida ILECs experienced an expansion in the number of switched access lines in their respective wireline service areas.⁵⁸ In 2016, rural carriers in Florida saw their total access lines rise by approximately 6,000 (5.1 percent), residential lines rise by 5,000 (6.6 percent) and business lines rise by almost 700 (1.9 percent).⁵⁹ Most of this rise is due to growth at Smart City Telecommunications and Windstream Florida; both enjoyed growth in business and residential lines.

Windstream is the largest of the rural ILECs and operates in northeast Florida. Nationally, Windstream has more than 1.3 million consumer voice lines in service.⁶⁰ Windstream experienced declines of approximately 91,000 switched access lines in 2016, representing a decline of six percent; this was a slight increase in the pace of decline from five percent losses in 2015. Windstream also experienced a nationwide four percent decrease in broadband subscribers. By the end of 2016, Windstream's income from its ILEC segment decreased by \$35.5 million, or 35.5 percent from 2015.^{61,62} However, in Florida, Windstream's total switched access lines enjoyed strong positive growth of more than 6,500 (10.5 percent) in total lines, 6,200 (12.9 percent) in residential lines and more than 200 (2.1 percent) in business lines.⁶³ Windstream's strategy for their ILEC segment is to win and retain the household or business first and then expand product participation by consulting on the appropriate speed or value-added service to enhance the experience.⁶⁴

In spite of the decline in wireline access lines, wireline telecommunications carriers continue to play a role in an evolving telecommunications market. Wireless carriers continue to be dependent on the wireline network. The majority of wireless call transport occurs over the wireline network, not over wireless facilities, a function commonly referred to as "backhaul." While the number of access lines continue to decline, the wireline network remains a crucial element in the mix of communications technologies.

C. Mergers/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.⁶⁵ In 2016, there were 60 telecommunications mergers and

⁵⁷ Ibid, 2016 Customer Related Metrics Compared To 2015, Footnote 25.

⁵⁸ Frontier Communications of the South data was reported with Frontier Florida figures.

⁵⁹ Responses to Local Competition Data Request for 2016.

⁶⁰ Windstream, 10-K, December 31, 2016,

<https://www.sec.gov/Archives/edgar/data/1282266/000128226617000013/a201610k.htm>, p. F-6, accessed May 5, 2017.

⁶¹ Ibid, Exhibit 13, Footnote 29.

⁶² Ibid.

⁶³ Responses to Local Competition Data Request for 2016.

⁶⁴ Ibid.

⁶⁵ Section 214 of the Communications Act of 1934, sections 63.03 and 63.04 of the FCC's rules govern the procedures for domestic transfer of control/asset applications.

acquisitions in the U.S.⁶⁶ This represents an increase of 46 percent since 2015.⁶⁷ Recent transactions of interest to Florida are described below.

1. Verizon/XO Communications

In 2016 Verizon Communications announced its agreement to purchase XO Communications' fiber-optic network business for approximately \$1.8 billion.⁶⁸ The purchase was complete on February 1, 2017.⁶⁹ According to Verizon, the purchase and integration of XO Communications' fiber network will help Verizon extend its suite of high-quality network services to its enterprise and wholesale customers. The transaction will further assist the company in its plans to densify its cellular network, and to deploy new 5G technologies. Verizon anticipates the transaction will deliver in excess of \$1.5 billion in operating and expense savings in net present value. In addition to the fiber transaction, Verizon entered into an agreement to lease wireless spectrum from former XO Communications' affiliate, NextLink Wireless. Verizon also has the option, exercisable under certain circumstances, to buy NextLink Wireless.⁷⁰

2. Windstream/EarthLink

On November 7, 2016, Windstream announced a merger agreement with EarthLink Holdings Corp. (EarthLink) wherein EarthLink would ultimately become a wholly-owned subsidiary of Windstream.⁷¹ The merger was completed on February 27, 2017. Under the terms of the agreement, EarthLink shareholders received 0.818 shares of Windstream common stock for each EarthLink share owned. As a result, Windstream shareholders will own approximately 51 percent and EarthLink shareholders will own approximately 49 percent of the combined company. The all-stock transaction is valued at approximately \$1.1 billion, including debt.⁷² According to Windstream, the merger with EarthLink further advances Windstream's strategy by creating a stronger, more competitive business to serve its customers while increasing free cash flow and reducing leverage. It will also extend Windstream's national footprint spanning to approximately 145,000 fiber route miles and provide advanced network connectivity, managed services, voice, internet and other value-added services.⁷³

⁶⁶ FCC, "2016 Completed Domestic Section 214 Transfer of Control Transactions," <https://www.fcc.gov/general/2016-completed-domestic-section-214-transfer-control-transactions#block-menu-block-4>, accessed March 27, 2017.

⁶⁷ FCC, "2015 Completed Domestic Section 214 Transfer of Control Transactions," <https://www.fcc.gov/general/2015-completed-domestic-section-214-transfer-control-transactions#block-menu-block-4>, accessed March 27, 2017.

⁶⁸ "Verizon Continues focus on network superiority with agreement to purchase XO Communications' fiber business," Verizon News Release, released February 22, 2016, <http://www.verizon.com/about/news/verizon-continues-focus-network-superiority-agreement-purchase-xo-communications-fiber>, accessed April 13, 2017.

⁶⁹ "Verizon completes purchase of XO Communications' fiber business," Verizon News Release, released February 1, 2017, <http://www.verizon.com/about/news/verizon-completes-purchase-xo-communications-fiber-business>, accessed April 13, 2017.

⁷⁰ Ibid.

⁷¹ "Windstream and EarthLink to merge in \$1.1 billion transaction," Windstream News Release, released November 7, 2016, http://news.windstream.com/article_display.cfm?article_id=1770, accessed November 14, 2017.

⁷² "Windstream completes merger with EarthLink," Windstream News Release, released February 27, 2017, http://news.windstream.com/article_display.cfm?article_id=1791, accessed April 14, 2017.

⁷³ "Windstream and EarthLink to merge in \$1.1 billion transaction," Windstream News Release, released November 7, 2016, http://news.windstream.com/article_display.cfm?article_id=1770, accessed November 14, 2017.

Windstream provides an array of communications and technology services. The company also operates as an ILEC in multiple states, including Florida, providing local exchange and intrastate, interstate and international long distance telecommunications services to residential customers located in primarily rural areas. EarthLink operates as a CLEC and is authorized to provide services in 50 states, including Florida. The company provides data, voice, and managed network services to small- and medium-sized business, enterprise, and wholesale customers.

3. WOW!/Crestview

Crestview Partners, a private equity firm based in New York, announced on December 11, 2015, that it would acquire control of WOW! and its telecommunications operating subsidiaries.⁷⁴ The WOW! operating companies include: Globe Telecommunications, Inc.; the Knology family of telecommunications providers; Valley Telephone Company, LLC; Wiregrass Telecom, Inc.; and Sigecom, LLC. WOW! currently provides service in 11 states, including Florida, and is the ninth largest cable company in the U.S.⁷⁵ Through its subsidiaries, WOW! provides video and broadband services, including digital cable, high speed Internet, and local and long distance phone services to over three million households and more than 782,000 subscribers. By public notice released on March 22, 2017, the FCC approved the transfer of control of WOW! and its subsidiaries to Crestview Partners.⁷⁶

4. CenturyLink/Level 3

In October 2016, CenturyLink Communications, Inc. (CenturyLink) announced that the company would acquire Level 3 Communications, Inc. (Level 3) in a cash and stock transaction valued at approximately \$34 billion.⁷⁷ Under the terms of the merger agreement, Level 3 shareholders will receive \$26.50 per share in cash and a fixed exchange ratio of 1.4286 shares of CenturyLink stock for each Level 3 share they own. Upon the closing of the transaction, CenturyLink shareholders will own approximately 51 percent and Level 3 shareholders will own approximately 49 percent of the combined company.

Both Level 3 and CenturyLink provide communications services in all 50 states, including Florida. Level 3 is a global communications company that provides primarily fiber-based communications services such as Internet backbone, broadband transport, collocation, voice, and IP-based services. CenturyLink offers local and long-distance voice, wholesale local network access, high-speed internet, and fiber transport services through copper and fiber networks. According to CenturyLink, the merger with Level 3 will significantly improve the company's global network capabilities, creating a company with one of the most robust fiber networks in the

⁷⁴ "Crestview Partners Agrees to Acquire a Significant Stake in WOW! from Avista Capital Partners and Other Unitholders," Crestview News and Press Releases, http://www.crestview.com/system/uploads/dae/file/asset/14/WOW_-_Final.compressed.pdf, accessed April 14, 2017.

⁷⁵ WOW! currently provides service in Florida through its operating subsidiary Knology of Florida, LLC.

⁷⁶ FCC Public Notice, "Domestic Section 214 Application Granted for the Transfer of Control of WideOpen West Finance, LLC and its Subsidiaries to Crestview, LLC.," https://apps.fcc.gov/edocs_public/attachmatch/DA-17-273A1.pdf, accessed April 14, 2017.

⁷⁷ "CenturyLink to acquire Level 3 Communications," CenturyLink News Release, released October 31, 2016, <http://news.centurylink.com/news/centurylink-to-acquire-level-3-communications>, accessed April 20, 2017.

world. The transaction is still subject to regulatory approvals and is expected to be completed by September 30, 2017.⁷⁸

5. Consolidated/FairPoint

In December 2016, Consolidated Communications Holdings, Inc. (Consolidated) signed an agreement to acquire FairPoint Communications, Inc. (FairPoint) in an all stock merger. On March 28, 2017, Consolidated's shareholders approved the issuance of the company's common stock pursuant to the merger agreement. Under the terms of the agreement, FairPoint shareholders will receive a fixed exchange ratio of 0.7300 shares of Consolidated's common stock for each share of FairPoint common stock. After closing, Consolidated's shareholders will own approximately 71.3 percent of the pro forma combined company and FairPoint's shareholders will own 28.7 percent. Consolidated has secured financing to fund the acquisition and both Consolidated and FairPoint are in the process of securing the necessary state and federal regulatory approvals to complete the merger. The merger is expected to close by mid-year 2017.⁷⁹ Fairpoint has two subsidiaries operating in Florida: GTC Communications, Inc. and GTC, Inc.

6. Windstream/Broadview

On April 13, 2017, Windstream signed a definitive agreement to acquire Broadview Networks for \$227.5 million in cash in an effort to improve its competitiveness in the unified communications market.⁸⁰ Broadview Networks specializes in cloud-based unified communications solutions targeting the small and medium business market (SMB). Therefore, the acquisition of Broadview Networks will add an additional footprint of unified communications and other business class services targeting SMBs to Windstream's reach, which has grown significantly due to Windstream's recent acquisition of EarthLink. Acquiring Broadview Networks will also help Windstream continue its diversification strategy of moving away from legacy telecom services towards business, cloud, and broadband focused services. The boards of both companies have unanimously approved the acquisition and the transaction is expected to close in the third quarter of 2017. Both companies maintain operations in Florida.

⁷⁸ "CenturyLink and Level 3 shareholders approve merger," Level 3 News Release, release March 16, 2017, <http://news.level3.com/2017-03-16-CenturyLink-and-Level-3-shareholders-approve-merger>, accessed April 20, 2017.

⁷⁹ "Consolidated Communications and FairPoint Shareholders Overwhelmingly Approve Merger," Consolidated Communications News Release, <https://www.consolidated.com/about-us/news/article-detail/id/543/consolidated-communications-and-fairpoint-shareholders-overwhelmingly-approve-merger>, released March 28, 2017, accessed June 20, 2017.

⁸⁰ "Windstream to acquire Broadview Networks," Windstream News Release, released April 13, 2017, http://news.windstream.com/article_display.cfm?article_id=1804, accessed June 20, 2017.

Chapter IV. Status of Wireline Competition in Florida

A. Wireline Trends in Florida

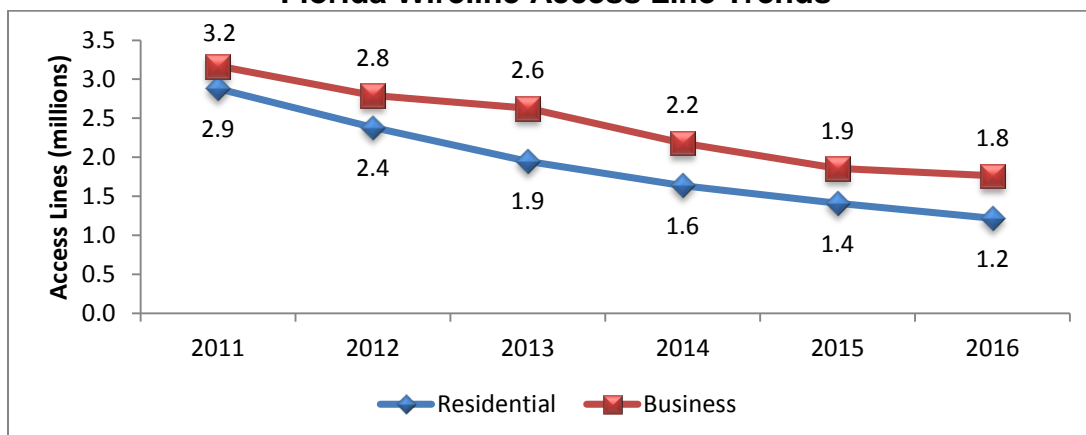
Total traditional wirelines for ILECs and CLECs combined declined nine percent, from 3.3 million in December 2015 to around three million as of December 2016. Most of the lost access lines resulted from lower demand by customers. VoIP lines reported by CLECs and cable companies are not included in wireline CLEC market share analyses.

Residential access lines, which totaled 1.2 million as of 2016, also fell by 15 percent from the previous year. From 2005 through 2016, wireline residential access lines have declined by about six million access lines. However, the data indicates that the residential declines may be decelerating slightly. Florida CLECs, while representing relatively few residential access lines, reported a decrease in the number of residential customers served of about 14,000 lines, or 48 percent in 2016 from the prior year.

The number of wireline business connections declined by a similar amount. The total business access lines for ILECs and CLECs were 1.8 million, a decrease of five percent from 2015 to 2016. The decline consisted of a decrease of 100,000 ILEC business access lines that was somewhat mitigated by an increase of about 29,000 CLEC business access lines. Of the incumbent carriers, AT&T and CenturyLink experienced the largest business access line losses of about 104,000 and 19,000 business lines from last year, respectively, while Frontier and the rural ILECs gained nearly 21,000 and 680 lines, respectively.

Figure 4-1 illustrates the overall trend in Florida for both residential and business lines (and does not include VoIP connections). Based on the revised data, both residential and business lines appear to be declining at a similar rate.

Figure 4-1
Florida Wireline Access Line Trends



Source: Responses to FPSC data requests (2012-2017)

B. Wireline Market Mix, Market Share, and Access Lines

1. Market Mix

The composition of customers served by ILECs and CLECs has shifted over time. In general, both ILECs and CLECs have seen increased concentration of business customers as residential customers migrate to wireless and VoIP services. The business-to-residential customer mix for ILECs was about 30 percent business and 70 percent residential in 2004. By 2016, the mix for ILECs was 48 percent business and 52 percent residential.

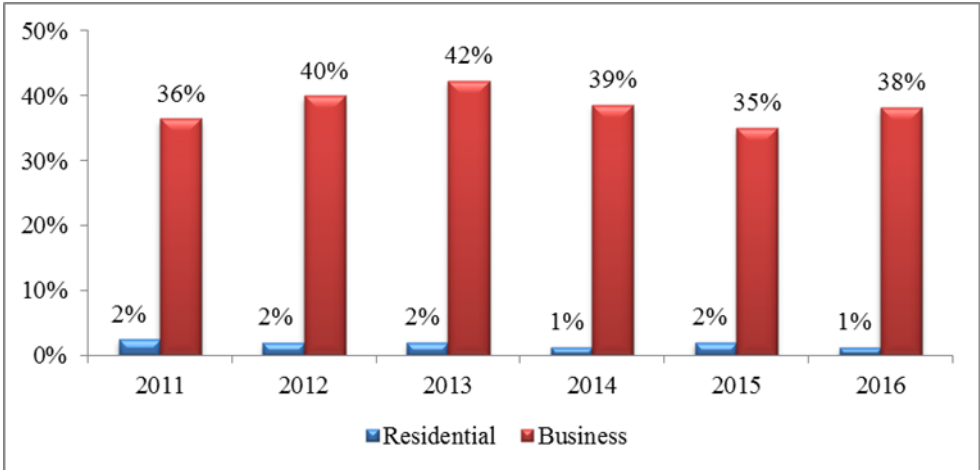
The shift in mix has been even more pronounced in the CLEC market. In 2004, the business to residential customer mix for CLECs was about 63 percent business and 37 percent residential. By 2016, the CLEC business-to-residential customer mix had shifted to 98 percent business and two percent residential. These changes, however, do not reflect gains or losses of residential or business customers served by VoIP technology.

2. Market Share

CLECs have traditionally focused on business customers. Figure 4-2 illustrates the CLEC market share by business and residential customer classes. The inverse of this percentage would be market share for the ILECs in Florida. Overall, the CLEC residential market share has remained at one or two percent over the last six years, while ILECs retain the rest of the residential wireline market.

The CLEC business market share in 2016 increased from 35 percent to 38 percent, halting a decline from 42 percent to 35 percent from 2013 to 2015. This percentage excludes VoIP services, which cable companies, and more recently ILECs and CLECs, have deployed. Some of this decline in market share may be attributed to intensified competition from the incumbents in this area, or may just be one result from the general shift to IP-based services.

**Figure 4- 2
Florida Residential & Business CLEC Market Share**



Source: Responses to FPSC data requests (2012-2017)

The FCC also reports CLEC market share by state and for residential and business lines. For December 2015, the FCC reported Florida CLECs have one percent of the total residential market share and 32 percent of the business market share.⁸¹ This compares favorably with the data based on the FPSC’s data collection in Figure 4-2.

3. Access Lines

Local exchange companies were serving approximately three million lines in Florida as of December 31, 2016, a decline of nine percent from 2015 as illustrated in Table 4-1. The first time that total ILEC and CLEC business access lines exceeded total ILEC and CLEC residential access lines was in 2011.

In 2016, residential access lines provided by ILECs decreased by 14 percent, while ILEC business lines declined by eight percent. Most of the business line losses were experienced by AT&T, with declines of 15 percent from last year. CenturyLink lost around seven percent of its business lines, while Frontier gained ten percent. The rural ILECs gained about two percent. CLEC business access lines also increased by approximately four percent from 2015 to 2016.

**Table 4- 1
Florida Wireline Access Line Comparison**

		ILECs	CLECs	Both
2013	Res	1,909,401	38,711	1,948,112
	Bus	1,515,261	1,113,762	2,629,023
	Total	3,424,662	1,152,473	4,577,135
2014	Res	1,614,926	21,651	1,636,577
	Bus	1,340,699	841,880	2,182,579
	Total	2,955,625	863,531	3,819,156
2015	Res	1,381,124	27,813	1,408,937
	Bus	1,205,777	652,214	1,857,991
	Total	2,586,901	680,027	3,266,928
2016	Res	1,187,615	14,415	1,202,030
	Bus	1,104,197	681,398	1,785,595
	Total	2,291,812	695,813	2,987,625
Change 2015- 2016	Res	-14%	-48%	-15%
	Bus	-8%	4%	-4%
	Total	-11%	2%	-9%

Source: Responses to FPSC data requests (2014-2017)

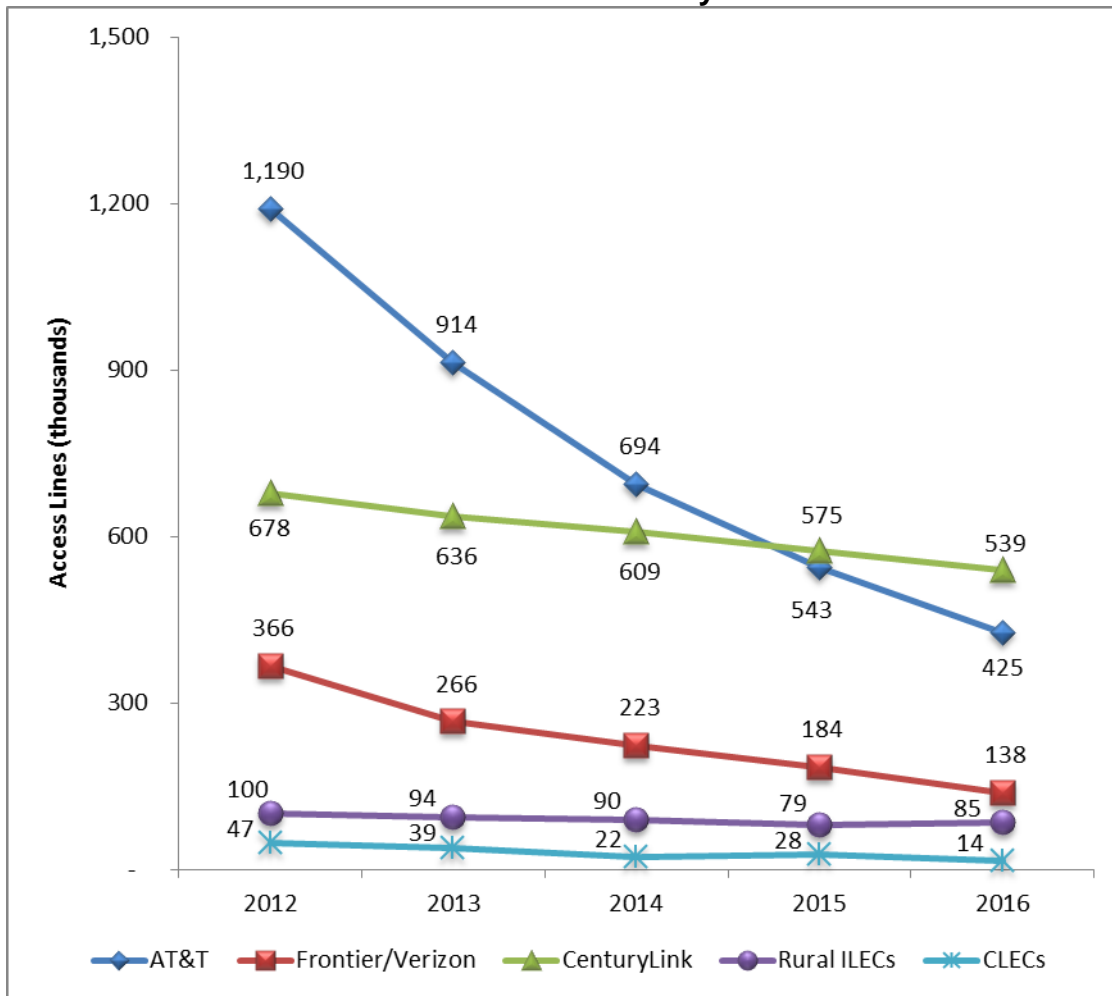
⁸¹ FCC, “Voice Telephone Services Report as of December 31, 2015,” released March 2017, <https://www.fcc.gov/voice-telephone-services-report>, accessed May 19, 2017, State-Level Subscriptions (Excel).

C. Competitive Market Trends

1. Residential Wireline Access Line Trends

Figure 4-3 displays the wireline residential access line trends separately for AT&T, Frontier, CenturyLink, rural aggregate ILECs, and aggregate CLECs. The three large ILECs, the aggregate CLECs and four of the seven rural ILECs reported declines in residential access lines from December 2015 to December 2016. Each of the three rural ILECs that reported residential access line gains experienced gains between four and 50 percent. Over the past four years, CenturyLink has experienced an average six percent decline per year in residential access lines, while AT&T and Verizon have both averaged around 22 percent declines per year for the same period, so CenturyLink has taken over the position of largest provider of residential access lines.

Figure 4-3
Florida Residential Wireline Trends by ILECs and CLECs



Source: Responses to FPSC data requests (2013-2017)

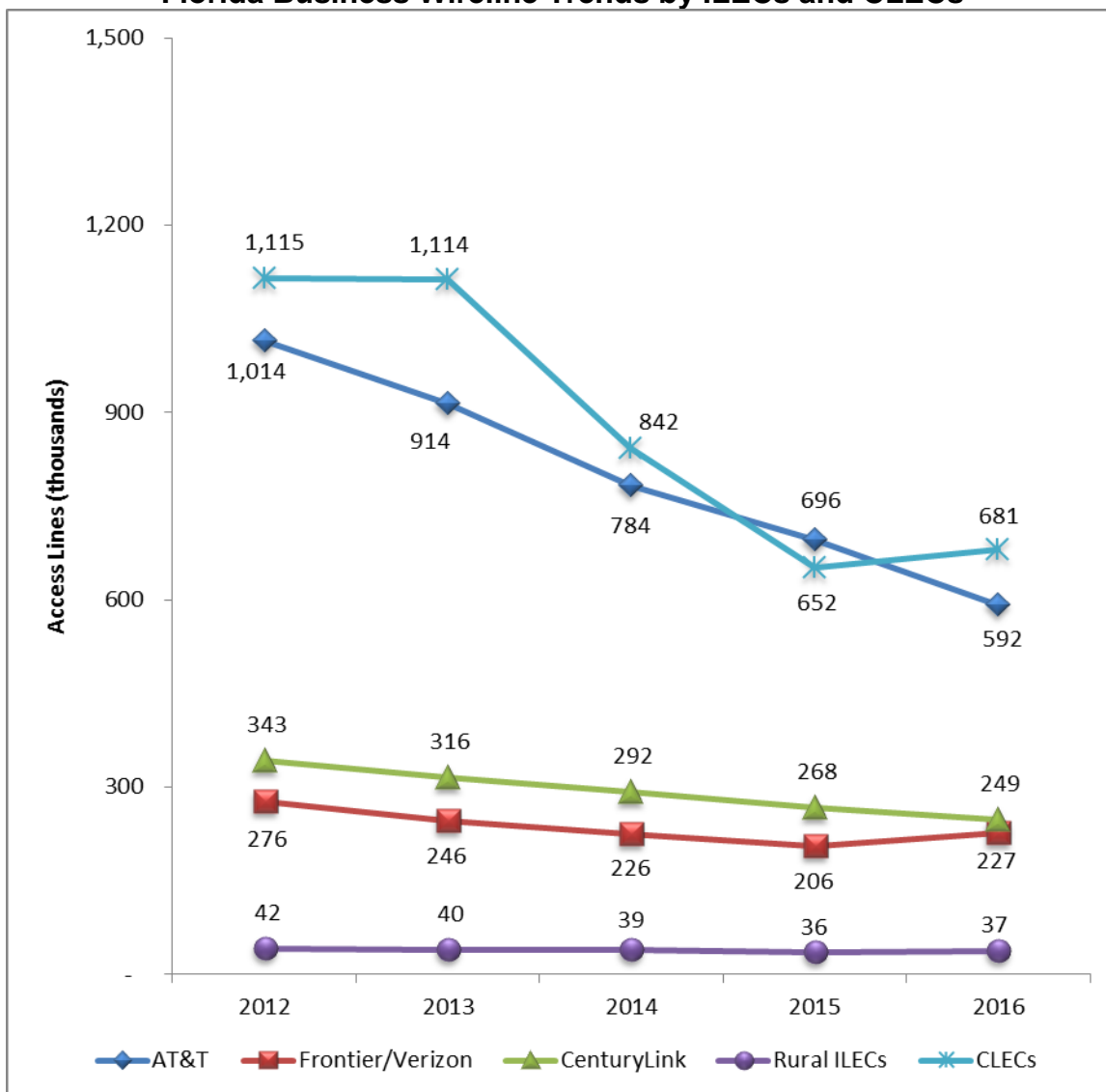
AT&T and CenturyLink each lost about the same percentage of residential wirelines between 2015 and 2016 as they did the previous year, but Frontier's losses accelerated from around 17 to

nearly 25 percent. By comparison, CLECs reported a decline of around 48 percent in residential access lines in 2016.

2. Business Wireline Access Line Trends

Figure 4-4 displays the business wireline trends for AT&T, Frontier, CenturyLink, aggregate rural ILECs, and aggregate CLECs. Both AT&T's and CenturyLink's business access lines continue to trend downward, but Frontier and the aggregate CLECs gained business access lines, while the rural ILECs had a slight gain. In 2016, AT&T and Frontier each reached a new low in residential lines with the residential sector comprising 41.8 percent and 37.9 percent of their respective customers. CenturyLink has trended in the opposite direction with their percentage of residential lines reaching a new high of 68.5 percent.

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



Source: Responses to FPSC data requests (2013-2017)

Chapter V. Wireless, VoIP, and Broadband

A. Wireless

Wireless devices are ubiquitous. There is virtually nowhere one can go today and not be in close proximity to a wireless device. Whether the wireless device in question is a cellular phone, smartphone, or a tablet, one is in use. Wireless technology has advanced to the degree that many people are wearing wireless devices. These can notify a wearer of messages they have received, monitor health-related conditions, or follow vital signs during exercise regimens.

Technology available to consumers includes a watch-like wireless device that consumers use in conjunction with their existing wireless tools. Dick Tracy's two-way wrist radio was a fictional item in his crime-fighting toolkit. Today, the ideas imagined then are rapidly embraced, and can be observed all around. Advances in 5G services and deployment of small cell technology will help usher in new platforms for wireless technology.

Pew Research Center reported that 95 percent of Americans own a cellphone of some kind.⁸² Smartphones are now owned by 77 percent of Americans.⁸³ The Nielsen Company reports the top five smartphone applications in 2016 were Facebook and Facebook Messenger, respectively, followed by YouTube, Google Maps, and Google Search.⁸⁴

The CTIA reports that wireless subscriber connections have grown from 377.9 million in 2015 to an estimated 395.9 million subscriber connections by year-end 2016, representing a 4.7 percent increase over 2015.⁸⁵ In addition, wireless penetration has reached 120.6 percent, increasing 4.2 percent over 2015.⁸⁶ According to CTIA, this number is representative of the number of devices on carrier networks, and is not equal to the number of individual subscribers since many users have "more than one wireless device."⁸⁷

1. Wireless Substitution

By the end of 2016, wireless-only households in the United States continued to increase while the number of households with both wireline and wireless service decreased.⁸⁸ The number of wireline-only households decreased 0.7 percent to 6.5 percent.⁸⁹ Nationwide, 50.8 percent of Americans lived in wireless-only homes, up 2.5 percent from 48.3 percent in 2016.⁹⁰ At the same time, the percentage of households with both wireline and wireless service fell 1.8 percent, to

⁸² Demographics of Mobile Device Ownership and Adoption in the United States, Pew Research Center, January 12, 2017, <http://www.pewinternet.org/fact-sheet/mobile/>, accessed May 11, 2017.

⁸³ Ibid.

⁸⁴ Tops of 2016: Digital, Top Smartphone Apps of 2016, December 28, 2016, <http://www.nielsen.com/us/en/insights/news/2016/tops-of-2016-digital.html>, accessed May 11, 2017.

⁸⁵ CTIA Annual Wireless Industry Survey, <https://www.ctia.org/industry-data/ctia-annual-wireless-industry-survey>, accessed May 11, 2017.

⁸⁶ Ibid.

⁸⁷ Ibid.

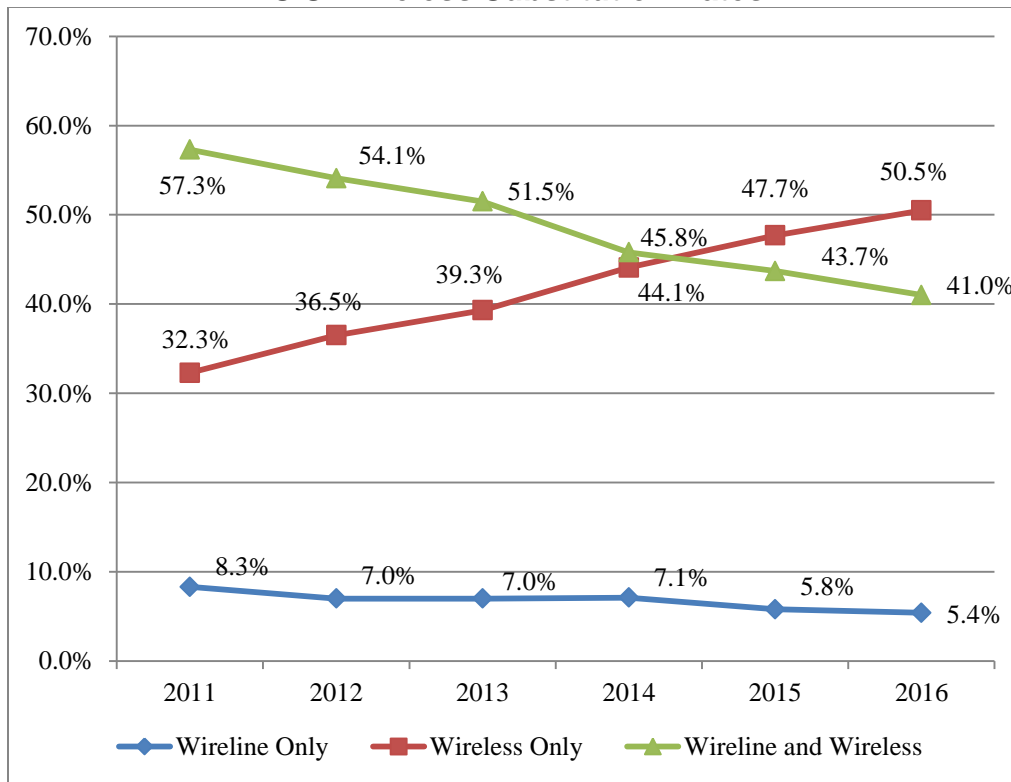
⁸⁸ Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July–December 2016. National Center for Health Statistics. May 2017, <http://www.cdc.gov/nchs/nhis.htm>, accessed May 11, 2017.

⁸⁹ Ibid.

⁹⁰ Ibid.

39.4 percent.⁹¹ Figure 5-1 shows national trends in the percentage of households with wireless only, wireline only, and dual household usage.

**Figure 5-1
U.S. Wireless Substitution Rates**



Source: United States Centers for Disease Control and Prevention

In 2016, the Centers for Disease Control and Prevention reported an average increase of 2.5 percent in the number of American households with only wireless service. The most significant increase, 4.9 percent, was reported in households with unrelated adults.⁹² Also notable is the 4.3 percent increase in wireless subscribership for those in the 35-44 age group. The percentage of wireless-only households decreases as age increases.⁹³

2. Florida Trends

The United States Census Bureau estimated Florida's population to be 20,612,439 on July 1, 2016, up from 20,271,272 in 2015.⁹⁴ Between 2011 and 2015, Florida's wireless substitution rate

⁹¹ Ibid.

⁹² Ibid.

⁹³ Ibid.

⁹⁴ United States Census Bureau, Florida QuickFacts from the US Census Bureau, Population estimates, July 1, 2016, <https://www.census.gov/quickfacts/table/PST045216/12>, accessed May 11, 2017.

grew an average of 5.1 percent per year.⁹⁵ During the same period, the national wireless substitution rate grew an average of 3.9 percent.

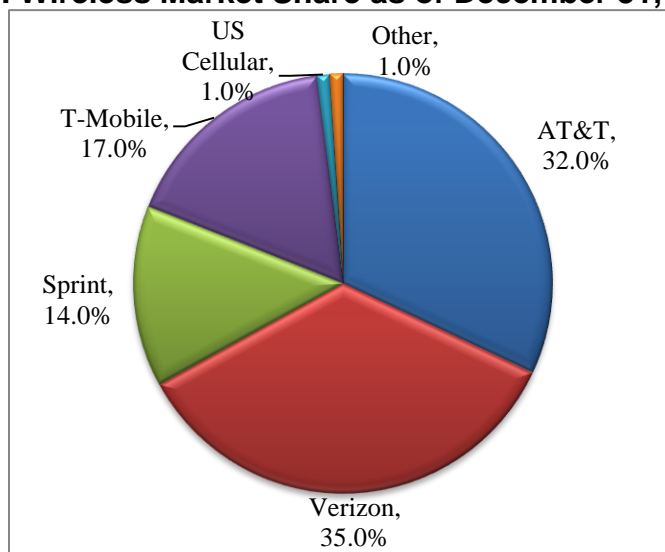
Florida ILECs continue to lose wireline subscribers to competitors and affiliated wireless companies.⁹⁶ There is no reason to believe the Florida wireless-only substitution rate changed appreciably from 2015 to 2016. State-level data is not yet available for 2016, but a comparison of Florida data and national data for 2015 showed that Florida was outpacing national wireless-only substitution trends. Wireless-only homes in Florida increased to 51 percent, and during the same timeframe, the wireless-only substitution rate nationally was 47.7 percent.

3. Devices, Networks, and Usage

Among equipment manufacturers, Apple and Samsung remain the leaders, maintaining 44.6 percent and 28.0 percent of the market share, respectively.⁹⁷ Of the operating systems tracked, Android and Apple significantly outpace the others at 53.2 percent and 44.6 percent of the market, respectively.⁹⁸

Among wireless providers, Verizon continues to lead the market with a 35 percent market share. AT&T, T-Mobile, and Sprint follow with 32 percent, 17 percent, and 14 percent, respectively.⁹⁹ Current wireless market share is shown in Figure 5-2.

Figure 5-2
U.S. Wireless Market Share as of December 31, 2016



Source: Individual Company Quarterly/Annual Reports

⁹⁵ National Center for Health Statistics, Centers for Disease Control and Prevention, “Wireless Substitution State-Level Estimates from the National Health Interview Survey,” released August 2016, http://www.cdc.gov/nchs/nhis/new_nhis.htm, accessed May 15, 2017.

⁹⁶ Ibid.

⁹⁷ ComScore, “comScore Reports January 2017 U.S. Smartphone Subscriber Market Share,” <http://ir.comscore.com/releasedetail.cfm?releaseid=1016572>, accessed June 21, 2017.

⁹⁸ Ibid.

⁹⁹ Statista, “Market share of wireless subscriptions held by carriers in the U.S. from 1st quarter 2011 to 1st quarter 2017”, <https://www.statista.com/statistics/199359/market-share-of-wireless-carriers-in-the-us-by-subscriptions/>, accessed May 15, 2017.

3. New Technology

Wireless technology continues to outpace innovations for wireline services. As discussed in last year's report, this is not an indication the switched access network is no longer necessary. These facilities are the backbone of the new generation of wireless tools available to consumers. The switched access network is in the DNA of wireless technology and that network will be vital in the advancement of 5G services.

- In its February 21, 2017 Form 10-K, Verizon Communications, Inc. reports that it “intend[s] to be the first company to deploy a 5G fixed wireless broadband network in the United States” and expects to launch in 2018.¹⁰⁰
- On May 3, 2017, Sprint introduced the Sprint Magic Box, an “all wireless small cell” the company expects to support plans to “densify its network to support 5G service.”^{101,102} According to Sprint, consumers installing the Magic Box will gain “improved connectivity,” and Sprint customers within 100 meters will benefit from the same improvement.
- AT&T, Inc. announced in April that it would launch 5G Evolution wireless service in multiple markets before the end of the year.¹⁰³ AT&T plans to roll out 5G Evolution in Indianapolis this summer, and in “Atlanta, Boston, Chicago, Los Angeles, Nashville, San Francisco, and others.”¹⁰⁴
- T-Mobile plans to use some of its 600 MHz spectrum for a 2020 nationwide 5G rollout.¹⁰⁵ The company believes “true 5G mobility requires both higher-band (for capacity) AND broad low-band (for coverage) frequencies” and T-Mobile will be able to provide both.

In addition to the development of small cell technology and the advancements and deployment of 5G services, access to the public right of way to advance these technologies will be required and it will be dependent upon local jurisdictions and the FCC action to maintain a competitive atmosphere of economic growth.¹⁰⁶

¹⁰⁰ Verizon Communications, Inc., Form 10-K Filed 2/21/2017 for the Period Ending 12/31/2016, available at <https://www.verizon.com/about/investors/sec-filings>, accessed May 18, 2017.

¹⁰¹ Sprint All-Wireless Small Cell Improves Indoor/Outdoor Coverage, Will Aid with 5G, Joan Engebretson, Telecompetitor, 5/3/2017, <http://www.telecompetitor.com/sprint-all-wireless-small-cell-improves-indooroutdoor-coverage-will-aid-with-5g/>, accessed May 18, 2017.

¹⁰² Sprint, Fiscal 4Q2016 Results Conference Call, 5/3/2017, <http://investors.sprint.com/financials/default.aspx>, accessed May 18, 2017.

¹⁰³ Behind the AT&T 5G Evolution 20-City Launch, Joan Engebretson, Telecompetitor, 4/25/2017, <http://www.telecompetitor.com/behind-the-att-5g-evolution-20-city-launch/>, accessed May 18, 2017.

¹⁰⁴ Ibid.

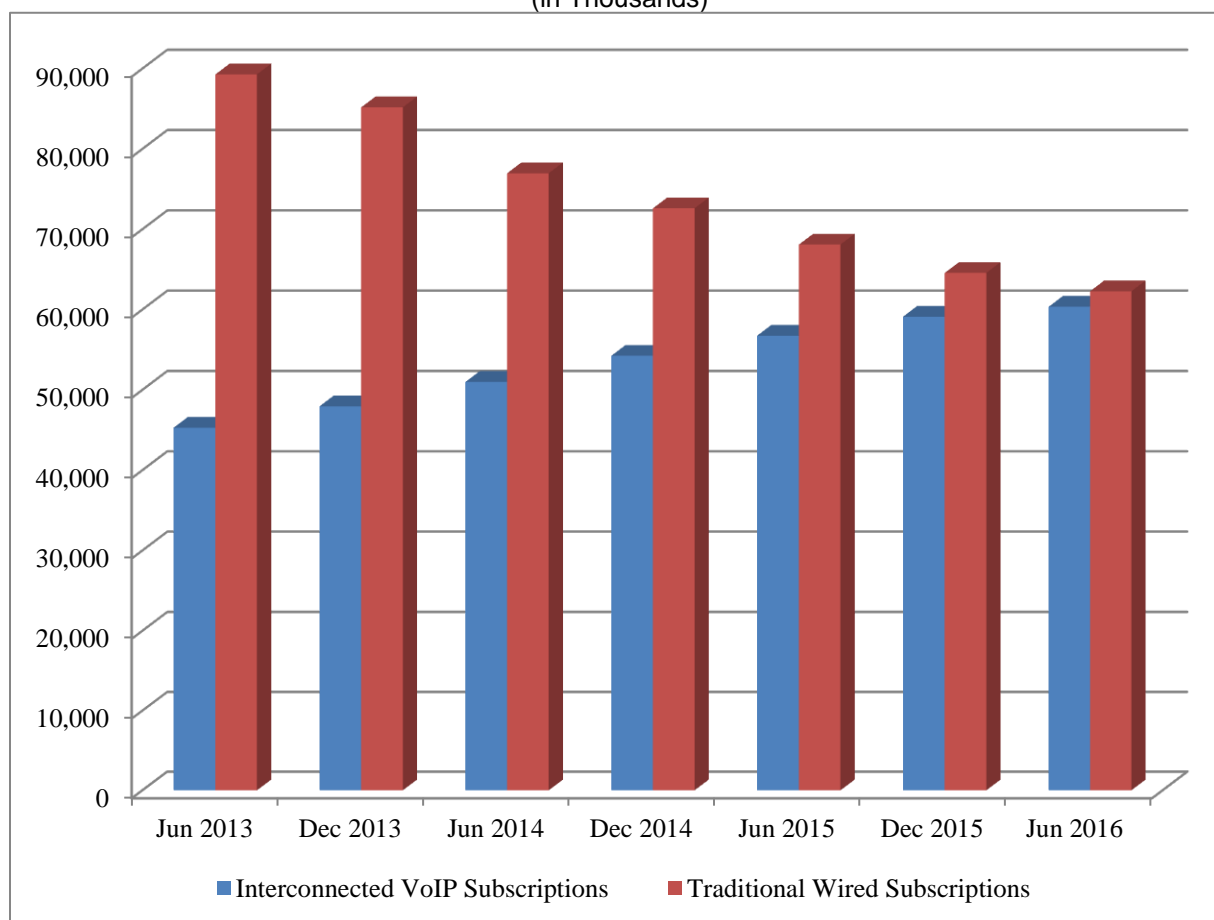
¹⁰⁵ T-Mobile 5G Plans Dissent From Rivals: Understanding Mobile 5G at 600 MHz, Joan Engebretson, Telecompetitor, 5/2/2017, <http://www.telecompetitor.com/t-mobile-5g-plans-dissent-from-rivals-understanding-mobile-5g-at-600-mhz/>, accessed May 18, 2017.

¹⁰⁶ Petition for Declaratory Ruling, Mobilitie, LLC, Adopted/Filed November 15, 2016, <https://ecfsapi.fcc.gov/file/122306218885/mobilitie.pdf>, accessed June 20, 2017.

B. Voice over Internet Protocol (VoIP)

The number of customers who subscribe to interconnected VoIP services has steadily increased each year while subscribership rates to traditional wired services have continued to decline. According to the FCC's latest data, between 2013 and 2016 interconnected VoIP subscriptions increased at a compound annual growth rate of ten percent while subscribership to traditional wireline services decreased by 11 percent per year.¹⁰⁷ Figure 5-3 shows the number of traditional and interconnected VoIP subscriptions between 2013 and 2016.

Figure 5-3
Retail Voice Telephone Subscriptions
(in Thousands)



Source: FCC Voice Telephone Services Report June 2016

As of June 2016, the FCC reported that there were approximately 60 million interconnected VoIP subscribers in the U.S. This total includes roughly 6.6 million “over-the-top” or “bring

¹⁰⁷ FCC, Voice Telephone Services: Status as of June 30, 2016, released April 2017, http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0421/DOC-344500A1.pdf, accessed May 17, 2017.

your own broadband” VoIP subscribers.¹⁰⁸ Residential VoIP subscribers accounted for 40 million of the total subscribers nationwide while business subscribers accounted for approximately 20 million.¹⁰⁹ Table 5-1 shows interconnected VoIP subscribership by customer type as of June 2016.¹¹⁰ The FCC has not released any data regarding subscribership of interconnected VoIP services for December 2016. However, the FCC did report that there were approximately 59 million interconnected VoIP subscribers in 2015.¹¹¹ Data collected by the FPSC also shows an estimated 2.8 million interconnected VoIP residential subscribers in Florida as of December 2016.¹¹²

Table 5-1
Interconnected VoIP Subscribership by Customer Type
(In Thousands)

Total	Over-the-Top (OTT)	All Other VoIP	Total
ILEC	35	12,867	12,903
Non-ILEC	6,588	40,852	47,440
Total	6,624	53,720	60,343
Residential			
ILEC	33	10,045	10,078
Non-ILEC	2,733	27,450	30,184
Residential Total	2,767	37,495	40,262
Business			
ILEC	2	2,822	2,825
Non-ILEC	3,855	13,402	17,256
Business Total	9,857	16,255	20,081

Source: FCC Voice Telephone Services Report June 2016¹¹³

1. National Market Analysis

Over half of all residential wireline customers in the U.S. use VoIP services.¹¹⁴ However, 75 percent of residential VoIP subscribers do not purchase VoIP services from an ILEC.¹¹⁵ Instead, most VoIP customers typically purchase services through their cable provider as part of a

¹⁰⁸ In 2014, the FCC modified Form 477 to distinguish over-the-top interconnected VoIP subscriptions from other interconnected VoIP subscriptions. The phrase “over-the-top VoIP” refers to a VoIP service that requires a consumer to obtain broadband access from another company.

¹⁰⁹ FCC, Voice Telephone Services: Status as of June 30, 2016, released April 2017, http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0421/DOC-344500A1.pdf, Table 1 and Figure 3, accessed May 17, 2017.

¹¹⁰ Ibid, Figure 3.

¹¹¹ FCC, Voice Telephone Services: Status as of December 31, 2015, released November 2016, https://apps.fcc.gov/edocs_public/attachmatch/DOC-342357A1.pdf, Figure 3, accessed May 17, 2017.

¹¹² Responses to the FPSC Local Competition Data Request 2017.

¹¹³ FCC, Voice Telephone Services: Status as of June 30, 2016, released April 2017, http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0421/DOC-344500A1.pdf, Figure 3, accessed May 17, 2017, Figure 3. Note: totals in the table may not sum due to rounding.

¹¹⁴ Ibid, Table 1.

¹¹⁵ Ibid, Table 1.

bundled service package. As a result, cable companies are the largest providers of residential VoIP services. Over the years, traditional wireline carriers that offer fiber-based services such as AT&T and Verizon have been able to increase their VoIP subscribership as consumers take advantage of their services. Other ILECs and CLECs have also experienced increased VoIP subscribership. However, despite these gains, cable companies have continued to maintain a dominant presence in the market.

a. Facilities-Based VoIP Providers

In the facilities-based residential interconnected VoIP market, cable companies accounted for over 30 million VoIP subscribers as of June 2016, compared to 10 million ILEC VoIP subscribers.¹¹⁶ Comcast, the country's largest cable provider, had an estimated 11.7 million VoIP subscribers at year-end 2016.¹¹⁷ This represents an increase of approximately two percent from year-end 2015. The second largest cable provider, Charter Communications, Inc., reported roughly 11.1 million VoIP subscribers at year-end 2016, a 4.5 percent increase from the previous year.¹¹⁸

Although the cable companies have continued to experience growth in VoIP subscribership, it appears that the rate of growth is declining. For instance, between 2007 and 2009, the number of residential VoIP subscribers more than doubled. However, since 2010 cable VoIP providers have reported slower yearly subscriber growth rates.¹¹⁹ This decline can partially be attributed to the cable companies' loss of market share concentration due to increased competition from low cost and free VoIP providers entering the market. The rising demand for mobility has also prompted many users to abandon their interconnected residential VoIP services for wireless phone services.¹²⁰ As a result, residential VoIP services have experienced a slight decrease in subscribership. However, this decrease has mostly been offset by an increase in business VoIP subscribers.¹²¹

In addition, telephone companies have also continued to show losses in traditional voice access lines. However, many of these companies have been able to offset some of their losses by deploying facilities-based VoIP service over fiber-based facilities. For instance, despite reporting losses in traditional voice services, both AT&T and Verizon reported gains with their other service offerings. AT&T reported approximately 5.4 million U-verse voice subscribers at year-end 2016.¹²² This represents a 4.1 percent increase from the previous year. Verizon reported roughly 3.9 million

¹¹⁶ FCC, Voice Telephone Services: Status as of June 30, 2016, released April 2017, http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0421/DOC-344500A1.pdf, Table 1, accessed May 17, 2017.

¹¹⁷ Comcast Corporation, Comcast Reports 4th Quarter and Year End 2016 Results, January 26, 2017, http://files.shareholder.com/downloads/CMCSA/0x0x925288/0F41598C-E8A9-4D0E-8789-080EE14FED22/CMCSA_News_2017_1_26_General_Releases.pdf, accessed May 18, 2017.

¹¹⁸ "Charter Announces Fourth Quarter and Full Year 2016 Results," Charter Communications, Inc. News Release, released February 16, 2017, <http://ir.charter.com/phoenix.zhtml?c=112298&p=irol-newsArticle&ID=2246613>, accessed May 19, 2017.

¹¹⁹ PRWeb.com, "VoIP in the US Industry Market Research Report from IBISWorld," December 24, 2012, <http://www.prweb.com/pdfdownload/10267567.pdf>, accessed May 19, 2017.

¹²⁰ Tracy Watson, 2015: The Year of VoIP, Business 2 Community, January 13, 2015, <http://www.business2community.com/tech-gadgets/2015-year-voip-01122398#BY2WcEbEuK3Eh8MU.97>, accessed May 19, 2017.

¹²¹ 87Infonetics Research, "In VoIP Services Market, Business Segment Offsets Residential Slowdown," May 8, 2015, <http://www.infonetics.com/pr/2015/VoIP-UC-Services-Subs-Market-Highlights.asp>, accessed May 19, 2017.

¹²² AT&T Inc. 2016 Annual Report, https://www.att.com/Investor/ATT_Annual/2016/downloads/att_ar2016_completeannualreport.pdf, accessed May 22, 2017.

residential FiOS Digital Voice subscribers as of December 2016, an increase of approximately three percent from year-end 2015.¹²³

b. Over-the-Top VoIP Providers

According to the FCC, there were roughly 6.7 million over-the-top interconnected VoIP subscribers in the U.S. as of June 2016. This total includes 2.8 million residential subscribers and approximately 3.9 million business subscribers nationwide. By comparison, the FCC reported 5.3 million over-the-top VoIP subscribers in June 2015 and 6.1 million in December 2015.¹²⁴ Over-the-top VoIP providers offer low-priced stand-alone interconnected VoIP service. The service quality of these providers varies because calls are transmitted over the public Internet rather than private managed IP-based networks.

The price advantage over the bundled services offered by facilities-based VoIP providers has allowed over-the-top VoIP providers to attract more customers. As a result, consumer use of over-the-top VoIP is expected to grow at a compound rate of 20 percent between 2012 and 2018.¹²⁵ The expected increase in demand for over-the-top VoIP is driven by improvements in the availability of and speed of broadband networks, the growing capability and affordability of wireless devices such as smartphones and tablets, and the continued dominance of social media.¹²⁶

Despite increases in demand for over-the-top VoIP, it appears that the market has been experiencing slower growth rates in recent years. This may be an indication that the market is maturing. These changes in subscribership can also be attributed to an increase in customers using mobile broadband connections. There is data available that suggests that certain market segments, such as mobile VoIP, are experiencing an increase in subscribership. In fact, mobile VoIP is expected to grow 14.7 percent between 2014 and 2020.¹²⁷

Vonage, 8x8, Inc., MagicJack, Skype, and Google are a few of the leading over-the-top VoIP providers. Reliable data on subscribership is not widely available for over-the-top providers. However, at year-end 2016 Vonage reported 2.3 million subscriber lines, a decrease of roughly 5.4 percent from the previous year.¹²⁸ MagicJack reported 2.15 million in 2016, a decrease of approximately 12 percent since 2015.¹²⁹

¹²³ Verizon Financial and Operating Information Report, <http://www.verizon.com/about/investors/quarterly-reports/4q-2016-quarter-earnings-conference-call-webcast>, accessed May 22, 2017.

¹²⁴ FCC, Voice Telephone Services: Status as of June 30, 2016, released April 2017, http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0421/DOC-344500A1.pdf, Table 1, accessed May 17, 2017.

¹²⁵ Erik Heinrich, "Telecom Companies Count \$386 Billion in Lost Revenue to Skype, WhatsApp, Others," Fortune.com, June 23, 2014, <http://fortune.com/2014/06/23/telecom-companies-count-386-billion-in-lost-revenue-to-skype-whatsapp-others/>, accessed May 22, 2017.

¹²⁶ Ibid.

¹²⁷ PRNewswire, VoIP Services Market to Expand at 9.7% CAGR Till 2020, Thanks to Increasing Adoption in Residential and Corporate Sectors: Transparency Market Research, August 18, 2015, <http://www.prnewswire.com/news-releases/voip-services-market-to-expand-at-97-cagr-till-2020-thanks-to-increasing-adoption-in-residential-and-corporate-sectors-transparency-market-research-522169791.html>, accessed May 22, 2017.

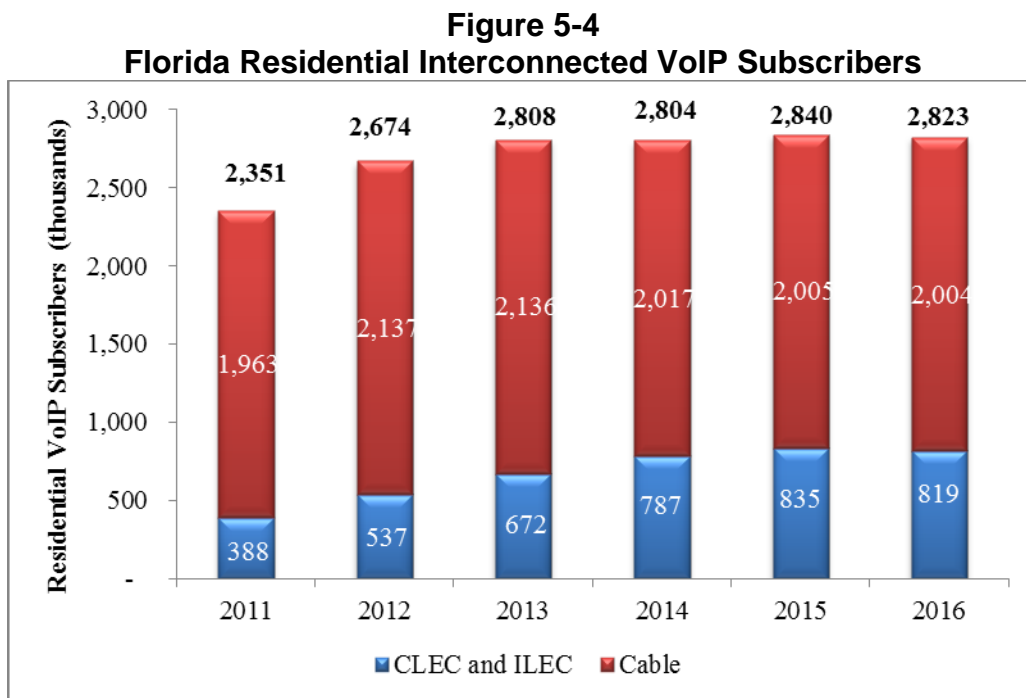
¹²⁸ Vonage Holding Corp. 2016 Annual Report, http://files.shareholder.com/downloads/VAGE/4515034332x0x939289/16AB3101-8D12-4ACB-8EBD-A11E1640D26C/Vonage_AR_2016.pdf, accessed May 22, 2017.

¹²⁹ "MagicJack Reports Fourth Quarter and Full Year 2016 Financial Results, Global News Wire, released March 15, 2017, <https://globenewswire.com/news-release/2017/03/15/939869/0/en/magicJack-Reports-Fourth-Quarter-and->

2. Florida Market

The FPSC does not have jurisdiction over VoIP services. As a result, the ability to determine an accurate estimate of the total number of VoIP subscribers in Florida is limited. However, several ILECs and CLECs in Florida voluntarily responded to the Commission's data request and provided information on the number of residential VoIP subscribers. The Florida Cable Telecommunications Association also reported residential VoIP line data for its six largest member providers.

Based on the analysis of the available data, there are an estimated 2.8 million residential interconnected VoIP subscribers in Florida. Figure 5-4 shows the number of residential interconnected VoIP subscribers in Florida by provider type. While data for 2016 indicates a modest decline in the residential VoIP market, additional growth should return as network facilities transition to an IP-centric infrastructure.



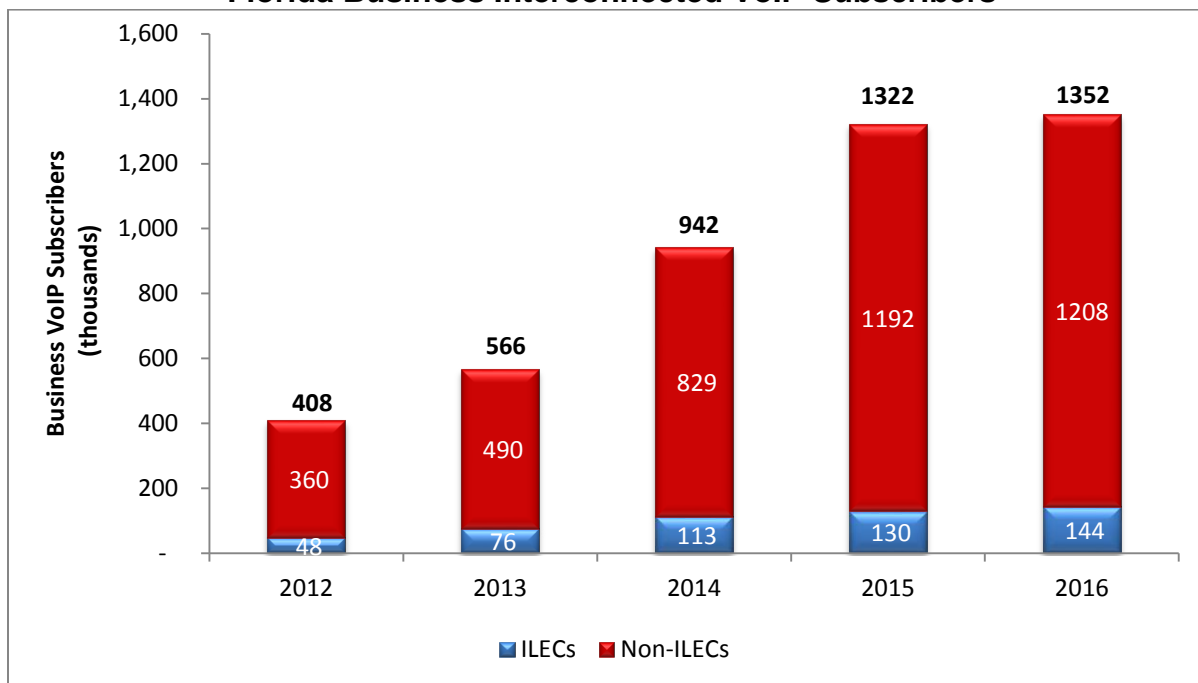
Source: Responses to FPSC data requests (2011-2016)

While the Commission received business VoIP data from telecommunications carriers, corresponding data was not made available from most cable companies as requested. Data is, however, available from the FCC that provides VoIP business lines through June 2016. Figure 5-5 identifies the number of interconnection VoIP business subscribers by ILEC and non-ILEC carriers. Such non-ILEC carriers would include cable companies. From 2015 to 2016, non-ILECs experienced a 1.3 percent increase in their number of interconnected business VoIP

[Full-Year-2016-Financial-Results.html](#), accessed May 22, 2017, and “.MagicJack Reports Fourth Quarter and Full Year 2015 Financial Results, Global News Wire, released March 15, 2016, <https://globenewswire.com/news-release/2016/03/15/820120/0/en/magicJack-Reports-Fourth-Quarter-and-Full-Year-2015-Financial-Results.html>, accessed May 22, 2017.

subscribers. By comparison, ILECs experienced an 11 percent increase in the number of interconnected business VoIP subscribers for the same time period. Based on the general trend of such interconnected business VoIP lines and the reduction in traditional switched access lines, it is likely that there will be further growth in this market segment.

Figure 5-5
Florida Business Interconnected VoIP Subscribers



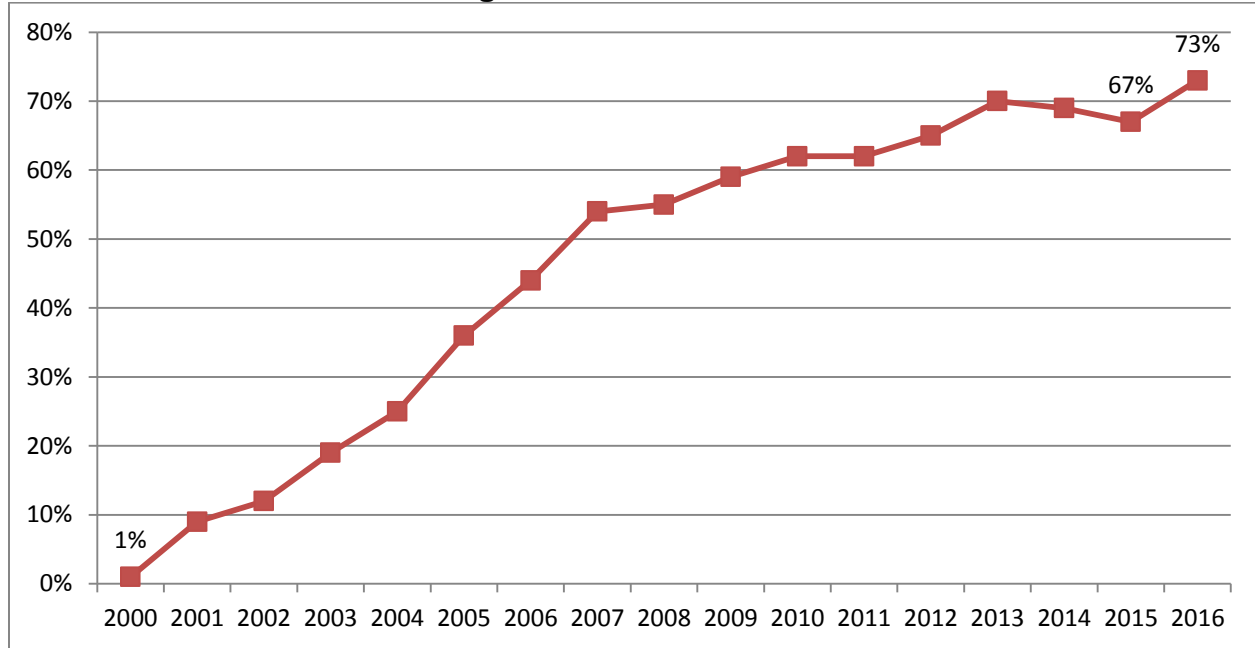
Source: FCC, Voice Telephone Services Report, and FPSC data request

C. Broadband

According to the Pew Research Center, between 2013 and 2015 the number of Americans who had a high-speed Internet connection in their homes decreased from 70 percent to 67 percent. However, despite this modest decline, 73 percent of Americans reported having a broadband connection in their homes in 2016.¹³⁰ This represents a six percent increase since 2015 and is the highest reported percentage of in-home broadband adoption since the Pew Research Center began tracking in 2000. Figure 5-6 shows the percentage of households with in-home broadband connections between 2000 and 2016.

¹³⁰ Pew Research Center, “Record shares of Americans now own smartphones, have home broadband,” January 12, 2017, <http://www.pewresearch.org/fact-tank/2017/01/12/evolution-of-technology/>, accessed April 24, 2017.

**Figure 5-6
Percentage of Broadband Households**



Source: Pew Research Center

A report published by Strategy Analytics reported that U.S. cable companies experienced substantial gains in broadband subscribership between April 2015 and March 2016.^{131,132} This rise in subscribers not only elevated cable providers’ broadband market share growth, it also increased the number of overall fixed broadband connections in U.S. households. Cable providers experienced a 62 percent increase in broadband market share subscriptions compared to a 23 percent increase in Fiber subscribers and a 15 percent decrease in DSL subscribers.¹³³

Although the overall percentage of Americans who have a high-speed Internet connection in their homes has increased, this increase has not occurred across all demographics. For instance, those who have not graduated from high school are nearly three times less likely than college graduates to have home broadband service (34 percent vs. 91 percent). Broadband adoption also varies by factors such as age, household income, geographic location and racial and ethnic background.

In addition, even though the adoption of in-home broadband service has increased, the rate of increase has slowed considerably in recent years due to a growing share of Americans using mobile devices such as smartphones and tablets as their primary means of accessing the Internet

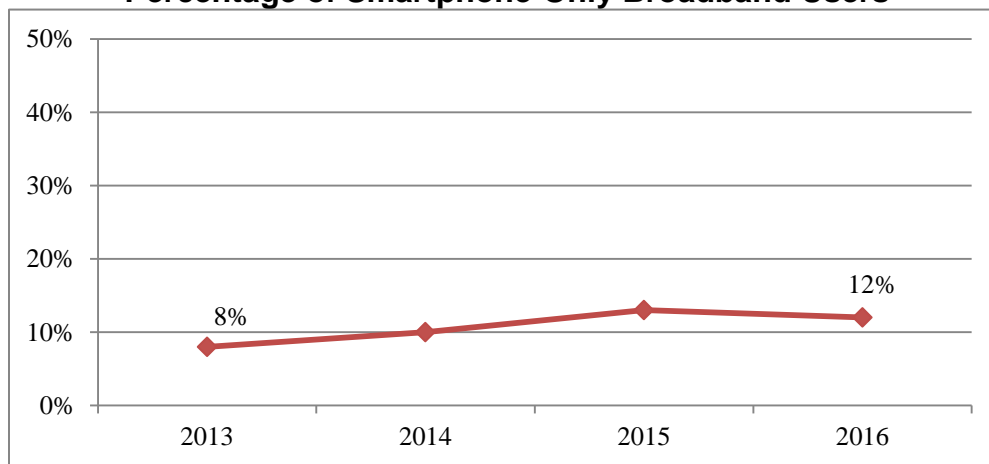
¹³¹ Strategy Analytics is a management and economic research firm with clients in the automotive, communications, media, investment, and technology markets.

¹³² “Strategy Analytics: US Cable Operators Driving Fixed Broadband Penetration Higher,” Strategy Analytics Press Release, released June 2, 2016, <https://www.strategyanalytics.com/strategy-analytics/news/strategy-analytics-press-releases/strategy-analytics-press-release/2016/06/02/strategy-analytics-us-cable-operators-driving-fixed-broadband-penetration-higher#.WR9KDIIzW71>, accessed May 19, 2017.

¹³³ Ibid.

at home and while “on the go.”¹³⁴ According to the Pew Research Center, 77 percent of Americans own a smartphone.¹³⁵ As a result, the number of Americans who rely solely on their smartphones for Internet accessed has increased. In 2016, 12 percent of Americans indicated that they were “smartphone dependent” or “smartphone-only” internet users when it comes to their online access – meaning they own a smartphone but lack traditional home broadband service.¹³⁶ This represents an increase of 50 percent since 2013. According to the Pew Research Center, smartphone reliance is especially prevalent among young adults, nonwhites and those with relatively low household incomes.¹³⁷ Figure 5-7 shows the percentage of households that solely use smartphones for broadband connections at home.

Figure 5-7
Percentage of Smartphone-Only Broadband Users



Source: Pew Research Center

Despite the increases in broadband and Internet usage, 13 percent of U.S. adults did not use the internet in 2016, compared to 15 percent in 2015 and 48 percent in 2000.¹³⁸ Lack of interest, difficulty of usage, and cost were the most cited reasons why people did not use the Internet. Other demographic variables, including age, educational attainment, household income and community type also affected Internet usage.¹³⁹

For instance, seniors were the group to most likely to say they never go online. About 41 percent adults ages 65 and older reported that they do not use the Internet, compared with only one percent of 18- to 29-year-olds. Household income and education are also indicators of a person’s

¹³⁴ Pew Research Center Internet & Technology, “Mobile Fact Sheet,” January 12, 2017, <http://www.pewinternet.org/fact-sheet/mobile/>, accessed May 15, 2017.

¹³⁵ Ibid.

¹³⁶ Pew Research Center, “Record shares of Americans now own smartphones, have home broadband,” January 12, 2017, <http://www.pewresearch.org/fact-tank/2017/01/12/evolution-of-technology/>, accessed April 24, 2017.

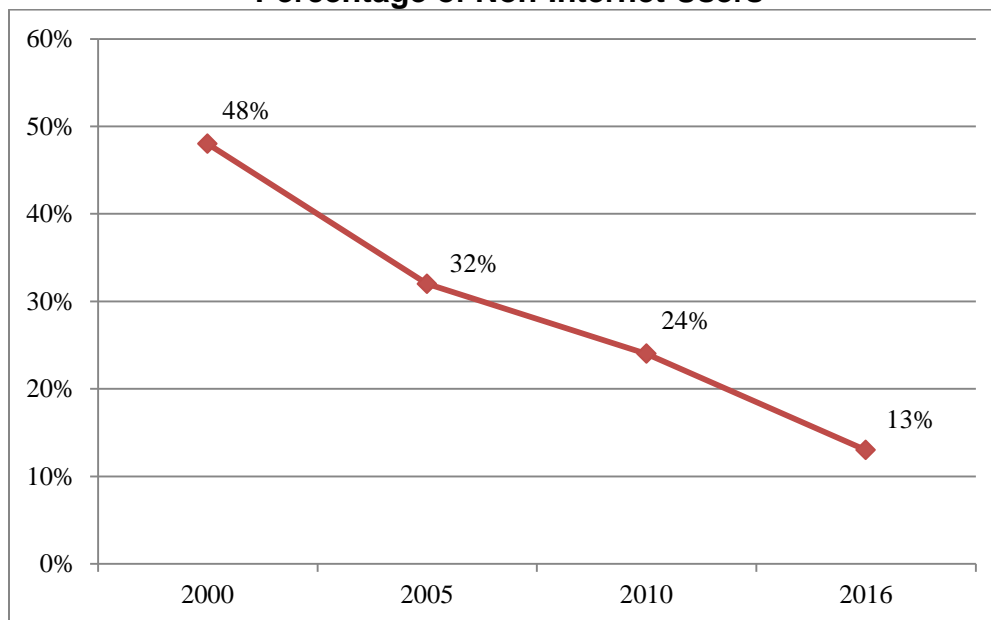
¹³⁷ Ibid.

¹³⁸ Pew Research Center, “13% of Americans don’t use the internet. Who are they?,” September 7, 2016, <http://www.pewresearch.org/fact-tank/2016/09/07/some-americans-dont-use-the-internet-who-are-they/>, accessed April 25, 2017.

¹³⁹ Ibid.

likelihood to be offline. Roughly one third of adults with less than a high school education do not use the internet. Adults from households earning less than \$30,000 per year are approximately eight times more likely than higher income households to not use the Internet. Further, rural households are twice as likely as those who live in urban or suburban settings to never use the Internet. While there are consistent racial and ethnic differences in Internet usage, in recent years studies have shown that the percentage of Blacks, Whites, and Hispanics who do not use the Internet is roughly equal.¹⁴⁰ Figure 5-8 shows the percentage of households who do not use the Internet.

Figure 5-8
Percentage of Non-Internet Users



Source: Pew Research Center

The most recent report published by the FCC indicates that 79 percent of U.S. households had fixed broadband connections with download speeds of at least 200 kilobits per second (kbps) in 2015. Sixty-one percent of households had broadband connection speeds of at least 10 megabits per second (Mbps) while 41 percent of households had fixed broadband connections of at least 25 Mbps and 11 percent had connection speeds of at least 100 Mbps.¹⁴¹

1. Florida Broadband Trends

According to the FCC, 91 percent of households in Florida had fixed broadband connections of at least 200 kbps in 2015. Seventy-five percent of households had broadband speeds of at least 10 Mbps, 53 percent had speeds of at least 25 Mbps and 11 percent of households had broadband

¹⁴⁰ Ibid.

¹⁴¹ FCC, Internet Access Services: Status as of December 31, 2015, released November 2016, https://apps.fcc.gov/edocs_public/attachmatch/DOC-342358A1.pdf, Figure 32, accessed May 15, 2017.

connections of at least 100 Mbps.¹⁴² Cable modem services accounted for roughly 65 percent of non-mobile broadband connections in Florida with download speeds greater than 200 kbps. Mobile broadband connections accounted for 67 percent of all broadband connections in Florida with download speeds greater than 200 kbps.¹⁴³

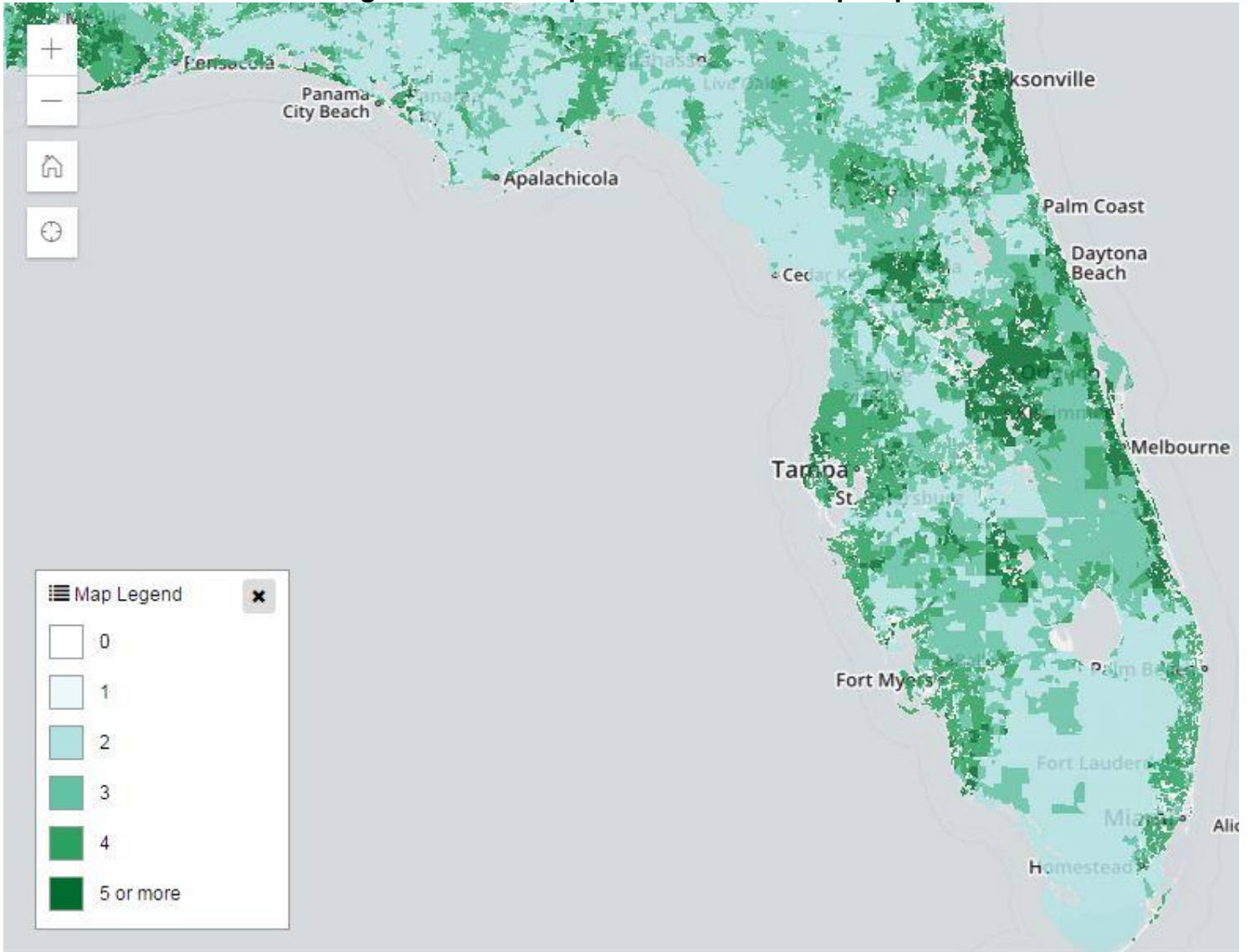
Reflecting advances in technology, market offerings by broadband providers, and consumer demand, the FCC updated its broadband benchmark speeds to 25 Mbps for downloads and 3 Mbps for uploads. The FCC found that its 4 Mbps standard set in 2010 was dated and inadequate for evaluating whether advanced broadband is being deployed to all Americans in a timely way. Figure 5-9 illustrates the FCC's fixed broadband deployment data from company-submitted Form 477 data as of June 2016.¹⁴⁴ While it does not show areas currently meeting the 25 Mbps down/3 Mbps up benchmark, it does show how many ISPs in Florida have reported offering access to fixed broadband services of at least 10 Mbps download and 1 Mbps upload.

¹⁴² FCC, Internet Access Services: Status as of December 31, 2015, released November 2016, https://apps.fcc.gov/edocs_public/attachmatch/DOC-342358A1.pdf, Figure 32, accessed May 15, 2017.

¹⁴³ Ibid, Figure 34.

¹⁴⁴ FCC, Residential Fixed Internet Access Service Providers by Census Block, <https://www.fcc.gov/reports-research/maps/residential-fixed-internet-access-service-providers-by-census-block/>, accessed June 21, 2017.

Figure 5-9
Number of Residential Fixed Internet Access Service Providers
Providing at Least 10 Mbps Downstream/1 Mbps Upstream



Source: FCC, Form 477 fixed broadband deployment data as of June 2016

Chapter VI. Competitive Market Analysis & Statutory Issues

Section 364.386, F.S., requires the Commission to address four issues in its annual report on telecommunications competition. These issues emphasize analysis of the impact of competition and regulatory changes on the telecommunications market.

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.

In 2016, the wireline residential and business markets declined for ILECs while CLECs declined in the residential market and gained in the business market. The total number of access lines decreased by seven percent in 2016 in Florida. CLEC lines increased one percent between December 2015 and December 2016, driven by an increase in business lines. As a result, total CLEC wireline market share in Florida increased to 23 percent in 2016 from 21 percent in 2015.

By comparison, residential VoIP subscribership accounted for 2.8 million connections by December 2016 representing a decrease of less than one percent from the prior year.¹⁴⁵ Comparable 2016 end of year data was not available for wireless and business VoIP segments of the market. However, recently released data for 2016 from the FCC indicates that the number of business VoIP lines grew eight percent from June 2015 through June 2016.¹⁴⁶ Continued growth in 2017 is likely.

Wireless carriers in Florida also experienced growth in 2016. The FCC reported that there were 21.1 million handsets in service as of June 2016, up 0.9 million from the prior year.¹⁴⁷ Figure 6-1 uses the FCC's data regarding the number of voice subscribers by technology for 2016 to illustrate the competitive nature of the industry in Florida. While the data does not reflect the market for the reporting period of this report, it does provide insight regarding how carriers are meeting the market demand for service.

This data suggests that CLECs, VoIP, and wireless carriers are able to provide functionally equivalent services to residential and business customers at rates, terms and conditions acceptable to consumers. The number of CLECs offering a variety of services also indicates the availability of functionally equivalent services at comparable terms. Other services offered by CLECs that reported providing local service include:

- Bundles including services (33 CLECs)
- VoIP (69 CLECs)

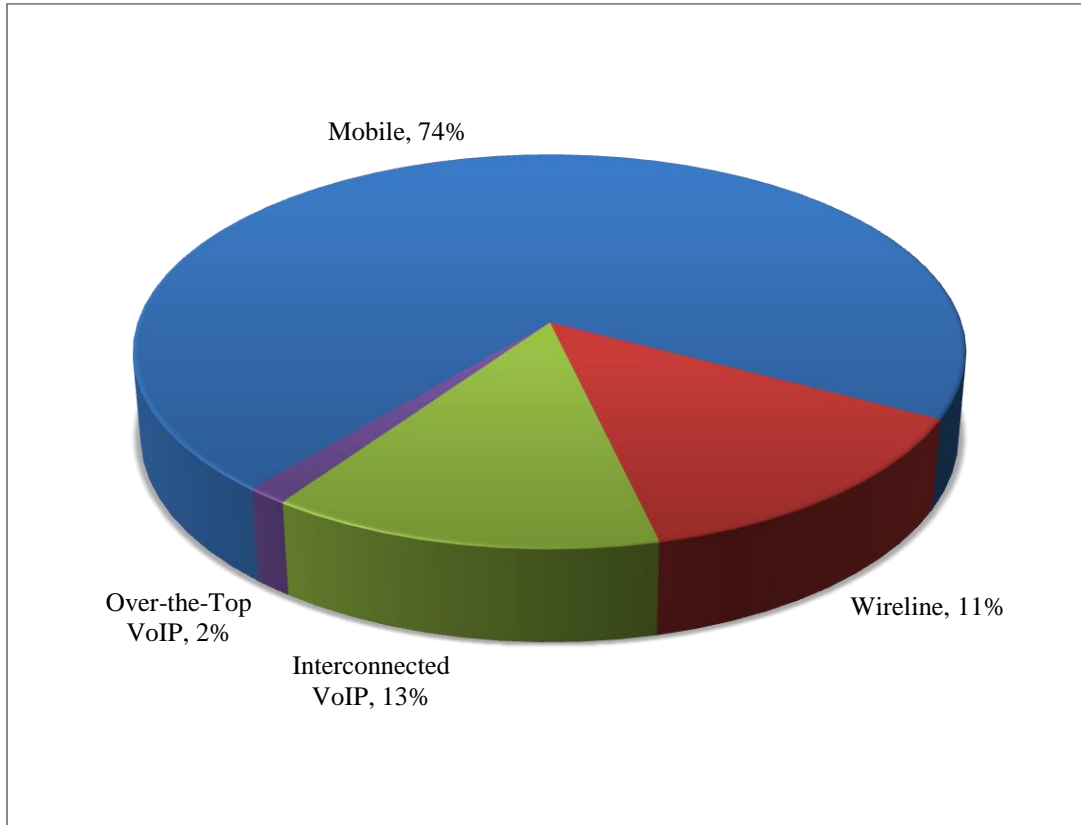
¹⁴⁵ Responses to FPSC data requests 2015-2016.

¹⁴⁶ FCC, "Voice Telephone Services as of 6/30/16," State-Level Subscriptions spreadsheets, released April 17, 2017, <https://www.fcc.gov/voice-telephone-services-report>, accessed June 20, 2017.

¹⁴⁷ Ibid.

- Broadband Internet access (57 CLECs)
- Video service (9 CLECs)

**Figure 6-1
2016 Florida Voice Market**



Source: FCC, Voice Telephone Services Report, Nationwide and State-Level Data for June 2016

The majority of CLECs reported no barriers to competition or elected not to respond in the comment portion of the survey. Those carriers that did provide comments to the Commission regarding barriers, however, represent approximately 38 percent of the CLEC business market in Florida. According to the results of the Commission staff’s data requests, 52.8 percent of responding CLECs listed pricing issues, especially regarding unbundled network elements – platform (UNE-p), as their biggest challenge. The second most commonly cited issue was regarding dealing with ILECs, such as unfavorable terms on interconnection agreements and interconnection service issues at 44.4 percent. Regulatory compliance expense, such as data request compliance and siting applications, was cited by 33.3 percent of the responding CLECs, while issues with new technology and the shift away from copper-based access lines was 27.8 percent. Some of the more specific concerns of the companies include:

- The actions of some ILECs to unilaterally decide that a contract is not an interconnection agreement and, thus foreclose the opportunity for CLECs to either opt into such agreements or for the Commission to review them for discriminatory terms
- The potential of the transition to an all-IP network to be used as a means to eliminate or significantly limit the availability of last-mile facilities
- Actions by AT&T to use the IP transition as an excuse to construct new barriers to competition in Florida's local exchange markets and thereby increase prices for non-residential customers¹⁴⁸
- Impairments a CLEC faces in a market do not “magically” change when the mode of transmission changes to IP
- The need for concurrent jurisdiction and cooperation between the Commission and the FCC to maintain an industry structure that prohibits anticompetitive behavior and the detrimental use of market power
- The identification of replacement services, which the FCC has said must be comparable in price and quality to the services being discontinued, during an IP transition
- The preferential treatment by an ILEC of its CLEC affiliates regarding interconnection terms and conditions than those offered to non-affiliated competitors¹⁴⁹

Regarding the question of how they compete, CLECs cited targeting and referrals of specific customers, usually small to medium businesses, in 22 percent of their responses. Using direct agents and upselling was mentioned in 19 percent of responses. Focusing on customer service garnered 16 percent, while offering new technological alternatives was ten percent. Not being able to price competitively and difficulties working with ILECs mean that residential lines have too little operating margin to have a viable business case. Most CLECs focus on multiline business customers, which yield a better return on investment because of lower sales cost per line. CLECs face strong competition in a diminishing wireline market, so many have also been shifting their businesses away from traditional copper lines to VoIP access lines.¹⁵⁰

Conclusion: Subscribers to VoIP and wireless services continued to show signs of growth, reflecting the opportunity for customers to seek out services from providers other than traditional ILECs. Many CLECs reported offering a variety of services and packages comparable to those offered by ILECs. All of these factors contribute to the conclusion that competitive providers are

¹⁴⁸ Several CLECs asserted that AT&T charges 8 times more for a basic connection in IP versus TDM in its Kings Point, Florida Trial site (\$1,075 for 2 Mbps in IP vs. \$126 for 1.5 Mbps in TDM). Competitors often must employ ILEC infrastructure to reach customers in the last mile preceding individual locations.

¹⁴⁹ Such preferential treatment includes freely providing unbundled facilities to its affiliate at off-book terms and prices which it denies to CLECs, including for use by non-telecommunications services such as Internet access and television.

¹⁵⁰ Media Found, “Competitive Local Exchange Carriers (CLEC) Market Analysis, Market Size, Application Analysis, Regional Outlook, Competitive Strategies, and Forecasts, 2015 To 2022,” <http://www.mediafound.org/news/competitive-local-exchange-carriers-clec-market-analysis-market-size-application-analysis-regional-outlook-competitive-strategies-and-forecasts-2015-to-2022.htm>, accessed May 14, 2017.

able to offer functionally equivalent services to both business and residential customers. We note that the CLECs have not filed a petition with the FPSC to address the issues above. Some of these issues may be addressed by the FCC.

B. Statutory Issue – Consumers

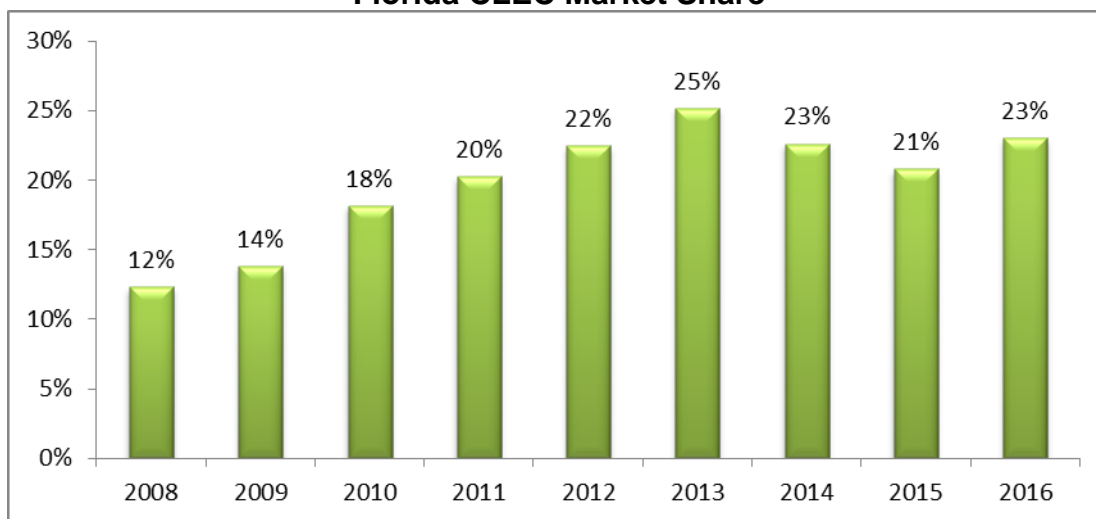
The ability of consumers to obtain functionally equivalent services at comparable rates, terms, and conditions.

Functionally equivalent services are available to customers via wireline telephony, wireless telephony, or VoIP. The primary focus of this report is the provision of wireline telecommunications by ILECs and CLECs, which submit responses to the FPSC’s annual data request.

As of December 31, 2016, 110 CLECs provided data indicating that they provide local voice service in Florida. This response is an improvement over 2015 when 63 CLECs responded similarly, and it stands in contrast to the trend of gradual decline in the number of CLECs providing service that saw a 46 percent decline in the number of CLECs providing voice service between 2011 and 2015.

Competitive carriers can offer service through resale of an ILEC’s or a CLEC’s wholesale services, by using their own facilities, by leasing portions of their networks from an ILEC, or a combination of any of these methods. Figure 6-2 provides a historical view of CLEC market share in Florida for the traditional wireline access line market. As of December 2016, 23 percent of total traditional wireline access lines in Florida are provided by companies other than ILECs.

**Figure 6-2
Florida CLEC Market Share**



Source: Responses to FPSC data requests

Business lines from incumbent carriers fell eight percent in 2016, while business lines from competitive carriers increased one percent. While business VoIP data was not provided by all

segments of the industry for 2016, non-ILEC VoIP business lines grew 23 percent from 2014 to 2015 according to data from the FCC.¹⁵¹ This suggests that business customers have the ability to find reasonable pricing packages with CLECs and are taking advantage of these options. These options include CLEC cable companies and, in some cases, wireless providers. Residential ILEC lines decreased 14 percent in Florida in 2016, while nationally, wireless-only households continued to grow, reaching 50.8 percent through December 2016.¹⁵²

As stated in Chapter V of this report, there are 2.8 million interconnected residential VoIP subscribers in Florida.¹⁵³ These and other factors demonstrate that customers are able to find comparable services at reasonable prices through wireless, CLEC, and VoIP providers.

Conclusion: Access lines for both residential and business customers have maintained a steady decline over the past several years (see Figure 4-1). This contrasts with the continued growth in wireless-only households. While declines have occurred in the business market, they are partially offset by significant growth in business VoIP lines. Carriers are managing the shifts in market conditions by bundling services and providing a variety of pricing plans in an attempt to meet consumer demand and expectations.

C. Statutory Issue – Affordability & Service Quality

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

The telephone subscription rate in Florida for 2016 was 95.3 percent, according to the FCC. This is slightly lower than the national subscription rate of 96.4 percent.¹⁵⁴ The Florida telephone penetration rate has consistently been below the national penetration rate and the variance has varied little between 2012 and 2016, as shown in Figure 6-3.

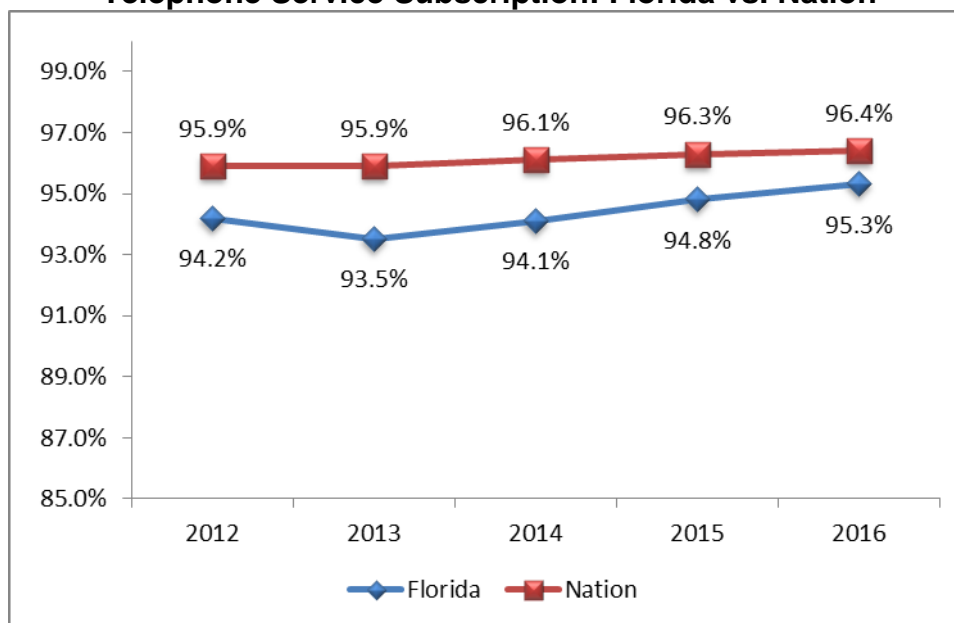
¹⁵¹ FCC, Voice Telephone Services, Status as of June 30, 2015, Table 1, https://apps.fcc.gov/edocs_public/attachmatch/DOC-340665A1.pdf, accessed June 21, 2017.

¹⁵² Stephen J. Blumberg, Ph.D., Julian V. Luke, “Wireless substitution: Early release of estimates from the National Health Interview Survey, July–December 2016,” National Center for Health Statistics, Centers for Disease Control and Prevention, released May 4, 2017, <http://www.cdc.gov/nchs/nhis/releases.htm>, accessed June 21, 2017.

¹⁵³ Responses to FPSC Local Competition Data Request for 2016.

¹⁵⁴ FCC, “Telephone Subscribership in the United States as of July 2011,” released December 2011, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-311523A1.pdf, accessed May 19, 2013, Table 3; “Universal Service Monitoring Report,” released January 13, 2017, https://apps.fcc.gov/edocs_public/attachmatch/DOC-343025A1.pdf, accessed June 21, 2017, Table 6.7.

**Figure 6-3
Telephone Service Subscription: Florida vs. Nation**



Source: FCC, Telephone Subscribership & USF Monitoring Reports

Nationally, about 51 percent of adults live in wireless-only households according to a report on wireless substitution by the Centers for Disease Control and Prevention (CDC) for the period July-December 2016.¹⁵⁵ State-specific data on wireless-only households was not provided in the most recent CDC report; however, a August 2016 report containing state-level data noted that 51 percent of Florida’s households were wireless-only in 2015.¹⁵⁶ That report also indicated that 6.1 percent of Florida adults live in households with only a wireline phone and 3.8 percent live in households without any form of telephone service.¹⁵⁷ Based on the data from both the FCC and the CDC, it appears that most Florida households are able to afford telephone service and have access to a variety of service providers, including ILECs, CLECs, VoIP, and wireless. This data also supports the fact that many consumers choose to subscribe to more than one type of telephone service.

While regulatory reliability standards have applied historically to landline telecommunications service, such reliability standards are no longer insured as many states, including Florida, eliminated these standards. Given the continued growth of interconnected VoIP and wireless-only households, and the continued decline of landline access lines, it appears that the reliability of these alternatives is acceptable to consumers. Moreover, mobility, pricing, and the demand for

¹⁵⁵ Stephen J. Blumberg, Ph.D., Julian V. Luke, “Wireless substitution: Early release of estimates from the National Health Interview Survey, July–December 2016,” National Center for Health Statistics, Centers for Disease Control and Prevention, released May 14, 2017, <https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201705.pdf>, accessed June 21, 2017.

¹⁵⁶ National Center for Health Statistics, Centers for Disease Control and Prevention, “Wireless Substitution State-Level Estimates from the National Health Interview Survey,” released August 2016, https://www.cdc.gov/nchs/data/nhis/earlyrelease/Wireless_state_201608.pdf, accessed June 21, 2017.

¹⁵⁷ Ibid.

data-based services are consumer preference factors that may be changing how consumers view reliability.

Conclusion: Based on the continued growth of interconnected VoIP and wireless-only households and the ongoing decline of wireline access lines, network reliability of non-ILEC providers appears to be sufficient. The telephone penetration rate of 95.3 percent supports the conclusion that the vast majority of Florida residents are able to afford telephone service. The number and variety of competitive choices among all types of service providers suggest that competition is having a positive impact on the telecommunications market in Florida.

D. Statutory Issue – Carrier Disputes

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

Conclusion: The number of docketed and informal intercarrier complaints remained relatively stable in 2016. This information can be found in Appendix B.

Chapter VII. State Activities

The Commission dealt with several intercarrier and compliance issues during the past year. The following is a summary of activities affecting local telecommunications competition in 2016.

A. Intercarrier Matters

1. Wholesale Performance Measurement Plans

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 for Verizon in June 2003 (revised in 2007). Trending analysis is applied to monthly performance measurement data provided by each ILEC.

AT&T is the only ILEC that is required to make payments to CLECs when certain performance measures do not comply with established standards and benchmarks. AT&T's approved Performance Assessment Plan consists of 47 measurements, of which 24 measurements have remedies applied to them. For the calendar year 2016, AT&T paid approximately \$761,671 in remedies to CLECs, an increase of 110 percent from 2015. The increase in remedies was the result of a single, isolated incidence of trunk group blockage for one carrier caused by a jumper cable issue. While the outage was addressed quickly, the remedy is based on the number of blocked calls and thus spikes quickly. The number of blocked calls was inflated by a substantial number of redialed calls, each of which was counted as a single blocked call.

On October 15, 2015, CenturyLink filed proposed revisions to its Performance Measurement Plan as a result of a negotiated settlement in Nevada. The revisions included revising reporting requirements from monthly to quarterly, eliminating several performance measures from the PMP measures, and amending two measures. The proposal was approved for Florida by the Florida Public Service Commission in February of 2016.¹⁵⁸ For the 2016 calendar year, CenturyLink's monthly compliance with established standards ranged from 99 percent to 100 percent, with an average compliance rate of 99.9 percent. CenturyLink's measure with the most non-compliant instances was center responsiveness repair center, which is related to the availability of its OSS interface. This non-compliant measure was among those eliminated from the Performance Measurement Plan.

Frontier Communications completed its purchase of Verizon Florida's wireline operations in Florida in April 2016. In its new role as a large ILEC, Frontier assumed responsibility for Verizon's Performance Measurement Plan. The Plan contains 29 measures. For the calendar year 2016, Frontier's monthly compliance with approved standards ranged from a low of 69.0 percent to a high of 77.5 percent. In 2015, Verizon's compliance average was 89.8 percent, while Frontier's compliance average over the last eight months of 2016 was 74.2 percent, possibly

¹⁵⁸ Docket No. 000121B-TP, Investigation into the establishment of operations support systems permanent performance measures for incumbent local exchange telecommunications companies. (Centurylink Florida Track), Order No. PSC-16-0072-PAA-TP, <http://www.floridapsc.com/library/filings/2016/00858-2016/00858-2016.pdf>, issued February 15, 2016, accessed May 25, 2017.

indicating some difficulties making the transition. Frontier has had multiple problems with ordering, provisioning and billing accuracy; when contacted Frontier indicated that they are investigating whether some problematic measures may have been reported incorrectly due to faulty reporting software.

2. Other Matters

In addition to these proceedings, the Commission processed a number of other telecommunications-related items in 2016. The Commission processed 74 service schedule and tariff filings, 72 interconnection agreements and amendments, 22 carrier certifications, 23 certificate cancellations, 1 Eligible Telecommunications Carrier certificate relinquishment, and over 180 general inquiries/informal complaints.

B. Lifeline

The FPSC created an online Lifeline application for consumers participating in the Supplemental Nutrition Assistance Program (SNAP) or Medicaid in order to comply with FCC requirements and keep the applications process uncomplicated. When an application is completed, a Commission computer automatically makes a query to a Florida Department of Children and Families (DCF) Web services interface to confirm current participation in SNAP or Medicaid. The real-time response verifies participation in at least one of the programs, but does not identify the program. A positive response will generate an automatic email to the appropriate Lifeline provider advising that an approved Lifeline application is available for retrieval on the FPSC Web site. A negative response will cause a letter to be sent to the applicant stating his/her participation in SNAP or Medicaid could not be confirmed and offering Commission staff assistance with any questions. Based upon June 2016 SNAP participants, the Lifeline eligible households decreased by 14.9 percent while the participation rate increased by 8.4 percent from the prior year.¹⁵⁹ Table 7-1 shows the Lifeline eligibility and participation rate in Florida for the last six years.¹⁶⁰

**Table 7-1
Florida Lifeline Eligibility and Participation Rate**

Year	Lifeline Enrollment	Eligible Households	Participation Rate
June 2011	943,854	1,690,512	55.8%
June 2012	1,035,858	1,864,183	55.6%
June 2013	918,245	1,952,890	47.0%
June 2014	957,792	1,930,106	49.6%
June 2015	831,612	2,011,166	41.4%
June 2016	852,255	1,712,005	49.8%

Source: U.S. Department of Agriculture data figures as of June 2016

If a program other than Medicaid or SNAP is used for certification, the customer must provide documentation of participation from the administering agency, which could be the Social

¹⁵⁹ According to the US Department of Agriculture Report, “Supplemental Nutrition Assistance Program: Number of Households Participating, ending June 30, 2015,” over 2,011,156 Florida households participated SNAP.

¹⁶⁰ FPSC, “2016 Florida Lifeline Report,” released December 2016, <http://www.floridapsc.com/Publications/Reports#>, Figure 2, accessed June 19, 2017.

Security Administration (Supplemental Security Income), Federal Public Housing Assistance (FPHA), the Veterans Pension benefit, or the Bureau of Indian Affairs. As of June 2016, over 95 percent of Florida applicants using the Lifeline Coordinated Enrollment Process use Medicaid or SNAP for eligibility. If a Lifeline applicant chooses to apply for Lifeline directly with an eligible telecommunications carrier, the carrier can access the DCF web services to confirm program participation for Medicaid and SNAP. In Florida, certification and verification can be accomplished using this process if the applicant or existing Lifeline customer participates in the Medicaid or SNAP programs which are administered by the DCF.

On April 27, 2016, the FCC released its Lifeline Modernization Order.¹⁶¹ In this Order, the FCC established a National Lifeline Eligibility Verifier (National Verifier) for the purpose of transitioning from various carrier and state verification systems to a single system. The FCC envisions that the National Verifier will include electronic and manual methods to determine eligibility and will include a Lifeline Eligibility Database. In addition to determining eligibility for Lifeline, the National Verifier will allow access by authorized users, provide support payments to providers and conduct recertification of subscribers.

The FCC expects the National Verifier to be live in at least five states by December 31, 2017. In addition, the FCC expects that in 2018, the National Verifier will be deployed to twenty additional states. By December 31, 2019, the FCC expects that Lifeline eligibility will be determined in all states and territories using the National Verifier. As the National Verifier is deployed, the responsibility to verify eligibility will transition from Eligible Telecommunications Carriers (ETCs) or state administrators to the National Verifier. USAC will inform stakeholders of its deployment schedule in the states when it is ready to deploy the National Verifier. Additional information regarding the FCC's Lifeline Modernization Order can be found in Chapter VIII.

C. Telephone Relay Service

It is estimated that approximately 2.5 to 3 million of the estimated 20 million persons living in Florida have been diagnosed as having a hearing loss.¹⁶² Relay service in Florida provides telecommunications service for deaf, hard of hearing, deaf-blind, or speech impaired persons functionally equivalent to the service provided to hearing persons.

Chapter 427, Part II of the Florida Statutes established the Telecommunications Access System Act of 1991 (TASA). TASA provides funding for the distribution of specialized telecommunications devices and intrastate relay service through the imposition of a surcharge of up to \$0.25 per landline access line per month, for up to 25 access lines per account. The surcharge billed per month per landline access line was \$0.11 in the 2016-2017 budget year.

¹⁶¹ FCC 16-38, WC Docket No. 11-42, Lifeline and Link Up Reform and Modernization, Third Report and Order, Further Report and Order, and Order on Reconsideration, released April 27, 2016, https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-38A1.pdf, access June 19, 2017.

¹⁶² 2015 Florida Coordinating Council for the Deaf and Hard of Hearing Biennial Report to Governor Rick Scott, the Florida Legislature & the Supreme Court and "Demographics and Statistics," Florida Telecommunications Relay, Inc., <http://ftri.org/index.cfm/go/public.view/page/12>, accessed April 21, 2016.

Pursuant to TASA, the FPSC is responsible for establishing, implementing, promoting, and overseeing the administration of a statewide telecommunications access system to provide access to telecommunications relay services by people who are deaf, hard of hearing, deaf-blind or speech impaired. In accordance with TASA, the FPSC directed the local exchange companies (LECs) to form a not-for-profit corporation, known as Florida Telecommunications Relay, Inc. (FTRI) to directly administer basic relay service in Florida.

Basic relay service is provisioned in Florida under contract by a single service provider. Through a competitive bid evaluation process, the FPSC awarded the current relay provider contract to Sprint, effective March 1, 2015, for a period of three years. The contract contains options to extend the contract for four additional one-year periods, and requires mutual consent by both parties to extend the contract. In February 2016 Sprint notified the Commission it would not opt-in to an extension of the contract. The contract has been re-bid and the Commission is set to choose the next provider in Fall 2017.

On July 13, 2017, the Commission approved FTRI's 2017-2018 budget, directing FTRI to reduce its proposed budget. The reduction is due to review of the requested budget items. Specifically, the FPSC approved FTRI's projected operating revenue of \$6,224,425 and expenses of \$5,851,306. As a result, the TASA surcharge will decrease \$0.01 to \$0.10, beginning September 1, 2017.

Chapter VIII. Federal Activities

A. Broadband Consumer Privacy

In October 2016, the FCC adopted broadband privacy rules that banned Internet Service Providers (ISPs) from collecting, storing, sharing and selling certain types of consumer information without the consumer's consent. Data such as a consumer's web browsing history, app usage history, and location details would require a customer's explicit permission before ISPs such as Comcast and Verizon could mine the information for advertising purposes. The scope of the rules was limited to broadband service providers and other telecommunications carriers and did not apply to privacy practices of websites or apps, like Twitter, Facebook, or Google, over which the Federal Trade Commission has authority.¹⁶³

The broadband privacy rules were expected to become effective later this year.¹⁶⁴ However, on April 3, 2017, President Trump signed an executive order to repeal the FCC's privacy rules and to prohibit the FCC from passing similar privacy regulations in the future.¹⁶⁵ Critics of the broadband privacy rules argued that the regulations created an imbalance because it placed much stricter requirements on broadband providers than on tech firms. Critics also argued that repealing the regulations will not only restore the balance, but it will also pave the way for broadband providers to compete in the digital advertising market.¹⁶⁶

Advocates for the broadband privacy rules contend that repealing the rules has created a policy gap in which the only privacy regulators for the industry operate at the state not the federal level. Although the Federal Trade Commission has the authority to take action against companies that violate its privacy guidelines, it does not have the authority to create new industry laws. Further, the Federal Trade Commission currently cannot enforce its own privacy policies against ISPs due to the fact that ISPs are subject to FCC jurisdiction and not the Federal Trade Commission.¹⁶⁷

B. Universal Service

Universal service is the principle that all Americans should have access to communications services. While Florida consumers benefit from being able to make and receive calls from all parts of the nation, there is a cost associated with this policy.

¹⁶³ FCC 16-148, WC Docket No. 16-106, Protecting the Privacy of Customers of Broadband and Other Telecommunications Services, Report and Order, released November 2, 2016, https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-148A1_Rcd.pdf, accessed April 25, 2017.

¹⁶⁴ FCC, News Release, "FCC Adopts Privacy Rules to Give Broadband Consumer Increased Choice, Transparency and Security for Their Personal Data," https://apps.fcc.gov/edocs_public/attachmatch/DOC-341937A1.pdf, released October 27, 2017, accessed April 25, 2017.

¹⁶⁵ Washington Post, "Trump has signed repeal of the FCC privacy rules. Here's what happens next," April 4, 2017, https://www.washingtonpost.com/news/the-switch/wp/2017/04/04/trump-has-signed-repeal-of-the-fcc-privacy-rules-heres-what-happens-next/?utm_term=.faee35ef0da9, accessed April 26, 2017.

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

In general, Florida consumers pay more into the federal Universal Service Fund (USF) than what is returned to eligible service providers in Florida.¹⁶⁸ For 2015, only California and New York continued to be larger net contributors than Florida. The FPSC monitors and participates in ongoing proceedings at the FCC and with the Federal-State Joint Board on Universal Service. Table 8-1 shows Florida’s estimated contribution and receipts for 2015 and provides a comparison of net contributions for 2013 and 2014.

Table 8-1
2015 Federal Universal Service Programs in Florida
 (Annual Payments and Contributions in Thousands of Dollars)

	2013	2014	2015		
	Estimated Net	Estimated Net	Payments to Service Providers	Estimated Consumer Contributions	Estimated Net
High-Cost	(\$200,627)	(\$173,267)	\$61,322	\$281,107	(\$219,785)
Low Income	(13,418)	1,299	86,593	93,380	(6,787)
Schools & Libraries	(51,483)	(62,451)	68,089	128,354	(60,265)
Rural Health Care	(9,607)	(12,059)	896	17,211	(16,315)
Total	(\$282,278)	(254,024)	\$216,900	\$525,405	(\$308,505)

Source: FCC Universal Service Monitoring Report, various years, Table 1.9.¹⁶⁹

1. Contribution System Reform

Telecommunications service providers fund the USF based on a quarterly FCC assessment factor and the amount of telecommunications revenues service providers collect from end-users. Specifically, the assessment factor is applied to interstate and international telecommunications revenues.

Mobile wireless carriers and interconnected VoIP providers are also required to contribute.¹⁷⁰ In 2015, the assessment factor ranged from a high of 18.2 percent in the second quarter to a low of 17.4 percent in the fourth quarter.¹⁷¹ Figure 8-1 illustrates changes to the assessment factor over the last four years.

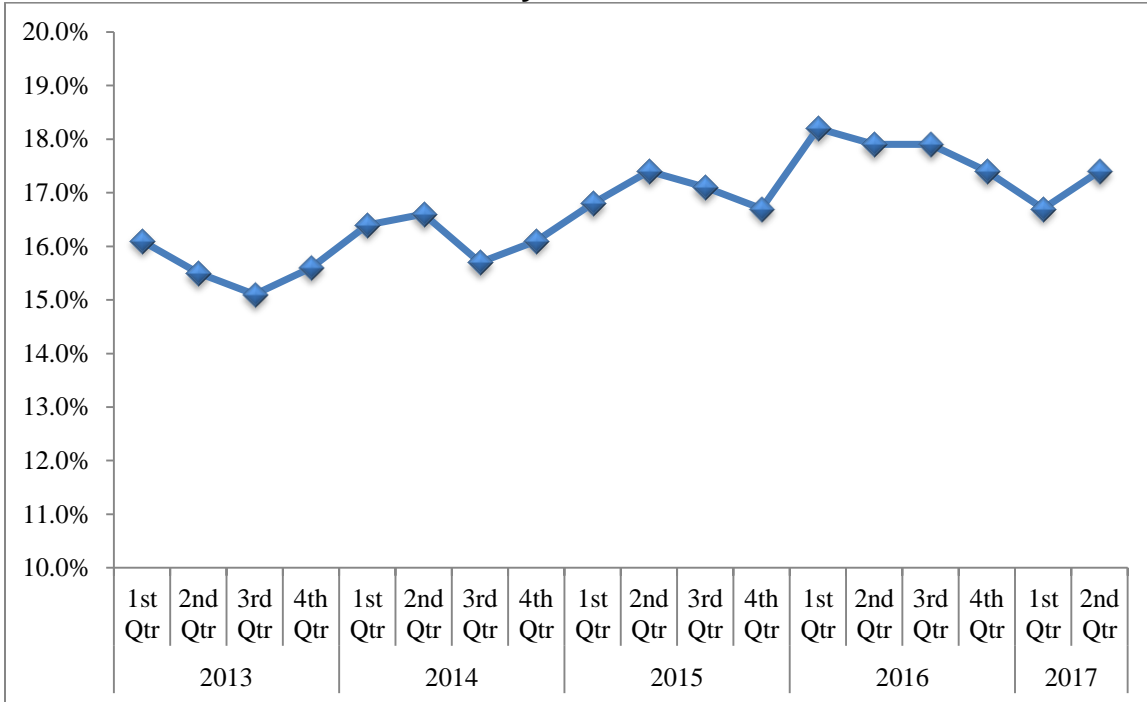
¹⁶⁸ FCC, “Universal Service Monitoring Report-2016,” released January 13, 2017, https://apps.fcc.gov/edocs_public/attachmatch/DOC-343025A1.pdf, accessed May 26, 2017.

¹⁶⁹ Note: Figures may not add up due to rounding.

¹⁷⁰ Wireless carriers and interconnected VoIP providers may use the interim safe harbor percentages to estimate the interstate portion of their revenues.

¹⁷¹ FCC, “Contribution Factor & Quarterly Filings - Universal Service Fund (USF) - Management Support,” <http://www.fcc.gov/encyclopedia/contribution-factor-quarterly-filings-universal-service-fund-usf-management-support>, accessed May 30, 2017.

**Figure 8-1
USF Quarterly Assessment Factor**



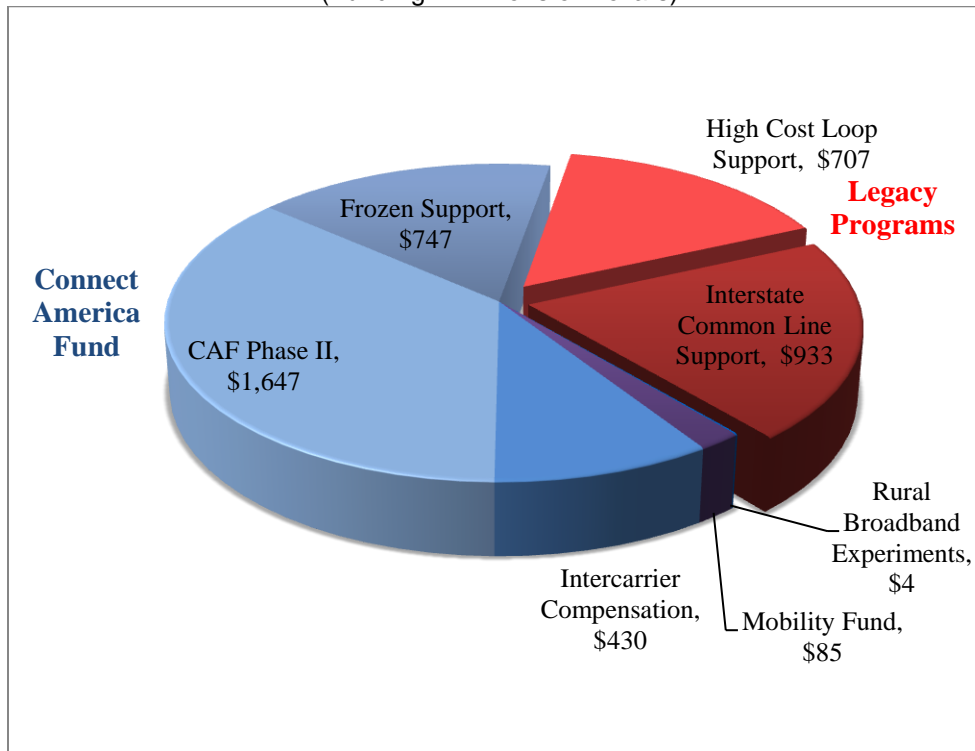
Source: FCC Public Notices on Proposed Contribution Factors, various quarters

2. High Cost

In 2011, the FCC reformed and modernized its existing high-cost fund to maintain voice services and extend broadband capable infrastructure.¹⁷² As part of this reform, the FCC began to phase out the existing high-cost support programs and began funding through the Connect America Fund (CAF). The CAF focuses on supporting and expanding fixed broadband availability and voice service. Figure 8-2 identifies the authorized national support by high-cost program for 2016, an increase of 1.3 percent from 2015.

¹⁷² FCC 11-161, WC Docket No. 10-90, Connect America Fund, Report and Order and Further Notice of Proposed Rulemaking, released November 18, 2011, http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-161A1.pdf, accessed May 30, 2017.

Figure 8-2
2016 Authorized Federal High-Cost Support
(Funding in Millions of Dollars)



Source: USAC 2016 Annual Report¹⁷³

Between 2014 and 2015 high cost support increased by 20 percent. The increase of support in 2015 was due to implementation of the CAF Phase II support for interstate priced-capped carriers.¹⁷⁴ This fund provides support that is based on a model, or when model-based support is declined, competitive bidding. The model estimates the cost to provide voice and broadband services in high-cost areas where unsubsidized carriers are not providing comparable services. Carriers accepting Phase II model-based support must provide at least 10/1 Mbps broadband throughout their accepted areas by 2020.¹⁷⁵ Of the carriers that were offered model-based support in Florida, only Verizon declined.

On March 30, 2016, the FCC released an Order reforming high-cost support for interstate rate-of-return carriers.¹⁷⁶ The focus of the reforms implemented in this Order were to provide an option under which rate-of-return carriers may elect model-based support for a term of 10 years in exchange for meeting defined build-out obligations. The Order also modernizes one of the

¹⁷³ Universal Service Administrative Company 2016 Annual Report, released March 31, 2017, <https://usac.org/res/documents/about/pdf/annual-reports/usac-annual-report-interactive-2016.pdf>, page 52, accessed May 31, 2017.

¹⁷⁴ Interstate priced capped carriers are: AT&T, CenturyLink, Frontier, GTC, Verizon, and Windstream.

¹⁷⁵ FCC 14-190, WC Docket No. 10-90, Connect America Fund, Report and Order, released December 18, 2014, https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-190A1.pdf, accessed May 31, 2017.

¹⁷⁶ FCC 16-33, WC Docket No. 10-90, Connect America Fund, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, released March 30, 2016, https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-33A1.pdf, accessed May 31, 2017.

existing support mechanisms to allow for support for facilities that provide broadband services, but where the consumer has elected not to also subscribe to voice service.¹⁷⁷ Under previous rules, carriers would only be able to receive support if a customer subscribed to a voice service, either by itself or as part of a bundle of services. There are only four interstate rate-of-return carriers in Florida, representing less than two percent of traditional switched access lines.¹⁷⁸

The FCC also released an Order establishing competitive bidding rules in areas where CAF Phase II support was not accepted by the incumbent carrier in May.¹⁷⁹ In general, the FCC established minimum broadband standards within an annual budget of \$215 million. It requires network build-out requirements of 40 percent of funded locations within three years, 60 percent after four years, 80 percent after five years, and 100 percent by six years. Verizon (in Florida) was one of the price-cap carriers that declined last year's Connect America Fund offer. As a result, support will be based on competitive bidding in the area served by Verizon. Frontier, which recently acquired Verizon's assets in Florida, will be able to participate in the competitive bid for support.

On February 23, 2017, the FCC adopted a Report and Order and Order on Reconsideration (Order).¹⁸⁰ The Order updated information regarding the mandatory deployment obligations that will apply to rate-of-return carriers who remain on legacy universal service support mechanisms. In the upcoming Connect America Fund Phase II auction, providers will compete to receive support of up to \$1.98 billion to expand broadband service and offer voice service in unserved high-cost areas. According to the FCC, the auction rules established in the Order aim to maximize the value that consumers will receive for the Connect America Fund dollars spent by balancing deployment of higher-quality services with cost efficiencies.

The Order balances incentives for deployment of higher-quality services with cost efficiencies by establishing auction "weights" that credit bids by companies offering more robust service. Specifically, the Order establishes bidding weights to compare bids across performance tiers set last year. These weights account for the value of higher speeds, higher usage allowances, and low latency. The formula used to rank bidders balances these performances goals with the need to reach as many consumers as possible within the FCC's budget for rural universal service.¹⁸¹

3. Schools and Libraries

The schools and libraries support program, commonly known as the E-rate Program, provides financial assistance for eligible schools and libraries. The program provides support to reduce the cost associated with telecommunications services, Internet access, and eligible equipment, along with repair and upkeep of eligible equipment. The discounts range from 20 percent to 90 percent

¹⁷⁷ Going forward Interstate Common Line Support (ICLS) will be known as Connect America Fund Broadband Loop Support (CAF BLS).

¹⁷⁸ Interstate rate-of-return carriers are: NEFCOM, Quincy, Smart City, and ITS.

¹⁷⁹ FCC 16-64, WC Docket No. 10-90, Connect America Fund, Report and Order, and Further Notice of Proposed Rulemaking, released May 26, 2016, https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-64A1.pdf, accessed May 31, 2017.

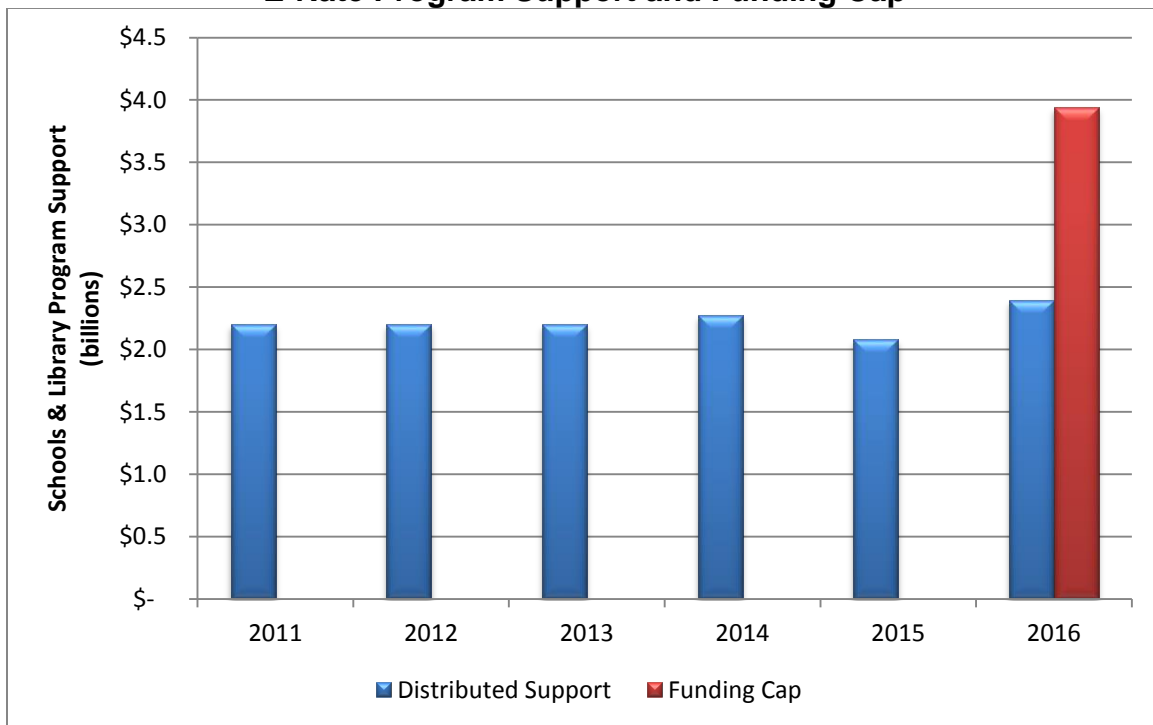
¹⁸⁰ FCC 17-12, WC Docket Nos. 10-90 and 14-58, Connect America Fund, Report and Order and Order on Reconsideration, released March 2, 2017, https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-12A1.pdf, assessed June 5, 2017.

¹⁸¹ Ibid.

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.

Figure 8-3 reflects the new cap relative to the amount of support distributed in prior years.¹⁸² On an annual basis, Florida consumers can expect to pay about \$60 million more per year into the federal program than the amount of support Florida schools and libraries will receive based on 2015 estimated contribution data. Because the cap is almost twice the amount as what was distributed, there is the potential for increased net contributions into the program in the future.

**Figure 8-3
E-Rate Program Support and Funding Cap**



Source: USAC 2016 Annual Report¹⁸³

The FCC assessed a fine against AT&T on July 27, 2016, in the amount of \$106,425 for overcharging two Florida school districts.¹⁸⁴ In a Notice of Apparent Liability, the FCC alleged that AT&T violated the lowest corresponding price rule by charging two school districts in Florida, Orange County and Dixie County, prices well above what other customers in the state paid. The lowest corresponding price rule helps ensure that schools and libraries that participate in the FCC’s E-rate Program get the best rates available by prohibiting E-rate service providers

¹⁸² FCC Public Notice, DA 16-505, Wireline Competition Bureau Announces E-Rate Inflation-Based Cap for Funding Year 2016, released May 6, 2016, https://apps.fcc.gov/edocs_public/attachmatch/DA-16-505A1.pdf, accessed May 31, 2017.

¹⁸³ Universal Service Administrative Company 2016 Annual Report, released March 31, 2017, <https://usac.org/res/documents/about/pdf/annual-reports/usac-annual-report-interactive-2016.pdf>, page 52, accessed May 31, 2017.

¹⁸⁴ FCC, News Release, “FCC Plans to Fine AT&T \$106,425 for Overcharging Schools in Florida,” https://apps.fcc.gov/edocs_public/attachmatch/DOC-340434A1.pdf, released July 27, 2016, accessed April 27, 2017.

from charging them more than the lowest price paid by other similarly situated customers for similar telecommunications services. The violations occurred between mid-2012 and mid-2015. In each of these years AT&T inaccurately certified that it was in compliance with the E-rate programs rules. These certifications caused the Universal Service Fund to subsidize the school districts' services at greatly inflated prices and allowed AT&T to receive at least \$63,760 in federal support that it should not have received.

4. Low Income

The Lifeline program provides a \$9.25 discount on phone service for qualifying low-income consumers to ensure that all Americans have the opportunities and security that phone service brings. In addition, the FCC has determined that broadband has become essential to participation in modern society, offering access to jobs, education, health care, government services and opportunity. On April 27, 2016, the FCC released an Order to further modernize the federal Lifeline program.

The FCC's Order takes a variety of actions to encourage more Lifeline providers to deliver newly supported broadband services as the FCC transitions from primarily supporting voice services to targeting support at providing broadband services. The Order also limits the qualifying criteria consumers can use to sign up for Lifeline services and implements Lifeline benefit port freezes, which limit how frequently Lifeline consumers can switch from one Lifeline carrier to another. For voice services, the customers will have to stay with their selected Lifeline carrier for 60 days. For customers receiving Lifeline support for broadband services, the length of time they are locked in to that provider is 12 months.

In addition, the FCC has established a budget for the expanded Lifeline program of \$2.25 billion, indexed to inflation. By way of comparison, the authorized support for the Lifeline program in 2016 was \$1.51 billion.¹⁸⁵ The new rules require FCC staff to notify the FCC when spending reaches 90 percent of the budget and to prepare an analysis of the causes of spending growth, with recommended actions for the FCC to consider. The current rate of support would be maintained at \$9.25 per household.

The FCC states that to be sustainable and achieve its goals of providing low-income consumers with robust, affordable, and modern service offerings, a forward-looking Lifeline program must focus on broadband services. Therefore, the FCC concluded that it is necessary that going forward the Lifeline discount will no longer apply to voice-only offerings following an extended transition period, except in Census blocks with only one Lifeline provider. Prior to the complete phase out of support for voice only services, the FCC will reevaluate its conclusion as part of a 2021 report on the State of the Lifeline Marketplace. After this transition, the federal Lifeline program will continue to support voice service when bundled with a broadband service that meets the FCC's minimum service standards.¹⁸⁶ The table below outlines the FCC's phase down schedule.

¹⁸⁵ Universal Service Administrative Company 2016 Annual Report, released March 31, 2017, <https://usac.org/res/documents/about/pdf/annual-reports/usac-annual-report-interactive-2016.pdf>, page 52, accessed May 31, 2017.

¹⁸⁶ The fixed broadband speed standard is based on what a substantial majority of consumers receive (currently 10 Mbps downloads / 1 Mbps uploads). The FCC also sets minimum monthly fixed broadband usage allowances,

**Table 8-2
Lifeline Support Phase Down Schedule**

Effective Dates	Fixed Voice	Mobile Voice	Fixed Broadband	Mobile Broadband
Through 11/30/19	\$9.25	\$9.25	\$9.25	\$9.25
From 12/1/19 to 11/30/20	\$7.25	\$7.25	\$9.25	\$9.25
From 12/1/20 to 11/20/21	\$5.25	\$5.25	\$9.25	\$9.25
After 11/30/21	\$0	\$0	\$9.25	\$9.25

Source: FCC, Lifeline Modernization Order

When released, the FCC’s Order denied states the authority to designate a new category of providers, Lifeline Broadband Providers, but instead retained that authority unto itself. However, the FCC has begun to reverse this policy. The change will likely have little effect on carriers that are already eligible to receive Lifeline support in Florida.

C. Lifeline Program Fines

- On December 2, 2016, the FCC announced that it planned to fine NECC Telecom in the amount of \$392,930 for charging excessive and unlawful universal service fees to its customers.¹⁸⁷ NECC Telecom is primarily an international long distance reseller. During its investigation, the FCC determined that despite being exempt from any USF contribution obligations NECC Telecom overcharged its international service customers by charging them for fees labeled as USF-related fees. Carriers are required to pay into a fund to support various universal service programs and may assess fees on customers to offset that cost. However, carriers are prohibited from charging customers more in fees than they pay into the Universal Service Fund.
- On December 22, 2016, the FCC ordered Total Call Mobile to pay \$30 million to settle fraud investigations by the FCC and the United States Attorney’s Office for the Southern District of New York. The investigations determined that Total Call Mobile enrolled tens of thousands of duplicate and ineligible consumers into the Lifeline program.¹⁸⁸ As a condition of the settlement, Total Call Mobile admitted that its field agents engaged in “fraudulent practices” and consented to permanently lose its authorizations to participate in the Lifeline program anywhere in the country. The company also admitted that it violated the FCC’s Lifeline program rules and agreed to relinquish its FCC and state authorizations to participate in the Lifeline program. The \$30 million settlement includes a repayment to the Universal Service Fund and a penalty paid to the U.S. Treasury.

starting at 150 GB, and updated thereafter. Mobile broadband services standards are phased in starting at 500 MB per month of 3G data by December 1, 2016, 1 GB by December 1, 2017, and increasing to 2 GB per month by the end of 2018.

¹⁸⁷ FCC, News Release, “FCC Plans Fine Against NECC Telecom for Overcharging Universal Service Fees,” https://apps.fcc.gov/edocs_public/attachmatch/DOC-342361A1.pdf, released December 2, 2016, accessed April 26, 2017.

¹⁸⁸ FCC, News Release, “Total Call Mobile to Pay \$30 Million and End Lifeline Participation to Settle Fraud Investigations,” https://apps.fcc.gov/edocs_public/attachmatch/DOC-342666A1.pdf, released December 22, 2016, accessed April 25, 2017.

D. Slamming and Cramming

“Slamming” is the illegal practice of switching a consumer’s traditional wireline telephone company for local, local toll, or long distance service without permission. The slamming rules also prohibit unreasonable delays in the execution of an authorized switch by your local telephone company. “Cramming,” is the illegal act of placing unauthorized charges on your wireline, wireless, or bundled services telephone bill. Crammers often rely on confusing telephone bills to trick consumers into paying for services they did not authorize or receive, or that cost more than the consumer was led to believe. Below is a list of slamming and cramming enforcement actions taken by the FCC.

- The FCC issued a Forfeiture Order on March 9, 2016, wherein it assessed a \$1.6 million fine against the Florida-based long distance provider Net One International for cramming unauthorized charges and fees on consumer bills.¹⁸⁹ The FCC reviewed over 100 consumer complaints filed with the FCC, the Federal Trade Commission, and the Better Business Bureau. The complaints alleged that Net One International continued to charge customers for services and late fees after the customers paid their final bill and cancelled their account.

In many cases, consumers contacted Net One International repeatedly about the unauthorized billings, but were unable to resolve the issue until after they filed a complaint. According to the complaints, Net One International refused to let consumers close their accounts until they paid the unauthorized charges and fees. The FCC repeatedly warned the company that its actions were a violation of the law. However, despite numerous warnings, Net One International continued to improperly bill its customers. As a result, the FCC found that Net One International willfully or repeatedly violated Section 201(b) of the Communications Act and was liable for the total forfeiture amount of \$1.6 million.

- On December 29, 2016, the FCC announced a settlement with Birch Communications.¹⁹⁰ Under the terms of the agreement Birch Communications agreed to pay \$6.1 million, which included \$4.2 million in penalties and \$1.9 million in refunds to consumers. The settlement agreement resolved a FCC investigation that looked into whether Birch Communications “slammed” consumers by switching their preferred phone carriers without authorization, “crammed” unauthorized charges on its customers’ bills, and engaged in deceptive marketing.¹⁹¹

The FCC began its investigation in 2015 after reviewing hundreds of consumer complaints filed with the FCC, state regulatory authorities and the Better Business Bureau. While reviewing the complaints, the FCC determined that Birch

¹⁸⁹ FCC, News Release, “FCC Fines Telecom Provider \$1.6 Million for Adding Unauthorized Charges and Fees to Consumer Bills, released March 9, 2016, https://apps.fcc.gov/edocs_public/attachmatch/DOC-338134A1.pdf, accessed April 20, 2017.

¹⁹⁰ Birch Communications operates as a CLEC in Florida.

¹⁹¹ FCC, News Release, “Birch Communications to Pay \$1.6 Million to Settle Investigation into Deceptive Marketing and Billing Practices,” https://apps.fcc.gov/edocs_public/attachmatch/DOC-342828A1.pdf, release December 29, 2016. accessed April 20, 2017.

Communications' telemarketers repeatedly misrepresented their identity and the purpose of their telemarketing calls when contacting potential customers. The telemarketers even claimed to be affiliated with the consumers' own carriers in order to fraudulently switch consumers to Birch Communication's service and place unwanted charges on their bills. When the consumers called to cancel the unauthorized and unwanted services Birch Communications assessed substantial early termination fees against the consumers.

In addition to the \$6.1 million payment, the settlement agreement also requires Birch Communications to record all sales calls, verify any changes to a consumer's preferred carrier, provide enhanced customer notice about early termination fees, promptly investigate consumer complaints about unauthorized charges and carrier changes, designate a senior corporate manager as a compliance officer, and submit compliance reports to the FCC for five years.¹⁹²

- On September 14, 2016, the FCC assessed \$11 million in fines against three related long distance carriers for cramming unauthorized charges onto consumer telephone bills, slamming consumers by switching their preferred phone carriers without authorization, deceptive marketing, and violating the FCC's truth-in-billing rules.¹⁹³ The three California-based companies, Central Telecom Long Distance, Consumer Telecom, and U.S. Telecom Long Distance, are run as one operation by Data Integration Systems, Inc.

During the investigation, the FCC reviewed over 260 consumer complaints. The complaints were mostly submitted by or on the behalf of consumers who had neither heard of the companies nor intended to sign up for services from the companies. The FCC determined that the companies' telemarketers falsely claimed that they were calling on behalf of consumers' real telephone carriers about a change in existing service. The companies then misused consumers' answers to switch their long distance carriers to one of the companies. When customers realized what had occurred and returned to their preferred carriers, the companies continued to charge consumers a recurring monthly fee. The companies also failed to clearly and plainly describe the charges included in their customer bills, as required by the FCC's rules.

- The FCC released a Notice of Apparent Liability for Forfeiture on February 12, 2016, wherein the agency assessed a fine of \$29.6 million against four related long distance carriers for a variety of apparent fraudulent, deceptive, and manipulative practices targeting consumers with Hispanic surnames.¹⁹⁴ The FCC contends that OneLink Communications, Inc., TeleDias Communications, Inc., TeleUno, Inc., and Cytel, Inc., slammed consumers by switching their long distance carriers without authorization and

¹⁹² FCC, News Release, "Birch Communications to Pay \$1.6 Million to Settle Investigation into Deceptive Marketing and Billing Practices," https://apps.fcc.gov/edocs_public/attachmatch/DOC-342828A1.pdf, released December 29, 2016, accessed April 20, 2017.

¹⁹³ FCC, News Release, "FCC Fines Companies \$11 Million for Unauthorized Charges on Consumers Bills, Deceptive Marketing, and Illegal Carrier Changes," https://apps.fcc.gov/edocs_public/attachmatch/DOC-341261A1.pdf, released September 15, 2016, accessed April 24, 2017.

¹⁹⁴ FCC, News Release, "FCC Plans \$29.6 million Fine for Egregious Treatment of Consumers and Obstruction of Investigation," https://apps.fcc.gov/edocs_public/attachmatch/DOC-337720A1.pdf, released February 12, 2016, accessed on April 23, 2017.

crammed unauthorized charges onto consumers' bills. Both TeleUno, Inc., and Cytel, Inc. provide services in Florida. The FCC also alleged that the four companies, which operate as a single enterprise, fabricated audio recordings that they then submitted to the FCC as proof that the consumers authorized the provider changes and charges.

Over 140 consumers filed complaints with the FCC. Many of the consumers alleged that the companies' telemarketers pretended to be from the post office calling about a nonexistent package delivery to obtain information to create fake consumer authorization recordings. The companies also impersonated consumers in the authorization recordings and then provided the fake authorizations to the FCC. As a result, the FCC found that the companies' apparent unauthorized charges and deceptive marketing calls constituted "unjust and unreasonable" practices under the Communications Act. The FCC also determined that the companies apparently violated federal law by submitting fake consumer authorizations and providing false and misleading information to the FCC during its investigation.¹⁹⁵

- On February 18, 2016, the FCC fined two related Florida companies and their owner \$3.4 million for unauthorized charges, deceptive marketing practices and non-payment of fees. The companies, Calling 10 and Telseven deceived consumers who mistakenly called their toll-free numbers regarding their purported services then subsequently crammed those customers by billing them for services that were neither provided nor requested.¹⁹⁶

At the direction of their owner, the companies acquired approximately one million toll-free numbers, some of which were similar to existing working numbers or formerly used numbers by well-known entities such as Chase Bank and other financial institutions. According to the FCC, the acquisition of the numbers served no apparent purpose other than to increase the likelihood that consumers would dial one of the numbers and reach Telseven or Calling 10 by mistake. During the calls, the companies did not inform the callers that the number that the consumer dialed no longer belonged to the entity that the consumer was trying to reach. Instead, the companies falsely implied that their services were related to the party that the caller was trying to reach. In addition, the companies then charged the consumers approximately seven dollars for services that the consumers never authorized and the companies never provided.

- The FCC announced a settlement agreement with AT&T Services on August 8, 2016.¹⁹⁷ The agreement was reached to resolve an investigation into whether the AT&T crammed unauthorized third-party charges on its customers' wireline telephone bills. According to the FCC, AT&T Services allowed two companies, Discount Directory, Inc. and Enhanced Telecommunications Services, to charge customers approximately \$9 per

¹⁹⁵ Ibid.

¹⁹⁶ FCC, News Release, "FCC Fines Florida Companies & Owner \$3.4 Million for Unauthorized Charges, Deceptive marketing, and Non-Payment of Fees," https://apps.fcc.gov/edocs_public/attachmatch/DOC-337784A1.pdf, released February 18, 2016, accessed on April 23, 2017.

¹⁹⁷ FCC, News Release, "AT&T to Pay \$7.5 Million for Letting Scammers Bill Consumer for Sham Directory Assistance Services," https://apps.fcc.gov/edocs_public/attachmatch/DOC-340650A1.pdf, released August 8, 2016, accessed on April 23, 2017.

month for fake directory assistance services. The U.S. Drug Enforcement Administration (DEA) discovered the cramming scam while investigating the companies for drug-related crimes and money laundering and referred the investigation to the FCC in 2015.

During its investigation, the DEA found financial documents related to a scheme to defraud telephone customers. The DEA determined that the companies were billing thousands of consumers (mostly small businesses) for a monthly directory assistance service on their local AT&T landline telephone bills. During the FCC's investigation, the FCC determined that AT&T Services received a fee from the companies for each directory assistance service charge that AT&T placed on its customers' bills. Discount Directory, Inc. and Enhanced Telecommunications Services submitted charges for thousands of AT&T's customers. However, the companies never provided directory assistance service. Neither Discount Directory, Inc., Enhanced Telecommunications Services, nor AT&T Services could provide proof that any of AT&T's customers agreed to be billed for the fake directory assistance service.

Under the terms of the settlement agreement AT&T Services agreed to issue refunds in the amount of \$6.8 million to all current and former customers that were charged for the fraudulent directory assistance services since January 2012. AT&T was also ordered pay a \$950,000 fine to the U.S. Treasury.

E. Public Safety Network

In February 2012, Congress enacted The Middle Class Tax Relief and Job Creation Act of 2012, containing provisions to create a nationwide interoperable broadband network for police, firefighters, emergency medical service professionals and other public safety officials.¹⁹⁸ The national network is governed by the First Responder Network Authority (FirstNet), an independent authority within the National Telecommunications and Information Administration (NTIA). FirstNet will hold the spectrum license for the network, and is charged with building, deploying, and operating the network, in consultation with Federal, State, tribal and local public safety entities, and other key stakeholders. The law provides \$7 billion in funding towards deployment of this network, as well as \$135 million for a new State and Local Implementation Grant Program administered by NTIA to support State, regional, tribal and local jurisdictions' efforts to plan and work with FirstNet to ensure the network meets their wireless public safety communications needs.

On March 30, 2017, FirstNet announced the selection of AT&T to build the network. The broad terms of the 25-year agreement between FirstNet and AT&T are:

- FirstNet will provide 20 MHz of telecommunications spectrum and payments of \$6.5 billion over the next five years to support the Network buildout – FirstNet's funding was raised from previous FCC spectrum auctions.

¹⁹⁸ Pub.L. 112-96, H.R. 3630, 126 Stat. 156, enacted February 22, 2012, <https://www.congress.gov/112/plaws/publ96/PLAW-112publ96.pdf>, accessed June 22, 2017.

- AT&T will spend about \$40 billion over the life of the contract to build, deploy, operate and maintain the network, with a focus on ensuring robust coverage for public safety.
- Additionally, AT&T will connect FirstNet users to the company's telecommunications network assets, valued at more than \$180 billion.

On June 19, 2017, AT&T and FirstNet released their state-by-state plans for the FirstNet network. Individual states will have 90 days to determine whether they want to opt in or out of the FirstNet state plans, which call for AT&T to build and operate the public safety network in that state. States and territories can spend up to 45 days to review the plans.

The states and territories will also have the opportunity to exchange feedback with FirstNet before an official 90-day clock starts for each state or territory governor to make its decision on the State Plan.

As governors opt-in, FirstNet and AT&T will kick-off the network build process. It's a decision that will:

- Transfer the financial, operational and technical risks of building, maintaining and upgrading the FirstNet network in the state or territory to AT&T for the next 25 years.
- Launch key network features that public safety has fought for, like quality of service and priority access to voice and data across the existing nationwide AT&T LTE network.
- Provide preemption over the AT&T LTE network – expected by year-end. This means fire, police and EMS will have dedicated access to the network when they need it.
- Deliver feature-rich services at competitive rates for first responders.

Public safety spent years advocating for a nationwide broadband network for first responders following the September 11, 2001, terrorist attacks. Major public safety organizations continue to voice their strong support for the FirstNet network today. The FirstNet State Plan comes fully funded and will require no additional financial resources from the states to deploy or operate the network. Florida is currently analyzing the advantages and disadvantages of its State Plan.

Appendix A. List of Certificated CLECs as of December 31, 2016

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

365 Wireless, LLC (n/k/a Brightlink Communications, LLC)	
382 Networks, Inc.	
A.Sur Net, Inc.	
Access One, Inc.	
Access Point, Inc.	
ACN Communication Services, LLC	
Airbus DS Communications, Inc.	
Airespring, Inc.	
Airus, Inc.	
ALEC, LLC	
Alternative Phone, Inc.	
American Telephone Company LLC	
ANEW Broadband, Inc.	
ANPI Business, LLC	
AT&T Corp.	
AT&T Florida	
AT&T Florida	
ATC Outdoor DAS, LLC	
Atlantic Broadband Enterprise, LLC	
Atlantis Communications LLC	
ATN, Inc.	
Backbone Communications Inc.	
Bandwidth.com CLEC, LLC	
Barr Tell USA, Inc.	
BCM One, Inc.	
** BCN Telecom, Inc.	
** BeCru	
Benchmark Communications, LLC	
BetterWorld Telecom	
Birch Communications, Inc.	
Birch Telecom of the South, Inc.	
Bright House Networks Information Services (Florida), LLC	
Broadband Dynamics, L.L.C.	
BroadRiver Communication Corporation	
Broadview Networks, Inc.	
Broadvox-CLEC, LLC	
Broadwing Communications, LLC	
BT Communications Sales LLC	
BullsEye Telecom, Inc.	
C3	
Callis Communications, Inc.	
	Campus Communications Group, Inc.
	** Cbeyond Communications, LLC
	CenturyLink
	Cincinnati Bell Any Distance Inc.
	Citrix Communications LLC
	City of Bartow
	City of Daytona Beach
	City of Lakeland
	City of Leesburg
	City of Ocala
	Clear Rate Communications, Inc.
	Cogent Communications of Florida LHC, Inc.
	Comcast Long Distance
	Comcast Phone of Florida, LLC d/b/a
	Comcast Digital Phone
	Comity Communications, LLC
	Communications Authority, Inc
	ComNet (USA) LLC
	Comtech21, LLC
	Conterra Ultra Broadband
	Convergia, Inc.
	CoreTel Florida, Inc.
	Cox Florida Telecom, L.P.
	Crexendo Business Solutions, Inc.
	Crosstel Tandem, Inc.
	Crown Castle NG East LLC
	Crown Castle NG East LLC
	Custom Network Solutions, Inc.
	Custom Tel, LLC
	Dais Communications, LLC
	Dedicated Fiber Systems, Inc.
	Dialtone Telecom, LLC
	DIGITALIPVOICE, INC.
	dishNET Wireline L.L.C.
	DSCI, LLC
	EarthLink Business
	EarthLink Business
	EarthLink Business, LLC
	Easy Telephone Services Company
	Electronet Broadband Communications, Inc.
	Embarq Communications

ENA Services, LLC
 eNetworks NC, LLC
 ENGAGE COMMUNICATIONS
 Enhanced Communications Network, Inc.
 Entelegent Solutions, Inc.
 ExteNet Systems, Inc.
 FairPoint Communications
 FiberLight, LLC
 FiberNet Direct Florida LLC
 First Choice Technology, Inc.
 First Communications, LLC
 ** FL Network Transport, LLC
 Florida Hearing and Telephone
 Florida Phone Systems, Inc.
 FPUAnet Communications
 France Telecom Corporate Solutions
 L.L.C.
 Frontier Communications of America,
 Inc.
 Frontier Communications of the South,
 LLC
 Frontier Florida LLC
 Frontier Florida LLC (f/k/a Verizon
 Florida LLC)
 Georgia Public Web, Inc.
 GigaMonster, LLC
 Global Capacity
 Global Connection Inc. of America (of
 Georgia)
 Global Crossing Local Services, Inc.
 Granite Telecommunications, LLC
 Great America Networks, Inc.
 GRU Communication Services/GRU
 GRUCom
 GTC Communications, Inc.
 Harbor Communications, LLC
 Hayes E-Government Resources, Inc.
 HD Carrier, LLC
 Home Town Telephone, LLC
 Hotwire Communications, Ltd.
 IDT America, Corp.
 inContact, Inc.
 INdigital
 ** iNetworks Group, Inc.
 INNOVATIVE TECH PROS
 Integrated Path Communications, LLC

InteleTel, LLC
 Intellectrace, Inc.
 Intellicall Operator Services, Inc.
 Intellifiber Networks, LLC
 InterGlobe Communications, Inc.
 InterMetro Fiber, LLC
 Internet & Telephone, LLC
 IPC Network Services, Inc.
 IPFone
 ITS Fiber
 ITS Telecommunications Systems, Inc.
 ITS Telecommunications Systems, Inc.
 J C Telecommunication Co., LLC
 Joytel Wireless Communications, Inc.
 Keys Energy Services
 Latin American Nautilus U.S.A. Inc.
 Level 3 Communications, LLC
 Level 3 Telecom of Florida, LP
 Lightspeed CLEC, Inc.
 Litestream Holdings, LLC
 Local Access LLC
 Local Telecommunications Services - FL,
 LLC
 Maryland TeleCommunication Systems,
 Inc.
 Mass Communications
 Matrix Telecom, LLC
 MCC Telephony of Florida, LLC
 McLeodUSA Telecommunications
 Services, L.L.C.
 MetTel
 Miami-Dade Broadband Coalition I LLC
 Micro-Comm, Inc.
 Mitel Cloud Services, Inc.
 MIX Networks, Inc.
 Mobilitie Management, LLC
 Mobilitie, LLC
 Momentum Telecom, Inc.
 MOSAIC NETWORKX LLC
 MULTIPHONER LATIN AMERICA,
 INC.
 ** Nebula Telecommunications of Florida
 LLC
 NEFCOM
 ** Network Billing Systems, L.L.C.
 Network Innovations, Inc.

Network Telephone LLC
 Neutral Tandem-Florida, LLC
 New Horizons Communications Corp.
 Norstar Telecommunications, LLC
 North American Telecommunications Corporation
 ** North County Communications Corporation
 NOS Communications, Inc.
 O1 Communications East, LLC
 Offramp, LLC
 One Voice Communications, Inc.
 Onvoy, LLC
 Opextel LLC d/b/a Alodiga
 PacOptic Networks, LLC
 PAETEC Business Services
 PaeTec Communications, LLC
 Paradigm Telecom, Inc.
 PBX-Change
 Peerless Network of Florida, LLC
 Phone Club Corporation
 Pioneer Telephone
 PowerNet Global Communications, Inc.
 Preferred Long Distance, Inc.
 Pro-Net, Inc.
 ** Pure Telephone Corp
 QuantumShift Communications, Inc.
 RCLEC, Inc.
 Reliance Globalcom Services, Inc.
 Rosebud Telephone, LLC
 Sage Telecom Communications, LLC
 SanTel Communications
 SBA DAS & Small Cells, LLC
 Seminole Telecom of Florida, LLC
 SH Services LLC
 SKYNET360, LLC
 Smart City Communications
 Smart City Networks, Limited Partnership
 Smart City Telecom
 Sonic Systems, Inc. of Maryland
 Southeastern Services, Inc.
 Southern Light, LLC
 Southern Light, LLC
 Southern Telecom
 Sprint Communications Company Limited Partnership
 Stratus Networks, Inc.
 Summit Broadband
 Sunesys, LLC
 Synergem Technologies, Inc.
 T3 Communications, Inc.
 Talk America Services, LLC
 TDS Telecom/Quincy Telephone
 ** TelCentris Communications, LLC
 Telco Experts, LLC
 TelCove Operations, LLC
 Tele Circuit Network Corporation
 Telepak Networks, Inc.
 Teleport Communications America, LLC.
 Telrite Corporation
 ** Telscape Communications, Inc.
 Terra Nova Telecom, Inc.
 TerraNovaNet, Inc.
 The Other Phone Company, LLC
 ** Time Warner Cable Business LLC
 TNE Telephone, Inc.
 Total Marketing Concepts, LLC
 Touch Base Communications
 Touchtone Communications Inc. of Delaware
 ** Tristar Communications Corp.
 US Signal Company, L.L.C.
 USA FIBER
 Vanco US, LLC
 Velocity The Greatest Phone Company Ever, Inc.
 Verizon Access Transmission Services
 Verizon Select Services Inc.
 Vitcom, LLC
 VoDa Networks, Inc.
 Vodafone US Inc.
 ** VOX3COM
 Voxbeam Telecommunications Inc.
 WAHL TV INC.
 West Safety Communications Inc.
 ** West Telecom Services, LLC
 Wholesale Carrier Services, Inc.
 Wide Voice, LLC
 WiMacTel, Inc.
 Windstream Florida, LLC
 Windstream KDL, LLC

Windstream Norlight, LLC
Windstream NTI, LLC
Windstream NuVox, LLC
Windstream Talk America, LLC
WonderLink Communications, LLC
WOW! Internet, Cable and Phone
WTI Communications, Inc.
XO Communications Services, LLC
YMax Communications Corp.
Zayo Group, LLC

Appendix B. Summary of Complaints by Carriers

Carrier		Docket Number	Description
Terra Nova Telecom	AT&T	N/A	Late payment charges
Terra Nova Telecom	AT&T	N/A	911 fees
Terra Nova Telecom	AT&T	N/A	Relay surcharge
Terra Nova Telecom	AT&T	N/A	LNP charges
Terra Nova Telecom	AT&T	N/A	Trunk cutover
Terra Nova Telecom	AT&T	N/A	Trunk outage
Terra Nova Telecom	AT&T	N/A	Local interconnection
Communications Authority	AT&T	140156-TP	Arbitration
Terra Nova Telecom	AT&T	N/A	Number portability
Terra Nova Telecom	Frontier	N/A	Billing
Terra Nova Telecom	AT&T	N/A	Tandem traffic

Glossary

4G	The short name for fourth-generation wireless, the stage of broadband mobile communications that will supercede the third generation (3G). A 4G network requires a mobile device to be able to exchange data at 100 Mbit/sec.
5G	5G is the coming fifth-generation wireless broadband technology. 5G will provide better speeds and coverage than the current 4G. 5G is set to offer speeds of up to 1 Gb/s for tens of connections or tens of Mb/s for tens of thousands of connections. 5G is not scheduled for launch until 2020.
Access Line	The circuit or channel between the demarcation point at the customer's premises and the serving end or class 5 central office.
Backhaul	In wireless networks, the connection from an individual base station (tower) to the central network (backbone). Typical backhaul connections are wired high-speed data connections (T1 line, etc.), but they can be wireless as well (using point-to-point microwave or WiMax, etc.).
Broadband	A term describing evolving digital technologies offering consumers integrated access to voice, high-speed data services, video on demand services, and interactive information delivery services.
Circuit	A fully operational two-way communications path.
CLEC	<i>Competitive Local Exchange Company</i> . Any company certificated by the Florida Public Service Commission to provide local exchange telecommunications service in Florida on or after July 1, 1995.
Communications Act 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.
DSL	Digital Subscriber Line, a technology that connects the user to broadband connections across a telephone network. It uses the same copper loops as wireline telephone service.
Facilities-based VoIP service	This term refers to 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.
FiOS	FiOS is Verizon's suite of voice, video, and broadband services provisioned over fiber optic cable directly to the customer premises. FiOS can currently provide Internet access with maximum download speed of 500 Mbps and upload speed of 500 Mbps.

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

