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A Bridge to the American Dream: Revisiting the Digital Divide, Its Impact on Latinos, and Laws that Can Lead to Progress

By **Randy Abreu**, *CHCI-PepsiCo Foundation Law Graduate Fellow*

Abstract

Currently, a historic opportunity exists in the United States to base meaningful law and policies on bridging the Digital Divide. The Digital Divide refers to a societal paradigm in which persons live amongst an abundance of technological opportunities, yet lack affordable Internet access and digital literacy skills to succeed. Unfortunately, low-income, rural, and families of color — in particular, Latino families — disproportionately fall on the wrong side of the Digital Divide. If the United States effectively solves this problem, individuals will have the opportunity they need to improve their outcomes in education, employment, and health; ultimately improving their overall social mobility. This paper argues that disadvantaged families fall on the wrong side of the Divide because of the high cost and general lack of interest in the relevancy of high-speed Internet and proposes policies and legislation to bridge the Digital Divide.

As part of his New Deal agenda, former President Franklin D. Roosevelt recognized the significance of the dissemination of information and called for regulation of all forms of communications under one governmental agency.¹ The Communications Act of 1934 ('1934 Act'), created the Federal Communications Commission ('FCC' or 'The Commission'). The enabling statute of the 1934 Act tasked the FCC with regulating interstate commerce in communications in

order to make essential services available, affordable, and adequate "to all people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex."²

In the 1930s, Americans generally communicated through the use of the radio and telephone. With the integration of the "talking box"—the television—into mainstream society, that reality changed, as Americans were introduced to a medium of receiving information at home. In 1989, the Internet as we know it today was born. Now over a quarter century old, our Internet has indoctrinated itself into mainstream society as another medium of receiving information.

With this growth of receiving information media came opportunity for gaps to access. The Internet is no exception. The term "Digital Divide" refers to the reality that some individuals have access to the Internet while others do not.³ Low-income, rural, and families of color — in particular, Latino families — disproportionately fall on the disadvantaged side of the Digital Divide because of the high cost and general lack of knowledge and interest in the Internet.⁴

This white paper argues that the Digital Divide presents one of the most pressing issues affecting the general welfare and

economy of the United States. Congress must repurpose existing federal funds and establish clear policies and initiatives that will bridge the Digital Divide. Through these efforts, all Americans can access and utilize the Internet and spur a revival of the middle class.

The first section of this paper discusses the Digital Divide and society's increasing reliance on the Internet. The second section takes a critical look at how the Latino community is disproportionately impacted by the Digital Divide. The third section discusses the societal and economic opportunities created by bridging the Divide and highlights potential consequences by not doing so. The fourth section takes a look at existing initiatives and future opportunities in the public and private sectors that aim to bridge the Digital Divide. Finally, this paper concludes with legislative, regulatory, and policy recommendations that would expedite Internet access and digital literacy skills to the people who need it most.

"Communication Is the Key to Success" — Societal Divide in Digital Access & Adoption

As our contemporary society increasingly adopts new technologies from smart-phones to smart-homes, those who adopt find themselves in a far better^a position to engage civically, socially, and economi-

As education, employment, banking, civics, healthcare and other essential life tasks migrate to the Internet, every American deserves an equal opportunity to participate in and benefit from the digital society. Universal access to the Internet will be the foundation for a growing economy and middle class in the 21st Century.

cally, making the most of presented opportunities.⁵ Individuals on the wrong side of the Digital Divide face the realities of falling deeper into technological and economic inequality.^b

Policies that aim to narrow the Digital Divide are pursued in recognition of the fact that the opportunities afforded by Internet access should be accessible to every American, much like other universally available utilities such as water and electricity. Expanding Internet access plays an important role in the larger middleclass economic policy agenda, as it supports economic growth and expands opportunity to more Americans.⁶

Communications technology continues to evolve rapidly. Today, Americans use the Internet to communicate more frequently than traditional methods of landline telephones, television, and radios. According to the Pew Research Center, in 2000, 52 percent of Americans used the Internet to communicate.⁷ Now, a shift can be seen as various forms of communication exist over the Internet (Skype, Twitter, Facebook Messenger, LinkedIn, etc.), and nearly 3 in every 4 Americans rely on the Internet to communicate.⁸

The non-adopters

The Internet can have a dramatic impact on ones productivity and quality of life, as users have access to an incredible amount of information. An Internet connection allows individuals to communicate, collaborate, and transact globally in ways that were unimaginable even a few years ago.

The term “non-adopters” refers to those who are disadvantaged by the inequality of being on the wrong side of the Digital Divide. Though several reasons contribute

Figure 1: Reasons Why They Don't Use Internet

Just not interested	21%
Don't have a computer	13
Too difficult/frustrating	10
Don't know how/Don't have skills	8
Too old to learn	8
Don't have access	7
Too expensive	6
Don't need it / Don't want it	6
Think it's a waste of time	4
Physically unable (e.g. poor eyesight or disabled)	4
Too busy/Just don't have the time	3
Worried about privacy / viruses / spam / spyware / hackers	3
Summary of reasons	
Relevance (not interested + waste of time + too busy + don't need/want)	34%
Usability (difficult/frustrating + too old + don't know how + physically unable + worried about virus/spam/hackers/etc.)	32
Price (too expensive + don't have computer)	19
Lack of availability / Access	7

Source: Pew Research Center, Digital Divide 2015

to where and why a person falls on either side of the Divide, non-adopters cite four major reasons for not using the Internet: (1) relevance, as in not wanting or seeing a need to use the Internet; (2) cost; (3) difficulty, such as a lack of digital literacy skills needed for beginners to navigate a computer and the Internet; and (4) availability, as in a physical lack of access to high-speed Internet.⁹ Figure 1 displays the percentage of non-adopters that cite a specific factor as the greatest deterrent to Internet adoption.

Cost and availability can be bridged through initiatives aimed at developing new network connectivity technologies, and at providing low-income people opportunities to obtain affordable high-speed Internet. Relevance and difficulty can be bridged through digital literacy initiatives aimed at teaching non-adopters how to use a computer, and safely navigate the Internet. As education, employment, banking, civics, healthcare and

other essentials migrate to the Internet, every American deserves an equal opportunity to participate in and benefit from the digital society. Universal access to the Internet will be the foundation for a growing economy and middle class in the 21st Century. Congressional action needs to address all factors that contribute to the Digital Divide.

Latinos and the Digital Divide

Historically, there have been societal characteristics shared amongst those on each side of the Digital Divide. In 1995, the U.S. Department of Commerce published its first report on the Digital Divide and found alarming gaps between those who had access to the Internet and those who did not.¹¹ The report found that white, educated, and/or wealthy Americans were more likely to attain access to the new technology; whereas poor, rural, uneducated, non-English speaking, and/or Americans of color lacked such access.

When looking at U.S. households, Latinos fall on the wrong side of the income inequality divide which leads to non-adoption. Research shows that 72 percent of White households have high-speed Internet service, whereas 50 percent of Latino households have high-speed Internet service.¹²

Currently, non-adopters are divided from adopters by the same characteristics that separated Americans 20 years ago: ethnicity, income, education, and geographic location.^c

When looking at U.S. households, Latinos fall on the wrong side of the income inequality divide which leads to non-adoption. According to the Pew Research Center, 72 percent of White households have high-speed Internet service, compared to 50 percent of Latino households.¹² On income earnings, 88 percent of households earning \$75k or more have high-speed Internet service, but only 41 percent of households earning \$20k or less have high-speed Internet service. A recent report by the Pew Research Center shows that the median net worth of U.S. White households is \$142k while the median net worth of Latino households is just over \$13k.¹³ These figures reinforce a narrative of high cost of Internet access disproportionately marginalizing low-income communities. As policy considerations are made on revitalizing the middle-class, the cost of Internet access and its relation to low-income communities cannot be understated.

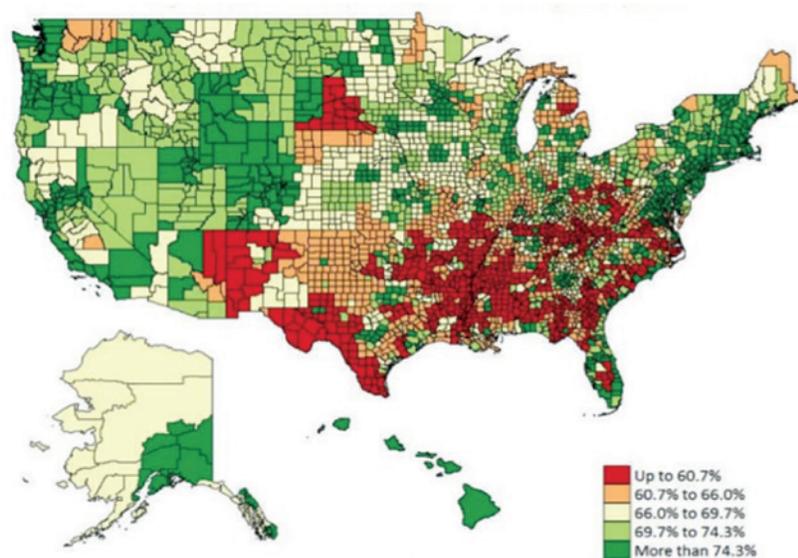
The figures are equally concerning when looking at Latino non-adopters and their educational attainment. Internet adoption data shows that in the U.S. only 3 percent of non-adopters have a bachelor's degree or higher, and 32 percent of non-adopters did not receive a high school diploma.¹⁴ A critical look at the Latino population reveals that Latinos are more likely to fall into this Digital Divide characteristic as well. U.S. Census data shows that 32 percent of all eligible-aged Latinos did not receive a high school diploma, nearly three times higher than the national aver-

age; Latinos are also less likely to attain a bachelor's degree or higher (13 percent) compared to the national average (29 percent).¹⁵ Though the Digital Divide disproportionately affects Latinos, the Internet can be leveraged to improve educational outlooks for all who are disadvantaged by the Digital Divide. Internet access and digital literacy can lead to online educational opportunities that help non-adopters rise to the middle-class.

When it comes to geographic location, the Digital Divide reveals a similar characteristic of those on the wrong side. (See figure 2). The locations in red indicate U.S. counties with a higher rate of non-adoption; whereas the locations in dark-green indicate U.S. counties with a lower non-adoption rate. A critical look into the

red counties reveals a portrait of America's non-adopters. For example, in southwest Texas, a large portion of the map is covered in red while two counties in dark-green are land-locked by red counties. Recent U.S. Census data show that the two counties in green, Ector County and Midland County, are 49 percent Latino and the median household income is \$57,199. Twenty-five of the counties in red surrounding Ector and Midland are nearly 75 percent Latino with a median household income of \$36,888. The percentage of Latinos increases and the household income decreases as you move toward counties at the U.S.-Mexico border.¹⁷ Similar disparities are common throughout the United States. Individuals of low-income, color, or those residing in small towns usually fall on the wrong side of the Digital Divide.

Figure 2: Internet Adoption in United States by County: 2013



Source: Pew Research Center, Digital Divide 2015 ¹⁶

“The Future Belongs To The Connected”

Jessica Rosenworcel, Commissioner, Federal Communications Commission.
January, 2016.¹⁸

If We Bridge the Digital Divide

Barriers in accessing critical government services can have devastating effects on the people who need help most.¹⁹ In order to gauge the personal experiences of non-adopters, I interviewed a 55-year-old woman from New York City. She is a recipient of assisted-housing funds, without which she would be evicted from her apartment. In 2015, the New York City Department of Housing, Preservation, and Development (‘HPD’) notified her that she was selected to participate in a pilot re-certification process, where she could enter her voucher-qualifying information through an online portal. According to HPD, the woman would not have to go to a centralized location, to stand in line for hours and fill out a paper re-certification form. The problem resides in the fact that this woman does not have a high-speed Internet connection at home nor does she own a computer to access the online portal. Furthermore, the woman lacks digital literacy skills, so even if she went to a local library, she would not know how to navigate the Internet to reach the portal to complete the application. To make matters worse, the letter she received stated a deadline to complete the process or risk losing the critical funds that she needs to keep a roof over her head. As we begin to move to a more efficient, electronic-style of government, and as we do, policy considerations must account for non-adopters.

If we bridge the Digital Divide, we ensure all persons have an opportunity to utilize the Internet to attain social mobility. Latinos will have full access to find jobs online. Employers have traditionally advertised openings through newspapers. Today, nearly every employer advertises on the Internet and a variety of job openings can be

found on the Internet. Further, online job applications typically require the applicant to upload and attach one or more documents. One can only complete this step if they have a computer with access to high-speed Internet and digital literacy skills.

If we bridge the Digital Divide, we ensure all persons have full access to educational opportunities. Latinos can apply for colleges and scholarships; parents can work during the day and attend online courses at night at home instead of school; K–12 students can complete their homework assignments and fully conduct research for projects in the comfort of their home, similar to students not plagued by the Digital Divide. A child’s ability to perform well in elementary, middle, and high school often depends on accessing the Internet for information.²⁰

A grand opportunity exists to foster greater coordinated care between patients and their healthcare professionals.²¹ If we bridge the Digital Divide, we guarantee all persons have full and immediate access to their medical records, and Latinos’ overall well-being would improve. The information and medical professionals that can provide critical information will always be accessible, resulting in fewer medical expenses to low-income Americans and a more lucrative healthcare marketplace for the American taxpayer. Recent technological innovations can strengthen patient-centered care and promote communications between health-care professionals and patients. These innovations in telemedicine include mobile medical devices and remote patient monitoring devices that can improve patient outcomes and reduce costs within the healthcare system.²² Persons on the wrong side of the Digital Divide do not have access to

their healthcare professional through this supplemental relationship.

The importance of Internet at home

A common argument against the need to provide affordable high-speed Internet at home is that Latinos are primarily smartphone users, where the Internet is alternatively available. However, while a smartphone provides mobile Internet access, a smartphone does not provide the necessary platforms to conduct critical tasks for applying to jobs, applying for federal aid, or applying for schools. One encounters barriers when applying to college or jobs on a smartphone; one cannot easily utilize a smartphone to locate scholarships and grants and apply for them immediately; and if they are on a data plan, one certainly cannot complete large research projects or stream long videos on a smartphone. Today, one needs high-speed Internet at home and on the go.

Looking forward, a society based on connectivity to the Internet, often referred to as the Internet of Things,²³ lies on the horizon. Our communication networks are evolving to 5G technology, and all devices will soon be able to communicate with each other instantly. Wearables, fitness and healthcare devices, autonomous driving cars, and home and office automation will soon be critical necessities to succeeding in this digital century. A smart-home will have a security system which one can monitor remotely from their smartphone, wearable or car, resulting in ease of mind and certainty that one’s dwelling, children, and/or pet is safe from intruders, fires, and hazards. A smart-home will have a connected thermostat and lighting system that can remotely adjust temperatures and lighting according to external external conditions lowering energy costs and consumption.

ConnectHome acts as another government program that needs Congressional support to efficiently succeed. With effectively no operating federal budget, the program that places low-income Americans on the right track to progressing in life may never take off.

The ways in which the Internet can improve one's outlook is seemingly endless. Non-adopters, however, must first acquire the foundational tools to one day be able to utilize the fruits of this technology and not be left behind.

Current Digital Divide Initiatives Need Streamlined Support

Currently, several government programs exist that individually aim to begin bridging the Digital Divide. The Broadband Technology Opportunities Program, ConnectHome, and the Universal Service Fund are federal programs with a goal to bridge the Digital Divide. These programs also present opportunities for technology procurement to assist the government and private sector in expediting Internet access to all.

The Broadband Technology Opportunities Program ('BTOP') is a federal initiative aimed at bridging the Digital Divide. A product of the 2009 Stimulus, BTOP promotes the development and adoption of high-speed Internet throughout the United States. The United States Congress appropriated \$4.7 billion for the National Telecommunications and Information Administration (NTIA) to establish and administer BTOP. NTIA, an agency of the U.S. Department of Commerce, awarded nearly 300 grants to projects that deploy and upgrade network infrastructure, and projects that establish or reinforce local digital literacy institutions.²⁵

The City of New York's 'Connected Communities' project received nearly \$14 million in BTOP funding in 2010 to upgrade and expand computer centers throughout the City.²⁶ Connected Communities has provided open computer lab to more than

40,000 residents and access over one hundred thousand hours in basic Internet and computer use courses throughout New York City.²⁷ The New York Public Library reports, "the need for technology training is high across all library locations" and "there is a high demand for basic classes such as Introduction to Microsoft Word, Creating Resumes and Job-search Functions."²⁸ The demand for basic digital literacy training will increase as previous non-adopters bridge the Digital Divide. Congress can ensure sustained success by re-investing in BTOP and building on existing progress while targeting highly disconnected areas of the United States.

ConnectHome acts as another effective government program that needs Congressional support to efficiently succeed. With effectively no operating federal budget, the program that places low-income Americans on the right track to progressing in life may never take off. A product of the U.S. Department of Housing and Urban Development (HUD), ConnectHome works to bring high-speed Internet, technical assistance, and digital literacy training to underserved communities living in public and assisted housing across America.²⁹ ConnectHome exists today through a collaboration of public-private partnerships.³⁰ The partners work to increase Internet access and digital literacy in America.³¹ However, the success of ConnectHome depends on continued investment from the private sector. Federal support to institutionalize and grow ConnectHome would sustain the program, providing an effective method to providing Internet access and digital literacy skills to the largest segment of non-adopters.

Another successful program, the Universal Service Fund ('USF') promotes universal access to communications services in the

U.S. Administered by the FCC, two of the four programs that make up the USF aim to provide all Americans access to reliable communications services at home: Connect America, and Lifeline. Connect America provides subsidies to companies that build communications infrastructure in parts of the country that are a high-cost for investors. Lifeline aims to help low-income Americans pay for their critical communication devices. Today, Lifeline provides recipients a \$9.25 monthly phone bill subsidy, or \$34.25 to persons who live on tribal lands. A proposal to allow eligible recipients the option to apply their subsidy to monthly Internet bills was approved by the FCC on March 31, 2016.³² As technologies evolve, Connect America and Lifeline must also evolve. USF funds for the two programs should be expanded to stimulate new technologies that can quickly connect America and help low-income Americans afford the high costs of Internet access.

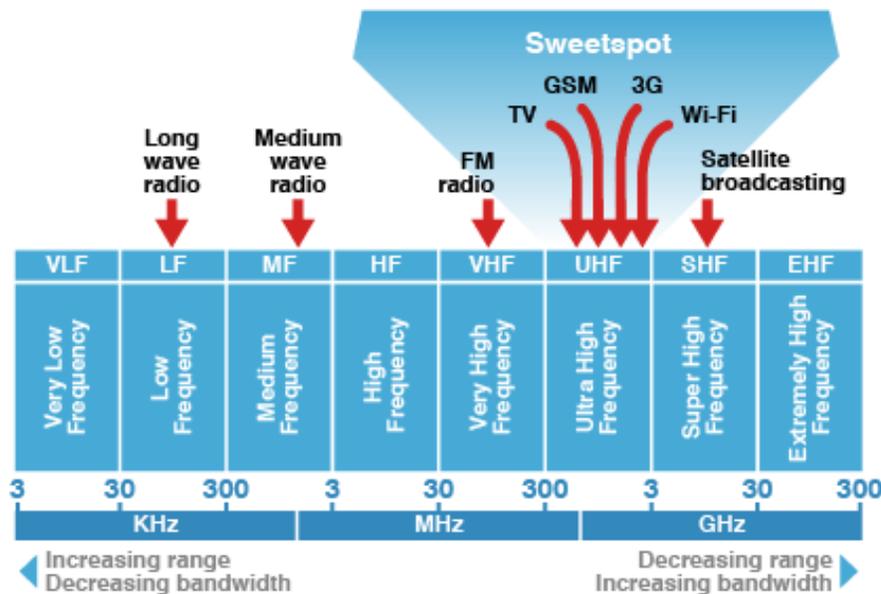
Technological innovations

As a point of emphasis, access to spectrum can spur the creation of new technologies that can improve societal connectivity. Spectrum is the frequency at which data travels. Access to spectrum, and high levels of spectrum allows an Internet provider to reach many people with faster speeds. Through spectrum, a chip in a device can communicate with another chip in another device, antenna, or satellite and transmit information. The FCC regulates the sale and use of our valuable spectrum. Currently, an industry need for the Government to allocate more spectrum exists.³³ Efficient spectrum policies can allow public or private entities to create innovative tools that help bridge the Digital Divide. Making available and allocating a large amount of higher spec-

“Today, High Speed Broadband Is Not A Luxury, It’s A Necessity.”

Barack Obama, President, United States
January 14, 2015³⁸

Figure 3: Examples of Allocated Spectrum Uses



Source: BBC News

trum frequencies will relieve the current spectrum crunch.

Satellite Internet provides one technological innovation that can help non-adopters access affordable and reliable Internet at home. Satellite companies utilize spectrum to provide Internet access to remote areas.³⁴ Today, satellite Internet providers are seeking access to higher levels of spectrum as they prepare to launch satellites that can provide high-speed Internet to targeted communities and offer services to neighborhoods that lack access.³⁵

‘Mesh networks’ represent another example of innovative technologies that can solve the cost and availability factors for Internet access. A wireless mesh network is a network system where a few Internet connections can be shared throughout a neighborhood, creating an open connec-

tion to the Internet for everyone within reach. In Greece, members of a rural community built their own mesh network, successfully providing Internet access to everyone within reach.³⁶ Thanks to the mesh network, local farmers can now expand their knowledge of crops, and local doctors can access National Health Service servers. In United States, a startup company established a mesh network in a Philadelphia neighborhood that is able to provide free Internet access to up to 60 users at a time.³⁷ Mesh networks provide an inexpensive route to providing Internet to the disconnected. If supplied enough spectrum, new technologies, including mesh networks, can provide affordable alternatives for Internet connection.

Recommendations

To address the Digital Divide, the United States Congress should exercise its power to stimulate commerce and enact legislation that makes effective use of existing Federal funds and programs. In this push, the Congress must simultaneously enact clear policy goals for the efficient use of public funds. The following recommendations are aimed at providing all Americans access to Internet services and digital literacy courses while ensuring taxpayer money is spent in an efficient way that stimulates the economic growth of the middle-class.

1. Re-Purpose Existing Funds for BTOP and ConnectHome

In 2015, the United States Congress allocated \$3.8 trillion in mandatory and discretionary spending, of which nearly \$140 billion went to research and development grants.³⁹ Existing, but outdated, federal funds should be repurposed to support BTOP and ConnectHome.

a. Provide funding for BTOP

Building upon the successes of the 2009 Stimulus which established BTOP, a second influx of Federal funds should be appropriated to the program. Streamlined policy goals should be included as amendments to the bill which direct the NTIA to prioritize grants for local community applicants seeking to provide digital literacy courses to residents. For example, priority for new BTOP grants should go to projects that develop and implement digital literacy courses in low-income and rural communities. Digital literacy courses should include basic computing such as familiarity with email, Microsoft Word, and navigating the Internet for social mobility.

As technology evolves rapidly, the ills of the Digital Divide may readily be solved by technology that does not exist yet. As such, the interest of the taxpayer lies upon Congress to revisit the Digital Divide every two years.

b. Provide funding for ConnectHome

Digital literacy initiatives within public and assisted housing units should be a priority when allocating Federal funds to ConnectHome. Supplying public and assisted housing with running water, electricity, and high-speed Internet is key to the foundation of a thriving and successful middle-class. Teaching effective use of high-speed Internet also ensures that taxpayer funds are used appropriately. Federal funding for ConnectHome will institutionalize the program while ensuring the funding effectively bridges the Digital Divide.

2. Modernize the Universal Service Fund

Funding for the USF is collected from telecommunications companies, which typically pass the cost on to the consumer's monthly bill. Consumers should be assured that their money is directed to a program that effectively completes its goal of providing access to advanced telecommunications and information services to all regions of the Nation.⁴⁰

a. Connect America

As Republican FCC Commissioner Ajit Pai notes, a critical look at the effect of the Connect America fund reveals a lack of effective spending to solve the Digital Divide issue in rural communities.⁴¹ Congressional legislation should modernize the role of Connect America in the Universal Service Fund by repurposing a portion of existing Connect America funds. Re-purposed funds should be awarded as grants for entities that can provide proven, innovative ways to connect rural and tribal communities to the Internet.

b. Lifeline

Reliable high-speed Internet proves expensive and the current \$9.25 subsidy is unlikely to quell financial restraints to Internet adoption. In fact, non-adopters concerned with cost say they would be willing to pay, on average, \$25 per month for high-speed Internet access.⁴⁵ The FCC should apportion broadband Lifeline subsidies as a percentage of the monthly bill so that qualifying low-income Americans pay not more than \$25 per month for high-speed Internet service. As Democratic FCC Commissioner Mignon Clyburn points out, those who are low-income, disabled, and live in rural or tribal-lands fall on the wrong side of the Digital Divide because affordable Internet service is still a challenge.⁴² On March 31, 2016, the FCC expanded Lifeline subsidies of \$9.25 a month to Internet subscriptions.⁴³ However, a proposal in the rule—and the subject of much debate—asked for public input on how to make broadband Lifeline affordable.⁴⁴ The enacted rule does not go far enough to ensure low-income Americans have affordable access to high-speed Internet service at home. A successful Lifeline program would afford low-income Americans 25Mbps download speeds at \$25 per month.

3. Spectrum Allocation Policy

The Federal government currently regulates the amount and type of spectrum that may be used by any given entity. Currently, Congress heeds the call to make more spectrum available for commercial use in the form of cell phone data.⁴⁶ The FCC currently finds itself in the process of making greater spectrum available for the public to encourage the development of very high-speed Internet to support future

5G systems.⁴⁷ But, a greater leap is justified. Government-owned spectrum should be made available, firstly, to purchasers that will utilize a significant portion of their spectrum to provide Internet services to underserved communities. In this push, corporations will compete for valuable spectrum while developing new technologies that solve one of our country's biggest threats to a stable economy; the lack of reliable and affordable Internet access in our rural communities.

4. Revisit the Digital Divide Bi-annually

As technology evolves rapidly, the ills of the Digital Divide may readily be solved by technology that does not exist yet. Thus, the interest of the taxpayer lies upon Congress to revisit the Digital Divide every two years. The root causes of the Digital Divide, the characteristics of the most effected by the Digital Divide, and recommendations to bridge the Digital Divide should be addressed at every bi-annual convening.

Closing the gap—between those who experience the social and economic benefits from Internet use, and those who do not—will require further efforts to reduce barriers to digital access and literacy. When our government acts upon the urgent necessity to provide these common necessities to all Americans, the purpose of the Communications Act will be achieved in the 21st century, and only then, will we realize the call to action in the 1934 Act to make communications available, affordable, and adequate to all people of the United States.

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