

Prepared Testimony of

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Testimony

Chairman Phillips-Hill, Minority Chair Santarsiero, and Honorable Members of the Committee, I appreciate having the opportunity to testify today on certain issues of broadband access and availability. As a farm owner and operator in Greene County I personally understand the challenges of wireline and wireless broadband access with sufficient download and upload speeds in rural Pennsylvania. As Pennsylvania Public Utility (Pa. PUC) Chairman Gladys Brown Dutrieuille and Commissioner Norman J. Kennard have previously testified, the availability of adequate, reliable, and affordable broadband access services is of crucial importance for the general economy and businesses — especially for the economy and the businesses in high-cost areas of rural Pennsylvania — public health and safety, and all levels of education and training.

In this testimony I will address the implementation of Chapter 30 of the Public Utility Code — generally referred to as the Chapter 30 law — as well as certain federal regulatory developments that affect broadband access services and their continuous evolution and availability within Pennsylvania. I will also address, in summary form, certain regulatory policy interactions that involve the Pa. PUC and the Federal Communications Commission (FCC). My testimony centers on retail broadband access services that are, or should be, available for end-user consumers and enable high-speed connections to the Internet.¹

A. Chapter 30 Law and Its Implementation

The Pennsylvania General Assembly through the November 2004 enactment of the new Chapter 30 law adopted an innovative approach for the deployment of broadband networks by incumbent local exchange carrier (ILEC) telephone companies and the universal availability of retail broadband access services. This Pennsylvania initiative, begun several years before the more recent federal policies that are being implemented by the Federal Communications Commission (FCC), and combined the concept of universal service with the requirement of broadband deployment and availability. The relevant legislative Declaration of Policy specifically states “that it is the policy of this Commonwealth to:”

Maintain *universal telecommunications service* at affordable rates while encouraging the accelerated provision of advanced services and *deployment of a universally available, state-of-the-art, interactive broadband telecommunications network*, in rural, suburban and urban areas, including deployment of broadband

¹ In the federal jurisdiction these end-user services are also referred as “broadband Internet access services” or “BIAS.”

facilities in or adjacent to public rights-of-way abutting public schools, including the administrative offices supporting public schools, industrial parks and health care facilities.

66 Pa. C.S. 3011(2) (emphasis added).

Consistent with the applicable statutory provisions of the Chapter 30 law, the Commission approved alternative regulation and network modernization plans (NMPs) for Pennsylvania ILECs. These NMPs contained both the relevant broadband deployment commitments and the accompanying incentive regulation and ratemaking mechanisms for these ILECs. The broadband deployment commitments were premised on the deployment of networks “using any technology” capable of delivering broadband access services with download speeds equal to or greater than 1.544 megabits per second (Mbps) and upload speeds equal to or greater than 128 kilobits per second (kbps, or 0.128 Mbps).²

Numerous Pennsylvania rural ILECs completed their Chapter 30 broadband deployment commitments by December 31, 2008. CenturyLink (The United Telephone Company of Pennsylvania) and Windstream PA (ex-ALLTEL PA) completed their respective broadband deployments by December 31, 2013. Verizon Pennsylvania LLC (Verizon PA, ex-Bell Atlantic Pennsylvania Inc.) and Verizon North LLC (Verizon North, ex-GTE North) completed their broadband deployment by December 31, 2015. The Commission has received the required network modernization plan update reports from all the ILECs. Although these ILEC deployments have been primarily based on wireline technologies (e.g., digital subscriber line or xDSL, fiber optic to the home or to the premises such as FiOS, etc.), wireless and satellite technologies have also been and are utilized in partnership with wireless carriers and satellite communications entities respectively.

The incentive regulation and ratemaking for most of the Pennsylvania Chapter 30 ILECs was based on price stability mechanisms incorporating price cap formulas. These formulas permitted and still enable these ILECs to obtain almost automatic annual revenue and rate increases for their regulated intrastate services that the Commission authorizes in accordance with the approved NMPs.³ The Commission authorized a cumulative total of \$1.23 billion in incentive revenue and rate increases for Pennsylvania’s Chapter 30 ILECs in the 2005-2017 timeframe. The annual application of the price

² The Chapter 30 law defines “Broadband” as: A communications channel using any technology and having a bandwidth equal to or greater than 1.544 megabits per second (Mbps) in the downstream direction and equal to or greater than 128 kilobits per second (Kbps) in the upstream direction. 66 Pa. C.S. § 3012.

³ These formulas rely on the annual percentage changes in the Gross Domestic Product Price Index (GDP-PI) and on statutorily prescribed productivity inflation offset values of 0% or 0.5%. *See generally* 66 Pa. C.S. § 3015(a)(1).

stability mechanisms for the Chapter 30 ILECs is continuing even after the completion of their respective network modernization programs and broadband deployment.

In accordance with the Chapter 30 law statutory directives a number of programs were also implemented:

- **Chapter 30 – Bona Fide Retail Request (BFRR) Program:** The Chapter 30 BFRR program involved the CenturyLink, Windstream, Verizon Pennsylvania, and Verizon North ILECs. This program accelerated broadband deployment within identifiable and qualifying broadband access service demand clusters within the service areas of these four (4) ILECs. This program has ended following the completion of the Chapter 30 broadband deployment commitments of these ILECs.
- **Chapter 30 – Broadband Outreach and Aggregation Fund (BOAF):** The BOAF was a grant program that was administered by the Pennsylvania Department of Community and Economic Development (DCED). The program was designed to assist communities with the demand aggregation for broadband access services (e.g., use of seed grants), and for relevant DCED outreach activities to public entities, anchor institutions (e.g., schools, health care facilities), and business and residential consumers. The program was funded by annual Pa. PUC fiscal assessments on the relevant and actual Chapter 30 NMP revenue increases of CenturyLink, Windstream, Verizon PA and Verizon North.⁴ This program ended following the completion of the Chapter 30 broadband deployment commitments of these ILECs. The total funding since the inception of the program equaled almost \$10 million.
- **Chapter 30 – Education Technology Fund (E-Fund) and Education Technology Program.**
 - The E-Fund and the related Education Technology Program were in place during the period of June 30, 2005 to June 30, 2011. 66 Pa. C.S. § 3015(d). The E-Fund and the related program administered by the Pennsylvania Department of Education authorized grants for the purchase or lease of “telecommunications services, infrastructure or facilities to establish and support broadband networks between, among and within school entities,” for the purchase or lease of related premises equipment, distance learning initiatives through the “foregoing broadband networks,” and for relevant technical support services. 66 Pa. C.S. § 3014(j)(2). The E-Fund was financed through certain fiscal assessments on the Chapter 30 non-rural ILECs (Verizon PA and Verizon North), and partially through the fiscal assessments of the BOAF mechanism. 66 Pa. C.S. §§ 3015(c)(3) and 3015(d)(3). A total of almost \$60 million was channeled to this program since its inception.
 - In a separate letter commitment to then Pennsylvania Governor Edward G. Rendell, Verizon committed to make additional contributions of up to \$3 million in each of the fiscal years during the 2005-2011 time period, “required to ensure that the” E-Fund amounts “available for disbursement in such fiscal year, after taking into account all other contributions made pursuant to assessments applicable to the fiscal year and any amounts remaining in the E-Fund from a prior fiscal year or years which is unencumbered or unexpended, amount to a minimum of \$10 million.”⁵ In addition, Verizon committed to

⁴ See generally 66 Pa. C.S. § 3015(c).

⁵ Letter of James V. O’Rourke, President and Chief Executive Officer, Verizon, to Governor Edward G. Rendell. See also Governor Rendell transmittal to the Pennsylvania House of Representatives, November 30, 2004, at 3.

provide certain equipment and service price discounts for K-12 schools in its service areas “that are eligible to participate in the Federal Universal Service Fund (USF) program and that purchase broadband services from Verizon under a minimum three-year contract.”

The network investments that were made and are being made by Pennsylvania’s Chapter 30 ILECs provide the foundation for the provision of retail broadband access services that exceed the statutory standards for 1.544 Mbps downstream and 0.128 Mbps upstream speeds. Networks and network technologies continue to evolve. The volume and the speed of broadband traffic that transits through a fiber optic cable in the transmission or distribution part of a wireline network can be upgraded through the replacement of appropriate electronics (without replacing the actual fiber optic cable).

B. Chapter 30 and Continuous Regulatory Oversight

The Commission continues to exercise regulatory oversight to monitor and enforce the carriers’ compliance with Chapter 30 consistent with the statutory mandates and the network deployment obligations of the Pennsylvania ILECs. This includes the adjudication of formal complaints before the Commission’s Office of Administrative Law Judge (OALJ), as well as the processing and resolution of informal complaints and/or appropriate inquiries by the Pa. PUC Bureau of Consumer Services (BCS). A Chapter 30 ILEC must make a broadband access service available to a customer within ten (10) business days after receiving a request for such service. 66 Pa. C.S. § 3014(b)(5). However, the Commission’s jurisdiction does *not* extend over the *pricing* of retail broadband access services which are currently classified by the FCC as interstate services for regulatory purposes.⁶

The Commission also continuously tries to educate consumers regarding the availability of broadband access services under the Chapter 30 law. The Commission has posted on its web site its “Pennsylvania Broadband Bill of Rights” explaining the relevant Pa. PUC jurisdiction and what broadband access services Pennsylvania end-user consumers can request and receive from Chapter 30 ILECs.⁷

As mentioned previously, an ILEC must supply the required retail broadband access service by “using any technology.” However, any such technology must meet the Chapter 30 statutory standards

⁶ The FCC classifies broadband Internet access services (BIAS) as jurisdictionally interstate for regulatory purposes. *In re Restoring Internet Freedom*, WC Docket No. 17-108, (FCC rel. Jan. 4, 2018), Declaratory Ruling, Report and Order, and Order, *slip op.* FCC 17-166 (FCC *Internet Freedom Order*), *appeals pending*. See also *In re Protecting and Promoting the Open Internet*, GN Docket No. 14-28, (FCC, rel. Mar. 12, 2015), Report and Order on Remand, Declaratory Ruling, and Order, *slip op.* FCC 15-24, 30 FCC Rcd 5601 (2015), ¶ 431, *slip op.* at 203 (FCC *Net Neutrality Order*); *aff’d United States Telecom Assoc. v. FCC*, (DC Cir., No. 15-1063 *et al.*, June 14, 2016, *slip op.*).

⁷ http://www.puc.state.pa.us/Telecom/pdf/Broadband_Bill_of_Rights.pdf.

of download and upload broadband speeds at a minimum of 1.544 Mbps and 0.128 Mbps respectively. Even when and where the broadband access service is provisioned through an ILEC's wireless affiliate or satellite communications partner the ILEC remains responsible under the applicable Chapter 30 statutory mandates to the end-user consumer regarding the availability and delivery of the service.⁸ Similarly, ILEC obligations for the continuous delivery of retail broadband access services under applicable Chapter 30 statutory provisions and relevant NMPs have not been modified in situations where certain ILEC regulated telecommunications services have been reclassified as competitive and price deregulated.⁹

The Commission retains considerable enforcement powers consistent with due process evidentiary requirements in the event of ILEC non-compliance with the statutory requirements of Chapter 30 regarding the ILECs' "interim and final 100% commitments for broadband availability in their amended network modernization plans." For example, in the "event that a local exchange telecommunications company is found by the commission, after notice and evidentiary hearings held on an expedited basis, to have failed to meet such an interim or final 100% commitment, then the commission shall require the local exchange telecommunications company to refund to customers in its next price stability filing an amount that is just and reasonable under the circumstances." 66 Pa. C.S. § 3015(a)(2). The Commission can also impose appropriate and separate civil penalties. *Id.*

C. The Significance of Federal Programs

1. Schools and Libraries Program (E-Rate Program)

The federal Schools and Libraries, or E-Rate Program, is a statutorily established component of the federal USF mechanism.¹⁰ It was authorized in the context of the federal Telecommunications Act of 1996 (TA-96) and was established via an FCC order in 1997. It is funded through assessments on the contribution base of interstate and international revenues of telecommunications carriers and other communications providers. The same assessments also fund the other three constituent programs of the federal USF mechanism.¹¹

Since its inception, the federal E-Rate Program has provided crucial funding support for the affordable availability of broadband access network facilities and services to schools and libraries

⁸ See generally *Petition of David K. Ebersole, Jr. and the Office of Consumer for a Declaratory Order*, Docket No. P-2012-2323362, Final Order entered February 28, 2013; Tentative Order entered December 26, 2012.

⁹ See generally 66 Pa. C.S. § 3016.

¹⁰ See, e.g., 47 U.S.C. §§ 254(b)(6), 254(h)(1)(B), 254(h)(5)(A).

¹¹ These programs include the High-Cost (Connect America Fund), Low-Income (Lifeline Services), and Rural Health Care.

across the nation and particularly in high-cost rural areas. The E-Rate Program is credited for having increased classroom broadband access and connectivity. In turn, such connectivity creates various educational and economic benefits through distance-learning, and continuous education. The FCC provides the following summary description of the E-Rate Program:

Eligible schools, school districts and libraries may apply individually or as part of a consortium. Funding may be requested under two categories of service: category one services to a school or library (telecommunications, telecommunications services and Internet access), and category two services that deliver Internet access within schools and libraries (internal connections, basic maintenance of internal connections, and managed internal broadband services). Discounts for support depend on the level of poverty and whether the school or library is located in an urban or rural area. The discounts range from 20 percent to 90 percent of the costs of eligible services. E-rate program funding is based on demand up to an annual Commission [FCC]-established cap of \$4.15 billion.

The E-rate program is administered by the Universal Service Administrative Company under the direction of the FCC. Specifically, USAC is responsible for processing the applications for support, confirming eligibility, and reimbursing service providers and eligible schools and libraries for the discounted services. USAC also ensures that the applicants and service providers comply with the E-rate rules and procedures established by the Commission [FCC].¹²

Pennsylvania, along with other states, is a beneficiary of the federal E-Rate Program. Although Pennsylvania is a net contributor state to the federal USF mechanism (it annually contributes more money than it receives in federal USF support under the four constituent programs), the following E-Rate federal support amounts have been received in recent years:

<u>Year</u>	<u>Amount</u>	<u>% Change</u>
2013	\$64,782,000	
2014	\$68,894,000	6.35%
2015	\$63,814,000	- 7.37%
2016	\$58,842,000	- 7.79%
2017	\$82,101,000	39.53%

Source: FCC, *Universal Service Monitoring Report*, Table 1.9 (Dec. 4, 2013; Dec. 22, 2014; Jan. 13, 2017; Apr. 13, 2018; May 31, 2019).

The depicted annual data indicate that the E-Rate Program funding support for eligible Pennsylvania Schools and Libraries increased at an annual compound growth rate of 6.10% during the 2013-2017

¹² FCC, E-Rate – Schools & Libraries USF Program, <https://www.fcc.gov/general/e-rate-schools-libraries-usf-program>.

time period. The FCC's 2019 *Universal Service Monitoring Report* indicates that since the inception of the E-Rate Program and as of June 30, 2018, the following federal USF support amounts were disbursed to schools and libraries in Pennsylvania:¹³

Library/Library Consortium	\$41,134,000
Schools	\$124,708,000
School Districts	\$929,896,000
Other Consortium	\$146,655,000
<hr/> Total	<hr/> \$1,242,393,000

The FCC modernized its E-Rate Program and governing regulations in 2014 through its *Second E-rate Modernization Order*.¹⁴ The FCC's *Second E-rate Modernization Order* accomplished a number of goals that include but are not limited to:

- Increased the E-Rate Program budget cap to \$3.9 billion and indexed it to inflation.
- It facilitated better options for schools and libraries to purchase high-speed broadband access connections. Related actions were designed to reduce the rural broadband connectivity gap and increase the affordability of broadband access network connections and services.
- It made options available for the construction of dark fiber (unlit, non-active fiber optic circuits) and its funding support from the E-Rate Program while maintaining certain competitive safeguards with the availability of lit fiber (active fiber optic circuits).
- It permitted applicants to seek and obtain E-Rate Program funding support for the self-construction of high-speed broadband access networks under certain safeguards.

It should be noted that the Pa. PUC does not have direct involvement with the federal E-Rate Program as these federal funds are disbursed directly to the individual entities in accordance with the E-Rate Program requirements. However, the Commission does certify or otherwise exercises regulatory oversight over incumbent and competitive telecommunications carriers that may be or are involved in the provision of telecommunications and broadband access services to schools and libraries under the auspices of the federal E-Rate Program. In this respect and within the scope of the Commission's jurisdiction, the Pa. PUC becomes formally and informally involved when issues of preserving adequate, reliable, reasonable and safe services to schools and libraries need to be resolved. For example, such regulatory intervention has been exercised when Commission certified public utilities that provide telecommunications and broadband access services to schools and libraries under the E-Rate Program decide to cease their operations and exit the Pennsylvania marketplace through the formal abandonment application process before the Pa. PUC.

¹³ FCC, *Universal Service Monitoring Report*, Table 4.2, p. 41, May 31, 2019.

¹⁴ *In re Modernizing the E-rate Program for Schools and Libraries; Connect America Fund*, WC Docket Nos. 13-184 & 10-90, (FCC rel. Dec. 19, 2014), Second Report and Order and Order on Reconsideration, *slip op.* FCC 14-189.

It follows that the continuous availability of funding support for Pennsylvania schools and libraries through the E-Rate Program depends on the level of funding for the overall federal USF mechanism. The Commission is keenly interested in FCC actions that affect both the overall funding level of the federal USF and its contribution base. Because of the Pa. PUC's regulatory responsibilities, its attention is primarily focused on the preservation and enhancement of universal service under the High-Cost and Connect America Fund support funding that is available for telecommunications carriers operating in Pennsylvania. This federal funding support also provides resources for the expansion of broadband access network facilities and services to eligible locations within Pennsylvania under applicable federal download and upload speed standards. However, appropriate and timely attention should be paid to potential FCC actions that may affect the availability of support funding for *all* constituent programs of the federal USF mechanism including the E-Rate program.¹⁵ Such FCC actions can and do have a material impact on Pennsylvania's citizens, especially for those who live, work and study in rural areas of the Commonwealth that are deemed to be high-cost for the provision of telecommunications and broadband access services.

2. Federal Developments and Pennsylvania Broadband Deployment

Rapidly evolving telecommunications and computing technologies and the continuously rising demand for higher broadband access speeds have resulted in changes in governmental policies and standards that support the deployment of networks and the availability of related services. The FCC maintains a standard that focuses on a 25 Mbps download speed and a 3 Mbps upload speed (25 Mbps / 3 Mbps or 25/3) for fixed networks, e.g., wireline networks.¹⁶ The FCC has also expressed its disagreement "with those that argue that mobile services are currently full substitutes for fixed service" since "there are salient differences between the two technologies."¹⁷ As a consumer of mobile wireless voice and data services in a rural area of Greene County I can personally attest that this FCC assessment is right on point.

The FCC's reorientation of the high-cost support component of the federal USF mechanism that supports the deployment of broadband networks and access services under the Connect America Fund (CAF) initiative for qualified locations was initially premised on the broadband speed standard of

¹⁵ *In re Universal Service Contribution Methodology*, WC Docket No. 06-122, (FCC rel. May 31, 2019), Notice of Proposed Rulemaking, *slip op.* FCC 19-46, 84 Fed. Reg. 27570 (June 13, 2019) (FCC proposal to "cap" the overall funding support level of the federal USF mechanism).

¹⁶ *In re Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 17-99, (FCC rel. Feb. 2, 2018), 2018 Broadband Deployment Report, *slip op.* FCC 18-10, ¶ 15 at 6 (FCC 2018 Broadband Deployment Report).

¹⁷ FCC 2018 Broadband Deployment Report, ¶ 18, at 7.

10 Mbps for downloads and 1 Mbps for uploads (10 Mbps / 1 Mbps or 10/1). Naturally, the federal 25 Mbps / 3 Mbps and 10 Mbps / 1 Mbps broadband speed standards far exceed the corresponding 1.544 Mbps / 0.128 Mbps parameters that are contained in Pennsylvania’s Chapter 30 law.

The FCC’s CAF Phase II (CAF II) process has awarded certain cost model funding support amounts to Pennsylvania ILECs that are classified as federal “price cap carriers.” The majority of these Pennsylvania ILECs have accepted this CAF II support and they have been deploying broadband network facilities to the eligible locations under their corresponding statewide federal commitments.

FCC CAF II Model Support to Pennsylvania Federal Price Cap ILECs
Accepted Support (2015-2020)

<u>ILEC</u>	<u>Annual Amount</u>	<u>6-Yr Amount</u>	<u>No. of Locations</u>
CenturyLink	\$10,562,355	\$ 63,374,130	30,297
Consolidated Communic.	83,898	503,388	175
FairPoint Communications	155,937	935,622	467
Frontier Communications	3,891,252	23,347,512	11,031
Windstream	13,001,363	78,008,178	34,807
Subtotal	\$27,694,805	\$ 166,168,830	76,777

Declined Support

Verizon PA/North	23,270,820	\$ 139,624,920	64,620
Total	\$50,965,625	\$ 305,793,750	141,397

Source: FCC.

The CAF II support that was declined in Pennsylvania and in other states became the subject of an FCC nationwide auction. This took place despite the diligent efforts of the Pa. PUC (spearheaded by Vice Chairman David W. Sweet), and the Pennsylvania Department of Community and Economic Development (DCED) to keep as much of this declined CAF II support as possible within Pennsylvania prior to the auction. On August 28, 2018, the FCC announced the results of its “903” CAF II auction. Five winning bidders in Pennsylvania have been assigned a total CAF II auctioned support of \$56.83 million for a ten-year period, and they will be deploying broadband access network facilities and services to an additional 54,812 eligible locations under applicable federal parameters.

FCC CAF II Auction Results – Pennsylvania

<u>Winning Bidder</u>	<u>Annual Amount</u>	<u>10-Year Amount</u>	<u>No. of Locations</u>
Armstrong Tel. Co. – Northern Division	\$ 264,241.29	\$ 2,642,412.90	1,949
Tri-County Rural Electric Cooperative	3,232,622.83	32,226,228.30	7,015
Velocity.Net Commun.	23,001.60	230,016.00	39
Verizon Communicat.	168,728.38	1,687,283.80	709
Viasat, Inc.	1,994,511.99	19,945,119.90	45,100
Total	\$ 5,683,106.09	\$ 56,831,060.90	54,812

Source: FCC.

It should be noted that the FCC’s CAF II auction involved a total of 84,551 eligible locations, and not only the 64,620 locations where the Verizon ILECs declined the original CAF II cost model support. Thus, the FCC’s CAF II auction has allocated funding support to 64.83% of the eligible locations that were available in the beginning of the “903” auction process. Similarly, the total \$56.83 million of the CAF II auctioned support allocated to the winning bidders in Pennsylvania represents 40.7% of the original total CAF II cost model support amount that the Verizon ILECs declined (\$139.62 million).¹⁸

The Tri-County Rural Electric Cooperative, Inc. (Tri-County) provided a briefing to the Pa. PUC on September 20, 2018 on its deployment plans. Tri-County has formed its Tri-Co Connections, LLC affiliate that will be involved in the related broadband access network and services deployment in the Bradford, Lycoming, Potter, and Tioga Counties. This deployment involves 38 eligible locations in Bradford County, 1,116 in Lycoming County, 3,974 in Potter County, and 1,887 locations in Tioga County. The planned landline network involves the provision of fiber optic facilities to the premises or to the home (FTTP-FTTH) capable of delivering download broadband speeds of up to 1 Gbps (gigabits per second). Tri-County has also obtained further funding support for this project amounting to \$15.65 million from the Governor’s Office of Broadband Initiatives (OBI), and a \$1.5 million grant from the Pennsylvania Redevelopment Assistance Capital Program (RCAP).¹⁹ Tri-Co Connections has received certain regulatory approvals from the Pa. PUC including a designation as an eligible telecommunica-

¹⁸ Verizon was a winning bidder in the FCC’s CAF II auction for a selected number of eligible locations.

¹⁹ Tri-County Rural Electric Cooperative, Inc. and Tri-Co Connections, LLC, *Bringing Broadband to Rural Pennsylvania*, presentation to the Pa. PUC, September 20, 2018.

tions carrier (ETC) under applicable federal law and is now able to access the CAF II auction federal support funding.²⁰

The Governor's OBI is also providing additional funding support to Armstrong Telephone Company (\$1.29 million), and Velocity.Net Communications (\$112,198), two of the other Pennsylvania winning bidders in the FCC's CAF II auction.²¹ Armstrong Telephone Company's broadband deployment under the CAF II auction involves 64 locations in Crawford County, 1,876 locations in Erie County, and 9 locations in Mercer County. Velocity.Net's deployment involves 39 locations in Erie County. The Governor's OBI funding support involves broadband access services that meet or exceed a 100 Mbps download speed standard.

On August 2, 2019, the FCC issued its Rural Digital Opportunity Fund (RUDOF) proposal with an available federal support amount of \$20.4 billion over a 10-year period for the deployment of additional broadband access network facilities and services across the United States.²² Such services will have a baseline performance of 25/3 Mbps under federal standards. The relevant federal support amount will be made available through a multi-auction and competitive bidding process. The federal RUDOF initiative is of immediate and vital interest to Pennsylvania and the Commission is in the process of carefully studying the related FCC Notice of Proposed Rulemaking.

D. Broadband Access Is an Integral Part of the Universal Service Concept

The continuous deployment of broadband access networks and the availability of their services is a *joint* responsibility between the federal government and the states.²³ Similarly, the concept of universal service, which now incorporates retail broadband access services and not just basic voice communications capabilities, is a basic premise under both federal and Pennsylvania law. Thus, the continuous deployment of broadband networks and the corresponding availability of services are synonymous with the maintenance and enhancement of universal service for all Pennsylvanians.

However, the concept of universal service when it comes to broadband access networks and services is not limited only to issues of deployment. The issue of available and *affordable* broadband

²⁰ *Petition of Tri-Co Connections, LLC for Designation as an Eligible Telecommunications Carrier in the Commonwealth of Pennsylvania*, Docket No. P-2018-3005127, Order entered April 11, 2019; FCC Public Notice, *Connect America Fund Phase II Auction Support Authorized for 593 Winning Bids*, AU Docket No. 17-182, WC Docket No. 10-90, DA 19-769, August 12, 2019.

²¹ Governor's Office Press Release, *Governor Wolf Announces Broadband Expansion to Over 9,200 Rural Homes and Businesses*, September 20, 2018, <https://www.governor.pa.gov/governor-wolf-announces-broadband-expansion-9200-rural-homes-businesses/>.

²² *In re Rural Digital Opportunity Fund; Connect America Fund*, WC Docket Nos. 19-126 & 10-90, (FCC rel. Aug. 2, 2019), Notice of Proposed Rulemaking, *slip op.* FCC 19-77.

²³ *See generally* 47 U.S.C. § 1302(a).

access and telecommunications services is equally important for end-user consumers. For example, the federal USF mechanism Lifeline monthly credit of \$9.25 for eligible low-income consumers and households amounts to 24.35% of the standalone monthly price of \$37.99 for a 1.5 Mbps / 0.37 Mbps xDSL service offered in Pennsylvania with no download limitations. In comparison, the same \$9.25 Lifeline credit amounts to 18.50% of the standalone monthly price of \$49.99 for a 24 Mbps / 4 Mbps broadband access service that is provided through FTTH technology with no download limitations.²⁴ Population demographics and income distribution play a fundamental role for the subscribership to broadband, especially for fixed services at the federal target of 25 Mbps / 3 Mbps.²⁵

Existing federal and state mechanisms including the federal USF and the Pennsylvania USF have played an integral role in maintaining and enhancing the universal service concept with respect to conventional telecommunications services. On a going forward basis, both the federal government and the states are challenged to address the issues of broadband deployment and the availability of affordable services.

In the same venue, networks that provide both telecommunications and broadband access services must be reliable and resilient. For example, it is commonly understood that the same network facilities that provide broadband access and enable the downloading of video content can, and do, handle multiple types of other traffic including 911/E911 emergency calls. Thus, there is a critical infrastructure need that these networks operate in a reliable and resilient fashion. Network outages can degrade the adequacy, reliability, quality, and safety of telecommunications and broadband access services with potentially adverse results for public health and safety.

E. Conclusions

The Chapter 30 law initiative provided the incentive regulation and the technological foundation for the deployment of appropriate networks and retail broadband access services by Pennsylvania's ILECs. Technological evolution and the rising demand for both wireline and wireless broadband access services of ever higher speeds mandates continuous capital investment in physical networks in all geographic areas of the Commonwealth. This ongoing investment is critical for economic development, education, health care, and other necessary needs, particularly in rural Pennsylvania, and must be appropriately supported especially in high-cost areas. The federal CAF

²⁴ FCC, *2018 Urban Rate Survey*.

²⁵ The FCC's 2018 Broadband Deployment Report observes: "On average, the proportion of the population with access to each type of service [fixed terrestrial 25 Mbps / 3Mbps and mobile LTE with minimum advertised speed of 5 Mbps / 1 Mbps] is highest in counties with the highest median household income, the highest population density, the lowest poverty rate, and the lowest rural population rate." FCC 2018 Broadband Deployment Report, ¶ 62 at 33.

mechanism and the existing Commonwealth funding support initiatives (e.g., Governor's OBI), are important in this regard. However, adherence to the concept of universal service that incorporates broadband access will demand long-term solutions and corresponding federal and state support funding that addresses both deployment as well as the availability of affordable services.

I appreciate the opportunity to testify today and would be happy to address any of your questions.