**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, DC 20554**

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| In the Matter of | ) | |
| Lifeline and Link-Up Reform and Modernization | ) | WC Docket No. 11-42 |
| Telecommunications Carriers Eligible for Universal Service Support | ) | WC Docket No. 09-197 |
| Connect America Fund | ) | WC Docket No. 10-90 |
| Universal Service Contribution Methodology | ) | WC Docket No. 06-122 |

# COMMENTS OF FREE PRESS

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## EXECUTIVE SUMMARY

Free Press fully supports the Commission's proposal to improve and modernize Lifeline.[1] Since its inception in 1985, Lifeline has been an indispensable tool to aid in achieving the Communications Act's goal of ensuring that "low-income consumers . . . have access to telecommunications and information services . . . ."[2] This program is a proven success. It has prevented millions of low-income families from needlessly losing telephone service due to inability to pay, and it has protected these Americans from having to forgo other necessities in order to maintain access to this essential telecommunications service.

As a nation, we've made great strides closing the telephony adoption gap. This progress is due to many factors, including Lifeline, along with increased market competition as well as technological advances. Yet despite this progress, small but significant divides remain. The most notable is the income-related gap. Despite the availability of Lifeline, the telephone adoption level for all Lifeline-qualifying households is more than 3 percentage points lower than the level observed for non-qualifying households.

An even larger divide persists in home broadband adoption. To date, the Commission's focus on the digital divide has largely been confined to policies that help ensure universal availability of broadband networks in rural America. While this effort is needed, the problem of the low-income digital divide certainly deserves equal attention, as the size of this income gap problem dwarfs the rural-urban gap. For example, networks capable of downstream speeds up to 10 megabits per second are available to 99.9 percent of urban Americans vs. 96 percent of rural Americans. In contrast, according to the most recent Census estimates, 94 percent of households with annual incomes above $100,000 have home high-speed Internet, versus 46 percent of those with annual household incomes below $20,000. Even among broadband adopting homes, there are differences in the type of technology adopted based on the household's income. Low-income broadband homes are more likely to have DSL and less likely to have cable modem or fiber-optic access than are the highest-income broadband homes. And low-income broadband homes are more likely to rely solely on mobile services as their only means of home Internet access.

**If the Commission wishes to "increase competition and innovation in the Lifeline marketplace," it should allow Lifeline consumers to fully participate in the entire marketplace. This means making the Lifeline subsidy fully portable to all telecommunications services, including broadband.**

The gap in telephony adoption, while significant, is substantially smaller than it was a decade ago. This improvement is directly due to changes in the marketplace, and to the Commission's prior policy shifts that made the Lifeline program responsive to these changes. As

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[1] *In the Matter of Lifeline and Link Up Reform and Modernization; Telecommunications Carriers Eligible for Universal Service Support; Connect America Fund*, WC Docket Nos. 11-42, 09-197, 10-90, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, Second Report and Order, and Memorandum Opinion and Order, 30 FCC Rcd 7818 (2015) ("*2015 Lifeline NPRM*").

[2] 47 U.S.C. § 254(b)(3).

discussed herein, the Commission's expansion of Lifeline to wireless (and to carriers that provide wireless-only services) improved user utility and the overall effectiveness of the program. The result took program participation rate from just 21 percent in 2008 to 32 percent in 2014. This success stands in contrast to the modest gains seen following the Commission's 1998 expansion of Lifeline to consumers in all states, regardless of whether or not a state offered matching funds.

There is a lesson to be drawn from this contrast: The Lifeline program can only maximize its utility to users, and thus its effectiveness, if the Commission designs it to be flexible and enables users to decide what telecommunications services best suit their individual needs.

Consumers universally view telecommunications services as essential, but some users may find greater utility in particular services. Even within a single technology, different households will perceive different utilities for different service plans. Low-income households are no different in this regard. Like all families, low-income households have widely varying telecommunications needs. Restricting participation to rigid options undermines Lifeline's mission to make telecommunications more affordable. This is true in telephony, where some households would have benefited from a discount on a different service plan than the ones currently accessible through Lifeline. And it's certainly true when it comes to telecommunications generally, where some low-income households today may find no utility in voice service but high utility in Internet access.

Affordability is not just a matter of price, but also how a particular consumer perceives value in various offerings. Because the overarching goal of Lifeline is to make all telecommunications services more affordable to low-income Americans, and because affordability is directly related to an individual consumer's perceived utility of a service, we urge the Commission to structure Lifeline to be responsive to individual preferences.

The best way for the Commission to make Lifeline more responsive to the market and to individual consumer preferences is by enabling low-income Americans to fully participate in the marketplace. It can do this by making the Lifeline subsidy fully portable, so that a qualifying household can use that subsidy for the telecommunications services that best maximize the household's utility function and fits the family's needs. Allowing Lifeline participants to use the $9.25 monthly subsidy in this way will increase program effectiveness, enhance user utility, and produce a greater return on the USF investment.

**While a fully portable subsidy will greatly improve user utility and overall program effectiveness, the Commission faces substantial challenges in ensuring maximum program efficiency. Minimum service levels established through reverse auctions could help maximize the return of the Lifeline subsidy.**

The original purpose of the Lifeline program was to offset the impact of the Subscriber Line Charge on low-income consumers. The SLC is a fee levied by rate-regulated carriers to partially recover a portion of their local loop costs. Because these rates were regulated, it was possible at the time of Lifeline's creation for the Commission to ensure that the Lifeline subsidy was only used for its intended purpose – not used by the carrier to support monopoly-level

profits. Because the Commission does not currently regulate most telecom service rates – even for wireless voice, which always has been and today remains a Title II telecom service – it has no method to prevent a large portion of the Lifeline subsidy from becoming excess profit in an uncompetitive marketplace.

To deal with this complex problem in a manner that attempts to minimize waste of program resources and maximize user utility, we suggest a two-pronged approach. First, the Commission should conduct a reverse auction to see what minimum level of service carriers are willing to provide, either for $9.25 per month or at a lower price. Second, consumers with needs that exceed the minimum service levels should be able to apply the $9.25 monthly credit to any telecommunications service or telecommunications services sold in a bundle. This would better serve low-income consumers whose needs exceed whatever minimum is set and those who are unable to put together a "synthetic bundle" of subsidized minimum service level plans and unsubsidized plans in a cost-effective and affordable manner. Though a portable subsidy will better cater to individual consumers' utility functions (increasing affordability and potentially inducing more affordable options from carriers seeking to capture new customers), a portable subsidy even in combination with minimum service levels set through reverse auctions will not adequately solve the issue of the Lifeline funds going to excessive profits. But this approach is the best option until the Commission confronts the issue of poor competition and its impact on consumer welfare for all telecommunications users.

**Telecommunications services are essential services. It is inappropriate to measure the effectiveness of the Lifeline program simply through the lens of how many households would drop service in the absence of subsidy.**

It is well established, by academic studies and by expressed consumer preferences, that telecommunications services are viewed by consumers as essential. Many people would forgo other basic necessities before dropping their communications services. Thus it is simply wrong to measure the Lifeline program's effectiveness solely in terms of how many consumers would drop their service in absence of the subsidy. This is not the metric the Commission uses to judge the impact of the High-Cost fund. Nor do we as a nation measure the impact of other social service programs for essential goods in this manner. These programs exist to give the poor the ability to preserve their basic human dignity, all without having to make even more difficult choices than they already face on a daily basis about how to allocate their scarce resources.

Thus, we strongly urge the Commission to affirmatively recognize that the proper metric for measuring Lifeline's effectiveness is not just adoption but (1) affordability, measured by user utility; and (2) efficiency of the subsidy, measured by how many users and how much service can be supported at the lowest possible cost.

Yet Lifeline does indeed keep people on the network who would otherwise drop off in the absence of subsidy. We estimate that more than 1 million of the currently supported 13 million households would go without service in absence of the program. And this is only part of the story, as the estimate does not account for how the market might respond without the program. There is reason to expect that the loss of market stability provided by Lifeline, and the

resulting increased costs associated with serving a customer base that may churn at high levels, would reduce the number of carriers willing to market affordable services to the very poor.

We also note that though both are viewed as essential services, consumers are far more sensitive to changes in price for broadband than they are for telephony. This means that making the monthly Lifeline subsidy portable to broadband will induce a small but significant number of non-adopters to purchase broadband Internet access, with a far higher dollar-for-dollar increase than there would be in the more inelastic telephone market. Thus, if adoption remains a key metric for program effectiveness, allowing the existing subsidy to be used for broadband will greatly enhance this type of effectiveness.

**Changes to the Universal Service contribution methodology could significantly decrease overall broadband adoption, even if Lifeline support is expanded to broadband.**

In these comments we describe an analytical model that investigates the potential impact on overall broadband adoption of a broadband Internet access USF contributions fee, as well as its impact on adoption among low-income households. We estimate that extending the contributions base to broadband would result in a net loss of 2.7 million of the current near 91 million fixed-line broadband homes. Of these 2.7 million lost subscribers, 700,000 would come from the ranks of those homes who qualify for Lifeline. If broadband were added to the contributions base and Lifeline subsidies were made portable to retail broadband, we estimate that there would be a net loss of 1.7 million fixed line broadband-adopting homes. Just over 700,000 net new fixed-line broadband homes would be added from the population of Lifeline-qualifying homes, which, while a positive number, is not enough to offset the losses that would likely result from the fee. Those subscriber losses would occur across all income strata.

Thus, while this proceeding is not about contributions, it is prudent for the Commission to be very aware of the potential for all of its hard work in this proceeding to be undermined in the future if the wrong choices are made on contributions reform.

**The Commission must take other steps to increase affordability and competition.**

Lifeline is but one tool to address the issue of affordability. If the Commission's primary goal is to get as many people using broadband as possible, then the best thing it can do is take all possible steps to increase affordability for all broadband services.

The issue of affordability is deeply intertwined with the challenging problem of insufficient competition in markets that are ruled by natural monopoly economics. If the Commission wants to increase affordability, it cannot continue to sidestep the competition problem. It must implement policies that confront this problem. As was the case in Lifeline, there are lessons to be drawn from the development of competition in wireless markets. In these wireless markets, carriers that purchase wholesale services were the first to market offerings to low-income consumers, targeting a segment long ignored by the large facilities-based incumbents. However, no such wholesale market exists in wireline broadband. This represents a market failure that deserves regulatory attention – one that, if corrected, could vastly increase affordability both within and outside of the Lifeline program.

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## I. Introduction

Though we are one of the richest nations in the world, a staggering number of Americans live in poverty. One out of every five households lives on an income that falls below 135 percent of the poverty line. It is far too easy to lose sight of the reality behind this statistic. These are real people: actual families who play by the rules, work hard to provide for their children, yet struggle daily in ways that many of us cannot fathom.

Consider for example a young mother in Philadelphia making $8 an hour – an amount that is not enough to pay for childcare while she is on shift. She has next to no control over her hours, and in the rush to get to work and get home she doesn't have time to cook. Instead, she is forced to buy more expensive ready-made convenience store food for herself and her daughter. She's stuck living in a rental motel since she can't afford the security deposit on an apartment, but as a result she's paying more per month on housing. In bad months, she can't afford to buy new diapers. For this mother, having steady access to a phone so she can know when to come into work is a requirement.

Or stop to think about the family of four living in Detroit who scrapes by on $23,000 a year. For the parents in this household, raising two kids is expensive – and saving for next month's unexpected expenses is impossible, much less saving for college. Their apartment is small and inadequate, but they can't save up enough for a down payment on a house, even though it would be cheaper in the long run. When the car breaks down or a medical emergency arises, they have no financial cushion to fall back on. Though to many $10 a month seems like a trivial amount, to this family $120 extra a year could determine whether or not they are able to give their kids the benefit of showing up to school with the proper supplies.

Or what about a recent college-grad, saddled with debt, who has been struggling to get by as he looks for stable work. He found an apartment he can almost afford on minimum wage, but there's no bank serving his area, so he loses 5 percent of every paycheck on exorbitant fees charged to cash them. He sold his car to cover food costs, but riding the bus to job interviews can take hours, and sometimes it makes him late. If they raise bus fares, he may no longer be able to pay for phone service, which will make it even harder to find a new job.

There are millions of Americans like those described above who struggle each day to survive, and to whom a $9.25 monthly subsidy for essential telecommunications services is indispensable. While many of these families would find a way to keep essential telecom services if the Lifeline program did not exist, this is because of the fact that communications services are a basic necessity, not because the program is ineffective or unnecessary. Perhaps the struggling single mother would reuse wet diapers in order to afford a mobile phone in the absence of Lifeline. Perhaps the hardworking parents would send their kids to school without adequate winter clothing in order to scrape together enough funds to pay for overpriced but necessary DSL access services, so their kids could at least do their homework. And perhaps the debt-saddled college grad would skip meals in order to keep his pre-paid cellular service.

But are these the kinds of impossible choices we as Americans wish to see our neighbors make? Or would we as a nation rather help the poorest among us preserve their dignity, by ensuring that they have access to the communications services that are a requirement for basic living in today's society?

Fortunately, thirty years ago the Commission decided to help the poorest Americans maintain access to the telecom network through the creation of the Lifeline Program. This program has proven to be a successful tool for increasing telecom service affordability, and for

sparing millions of low-income Americans from having to make such unthinkable and nigh impossible choices about which necessities to forgo.

In 1985, the ability to receive and make local phone calls was the Lifeline to the outside world. Today, that Lifeline takes many forms. For some it remains the landline phone. For others, it is a mobile voice connection. And increasingly, for many people the most important connection to the world is broadband.

As shown by the proposals contained in the *2015 Lifeline NPRM*, the Commission fully recognizes the need for Lifeline to change in response to changes in the market, in technology and in consumer preferences. We support the Commission's efforts to modernize this invaluable program, and herein offer suggestions on how to maximize Lifeline's effectiveness and efficiency, so that the program can continue to help as many Americans as is needed.

## II. The Lifeline Program Is a Valuable Income Subsidy to the Poorest Americans. Lifeline Helps Ensure Uninterrupted Access to Telephone Service While Also Protecting Poor Families from Having to Forgo Other Necessities Just to Maintain Access to Essential Communications Services.

The Commission created the Lifeline program in 1985 to ensure that low-income consumers would not lose basic local telephone service as the country navigated the transition away from the national AT&T monopoly.[3] Under this monopoly, long distance charges were kept artificially high, with the excess returns used as a cross-subsidy to make local telephone service affordable. With the introduction of long distance market competition following the divestiture of AT&T, the Commission began to replace this system of implicit cross-subsidies with various intercarrier access fees and direct user fees, all to ensure the new local monopoly

[3] *MTS and WATS Market Structure; Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board*, CC Docket Nos. 78-72 and 80-286, Decision and Order, 50 Fed. Reg. 939 (rel. Jan. 8, 1985) ("*1985 Lifeline Order*").

Bell companies could recover costs and earn a regulated rate of return without dramatically increasing the rates for local service.

Acting on a recommendation from the Federal-State Joint Board ("Joint Board"), the Commission expanded the Subscriber Line Charge ("SLC"), a direct, non-traffic-sensitive charge for local carriers to levy on their customers to recover a portion of the cost of the local loop.[4] This newly expanded portion of the SLC was initially set at $1 per month for residential lines, increasing to a frozen level of $2 per month after one year.[5] The Joint Board and the Commission were concerned that even this increase in the price of local service could cause hardship for low-income users and potentially decrease telephone subscribership.[6] Thus, the Joint Board recommended, and the Commission adopted, a subsidy system for low-income users that became known as the Lifeline program. The initial form of the program was a 50 percent reduction in the SLC for qualifying households in states that matched this discount (thereby zeroing out the entire SLC for those households).[7] The program subsequently expanded, first to subsidize initial

[4] *MTS and WATS Market Structure; Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board*, CC Docket Nos. 78-72 and 80-286, Recommended Decision and Order, 49 Fed. Reg. 48325 (rel. Nov. 23, 1984).

[5] *See 1985 Lifeline Order* ¶ 3.

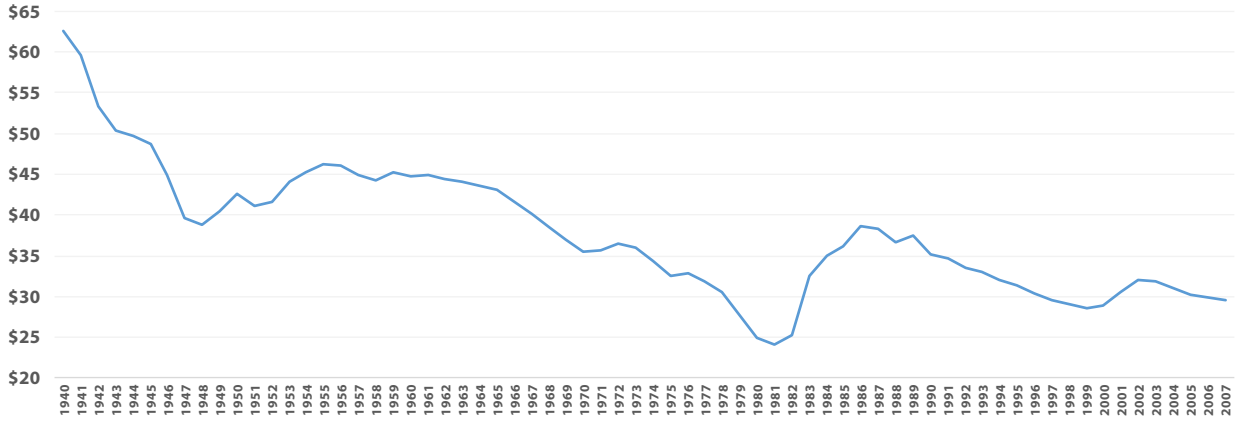
[6] The impact of the SLC was meant to be offset by a corresponding decrease in the price of long distance service. However, use of long distance was not uniform across all consumer populations, with those of limited means less likely to use long distance than wealthier consumers. That meant lower income consumers were more likely to see a net price increase as a result of the new SLC, because these customers would realize little to no offsetting savings on long distance services they did use in the first place.

[7] *See 1985 Lifeline Order* ¶ 6.

connection fees,[8] and later to make support available to consumers in all states whether or not the state matched the federal subsidy.[9]

In 1985, there was ample reason for the Commission to be concerned about the impact on the poor of any increased in local phone service costs. The nominal average monthly rate for a residential access line was $15.18 in 1984, more than 80 percent higher than it had been 5 years earlier, returning to a high not seen since before the 1973 recession (see Figure 1).[10] The imposition of a new $2 fee represented a double-digit percentage increase in the average cost of local phone service, an amount that the Commission felt could harm universal service.

**Figure 1: Average Rate for a Residential Access Line (2015-dollar value)**




*Source: FCC Trends in Telephony 2010, Table 13-3; Free Press calculations based on Bureau of Labor Statistics CPI values.*

[8] This became known as the "Link Up" program, which offset half of the initial connection fee for landline telephone service, up to $30.

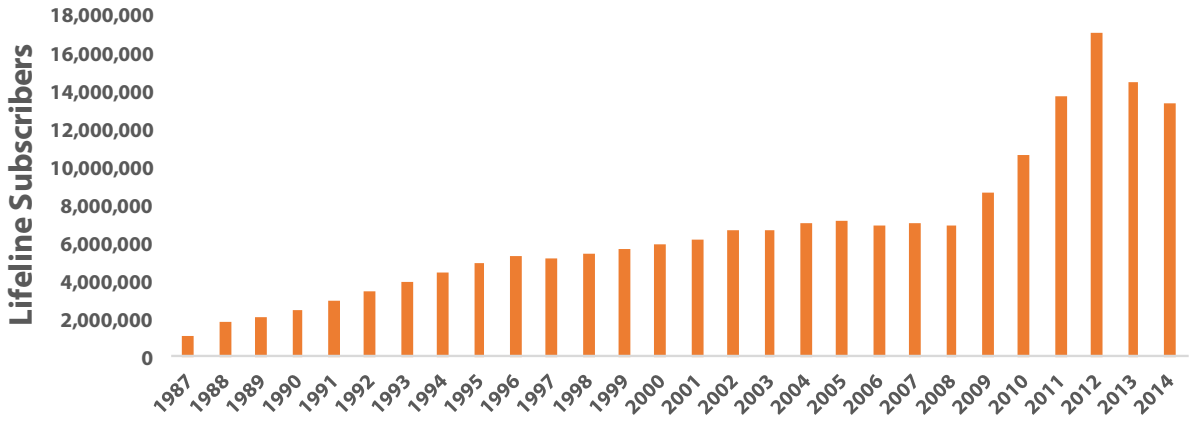
[9] *See Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, 8961, ¶ 346 (1997) ("*1997 Universal Service Order*"). The federal Lifeline program was initially funded via charges on interexchange carriers, collected by NECA (the National Exchange Carrier Association) and routed back to the local exchange carriers who were required to waive the SLCs for their qualifying low-income consumers.

[10] *See* "Trends in Telephone Service," Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission, at Table 13-3 (Sept. 2010) ("*Trends in Telephony 2010*").

Lifeline saw steady but measured growth during the years following its creation up until 1998, when as noted above the Commission expanded the program to all states whether or not a state contributed matching funds. Prior to that, from 1987 through 1997, the number of participants increased from 1.1 million to 5.1 million, a compound annual growth rate ("CAGR") of 17 percent (see Figure 2). During this time the inflation-adjusted program expenditures saw a CAGR of 26 percent, from $70 million in 1987 to $240 million in 1997 (see Figure 3). Thus the cost per-beneficiary only saw a modest inflation-adjusted increase during this period, from $1.92 per subscriber per month in 1987, to $3.86 in 1997 (see Figure 4). This amounts to a CAGR of 7.3 percent during the 11-year period, and a smaller 2.5 percent CAGR from 1988 to 1997.

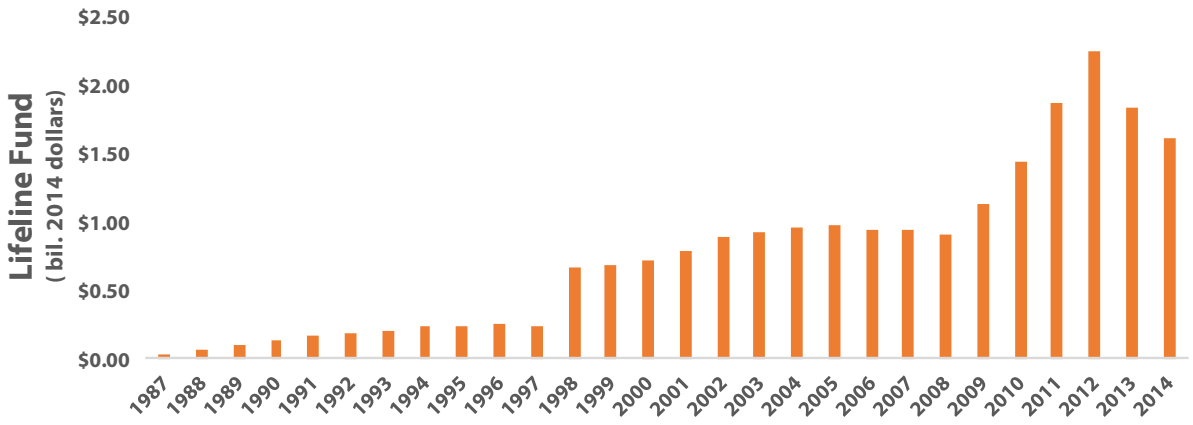
Following the 1998 expansion of Lifeline eligibility to low-income Americans in every state, the fund's annual disbursements nearly tripled, as did the monthly per-subscriber disbursements. However, the number of participants did not. That total number of beneficiaries simply continued a slow and steady growth rate even after the 1998 expansion, until the program was transformed in the late 2000s when the Commission began to permit wireless-only eligible telecommunications carriers ("ETCs") to collect program subsidies.

**Figure 2: Lifeline Program Participants (1987–2014)**



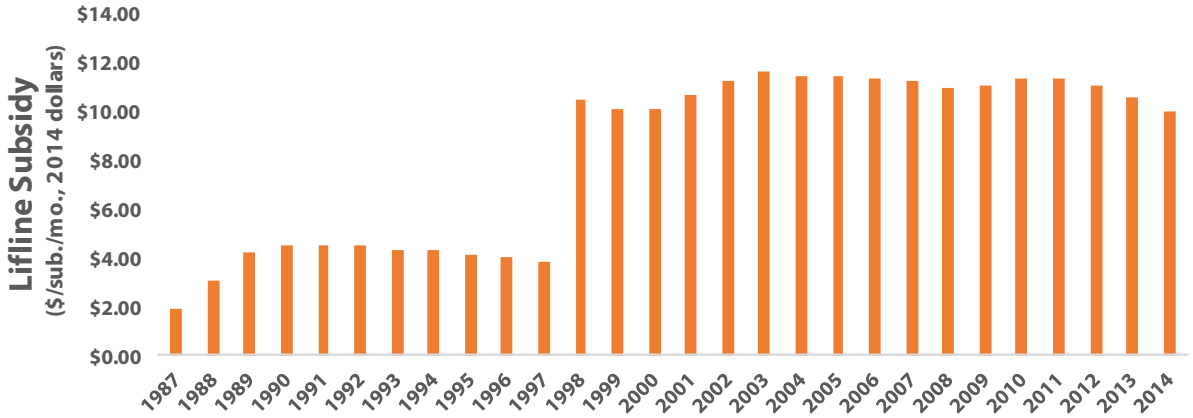

*Source: FCC, USAC*

**Figure 3: Lifeline Program Annual Disbursements, Inflation-Adjusted (1987–2014)**




*Source: FCC, USAC, Free Press estimates*

**Figure 4: Program Monthly Disbursements per Subscriber, Inflation-Adjusted (1987–2014)**




*Source: FCC, USAC, Free Press estimates*

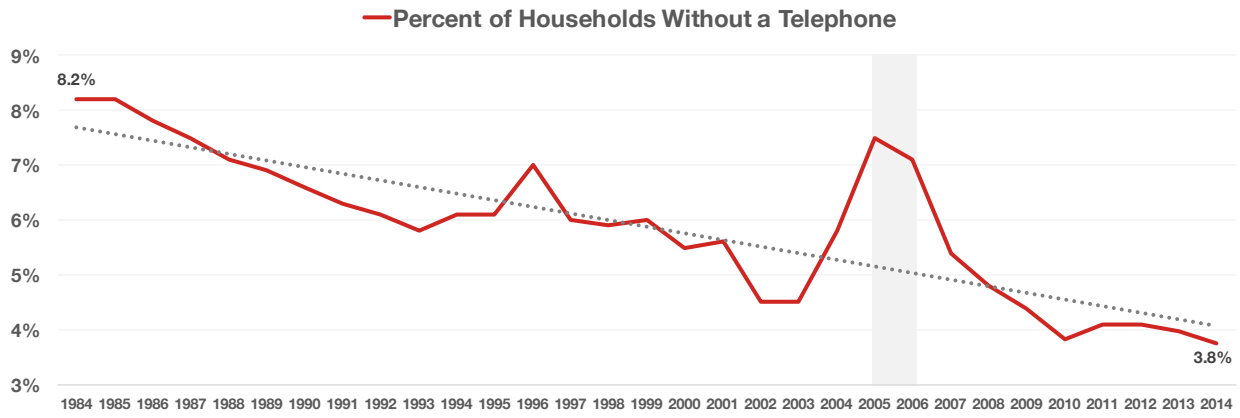
It is notable that the 1998 expansion of eligibility for federal subsidies to all consumers in all states, which occurred at the dawn of the cellphone era, did not produce substantial growth in program participation. From 1998 through 2008 the CAGR for program participants was just 2.4 percent, with the overall program distributions increasing at a CAGR of 3 percent. As we discuss below, the differences between the 1998 geographic expansion and the late 2000s expansion to wireless-only ETCs strongly suggest that a user's perceived utility of a service (in this case, how consumers value mobility vs. simple fixed connectivity) is a very important factor to account for

when optimizing program design. That is, a subsidy alone will not be effective if it is not subsidizing a service that people find very useful. In this regard, a program offering portable subsidies that enable users to express their preferences will be far more effective than a rigid, one-size fits all approach.

### A. Increased Market Competition, Technological Advances, and FCC Policies Such as Lifeline Have All Acted to Increase Telephone Service Affordability and Adoption, But Some Gaps Remain.

When the Joint Board first recommended the creation of a federal subsidy program, in order to offset the increased cost of basic telephone services caused by post-monopoly era regulatory reforms, more than 9 out of every 10 households had telephone service. Only 8.2 percent of U.S. homes did not. This level of non-adoption declined in subsequent years, reaching an all-time low of just 3.75 percent of homes not adopting telephone service by 2014 (see Figure 5).

**Figure 5: U.S. Telephone Non-Adoption (1984–2014)**




*Source: FCC, U.S. Census Bureau, Free Press estimates. Shaded area represents period following a change in the U.S. Census Bureau's survey instrument, and data from this period is likely inaccurate. Dotted line represents a linear fit of the data.*

Below we present our analysis of the Lifeline program's definite impact on this increase in telephony adoption, and our views on how to properly measure the effectiveness of this

program intended to make an essential service more affordable for the poorest households. Yet it is instructive to note that other factors have contributed to the increase in telephony adoption too.

One of these other factors is of course the observed decline in the price of local telephone service. From 1985 to 2007 the average monthly price of a residential access line decreased from an inflation-adjusted $36.12 per month to $29.54, an 18 percent decline. Much of this decline occurred even before the cellular telephone era that began in earnest in the late 1990s.[11] Between 1985 and 2000, for example, the monthly price for residential access already had declined 20 percent in inflation-adjusted terms (see Figure 1 above).

Another factor that may have contributed to the increase in adoption is the decline in long distance prices. Though overall household expenditures on telephone service (including local, long distance, and cellular) actually increased following the break-up of the AT&T monopoly, this is primarily due to the fact that usage of long distance vastly increased as the price for long distance minutes plummeted. However, the percentage of household expenditures devoted to telephony largely held constant. These factors combine to suggest an overall increase in affordability.[12]

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[11] At the end of 1995, CTIA reported 33.8 million cellphone subscribers in the U.S., a 13 percent population penetration level. By the end of 1998 this grew to 69 million subscribers, or a population penetration level of 25 percent. The cellphone penetration level crossed 50 percent by mid 2003, with approximately 148 million subscriptions out of a total population of 290 million. *See Trends in Telephony 2010* at Table 11-1; *see also* U.S. Census Bureau, Historical Population Estimates.

[12] Affordability is a concept that involves both the price of a good and the user's perceived utility of the good. In other words, a good can become more affordable to a population of users without changing price if the users find greater utility in the good. In the case of telephony, the overall average household monthly expenditures (local, long distance, cellular) increased from an inflation-adjusted $84.18 per month in 1985 to $101.17 by the end of 1999 (a period when the inflation-adjusted average local access rate decreased from $36.12 to $28.59). Average household expenditures on all telephony further increased to $105.42 in 2007 (the dawn of the mobile data era, and the last year of reported data). But this increase in total expenditures was accompanied by a large increase in use of local, long distance and wireless telephony. The

Adoption also likely increased as a result of new competition and new services, such as mobile Personal Communications Services ("PCS"), cable Voice over Internet Protocol ("VoIP") services, texting services, and all-in-one local/long distance plans. As we discuss in detail below, mobile services likely had a large impact on closing the telephony adoption gap. The mobility of cellphones and the text communications feature of SMS certainly increased the perceived utility of the product in comparison to wireline telephone service. Furthermore, during the early to mid-2000s, Mobile Virtual Network Operators ("MVNOs") increasingly marketed lower-priced mobile services to credit-challenged consumers.

As a nation, we've made great strides closing the telephony adoption gap, yet small divides remain even for telephone service. The income-related gap is one of these. More than seven percent of households with annual incomes below $20,000 do not have access to a telephone (neither wired nor mobile) within their home, and adoption levels increase as income increases (see Figure 6).

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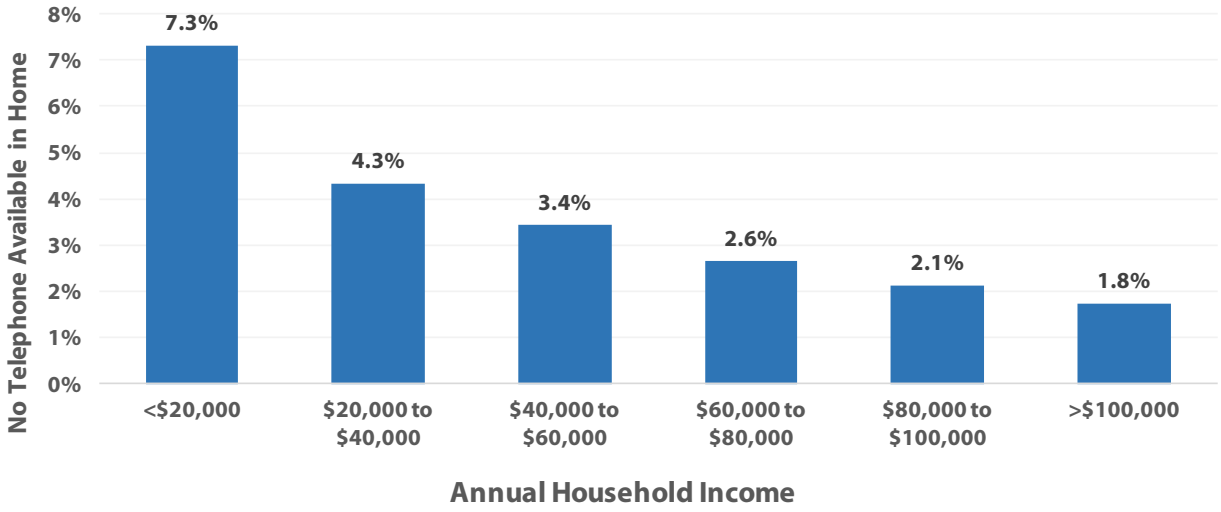
number of ILEC interstate switched access minutes increased from 167 billion in 1985 to a peak of 567 billion in 1999. From 1991 (the earliest year data is available) to 2000, the number of InterLATA Intrastate and Interstate billed access minutes increased from 404 billion to 792 billion. From 1985 to 1999 the average revenue per minute (inflation-adjusted) of interstate long distance declined from $0.64 to $0.16, declining again to just 8 cents by 2007. During this time, the overall percentage of household expenditures for telephony largely held constant, standing at 1.9 percent in 1985 and at 2.3 percent in 1999, then declining slightly to 2.2 percent in 2008. Thus, inflation-adjusted monthly telephony expenditures increased 20 percent from 1985 to 1999, as usage greatly increased but the proportion of household expenditures for telephony held constant. This suggests that user utility collectively increased, resulting in an increase in affordability. *See generally Trends in Telephony 2010.*

**Figure 6: U.S. Telephone Non-Adoption by Household Income (2014)**

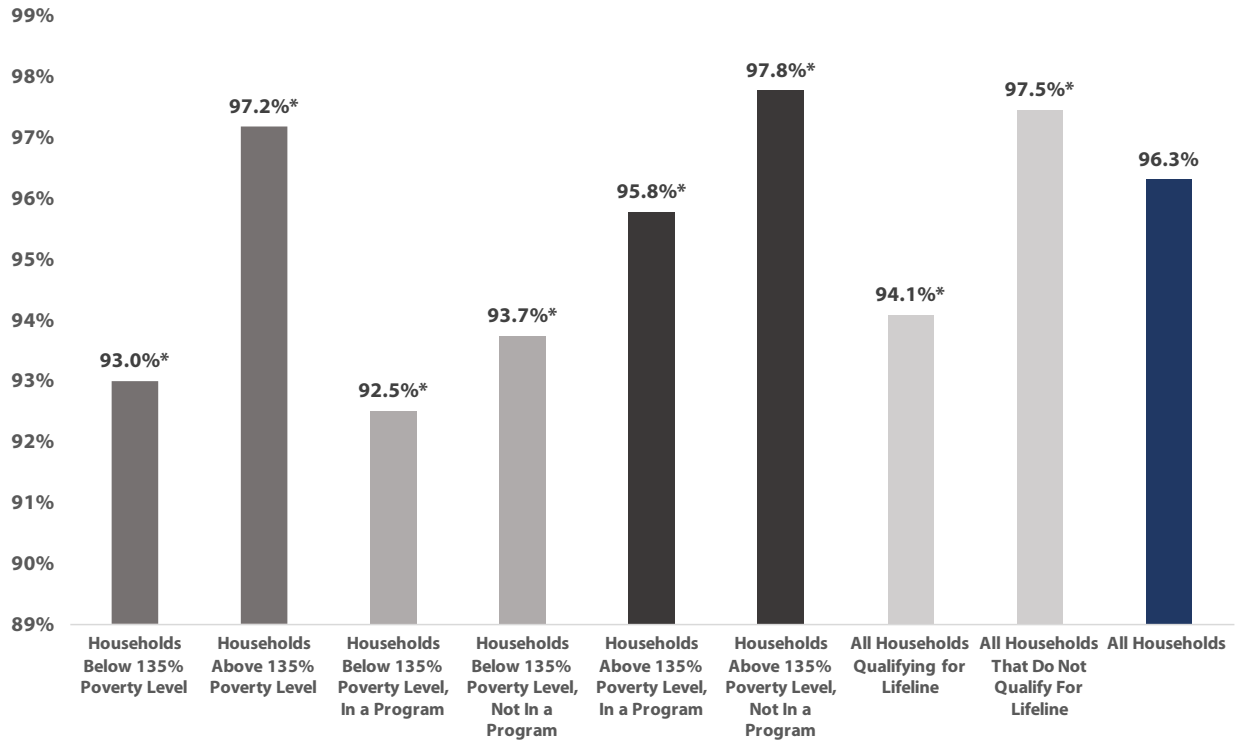



*Source: U.S. Census Bureau, Free Press estimates.*

The data in Figure 6 are instructive but imprecise for the purpose of analyzing telephone adoption in populations that qualify for Lifeline. This is because the income at which a household qualifies for Lifeline increases as the size of the household increases. For example, 135 percent of the federal poverty level ("FPL") for a household with 2 members was $21,506 in 2014 (for the continental states, D.C., and U.S. territories). For a household with 4 members, this threshold was $32,748. Furthermore, while falling below the 135 percent of federal poverty level threshold is the standard method for proving Lifeline eligibility, participation in one or more qualifying social service programs is also a way to become eligible for Lifeline support. Because the various states that administer these other programs have different qualifying criteria, there are a number of homes that qualify for Lifeline yet have household incomes above the 135 percent FPL threshold. Below in Figure 7 we compare the telephony adoption levels for four different groups of interest: households below/above 135 percent of the poverty level; households below 135 percent of the poverty level enrolled/not enrolled in a qualifying program; households above

135 percent of the poverty level enrolled/not enrolled in a qualifying program; and all households that do/do not qualify for Lifeline.

**Figure 7: U.S. Telephone Adoption by Lifeline-Qualifying Population (2014)**




*Source: U.S. Census Bureau, Free Press estimates. * Indicates the difference between the counterpart values is statistically significant at $p<0.05$.*

These data indicate a statistically significant adoption gap between all of the Lifeline qualifying and non-qualifying households. The telephone adoption level for all Lifeline-qualifying households is more than 3 percentage points lower than the level observed for non-qualifying households. The result for households below 135 percent of the poverty level is similar to that seen among households with annual incomes below $20,000, and is more than 4 percentage points below the adoption level for households above this income threshold. The adoption level among income-qualifying homes that participate in other qualifying social service programs is slightly lower than those that do not participate in such other programs, and is statistically significant. This is an interesting result, which could be attributed to differences in

the structures and financial burdens faced by families who do participate in other qualifying social service programs. Finally, as expected, the adoption level among homes that exceed the income threshold yet become eligible for Lifeline by participating in another qualifying social service program is still lower than the adoption level seen in homes above 135 percent of FPL that are not enrolled in another qualifying program.

These data indicate that the telephone adoption rates, just like the incomes of participants in all of these other social service programs, are generally below the national averages. The exceptions to this trend are seen in some homes that only participate in one of these other programs – notably, Medicaid-only homes (see Figure 8).

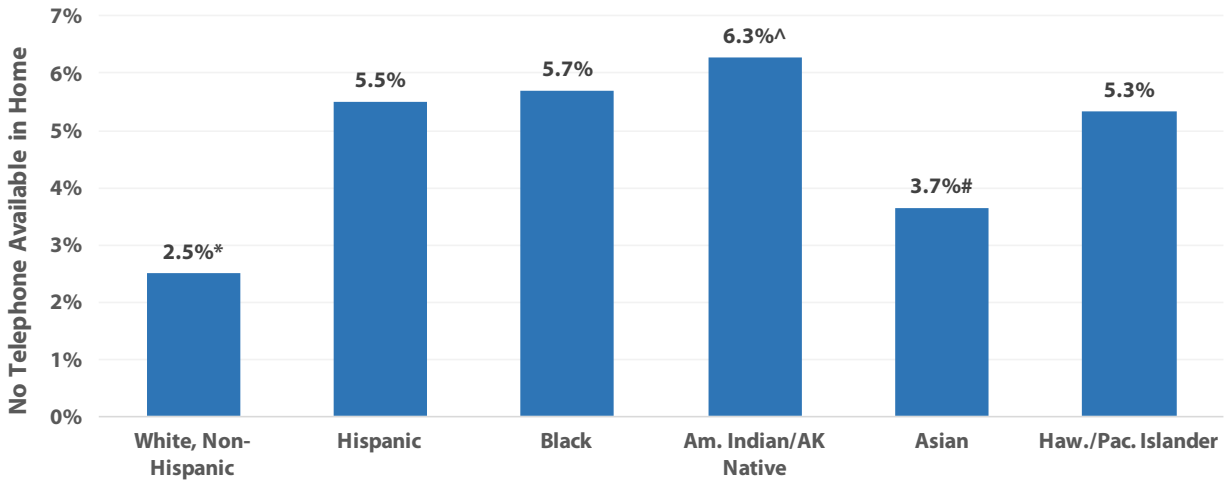
**Figure 8: U.S. Telephone Adoption by Lifeline-Qualifying Program (2014)**

| Program | Telephone Penetration of Households in Program | Telephone Penetration of Households Only in Given Program | Average Household Income of Households in Program | Average Household Income of Households Only in Given Program |
|---|---|---|---|---|
| Medicaid | 94.1% | 95.0% | $46,975 | $75,787 |
| Supplemental Nutrition Assistance Program (SNAP) | 93.6% | 93.7% | $22,111 | $22,760 |
| Supplemental Security Income (SSI) | 93.7% | 99.6% | $31,348 | $48,671 |
| Federal Public Housing Assistance | 92.4% | 95.4% | $19,034 | $28,647 |
| Low-Income Home Energy Assistance Program | 93.9% | 94.5% | $18,208 | $21,847 |
| National School Lunch Program | 94.9% | 96.1% | $34,904 | $47,545 |
| Temporary Assistance for Needy Families (TANF) | 91.6% | 77.2% | $28,674 | $45,435 |
| Veterans Payment Income^ | 97.5% | 97.8% | $78,796 | $81,668 |

*Source: U.S. Census Bureau, Free Press estimates. Some values are based upon very small survey populations, so the data presented is not definitive. ^ Veterans who receive veterans payment income do not qualify for Lifeline based on these payments alone, but the Commission is considering making such veterans eligible.*

There is also a telephone adoption gap between different racial and ethnic populations. Non-Hispanic whites and Asians are more likely to live in a household where a telephone is available than are black Americans, Hispanic Americans, American Indian/Alaskan Natives, or Hawaiian/Pacific Islanders (see Figure 9).

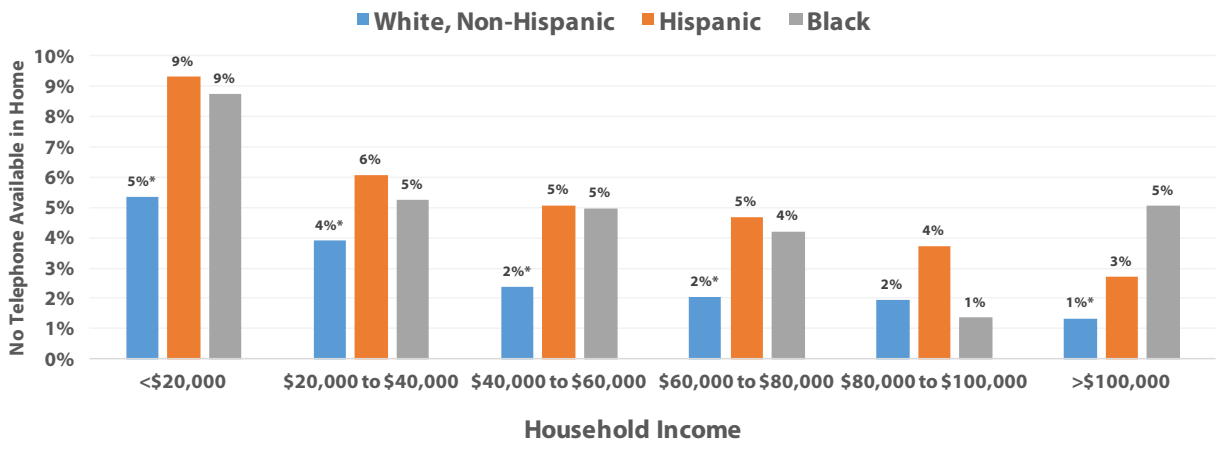
**Figure 9: U.S. Telephone Non-Adoption by Race/Ethnicity (2014)**




*Source: U.S. Census Bureau, Free Press estimates. * Indicates the difference in telephone adoption between non-Hispanic whites and all other groups is statistically significant at p<0.05. ^ Indicates the difference in telephone adoption between American Indian/Alaskan Native and other groups (excluding non-Hispanic whites and Asian) is statistically significant at p<0.05 (i.e., non-adoption is statistically significantly higher among American Indian/Alakan Native persons than it is among other minority groups, even when excluding Asians). # Indicates the difference in telephone adoption between Asian persons and other groups (excluding non-Hispanic whites) is statistically significant at p<0.05.*

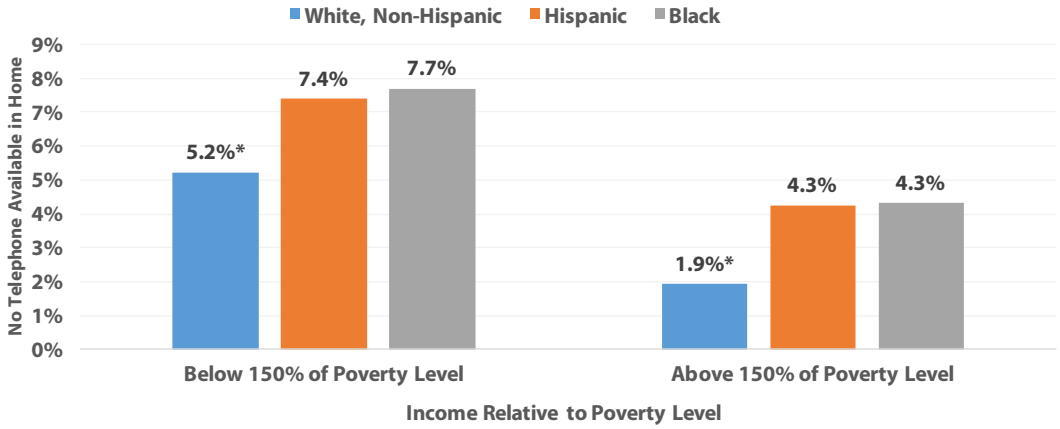
The observed gap between telephone adoption by non-Hispanic whites and by other racial and ethnic groups is seen even among similar income and education cohorts. For example, while home telephone non-adoption in 2014 stood at 5 percent among non-Hispanic whites, it was nearly double that among black and Hispanic Americans, and that disparity is seen at higher income tiers as well (see Figure 10). To better account for the relationship between income and household size, we also examined home telephone non-adoption across these different groups, both above and below 150 percent of the federal poverty level. All of this data indicates again that even among poor households, telephone non-adoption is lower for non-Hispanic whites than it is for black or Hispanic Americans. This trend holds above the 150 percent poverty threshold as well (see Figure 11).

**Figure 10: U.S. Telephone Non-Adoption by Race/Ethnicity and Income (2014)**




*Source: U.S. Census Bureau, Free Press estimates. * Indicates the difference between telephone adoption among non-Hispanic whites and all other groups is statistically significant at p<0.05.*

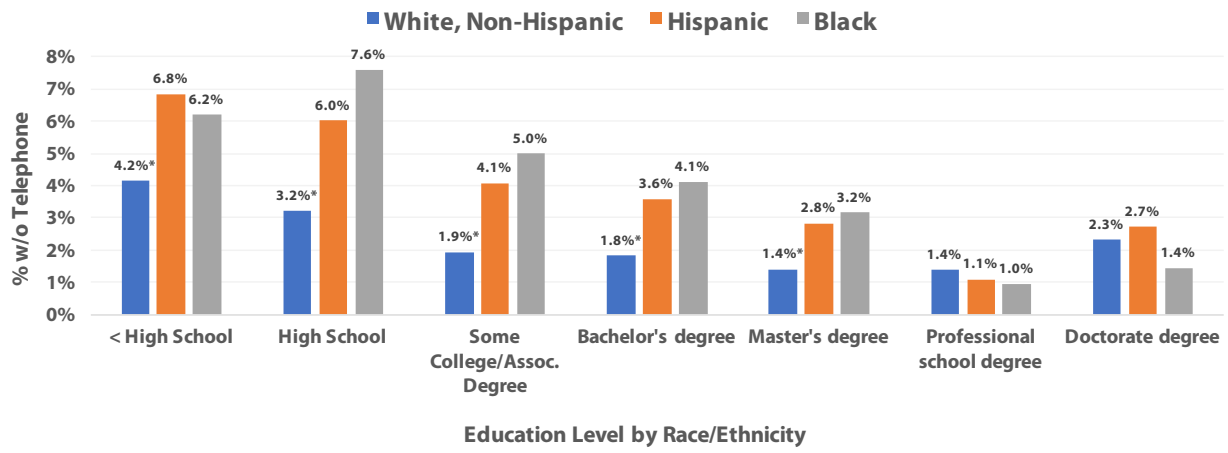
**Figure 11: U.S. Telephone Non-Adoption by Race/Ethnicity and Poverty (2014)**




*Source: U.S. Census Bureau, Free Press estimates. * Indicates the difference between telephone adoption among non-Hispanic whites and all other groups is statistically significant at p<0.05.*

This racial and ethnic telephone adoption gap also is seen across all education cohorts, with the exception of those with professional or doctorate degrees. The level of home telephone non-adoption by black and Hispanic Americans is more than twice as high as it is for non-Hispanic whites, even among people with bachelor and masters-level degrees (see Figure 12). Overall, the impact of race/ethnicity, income, and education on telephone adoption remains significant even when controlling for each of these factors.

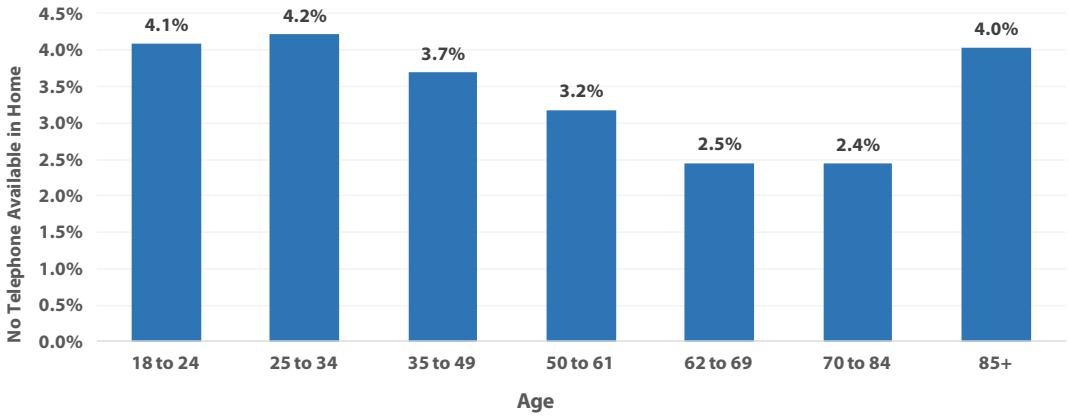
**Figure 12: U.S. Telephone Non-Adoption by Race/Ethnicity and Education (2014)**




*Source: U.S. Census Bureau, Free Press estimates. * Indicates the difference between telephone adoption among non-Hispanic whites and all other groups is statistically significant at p<0.05.*

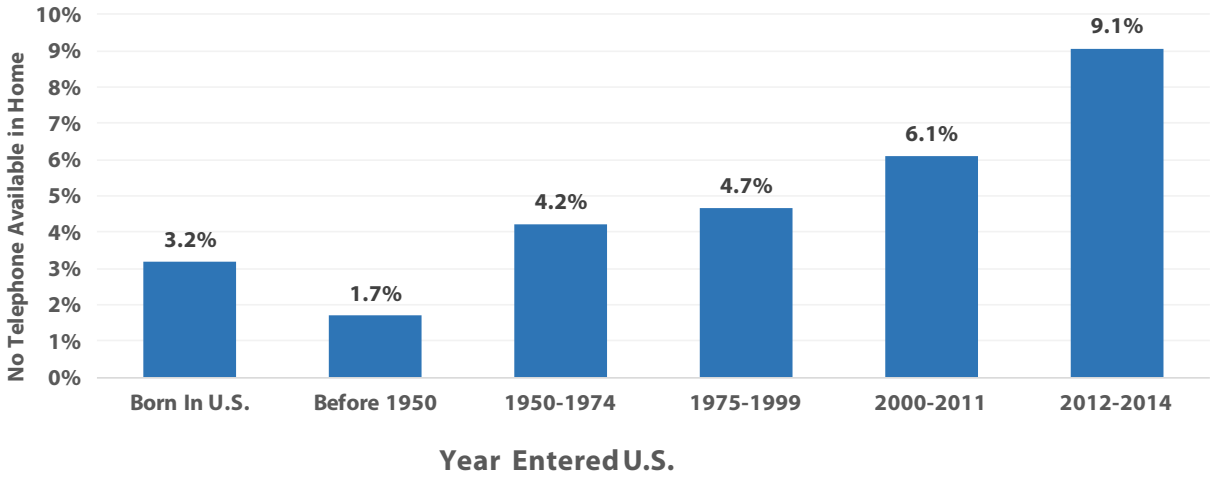
There are other demographic differences worth noting too. First, home telephone adoption increases with age, except for those aged 85 and older (see Figure 13). We also observe a relationship between the level of home telephone adoption and how recently a person immigrated into the U.S., with very recent immigrants much less likely to report having access to a home telephone (see Figure 14).

**Figure 13: U.S. Telephone Non-Adoption by Age (2014)**




*Source: U.S. Census Bureau, Free Press estimates.*

**Figure 14: U.S. Telephone Non-Adoption by Time in U.S. (2014)**




*Source: U.S. Census Bureau, Free Press estimates.*

What should we take away from the differences observed in all of these data? First and foremost, despite the availability of Lifeline and other social service programs, we still see an income gap for telephone adoption. Given that there is no reason to expect poor persons would have different needs for telephone service, this strongly suggests a continued need for Lifeline. That continued need is real even though, as we discuss below, many recipients would still subscribe in the absence of the program or in the absence of a 100 percent subsidy for a cellular service plan with 250 monthly minutes. Also, it is notable that the income gap remains despite the availability of 100 percent subsidized plans. This suggests that a small but significant proportion of the low-income population is not being reached by Lifeline, speaking to the need for improved outreach and education efforts. Finally, that there are differences in adoption among populations that have similar incomes even above the poverty line suggests that subsidies alone are not enough to completely close the telephony divide. Whether this is due to differences in user preferences or other factors is worth future study, and could inform efforts to narrow and close the broadband digital divide.

### B. Expansion of Lifeline to Wireless-Only Services Greatly Improved Program Effectiveness and User Utility. This Indicates that to Achieve the Universal Service Affordability and Adoption Goals of the Communications Act, the Lifeline Program Must Be Responsive to Marketplace Developments and Consumer Demand.

When the Commission expanded Lifeline to all consumers in all states in 1998, program participation did not increase substantially. From 1998 to 2005, the number of Lifeline subscribers grew at a CAGR of 4.1 percent, rising from 5.4 million to 7.1 million. Over the following three years, program participation actually declined. Some of this decline may have been due to the Commission's reforms on eligibility verification and record keeping (adopted in 2004 and in effect as of June 2005) – reforms that took place as the economy recovered from the 2001 recession.[13]

But there's also ample reason to suspect that, during this same time, consumers (including low-income consumers) increasingly found less value in local landline service compared to mobile telephony. Companies like Boost Mobile already were offering pay-as-you-go services targeted at consumers with credit history issues, charging between 10 and 20 cents per minute for mobile services, and 10 cents per outgoing text with free incoming texts.[14] It is likely that many low-income consumers found greater value in these pre-paid mobile services

[13] *In the Matter of Lifeline and Link-Up*, WC Docket No. 03-109, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 8302 (2004). That order actually expanded the eligibility guidelines to include qualification based on income alone, as well as qualification via Temporary Assistance for Needy Families ("TANF") or the National School Lunch's free lunch program ("NSL") (in addition to then existing program-based qualifications). However, the Commission also added new verification and record keeping requirements, which may have combined with an improving economy to produce a slight net decline in program participation.

[14] *See, e.g.*, Boost Mobile, Press Release, "Say Cheese! *Boost* Gives Customers Something to Smile About with *Boost* Snaps," Nov. 28, 2005.

than they found in a subsidized local phone line, which would still require the user to spend $10, $20, or more each month even after the subsidy – for a service tied to a single location.[15]

In 2005, the Commission changed course from its prior policy and granted the MVNO Tracfone the first ever Lifeline-Only ETC waiver.[16] In 2008, TracFone began to draw Lifeline funds, and became a state-designated ETC in 10 states and the District of Columbia.[17] More wireless-only ETC designations followed: Virgin Mobile in 2009,[18] and iWireless, Allied, Consumer Cellular and others in 2010.[19] The expansion of Lifeline to a mode of telephony

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[15] The nominal average monthly rate for a residential access line was $27.16 in 2005. The average per sub monthly support from the low-income program was $9.39, but this includes Link-up support as well as Tribal support (the latter of which provided up to $25 per month per subscriber). For many program participants, the actual monthly discount at this time was likely well below the program's $9.39 average level.

[16] *Petition of Tracfone Wireless, Inc. for Forbearance from 47 U.S.C. Section 214(e)(1)(A) and 47 C.F.R. Section 54.201(i), Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Order, 20 FCC Rcd 15095 (2005) (conditionally granting TracFone's petition for forbearance from the facilities requirement of Section 214(e)(1)).

[17] *Federal-State Joint Board on Universal Service, TracFone Wireless, Inc. Petition for Designation as an Eligible Telecommunications Carrier in the State of New York et al*., CC Docket No. 96-45, Order, 23 FCC Rcd 6206 (2008) (designating TracFone as an ETC for Lifeline support only in New York, Virginia, Connecticut, Massachusetts, Alabama, North Carolina, Tennessee, Delaware, New Hampshire, Pennsylvania, and the District of Columbia, but denying ETC designation in Florida as that state's PUC asserted its ETC-designation authority).

[18] *Virgin Mobile USA, L.P. Petition for Forbearance from 47 U.S.C. § 214(e)(1)(A); Petition for Designation as an Eligible Telecommunications Carrier in the State of New York; Petition for Designation as an Eligible Telecommunications Carrier in the Commonwealth of Pennsylvania; Petition for Designation as an Eligible Telecommunications Carrier in the Commonwealth of Virginia; Petition for Limited Designation as an Eligible Telecommunications Carrier in the State of North Carolina; Petition for Limited Designation as an Eligible Telecommunications Carrier in the State of Tennessee*, CC Docket No. 96-45, Order, 24 FCC Rcd 3381 (2009)

[19] *See, e.g.*, *Federal-State Joint Board on Universal Service; Telecommunications Carriers Eligible for Universal Service Support; i-wireless, LLC Petition for Forbearance from 47 U.S.C. § 214(e)(1)(A)*, CC Docket No. 96-45, WC Docket No. 09-197, Order, 25 FCC Rcd 8784 (2010); *see also Federal-State Joint Board on Universal Service; Telecommunications Carriers Eligible for Universal Service Support; Allied Wireless Communications Corporation Petition for Eligible Telecommunications Carrier Designations in the State of North Carolina*, CC Docket No. 96-45, WC Docket No. 09-197, Order, 25 FCC Rcd 12577 (2010); *Federal-State Joint*

service in which consumers found greater utility, and which was free in part,[20] had a profound impact on program participation and the program itself. As shown in Figure 15, in 2008 wireless lines accounted for just $97 million, or 11 percent, of the inflation-adjusted $904 million spent for the Lifeline and Link-Up programs. In 2014, the share of the fund devoted to wireless carriers had risen to 83 percent, with such carriers collectively receiving $1.3 billion in subsidies compared to just $273 million for wired carriers. And illustrating how concentrated the program's distribution has become in a national wireless market environment, just three carriers (TracFone, Virgin Mobile, and Budget Prepay) accounted for more than $800 million and roughly 50 percent of Lifeline spending in 2014.[21]

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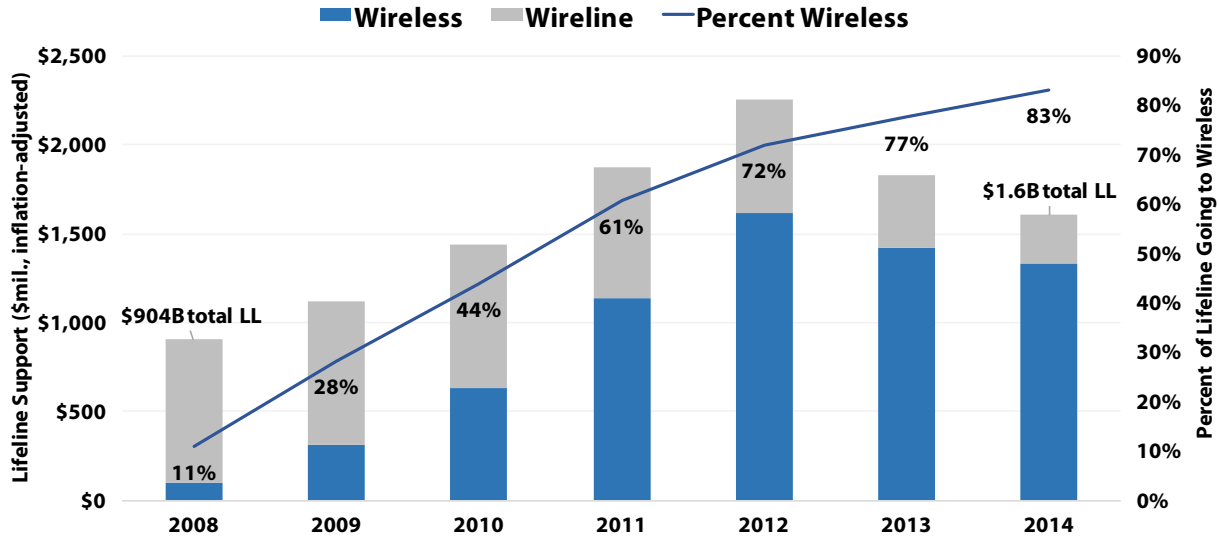
*Board on Universal Service; Telecommunications Carriers Eligible for Universal Service Support; Head Start Petition for Forbearance; Consumer Cellular Petition for Forbearance; Midwestern Telecommunications Inc. Petition for Forbearance; Line Up, LLC Petition for Forbearance*, CC Docket No. 96-45, WC Docket No. 09-197, Order, 25 FCC Rcd 10510 (2010).

[20] TracFone initially offered Lifeline subscribers 68 free monthly minutes, increasing this to 250 minutes once Virgin Mobile entered the program with a 200 minute per month offering. Users can purchase additional minutes and other add-on services. As we discuss herein, that TracFone was capable of nearly quadrupling the size of its offering – merely in response to entry by another carrier – illustrates the problems the Commission would face if it simply left carriers themselves to decide what level of service to provide for the monthly $9.25 subsidy.

[21] *See* Universal Service Administrative Company, LI05 Annual Low Income Support Amounts by State and Company – January 2012 through December 2014. In 2014, TracFone received $434 million, Virgin Mobile received $272 million, and Budget Prepay received $103 million, accounting for 27, 17, and 6 percent of the total Low Income fund, respectively.

**Figure 15: Wireless vs. Wireline Low-Income Program Disbursements (2008–2014)**



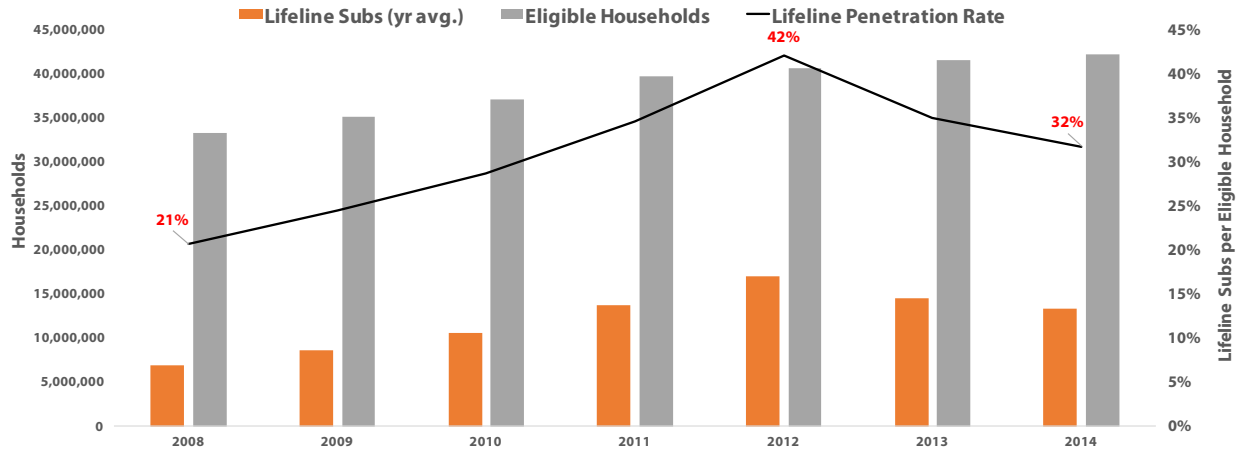

*Source: FCC, USAC, Free Press estimates.*

Expanding Lifeline to wireless and lowering the supported service's price to the user, just as consumer demand shifted away from wireline telephony towards mobile services and the economy worsened, all combined to drive program enrolment substantially higher. The number of Lifeline enrollees increased from 6.85 million in 2008 to 17 million in 2012, before declining again to 13.35 million in 2014 (due to the reforms in the *2012 Lifeline Reform Order*).[22] This doubling of the program population took place as the universe of eligible households increased as well, from an estimated 33.25 million in 2008 to 42.1 million in 2014.[23] The result of these changes took the program participation rate (the percentage of eligible households taking the subsidy) from just 21 percent in 2008 to 32 percent in 2014 (see Figure 16).

[22] *Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42 *et al.,* Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 6656 (2012) ("*2012 Lifeline Reform Order*").

[23] According to our analysis of the U.S. Census Bureau Current Population Survey March 2008 Supplement data, there were a total of 33.25 million Lifeline-qualifying households at that time. Of these, 23.83 million became eligible by participating in another qualifying program, while another 9.42 million qualified based on income alone.

**Figure 16: Lifeline Program Subscribers, Disbursements, Participation Rate (2008–2014)**




*Source: FCC, USAC, U.S. Census Bureau, Free Press estimates.*

We think these data collectively indicate that the expansion to wireless services was very beneficial to users, as it allowed them to use the Lifeline subsidy for a service in which they undoubtedly found more utility than Plain Old Telephone Service ("POTS"). The lesson here is that the Lifeline program can only maximize its utility to users, and thus its effectiveness, if it is designed to be flexible and if it enables users to decide what telecommunications services are best suited to their individual needs. For some, this might be a bare-bones wireless voice service, used only occasionally and in case of emergency. Others may find greater utility if the subsidy can be used to make the monthly cost of a smartphone voice/SMS/data plan more affordable. Still others might find the most utility in a plan that makes the cost of fixed broadband service more affordable so their children have the Internet access needed to complete their homework.

Telecom services are generally viewed by consumers as essential, but some may find greater utility in particular services. Even among one type of service, households will perceive different utilities for different plans. Because the overarching goal of the program is to make all telecommunications services more affordable to low-income Americans, and affordability is directly related to an individual consumer's perceived utility of a service, the Commission must

structure Lifeline to be responsive to individual preferences. The best way to accomplish this is through a fully portable subsidy that recipients can apply to the service of their choosing.

### C. Because Telecommunications Services Are Essential Services for Most Americans, It Is Not Appropriate to Measure Lifeline Effectiveness Solely by How Many Users Would Drop Service in the Absence of Subsidy. However, Making the Lifeline Subsidy Fully Portable to All Telecommunications Services Will Materially Increase Overall Adoption And Greatly Enhance User Utility.

Following the changes in the *2012 Lifeline Reform Order*, the number of participating households decreased by nearly four million. But during this period the home telephone adoption level among all Lifeline eligible households increased, from 93.3 percent in 2012 to 94.1 percent in 2014.[24] Yet this does not mean that Lifeline is ineffective. Neither does the fact that most Lifeline subscribers would purchase some telephone service in the absence of the program.

Telecommunications services, and telephony in particular, are essential. It is very difficult for a household to function without the ability to communicate with the outside world, both near and far. Access to telecommunications services can literally be a matter of life and death; hence the existence of myriad public policies that emphasize universally available,[25] reliable,[26] affordable,[27] interconnected,[28] quality services[29] that Americans can use to

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[24] Our analysis of the U.S. Census Bureau Current Population Survey March 2012 Supplement data shows 40.6 million Lifeline-qualifying households: 31 million eligible through participation in another qualifying program, with another 9.6 million qualifying based on income alone. 37.91 million of these 40.6 million households reported home telephone availability. By 2014, 39.6 million of the 42.1 million eligible households reported home telephone availability.

[25] *See, e.g.*, 47 U.S.C. § 254(b)(3) ("Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services . . . .").

[26] *See, e.g.*, *Ensuring Continuity of 911 Communications*, PS Docket No. 14-174, Report and Order, FCC 15-98 (rel. Aug. 7, 2015) (requiring facilities-based carriers offering fixed residential voice services that are not line powered to offer subscribers the option to purchase backup power).

[27] *See, e.g.*, 47 U.S.C. § 254(b)(1) ("Quality services should be available at just, reasonable, and affordable rates."); *id.* § 254(i) ("The Commission and the States should ensure that

communicate with each other, their government, and emergency responders,[30] all without undue interference by their carriers.[31]

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universal service is available at rates that are just, reasonable, and affordable."); *2012 Lifeline Reform Order,* 27 FCC Rcd at 6671, ¶ 27 (identifying affordability as a component of the Commission's statutory availability mandate and adopting as the Commission's "first goal . . . the availability of voice service for low income Americans" to " effectuate Congress's universal service directives in sections 254(b)(1) and 254(b)(3) of the 1996 Act that quality services should be available at affordable rates and to consumers throughout the nation"); 47 U.S.C. § 1305(k)(2)(B) ("The national broadband plan . . . shall seek to ensure that all people of the United States have access to broadband capability and shall establish benchmarks for meeting that goal. The plan shall also include . . . a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure . . . .").

[28] *See, e.g.*, 47 U.S.C. § 251(a)(1) ("Each telecommunications carrier has the duty . . . to interconnect directly or indirectly with the facilities and equipment of other [ ] carriers . . . .").

[29] *See, e.g.*, *id.* § 254(b)(1); *see also id.* § 153(37) ("The term 'number portability' means the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."); *id.* § 253(b) ("Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis and consistent with section 254, requirements necessary to preserve and advance universal service, . . . ensure the continued quality of telecommunications services, and safeguard the rights of consumers."); Telecommunications Act of 1996, 104 P.L. 104 ("An Act to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."); 47 U.S.C. § 1302(d)(1) ("The term 'advanced telecommunications capability' is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.").

[30] *See, e.g.*, *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications; Framework for Next Generation 911 Deployment,* PS Docket Nos. 11-153 and 10-255, Second Report and Order and Third Further Notice of Proposed Rulemaking, 29 FCC Rcd 9846 (2014) (requiring Commercial Mobile Radio Service ("CMRS") providers and other providers of interconnected text messaging applications to be capable of supporting text-to-911 service by December 31, 2014).

[31] *See, e.g.*, 47 U.S.C. § 201(b) ("All charges, practices, classifications, and regulations for and in connection with such communication service, shall be just and reasonable, [or else] hereby declared to be unlawful . . . ."); *see also id.* § 202(a) ("It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communication service, directly or indirectly, by any means or device, or to make or give any undue or unreasonable preference or advantage to any particular person, class of persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice

Policymakers such as FCC Commissioners do not live in poverty. They all have access to robust telecommunications services. It would be unimaginable for them not to. As individuals, however, it may be difficult for them to imagine what it is like to live in poverty in a nation of great wealth. So it may be far too easy for Commissioners to view telecommunications services that they can easily afford – ones that have enriched their lives in numerous ways – as something other than necessities for basic living for *other people*. They may see these services as luxuries for whittling away the hours, not required tools for life, liberty and the pursuit of happiness.[32]

But despite the misguided and privileged perspective of some policymakers, this matter is settled. *Basic telephony, mobile telephony and broadband are essential services*, formally recognized as such by the Commission.[33] And Americans have made it clear, through their actions in the marketplace, that they place an immensely higher value on telecommunications

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or disadvantage."); *id.* § 253(b) ("Nothing in this section shall affect the ability of a State to . . . safeguard the rights of consumers.").

[32] *See, e.g.*, Remarks of Commissioner Michael O'Rielly Before the Internet Innovation Alliance, "What is the Appropriate Role for Regulators in an Expanding Broadband Economy?" June 25, 2015 ("[T]he constant advancements and ever-changing marketplace have provided a profession and steady income but, more importantly, *technology has expanded **my** capabilities beyond measure. I have taken advantage of Internet broadband to expand **my** horizons* both as a consumer and a professional. . . . It is important to note that Internet access is not a necessity in the day-to-day lives of Americans . . . . People can and do live without Internet access, and many lead very successful lives. Instead, the term 'necessity' should be reserved to those items that humans cannot live without, such as food, shelter, and water.") (emphasis added).

[33] *See Federal-State Joint Board On Universal Service,* CC Docket No. 96-45, Recommended Decision, 22 FCC Rcd 20477, 20491-20494, ¶¶ 55-68 (2007) ("*2007 Recommended Decision*") ("[B]roadband Internet services are essential to education, public health, and public safety . . . . [and] wireless telecommunications services are no longer a luxury in our society, but are a fundamental necessity for an overwhelming majority of consumers for public health, safety, and economic development."); *see also 2015 Lifeline NPRM* ¶ 4-5 ("Today, broadband is essential to participate in society. . . . Broadband is necessary for even basic communications in the 21st Century, and offers improved access to and quality of education and health services, improved connectedness of government with society, and the ability to create jobs and prosperity. Broadband access thus is necessary for even basic participation in our society and economy.") (internal citations omitted).

services than they do on many other goods also viewed as indispensable.[34] This is why the price elasticities of demand for telecommunications services and for telephony in particular are so low, suggesting that Americans at all income strata will prioritize purchase of telephony over almost all other goods, including even such necessities as gasoline and electricity.[35]

[34] *See, e.g.*, Cisco, "2011 Cisco Connected World Technology Report" (2011) (reporting a survey in which 73 percent of U.S. respondents agreed with the statement "I could not live without the Internet, it is an integral part of my daily life" and indicated that the Internet is, or "was pretty close" to being "as important to them as water, food, air and shelter," with 32 percent of U.S. college students saying that Internet access is as important to them as water, food, air and shelter); *see also* Pew Research Center, "The Web at 25 in the U.S.," (Feb. 27, 2014) (showing 46 percent of adults responding that the Internet would be "very hard or impossible to give up," (the highest value in the survey), with 44 percent saying the same thing about cellphone service, compared to 35 percent of adults saying this for television, 34 percent for email, and 17 percent for a landline phone); "What Americans Would Give Up For the Internet: Alcohol, Exercise, Showers, Sex," *Fast Code Design*, Mar. 20, 2012 (showing survey results indicating that Americans value Internet access at $3,000 per year, amounting to a massive 536 percent consumer surplus); "Millennials in 2014: Take My Car, Not My Phone, *Forbes*, Jan. 24, 2014 (reporting that 40 percent of millennials "believe that losing their phone would be a bigger hardship than losing their automobile.").

[35] Price elasticity of demand is a formal measure of how the change in a good's price impacts consumer demand for that good. It is defined as the percentage change in quantity demanded resulting from a one percent change in price, *ceteris paribus*. Thus, the lower the value of price elasticity of demand, the less sensitive consumers are to a change in price. For a good with low price elasticity, consumer demand will not change much in response to a price increase or decrease, whereas a price increase (or decrease) for a highly elastic good will lead to a substantial decline (or increase) in demand. Recent studies have placed the price elasticity of demand for broadband Internet access at approximately -0.6 (constant elasticity), meaning a 10 percent price increase would be expected to produce about a 6 percent decrease in quantity demanded, while a 10 percent price decrease would produce a 6 percent increase in quantity demanded. *See, e.g.*, Carare *et al.*, "The Willingness to Pay for Broadband of Non-Adopters in the U.S.: Estimates from a Multi-State Survey," *Information Economics and Policy* (forthcoming), Nov. 18, 2014. Past studies on telephone service have shown it to be extremely inelastic, with values as low as -0.001, meaning that doubling the price would only cause a drop in demand of one-tenth of one percent. *See, e.g.*, Christopher Garbacz and Herbert G. Thompson Jr., "Assessing the Impact of FCC Lifeline and Link-Up Programs on Telephone Penetration," 11 *Journal of Regulatory Economics* 67 (Jan. 1997). Thus, demand for telephony is far less sensitive to price increases than even gasoline or electricity, which themselves are widely recognized as highly inelastic goods. *See, e.g.*, Tomas Havranek *et al.*, "Demand for gasoline is more price-inelastic than commonly thought," 34 *Energy Economics* 201 (Jan. 2012) (showing an average short run elasticity of -0.09); *see also* M.A. Bernstein and J. Griffin, "Regional Differences in the Price-Elasticity of Demand for Energy," Rand Corporation, Subcontract

Thus, against this backdrop of telecommunications as essential services, it is simply wrong to measure the Lifeline program's effectiveness solely in terms of how many consumers would drop their service in absence of the subsidy. We do not measure other social services for essential goods in this manner. Certainly many recipients of food stamps would find some way to eat in order to sustain their family's lives if this important subsidy program did not exist. While homelessness would increase in the absence of rental subsidies, many would find some form of shelter, though for many it would be substandard.

These programs exist to give the poor the ability to preserve their basic human dignity without having to make even more difficult choices than they already face on a daily basis about how to allocate their scarce resources. Lifeline is in effect for most of its participants an income subsidy. And while it would be far more efficient to fund this income subsidy through general treasury revenues and not through the labyrinth that is USF, this does not make a program operating as an income subsidy and not strictly as a tool to increase adoption into a bad policy.

Indeed, it is remarkable how often we hear that even in the absence of Lifeline people would continue to subscribe,[36] but we never hear such complaints about the High-Cost Fund. It is certainly likely that in many areas where wired and wireless carriers receive billions of dollars in annual high-cost subsidies, service would be available in the absence of these funds, either via wireless or higher-priced wireline networks. But the Commission has never once viewed the effectiveness of the High-Cost Fund through this lens, choosing simply to measure the program's

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Report NREL/SR-620-39512 (Feb. 2006); Severin Borenstein, "To What Electricity Price Do Consumers Respond?" Paper Presented at NBER, Summer Institute (July 10, 2009).

[36] *See, e.g.*, Mike O'Rielly and Rep. Marsha Blackburn, "FCC's Lifeline Program Ripe for Fraud, Abuse," *Politico*, July 12, 2015 ("[C]onsumers are supporting service for people that would have signed up and paid in full without a subsidy.").

effectiveness by whether or not a service is available for inhabitants of these areas to purchase.[37] And when the Commission created Lifeline in 1985, it directly recognized that demand for telephony was inelastic, and that the impending SLC-related price increases would not lead to substantial subscribership declines. It rightly concluded nonetheless that "such an increase could place an undue burden on low income subscribers, who may be forced to sacrifice other necessities in order to continue telephone service."[38]

Thus, we strongly urge the Commission to affirmatively recognize that the proper metric for measuring Lifeline's effectiveness is not just adoption but (1) affordability, measured by user utility; and (2) efficiency of the subsidy, measured by how many users and how much service can be supported at the lowest possible cost.

With these goals in mind, we note two important considerations concerning the measurement of Lifeline's effectiveness in terms of how the program impacts adoption.

First, as discussed in the following section, consumers are far more sensitive to changes in price for broadband than telephony. This means that making the monthly Lifeline subsidy portable to broadband will induce a small but significant number of non-adopters to purchase Internet access, with a far higher dollar-for-dollar increase than in the more inelastic telephone market. In other words, if adoption remains a key metric for program effectiveness, allowing the existing subsidy to be used for broadband will greatly enhance this type of effectiveness.

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[37] *See 1985 Lifeline Order* ¶ 15 ("Rate increases and the discontinuation of service by significant numbers of subscribers are not required to trigger the effectiveness of these measures. Lifeline rates should be available to protect low income subscribers, just as high cost assistance is available without a requirement that rate increases in rural areas cause subscribers to discontinue telephone service.").

[38] *Id.* ("We realize that due to the inelasticity of demand for local telephone service, even a substantial increase in the charge for telephone exchange service may not, by itself, cause a significant number of subscribers to discontinue service. Nonetheless, such an increase could place an undue burden on low income subscribers, who may be forced to sacrifice other necessities in order to continue telephone service.").

Second, there is evidence that Lifeline has increased adoption. The Commission found that prior to the 1998 expansion, the increases in low-income adoption levels were statistically significantly higher in states with Lifeline programs than in those without. The agency also found that subsequent to the expansion, the increases in low-income adoption were higher in states with higher levels of assistance (see Figure 17).[39]

**Figure 17: Estimating Lifeline's Impact on Home Telephone Non-Adoption**

| Lifeline Category | Low-Income Households Without Telephone# | | | All Households Without Telephone | | |
|---|---|---|---|---|---|---|
| | March 1984 | March 1997 | Change | March 1984 | March 1997 | Change |
| States With Assistance | 20.7% | 14.2% | 6.5 pct points* | 8.5% | 6.1% | 2.4 pct points* |
| States Without Assistance | 16.4% | 13.1% | 3.3 pct points* | 6.7% | 5.6% | 1.1 pct points |

| Lifeline Category | Low-Income Households Without Telephone# | | | All Households Without Telephone | | |
|---|---|---|---|---|---|---|
| | March 1997 | March 2009 | Change | March 1997 | March 2009 | Change |
| Full Assistance | 14.4% | 9.8% | 4.6 pct points* | 6.3% | 4.7% | 1.7 pct points* |
| Intermediate Assistance | 12.8% | 8.2% | 4.6 pct points* | 5.0% | 3.4% | 1.6 pct points* |
| Low Assistance | 13.8% | 10.9% | 2.9 pct points | 6.1% | 4.8% | 1.3 pct points |

# defined as below $10,000 in 1984 dollars, or $22,900 in 2015 dollars; this is approximately 135% of the poverty level

* change is statistically significant

*Source: FCC*

Also, as shown below in Figure 18, we estimate that the current non-adoption rate among the lowest income quintile would be approximately 10 percent without Lifeline (vs. the current 7 percent non-adoption level), and that more than 1 million of the currently supported 13 million households would go without service in the absence of the program. This estimate does not account for how the market would respond in the absence of the program. It is possible that the lost business would induce carriers to try to recapture a portion of these customers with more affordable offerings. But it is also possible that the loss of stability provided by Lifeline, and the resulting increased costs associated with serving a customer base that may churn at high levels,

[39] "Telephone Penetration by Income by State (Data through March 2009)," Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission (May 2010).

would reduce the number of carriers willing to market affordable services to the very poor.[40] Indeed, in the wireline broadband market – where unlike the cellular market, there is no appreciable number of wholesale and resale providers – pre-paid Internet access services have been relegated to a few experiments and expensive and slow offerings,[41] and actual low-priced services are only made available as a tool to curry regulators' favor.[42]

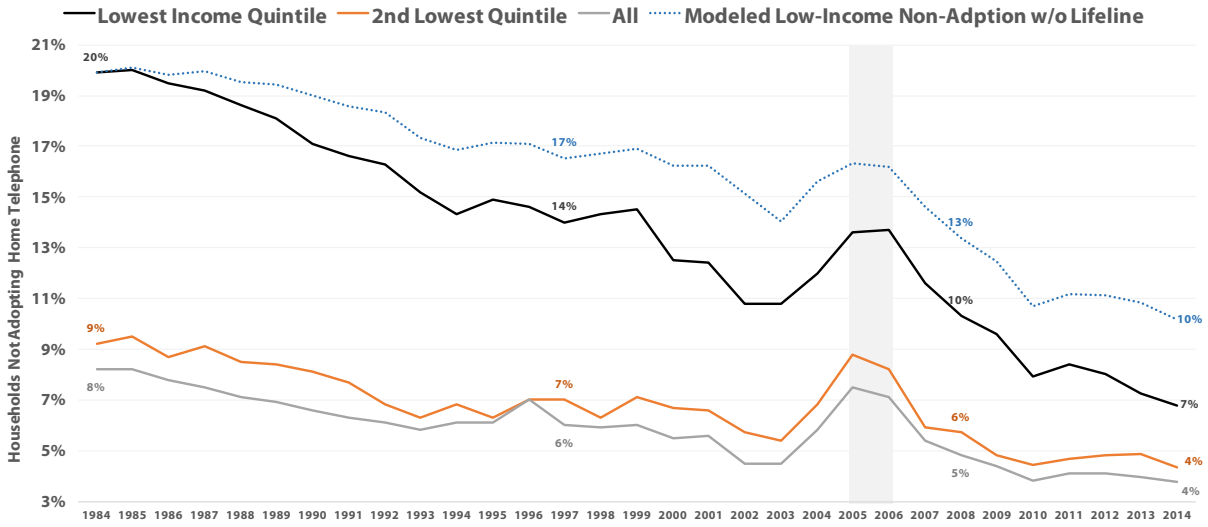
Thus, while it is true that most of current subsidy recipients would remain on the telephone network in the absence of Lifeline, it is also true that the lives of the people in all of these households would be substantially altered if the program went away – and more than a million would indeed leave the network altogether.

[40] We note that the least expensive comparable prepaid wireless voice services offer far fewer monthly minutes than are available via Lifeline. For example, TracFone's 30-day $9.95 service offers just 50 minutes, compared with the Lifeline 250 monthly minute plan (which is billed to the fund at a rate of $9.25 per month).

[41] *See, e.g.*, Todd Spangler, "Comcast Kicks Tires on Prepaid Internet," *Multichannel News*, Feb. 19, 2013 (describing Comcast's test in Detroit of a pre-paid $69.95 per month 3 Mbps service, slower and far more expensive than Comcast's regular $49.95 6 Mbps tier at that time); Todd Spangler, "Frontier Tries Out Prepaid Broadband," *Multichannel News*, July 31, 2014 (describing Frontier Communication's prepaid DSL service, priced at $39.99 per month, with a $19.99 self-installation activation fee).

[42] *See, e.g.*, *Applications of AT&T and DIRECTV For Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 14-90, Memorandum Opinion and Order, FCC 15-94 (rel. July 28, 2015) (describing AT&T's four-year commitment to offer discounted fixed broadband access to households that participate in the Supplemental Nutrition Assistance Program ("SNAP," colloquially known as the food stamp program); *see also* Cecilia Kang, "David Cohen may be Comcast's secret weapon, but in D.C. he's a wonk rock star," *Washington Post*, Oct. 29, 2012 (describing how Comcast shelved its plans to offer discounted broadband service to poor households with middle-school children, solely to claim such service as a merger benefit during the Commission's review of Comcast's acquisition of NBC Universal.).

**Figure 18: Lifeline's Impact on Home Telephone Non-Adoption (1984–2014)**[43]




*Source: FCC, USAC, U.S. Census Bureau, Free Press estimates. Shaded area represents period following a change in the U.S. Census Bureau's survey instrument, and data from this period is likely inaccurate.*

## III. Making the Lifeline Subsidy Fully Portable, For Use with All Eligible Telecommunications Services Including Wired and Wireless Broadband Internet Access, Will Enhance User Utility and Increase Program Effectiveness.

### A. The Income Digital Divide Persists, and is Far Larger Than the Rural-Urban Divide. Incorporating Broadband Into the Low-Income Fund in a Manner that Ensures Increased Broadband Affordability and Program Efficiency Will Help Close This Income-Based Digital Divide.

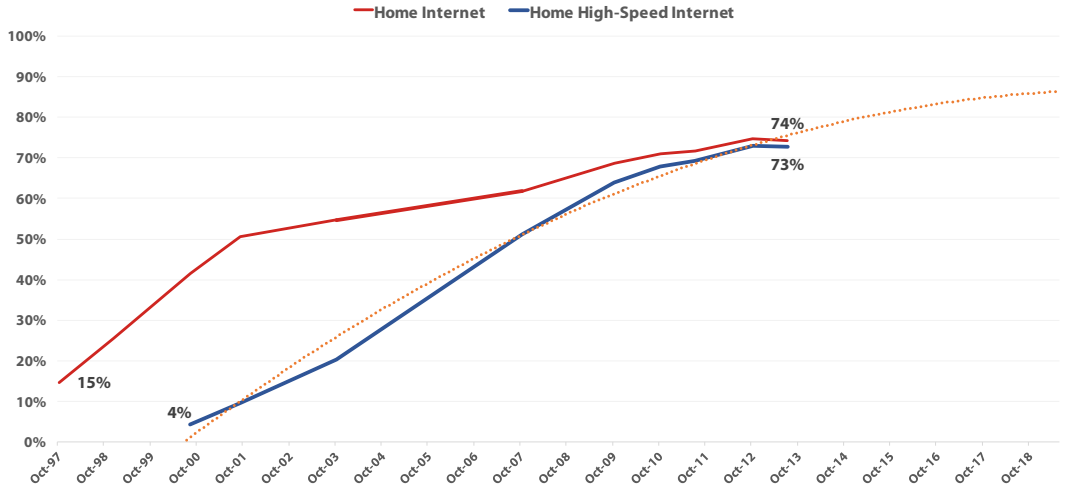
Free Press supports the Commission's commitment contained in the *2015 Lifeline NPRM* to "ensur[e] the availability of broadband service for low-income Americans."[44] We agree that allowing Lifeline program participants to use the $9.25 monthly subsidy for the telecommunications service that best suits their needs will increase program effectiveness, enhance user utility, and produce a greater return on the USF investment.

[43] The estimates shown in this table for non-adoption amongst the lowest-income quintile in the absence of the Lifeline program are derived from a model that uses past measurements of low-income elasticities of demand for telephone connection fees and monthly service prices, as well as historical information about those fees and prices. It is an imprecise measurement, but aligns with other studies suggesting a similar level of non-adoption in the absence of Lifeline subsidies. *See*, *e.g.*, Government Accountability Office, "Telecommunications: FCC Should Evaluate the Efficiency and Effectiveness of the Lifeline Program," GAO-15-335 (Mar. 2015).

[44] *2015 Lifeline NPRM* ¶ 15.

There's no need to reiterate all the reasons that broadband access is an essential service, as the Commission has covered this exhaustively in the *2015 Lifeline NPRM* and elsewhere.[45] However, while home broadband adoption increased rapidly over the past decade, there is reason to expect that this growth is slowing; and reason to believe that due to income constraints and other factors, adoption may peak at a level well below that of telephony (see Figure 19).

**Figure 19: U.S. Home Internet and Home High-Speed Internet Adoption (1997–2013)**



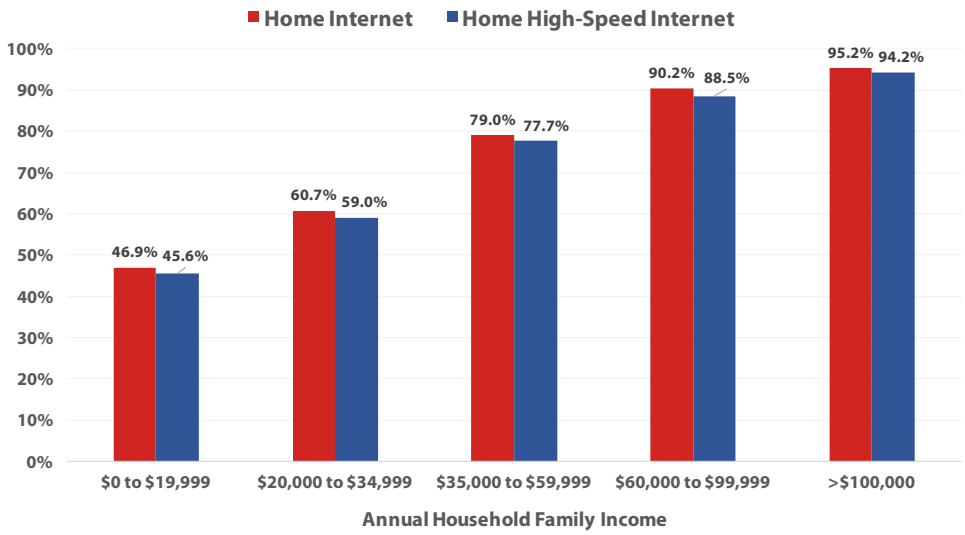

*Source: U.S. Census Bureau, Free Press estimates. Dotted line represents our projection of home high-speed Internet adoption if present trends continue.*

While the Commission has rightly devoted resources to ensuring the universal availability of broadband networks in rural America, the problem of the income digital divide deserves equal attention. Indeed, according to the NTIA, there is virtually no difference between rural and urban America in the availability of broadband telecommunications service below speeds of 10 megabits per second (Mbps). Networks capable of downstream speeds up to 10 Mbps are available to 99.9 percent of urban Americans and 96 percent of rural Americans. There

[45] *See, e.g.*, *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, Eleventh Broadband Progress Notice of Inquiry, FCC 15-101 (rel. Aug. 7, 2015).

is a gap at the 25 Mbps level (the threshold the Commission has interpreted as "advanced telecommunications capability"). While these networks are available to 94 percent of urban Americans, they are only present in Census blocks containing 54.6 percent of the rural population.[46] In contrast, according to the most recent Census estimates, 94.2 percent of households with annual incomes above $100,000 had home high-speed Internet, versus 45.6 percent of those with annual household incomes below $20,000 (see Figure 20).[47] Thus, the size of the income digital divide far exceeds that of the rural-urban divide even at higher speed tiers.

**Figure 20: U.S. Home Internet and Home High-Speed Internet Adoption by Income Quintile (2013)**




*Source: U.S. Census Bureau, Free Press estimates.*

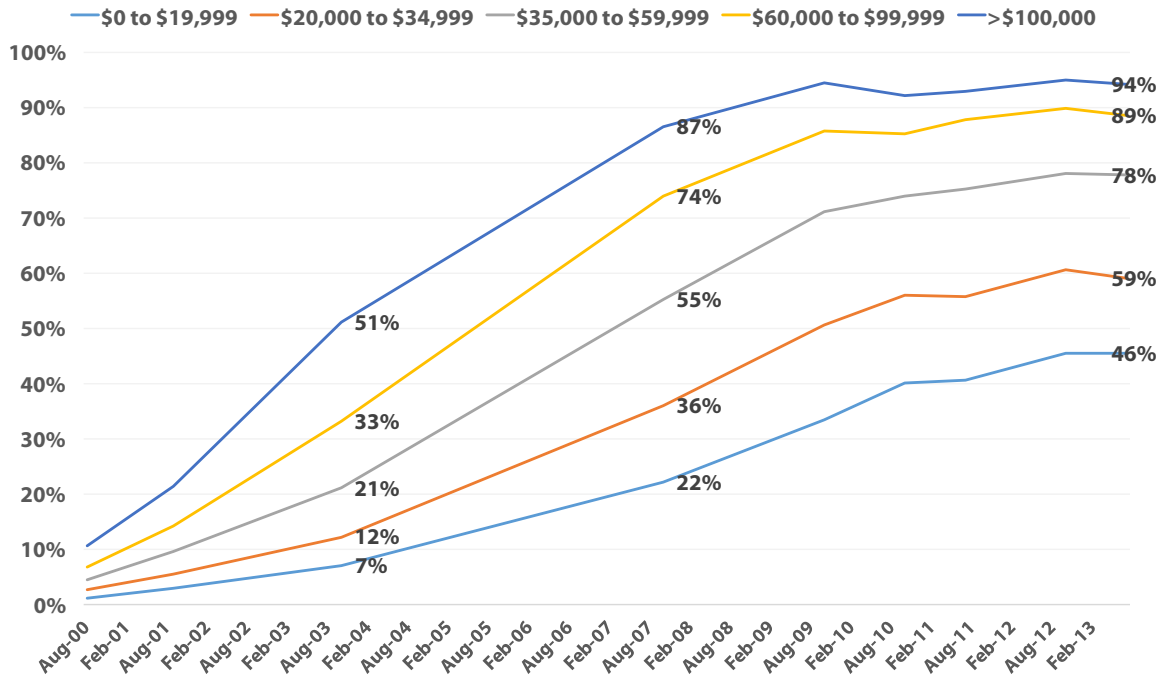
And though broadband is demonstrably more essential today than it was a decade ago, the size of the gap between adoption in the highest and lowest income quintiles is virtually unchanged (see Figure 21). Though the most recent adoption data shown in Figure 21 is two-

[46] "Broadband Statistics Report: Broadband Availability in Urban vs. Rural Areas," National Broadband Map, NTIA, Data as of June 2014 (rel. March 2015).

[47] U.S. Census Bureau, Current Population Survey, 2013 Internet and Computer Use Supplement. Unless noted, values from the 2013 CPS described herein are at the household level, not the individual level (*e.g.*, the 2013 results indicate that 78 percent of Americans live in a home with Internet access, but Internet access is present in 74 percent of households).

years old, it suggests that adoption is slowing considerably, with very little change in the observed level of home high-speed Internet adoption between July 2011 and July 2013. Other data indicates a similar slowdown in the rate of adoption.[48] These trends, along with survey data on reasons for non-adoption, suggest that even though there is ample room for growth, it may be increasingly hard to achieve.

**Figure 21: U.S. Home High-Speed Internet Adoption by Income Quintile (2000–2013)**




*Source: U.S. Census Bureau, Free Press estimates.*

Even among broadband adopting homes, there are differences in the type of technology adopted based on the household's income. Low-income broadband homes are more likely to have DSL than broadband-adopting homes in the highest income quintile. Low-income broadband homes are less likely to have cable modem than the highest income broadband homes.

[48] The Commission's Form 477 data indicates a slowing annual growth rate in fixed line subscriptions, from 7.1 percent in 2009, to 3.4 percent in 2013. Using various sources to estimate the total number of fixed broadband subscriptions, we find a similar result through the end of 2014 (a growth rate near 8 percent in 2008, declining to 3.6 percent in 2014).

And low-income broadband homes are far less likely to have fiber optic service than are the highest income broadband homes (see Figure 22).

**Figure 22: Broadband Technology Used by Income Quintile (2013)**

| Technology Used (among those homes with fixed line broadband) | Houshold Family Income | | | | |
|---|---|---|---|---|---|
| | <$20,000 | $20,000 to $34,499 | $35,000 to $59,999 | $60,000 to $99,999 | >$100,000 |
| DSL* | 29% | 29% | 28% | 27% | 24% |
| Cable Modem* | 57% | 57% | 57% | 57% | 58% |
| Fiber-optic* | 6% | 6% | 8% | 10% | 13% |
| Satellite | 4% | 5% | 4% | 4% | 4% |
| Other Access Method* | 3% | 3% | 2% | 2% | 1% |

*Source: U.S. Census Bureau, Free Press Estimates. * Indicates the difference in the adoption level of this technology among the lowest income quintile is stastically significantly different from the highest income quintile at p<0.05.*

These results are not surprising given the fact that DSL tends to be somewhat less expensive than the higher quality cable modem and fiber-optic broadband services. Nor is it surprising that within a given technology type, lower income consumers on average purchase lower-priced services (see Figure 23). Income constraints matter, and it shows in the type and level of broadband service that consumers purchase.

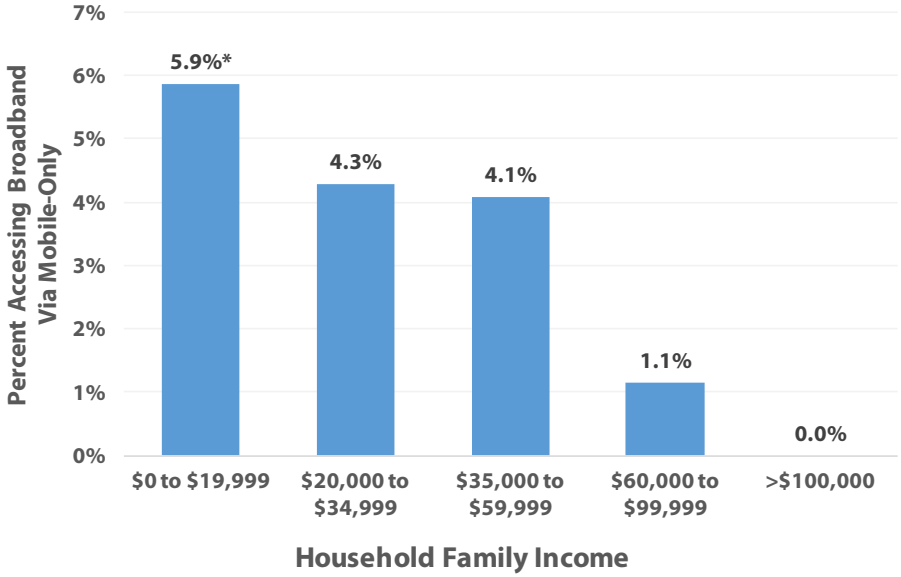
**Figure 23: Average Monthly Price Paid for Broadband by Income Quintile and Technology (2013)**

| Average Monthly Price | Houshold Family Income | | | | | |
|---|---|---|---|---|---|---|
| | <$20,000 | $20,000 to $34,499 | $35,000 to $59,999 | $60,000 to $99,999 | >$100,000 | All Housholds |
| DSL* | $42.70 | $43.12 | $45.39 | $44.72 | $48.41 | $45.34 |
| Cable Modem* | $44.82 | $47.27 | $49.74 | $50.31 | $50.60 | $49.32 |
| Fiber-optic* | $49.27 | $48.97 | $51.34 | $51.32 | $53.44 | $51.80 |
| Satellite* | $48.80 | $48.92 | $48.48 | $48.92 | $52.60 | $49.71 |
| Other Access Method* | $31.44 | $41.15 | $43.51 | $50.24 | $50.97 | $43.55 |

*Source: U.S. Census Bureau, Free Press Estimates. * Indicates the difference in the average monthly price paid for this technology among the lowest income quintile is stastically significantly different from the highest income quintile at p<0.05.*

Also not surprising, lower-income homes are more likely to rely solely on mobile broadband services as their only means of home Internet access. Among the lowest income quintile, 5.9 percent of households reported that mobile broadband was their only means of access, versus 1.1 percent of homes reporting that in the fourth highest quintile, and 0 percent in the highest income quintile (see Figure 24).

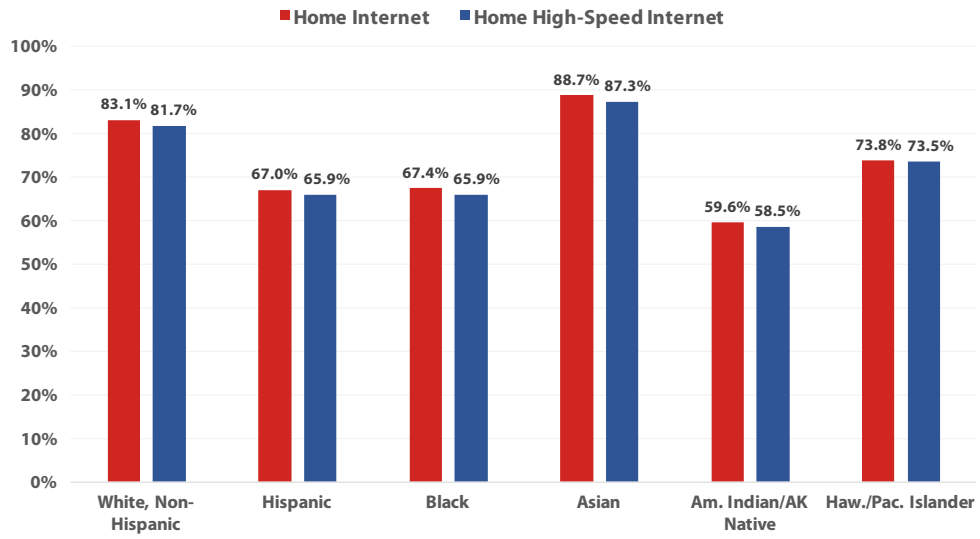
**Figure 24: Broadband Technology Used by Income Quintile (2013)**




*Source: U.S. Census Bureau, Free Press Estimates. * Indicates the difference in the adoption level of this technology is stastically significant as compared to the other quintiles at p<0.05.*

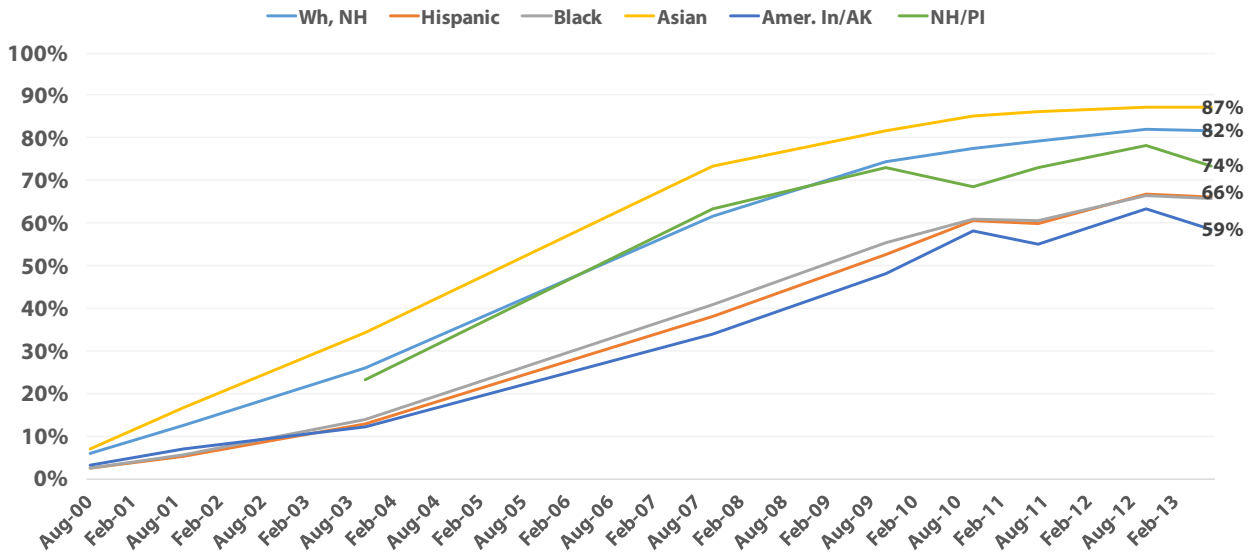
The racial and ethnic broadband divide also persists, similar to that discussed above for home telephone adoption. In 2013, 82 percent of non-Hispanic whites lived in a household with home high-speed Internet access, compared to only 66 percent of Hispanic and black Americans and 59 percent of American Indian/Alaskan Natives (see Figure 25). These gaps have persisted since the Census started measuring home broadband adoption in 2000 (see Figure 26). And just as was observed in telephony, racial/ethnic gaps in adoption are seen even within the same income strata. For example, in the lowest income quintile 57 percent of non-Hispanic whites reported that they had home Internet access versus just 44 percent of Hispanics, 48 percent of blacks, and 34 percent of American Indian/Alaskan Natives. This gap shrinks but persists at higher income levels (see Figure 27).

**Figure 25: U.S. Home Internet and Home High-Speed Internet Adoption by Race/Ethnicity (2013)**



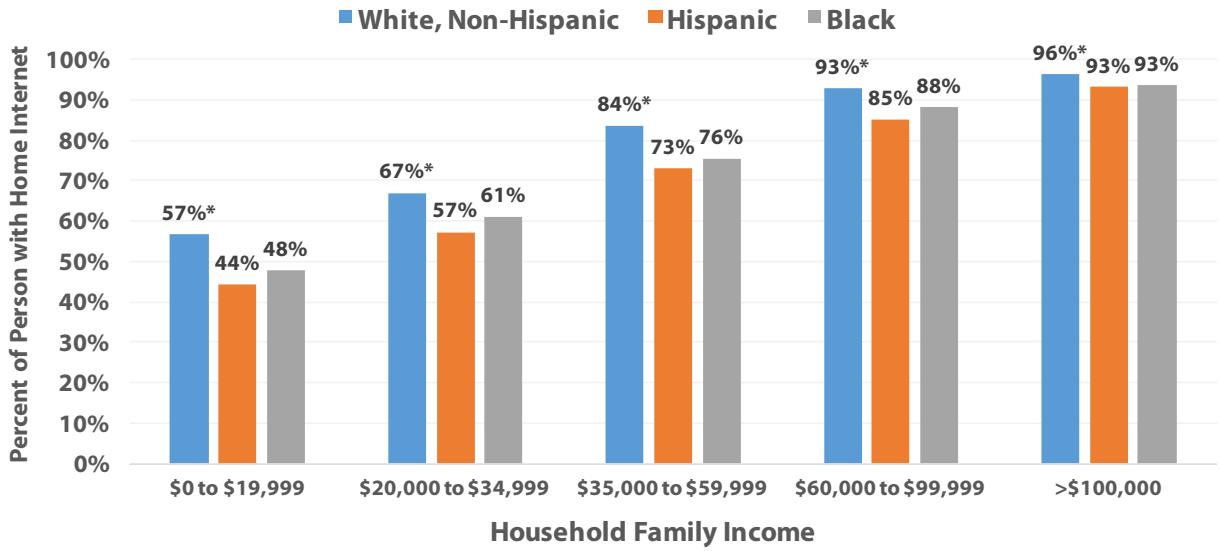

*Source: U.S. Census Bureau, Free Press estimates.*

**Figure 26: U.S. Home High-Speed Internet Adoption by Race/Ethnicity (2000–2013)**




*Source: U.S. Census Bureau, Free Press estimates.*

**Figure 27: U.S. Home Internet Adoption by Race/Ethnicity and Income (2013)**



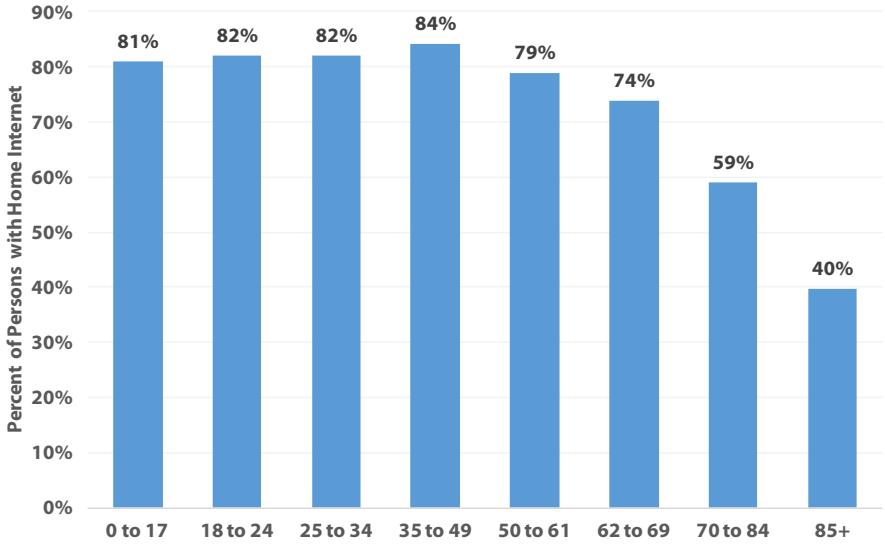

*Source: U.S. Census Bureau, Free Press estimates. * Indicates the difference between telephone adoption among non-Hispanic whites and all other groups is statistically significant at p<0.05*

Unlike the case of telephony, for which adoption increases by age group, adoption of home Internet access decreases with older age cohorts, dramatically declining among those older than 70 (see Figure 28). While the majority of those over age 62 (64 percent as of 2013) have found enough utility in Internet services to justify the expense, many have not. However, as cohorts age we expect the size of the age-related broadband divide will substantially shrink, as the younger cohorts adopt at far higher levels and are unlikely to become non-adopters as they age. Given that poverty is disproportionately higher among the elderly, expansion of Lifeline to broadband may also help to narrow this gap.

Finally, because the Commission has rightly made increasing the affordability of Internet access in homes with minor children a top priority, we note that though adoption in such homes is higher than the national average (84 percent versus 74 percent), adoption in the poorest of these homes trails adoption by those in the highest income housholds. Internet access is present

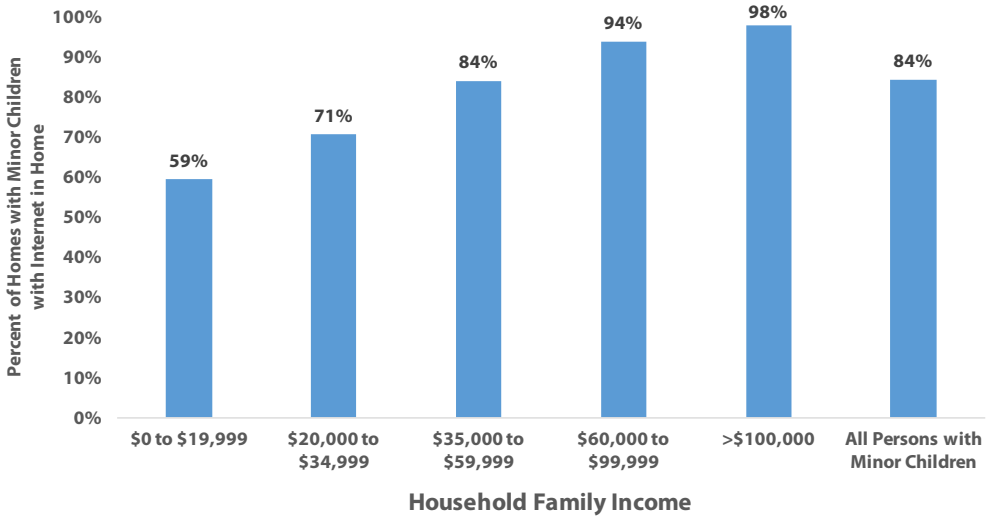
in 59 percent of households with minor children and with annual incomes less than $20,000, compared to 98 percent of such households in the top income quintile (see Figure 29).

**Figure 28: U.S. Home Internet Adoption by Age (2013)**




*Source: U.S. Census Bureau, Free Press estimates.*

**Figure 29: U.S. Home Internet Adoption in Households with Minor Children by Income (2013)**




*Source: U.S. Census Bureau, Free Press estimates.*

### B. The Classification of Fixed and Mobile Broadband Internet Access Services as Interstate Telecommunications Services Clears Up Any Legal Ambiguity Regarding the Commission's Authority to Make Lifeline Subsidies Available to Carriers for Broadband Access.

The Commission's decision to reclassify broadband access as a common carrier telecommunications service serves multiple policy goals, as it reverses a decade of misguided policy by once again properly following the plain meaning of the Communications Act. Proper classification not only created solid legal authority to protect all consumers against unreasonable discrimination, it also finally created a clear legal path to add broadband to the Lifeline program.

Classification of broadband as a telecommunications service is likely a necessary prerequisite if the Commission wishes to allow Lifeline subscribers to use their $9.25 monthly subsidy for broadband-only services or with carriers that do not provide traditional voice service. This is because the Commission's authority to operate the Lifeline program is based on its Title I ancillary authority,[49] and the prospect of using its ancillary authority to provide subsidies for services over which it only has ancillary authority poses difficult legal issues.[50] The Commission navigated this path successfully in its creation of the Connect America and Mobility Funds by conditioning receipt of High-Cost support on carriers' offering of voice services on broadband-

[49] *See 1997 Universal Service Order* ¶ 329 ("Since 1985, the Commission, pursuant to its general authority under sections 1, 4(i), 201, and 205 of the Act and in cooperation with state regulators and local telephone companies, has administered two programs designed to increase subscribership by reducing charges to low-income consumers.") (internal citations omitted).

[50] The statute indicates that "universal service is an evolving level of *telecommunications services* that the Commission shall establish . . . taking into account advances in telecommunications and information technologies and services." *See* 47 U.S.C. § 254(c)(1). It is thus unlikely that the law authorizes the Commission to subsidize, for example, the construction of Facebook's server farms, or Spotify's purchases of music licensing agreements, even though these are information services that are used by many consumers and that create demand for broadband networks. Section 4(i) authority is not unbounded, and an untenable "ancillary to ancillary" authority construction would be necessary to provide Lifeline support for broadband-only services if they were to remain classified as information services.

capable networks.[51] However, because broadband access is now a telecommunications service, there is no longer any need to devise such conditions. Lifeline can support broadband directly, and flexibly meet consumers' needs in the marketplace – even when those consumers want broadband or voice on a standalone basis – rather than bundling services together for the sake of satisfying a legal authority question.[52]

Because it is a telecommunications service, the Commission's authority to extend Lifeline support to broadband is unambiguous. First, it is a settled matter that Congress did not freeze Lifeline in place in the program's pre-1996 state when it added Section 254(j) to the Act.[53]

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[51] *See Connect America Fund,* WC Docket No. 10-90 *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17676, 17685, ¶ 64 ("*USF/ICC Transformation Order*"); *see also In re FCC 11-61,* 753 F.3d 1015, 1046 (10th Cir. 2013) (ruling that "nothing in the statute limits the FCC's authority to place conditions, such as the broadband requirement, on the use of USF funds.").

[52] In the *2015 Lifeline NPRM*, the Commission asked if it should repeat this scheme by conditioning receipt of Lifeline funds for voice on the offering of broadband. *See 2015 Lifeline NPRM* ¶ 62. We do not see any reason to do so and in fact see several reasons not to. There is continuing need for voice-only Lifeline, meaning that carriers should be able to offer voice alone as a supported service. Repeating the pattern also would reduce the universe of ETCs for broadband because not all broadband access providers offer POTS. The Commission felt the need to take this course in the *USF ICC Transformation Order* because of the legal complexities inherent in supporting supposed "information services" with money that the statute designates for telecom services and carriers. There's no good reason to do so now that broadband is a Title II telecommunications service and clearly meets the Section 254 criteria for supported service.

[53] *See, e.g.*, *1997 Universal Service Order* ¶¶ 331-335:

> In its Recommended Decision, the Joint Board determined that section 254(j) could be reconciled with other portions of section 254 regarding competitive neutrality and support for low-income consumers in all regions of the nation. The Joint Board found that Congress did not intend for section 254(j) to codify the existing Lifeline program, but that it intended to give the Joint Board and the Commission permission to leave the Lifeline program in place without modification, despite Lifeline's inconsistency with other portions of the 1996 Act. The Joint Board further concluded that it had the authority to recommend, and that the Commission has the authority to adopt, changes to the Lifeline program to make it more consistent with the 1996 Act. . . . In fulfilling our responsibility to preserve and advance universal service, we find that the 1996 Act clarifies not only the scope of the Commission's authority, but also the specific nature of our obligations.

Second, the Act directs the Commission to make rates affordable,[54] and the 1996 Amendments to Title II indicate that Congress was particularly concerned about the needs of low-income Americans.[55] Finally, as the Joint Board and the Commission long ago determined, broadband access services meet each of the criteria for a supported service in 47 U.S.C. § 254(c)(1).[56]

### C. The Commission Should Make the Lifeline Subsidy Fully Portable to Any ETC Offering Voice, SMS, or Broadband Access Services Using Any Technology, And Consider Using Reverse Auctions to Set Minimum Service Standards.

#### i. Consumer Welfare, Affordability and Program Effectiveness Are Maximized Through the Use of A Fully Portable Subsidy.

Less than one-third of the 42 million households who would qualify for Lifeline participate in the program. This is the reality despite the availability of a $9.25 monthly subsidy that these consumers could use with their ILEC for a discount on landline service, or with a handful of wireless carriers for 250 monthly voice minutes. This means approximately 29 million households that could take Lifeline do not participate in the program. Yet, only 2.5 million of the 42 million Lifeline-qualifying households lack access to telephone service. This means there are 26 million households using their own funds (for many, presumably extremely limited funds) to purchase telephony services despite the existence of Lifeline.

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[54] *See, e.g.*, 47 U.S.C. § 254(b)(1) ("Quality services should be available at just, reasonable, and affordable rates"); *id.* § 254(i) ("The Commission and the States should ensure that universal service is available at rates that are just, reasonable, and affordable.").

[55] *1997 Universal Service Order* ¶ 335 ("With respect to the Lifeline and Link-Up programs, we observe that the Act evinces a renewed concern for the needs of low-income citizens. Thus, for the first time, Congress expresses the principle that rates should be 'affordable,' and that access should be provided to 'low-income consumers' in all regions of the nation. These principles strengthen and reinforce the Commission's preexisting interest in ensuring that telecommunications service is available 'to all the people of the United States.' Under these directives, all consumers, including low-income consumers, are equally entitled to universal service as defined by this Commission under section 254(c)(1).") (internal citations omitted).

[56] *See 2007 Recommended Decision* ¶¶ 55-68.

There are several possible reasons for this low participation level. First, despite increased outreach efforts and overall increased awareness of the program since it was expanded to wireless, some consumers remain unaware of the program or the fact that they would qualify to receive subsidized service. Second, there are 16.6 million households with incomes above 135 percent of the federal poverty line who qualify for Lifeline due to their participation in programs like Medicaid (see Figure 30). It is likely that many of these households have sufficient income to purchase telephony services that are bundled with non-Lifeline-qualifying service or that are offered by non-Lifeline participating carriers. For example, there are over 7 million households that participate in the Medicaid program – and no other qualifying program – with incomes above 135 percent of FPL (see Figure 31).[57]

**Figure 30: Lifeline-Qualifying Households by Income and Social Service Program Participation**

| Qualifying Category | Households | Percent of U.S. Households | Average Household Income |
|---|---|---|---|
| Households Below 135 Percent Poverty Level | 25,530,173 | 20.7% | $13,717 |
| Households Qualifying for Lifeline via Participation in Other Program | 31,965,579 | 26.0% | $43,030 |
| Household Qualifying for Lifeline via Income Only | 10,135,889 | 8.2% | $11,797 |
| Households Above 135 Percent Poverty Level Qualifying for Lifeline via Participation in Other Program | 16,571,295 | 13.5% | $69,088 |
| Total Qualifying Households | 42,101,468 | 34.2% | $35,511 |
| All U.S. Households | 123,052,854 | 100% | $72,631 |

*Source: U.S. Census Bureau, Free Press estimates.*

[57] Medicaid is available to certain populations of higher income individuals who do not have health insurance. It is likely that a significant number of these seven million may be homes that qualify for Medicaid due to the presence of an uninsured pregnant woman, who may not have access to affordable health insurance but does have resources for telephony.

**Figure 31: Households that Qualify for Lifeline via Social Service Program Participation**

| Program | Households in Program | Households Only in Given Program | Households Only in Given Program with Income Above 135% Poverty Level |
|---|---|---|---|
| Medicaid | 24,469,760 | 9,052,481 | 7,172,637 |
| Supplemental Nutrition Assistance Program (SNAP) | 13,636,571 | 2,591,558 | 1,010,866 |
| Supplemental Security Income (SSI) | 5,259,501 | 141,785 | 108,352 |
| Federal Public Housing Assistance | 1,689,147 | 373,582 | 244,460 |
| Low-Income Home Energy Assistance Program | 3,892,435 | 702,936 | 389,049 |
| National School Lunch Program | 10,233,790 | 2,198,774 | 1,527,565 |
| Temporary Assistance for Needy Families (TANF) | 1,637,722 | 29,192 | 25,270 |
| Veterans Payment Income^ | 3,442,500 | 2,823,769 | 2,651,281 |

*Source: U.S. Census Bureau, Free Press estimates. ^ Veterans who receive veterans payment income do not qualify for Lifeline based on these payments alone, but the Commission is considering making such veterans eligible.*

But there remain many millions of low-income households that are purchasing telephony services outside the Lifeline program, and that are aware of the available subsidies, but do not participate. It is likely that many of these Americans simply do not find enough utility in a discounted landline or in the limited amount of monthly minutes offered by the various pre-paid wireless carriers that offer Lifeline service. For example, a single mother with two school-age children whose main source of income is the Supplemental Security Income program may live in an area with poor cellular coverage, and thus may find far greater utility in purchasing an entry-level broadband and VoIP bundle from her incumbent cable company than she would in taking a free cellular service. An unemployed young adult may decide that his need for Internet access and voice services he can use to look for work is so important that he would rather sign up for a smartphone plan from a pre-paid carrier at a rate of $35 per month, instead of taking just the free 250 mobile minutes from a Lifeline service and waiting to use the Internet at his local library. Or there may be a household with six members who use well in excess of 250 minutes a month, so

they find a $25 unlimited mobile voice and text plan more affordable and useful than a prepaid plan from one of the wireless Lifeline carriers on which they'd need to purchase more expensive "top-off" minutes once the included 250-minute allotment runs out.

Low-income households do not fit a single mold; like all families, they have widely varying telecommunications needs. Restricting their participation to rigid options unnecessarily limits which low-income households can and will take advantage of Lifeline, and undermines the program's mission to make telecommunications more affordable. This is true in telephony, where some households would have benefited from a discount on a different service plan than the ones currently accessible through Lifeline. And it's certainly true when it comes to telecommunications generally, where some low-income households may find zero utility in voice but high utility in Internet access. Indeed, the July 2013 Census Internet and Computer Use Supplement data indicates that nearly 54 percent of persons who reported no access to a telephone *did* live in a household where Internet access was available.[58]

Thus, when the Commission asks "[i]s there a price to the low-income consumer above which voice telephony service is no longer affordable,"[59] it is needlessly presuming too rigid a definition for "the low-income consumer," and it is failing to account for individual utility functions. Affordability is not just a matter of price, but also how a particular consumer perceives the utility in various offerings. If the Commission wishes to "increase competition and innovation in the Lifeline marketplace,"[60] *it should allow Lifeline consumers to fully participate in the entire marketplace.* It can do this by making the Lifeline subsidy fully portable, so that a

[58] This result is at the person level. At the household level, 49 percent of households without a telephone service had someone in the household using Internet from home.

[59] *2015 Lifeline NPRM* ¶ 41.

[60] *Id.* ¶ 121.

qualifying household can use that subsidy for the telecommunications services that best maximizes the household's utility function and fits their family's needs.

Making the subsidy portable and easy to use will increase demand for telecommunications services, which in turn will induce more providers to offer services that cater to this demand.[61] The idea to make the Lifeline subsidy portable was considered by the Joint Board and the Commission as they worked to implement the 1996 Amendments to the Act.[62] Given the vastly increased number of options in the marketplace in the intervening two decades, it is now an idea whose time has come.

If the Commission expands the use of the $9.25 monthly Lifeline subsidy to all telecommunications carriers and telecommunications services (including broadband), the key question becomes what if any minimum standards to require from such carriers before they can receive this subsidy. This is difficult to answer because the amount of the $9.25 subsidy is completely unmoored from its historical purpose: sparing low-income consumers from the impact of the SLC, a charge levied on end-users by rate-regulated ILECs in order to recoup most of the non-traffic-sensitive costs of the interstate portion of the local loop.[63] There is absolutely no rate regulation in the retail wireless voice market or in the wired and mobile broadband

[61] *Id.* ("We seek comment on ways to increase competition and innovation in the Lifeline marketplace. We believe the best way to do this is to increase the number of service providers offering Lifeline services.").

[62] *See, e.g.*, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Recommended Decision, 12 FCC Rcd 87, ¶ 409 (1996) ("*1996 Recommended Decision*").

[63] *See, e.g.*, *Access Charge Reform*, CC Docket No. 96-262, Sixth Report and Order, 15 FCC Rcd 12962, ¶¶ 64-68 (2000) (explaining how when the Commission reformed access charges in 1983 in response to the need to reduce long distance cross subsidies in an increasingly competitive market, it apportioned charges for common line costs between the SLC (charged to end-users) and a per-minute Carrier Common Line charge assessed on long distance carriers (a charge then passed through to the customer paying for long distance), with the Commission holding the SLC at $3.50 for residential lines even though it determined this amount did not lead to full recovery of non-traffic-sensitive loop costs).

markets (and it barely exists in local landline service anymore either, outside of the few remaining rural rate of return carriers). Thus there is no tethering of the $9.25 subsidy to a discount on a rate that itself must be "just and reasonable" in the first place.[64]

In other words, because the Commission does not regulate rates – even for wireless voice that always has been and today remains a Title II telecom service – it has no method to prevent a large portion of the Lifeline subsidy from becoming excess profit in an uncompetitive marketplace. The Commission also cannot ensure the subsidy is used solely for "the provision, maintenance, and upgrading of facilities and services for which the support is intended."[65]

The *2015 Lifeline NPRM* directly recognizes this issue, pointing out that:

> the level of Lifeline service has not appreciably increased recently, while the cost per minute to wireless resellers has declined to less than two cents on the wholesale market. The per-minute cost for facilities-based providers is likely lower still. When the declines in costs are coupled with the average minutes of use and stagnant Lifeline service levels, it appears that Lifeline ETCs are not offering consumers 'innovative and sufficient service plans' *or passing on their greater efficiencies to consumers*.[66]

This result is to be expected in a market with imperfect competition. Where there is monopoly, duopoly or oligopoly in an industry with high barriers to entry, producers will earn supracompetitive profits by reducing output (or charging inefficiently high prices).

The per-minute wholesale figures cited by the Commission suggest a gross margin for Lifeline MVNOs of at least 45 percent, which is high but well below the gross margin in the cable broadband market of more than 97 percent (a market where cashflow margins, which are a

[64] 47 U.S.C. § 201(b) ("All charges . . . shall be just and reasonable, and any such charge . . . that is unjust or unreasonable is hereby declared to be unlawful . . . .").

[65] *Id.* § 254(e).

[66] *2015 Lifeline NPRM* ¶ 42 (internal citations omitted).

more informative and important metric, exceed 60 percent).[67] But if the Commission is not going to prescribe rates, there's very little it can do to prevent carriers from using Lifeline subsidies used to pay for their own excess profits. The Commission could require a specific level of service for the $9.25 subsidy, as proposed in the *2015 Lifeline NPRM*.[68] For example, if the Commission required the current wireless-only ETCs to offer 400 minutes per month instead of the voluntary 250 minutes of use, the gross margin earned on the $9.25 monthly subsidy would decrease from near 45 percent to 13 percent. At this gross margin, it's not clear if carriers would be able to earn any return on this service; just as it's not clear if their current return on the 250 minutes of use is excessive – and if it is excessive, whether this accrues to the Lifeline carrier or the facilities-based provider from whom it purchases wholesale minutes. All we know is that wholesale costs have declined but the level of service offered through Lifeline has not improved.

This illustrates the difficulty the Commission faces in setting minimum standards in an unregulated market. If the Commission were to adopt this sample minimum requirement of 400

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[67] Operating and cashflow margins for cable high-speed data services for the major operators were above 60 percent as of the middle of 2015 and have steadily increased in recent years. In contrast, video margins for the top cable companies were down below 14 percent as of the second quarter (weighted average for Comcast, Charter and Time Warner Cable). *See, e.g.*, Tony Lenoir, "Cable video margin stuck in lower teens despite uptick," SNL Kagan, Aug. 11, 2015.

[68] *See, e.g.*, *2015 Lifeline NPRM* ¶ 16:

> Despite years of participation by multiple providers offering voice service in competition with one another, we do not see meaningful improvements in the available offerings. It has been over three years since the *Lifeline Reform Order*, and the standard Lifeline market offering for prepaid wireless service has remained largely unchanged at 250 minutes at no cost to the recipient. . . . We therefore believe it is necessary to establish minimum voice standards to ensure maximum value for each dollar of universal service and that consumers receive reasonable comparable service, and we seek comment on this analysis.

*See also id.* ¶ 39 ("We seek comment on whether to establish a standard for mobile and/or fixed voice-only service based on objective data. What usage levels would result from these options? Since the cost of providing voice service has declined drastically, should we require mobile providers to offer unlimited talk and text to Lifeline consumers to maximize the benefit of the Lifeline subsidy?") (Internal citations omitted).

minutes, that would certainly increase the utility of the service to some users. But such a change might not increase utility at all for other users, and it might push certain ETCs out of the market.

As an alternative, the Commission could determine its desired minimum level of service and then conduct a reverse auction to find the subsidy level that a carrier (or carriers) would be willing to accept in order to offer this minimum standard. Certainly this approach would better mimic the competitive market outcome and reduce excessive profits. But it also poses difficult administrative questions, such as how often to conduct the reverse auction, and at what geographic level (*i.e.*, if it's conducted at the study area level and there is only one carrier willing to participate, would the auction fail?).

Furthermore, if the Commission decided for example to set the minimum level for the mobile wireless subsidy at unlimited voice minutes and SMS (as asked in the *2015 Lifeline NPRM*),[69] that might necessitate an increase in the subsidy to induce carriers to provide this level of service. This would increase program costs for the purpose of subsidizing a level of service in which many users may find no additional utility, threatening the ability of the program to achieve the goal of affordability for all in order to benefit only a small population of low-income users.[70]

While 250 monthly minutes of use does fall below the average for all mobile users, there is ample reason to believe that this average value is highly skewed above the median value.[71] Thus, while setting the minimum service level well above 250 minutes might appear to be a way of improving program efficiency, it may just mean giving many people more of something that they neither need nor use, and upon which they place no additional value.

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[69] *Id.* ¶ 39.

[70] *Id.* ¶ 40.

[71] *See, e.g.*, Amanda Lenhart, "Cell phones and American adults," Pew Research Center, Sept. 2, 2010.

To deal with this complex problem in a manner that attempts to minimize waste of program resources and maximize user utility, we suggest a two-pronged approach.

First, the Commission should conduct a reverse auction to see what minimum level of service carriers are willing to provide, either for $9.25 per month or at a lower price.[72] For example, the baseline voice-only mobile service could be bid down to 250 monthly minutes and 911 access for $5 per month; the baseline mobile data service could be 1 gigabyte of mobile data service for $5 per month; the baseline fixed broadband service could be 3 Mbps unmetered for $5 per month. All carriers willing to offer this minimum service level would be eligible to receive the Lifeline subsidy.[73] In the alternative, the Commission could set the minimum level simply by requiring carriers to offer a Lifeline rate equal to the carrier's lowest comparable rate, further reduced by the monthly $9.25 subsidy.[74]

Second, Lifeline consumers should be able to use the $9.25 subsidy as a portable credit,[75] which they could apply to any telecommunications service or telecommunications

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[72] *See, e.g.*, *2015 Lifeline NPRM* ¶ 53 ("We also seek comment on whether the support amount should be reduced for Lifeline supported mobile voice-only service. The cost of provisioning wireless voice service has decreased significantly since the *Lifeline Reform Order*. Therefore, the Commission questions whether it is necessary to support mobile voice-only Lifeline service with a $9.25 subsidy, and we seek comment on the level of support needed for mobile voice-only service.").

[73] We agree with the Commission that voice services continue to play a critical role in the lives of all Americans, including those with low incomes. Thus we recommend the continued availability of voice-only Lifeline services. *See id.* ¶¶ 38-40. Similarly, data-only services may be vital for some users, and so we also support the requirement for ETCs to offer data-only Lifeline service.

[74] For example, Time Warner Cable's entry-level broadband is $14.99 per month for 3 Mbps downstream service. Under this approach, its Lifeline rate would be $5.74 for this service. This is similar to how the Joint Board recommended dealing with carriers that did not charge SLCs, such as wireless carriers and CLECs. *See, e.g.*, *1996 Recommended Decision* ¶ 424.

[75] We offer no comment on the best method for operationalizing a portable subsidy (whether as a card, a PIN, or other method), but note that in the normal course of operations carriers often run credit checks prior to commencing service. These checks tie the identity of the subscriber to a credit history via a social security number or other personally identifiable information.

services sold in a bundle.[76] This would better serve low-income consumers whose needs exceed whatever minimum is set, consumers who may not be able to cobble together a "synthetic bundle" of subsidized minimum service level plans and unsubsidized plans in a cost-effective and affordable manner. Though a portable subsidy better caters to individual consumers' utility functions (and thus increases affordability) – and though it might induce more affordable options from carriers seeking to capture new customers – a portable subsidy certainly does not adequately solve the issue of the Lifeline funds going to excessive profits. But this approach, combined with a minimum service level (determined as described above) is the best option until the Commission confronts the issue of poor competition and its impact on consumer welfare for all telecommunications users.

**ii. Setting a Per-Subscriber Subsidy Limit at a Fixed Amount Negates Any Need For An Overall Program Budgetary Limit.**

We believe the keeping the portable Lifeline subsidy at a $9.25 monthly amount strikes an appropriate balance,[77] increasing affordability without placing too great a burden on ratepayers who support the fund. There are several million more poor and near-poor consumers

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Presumably the eligibility process will create a record of the applicant, and assigning a PIN that is then used with a social security number would be a simple method for the user to sign up for service while reducing the likelihood of resale or other potential fraud. We note that there are ample reasons to be concerned about users needing to divulge social security numbers, but this is a risk that all consumers take as a matter of routine. Whatever form the final subsidy takes, the Commission should strive to ensure that use of the subsidy is no different than non-subsidized transactions. For example, no Lifeline recipient should be required to visit a store to continue service from one month to the next. Service should continue if post-paid; and if pre-paid, service continuation should be as seamless a process as it is for existing pre-paid consumers.

[76] *2015 Lifeline NPRM* ¶ 44 ("Today, mobile Lifeline providers may offer a specific service just for Lifeline but providers do not allow such customers to apply the Lifeline discount to other service offerings. Should providers be required to make available any offering that is at or above a minimum speed to eligible low-income consumers?").

[77] *Id.* ¶ 52.

who do not receive any subsidies than there are poor and near-poor consumers on Lifeline.[78] The price of landline telephony, mobile telephony, SMS, mobile data, and fixed data all vary considerably, but center around $30 to $50 per month. That means a $9.25 subsidy represents a reasonable discount, far higher proportionately than the discount in place for SLCs when Lifeline was created. Furthermore, if the Commission structures the program to include a portable subsidy and uses a reverse auction to induce the highest quality level for $9.25, there will remain services available to Lifeline subscribers at no cost.

We are not suggesting that a $9.25 discount on broadband access, which costs on average more than $45 per month, will be enough to completely close the digital divide. But a subsidy even at twice this amount would not close it completely either, simply because price is just one of several factors behind the digital divide. A $9.25 portable subsidy, in combination with a minimum standard "free" tier, is a responsible first step that will aid the main goal of the Lifeline program: making telecommunications services more affordable.

Closing the digital divide is not possible with Lifeline alone. As explained above, Lifeline acts as an income subsidy. The program helps people greatly, even though most participants already subscribe to the supported services. In the case of broadband, the effective price decrease from Lifeline would result in new adopters; but most people taking the subsidy would be current subscribers. Completely closing the digital divide must be a top priority of the Commission, Administration and Congress; but Lifeline can only help to close it part way.

[78] As shown in Figure 30 above, there are 25 million qualifying Lifeline households with incomes below 135 percent of the poverty level, yet only 13.4 million participating Lifeline subscribers, some of whom likely have incomes above this level. And many of the poor, non-Lifeline homes subscribe to telephone and other telecommunications services. Thus, more low-income homes pay into the USF than receive USF subsidies.

In the *2015 Lifeline NPRM* the Commission asks if it should adopt a budget for Lifeline. We agree generally that budgets are important tools to ensure that ratepayer dollars are not squandered, but do not believe an overall *program* budget is necessary or appropriate here *if* the Commission continues its current course and keeps the per-subscriber limit on Lifeline support.

Because there is a known and finite number of qualifying households, the act of setting a per-subscriber limit itself works to constrain the size of the fund. As noted above, the total size of the qualifying universe was 42.1 million households as of March 2014. If every single one of those households took the subsidy, the program would allocate $4.67 billion annually. While this is far in excess of the $1.6 billion allocated in 2014, there is no reason to expect program participation levels would ever climb this high, even if the Commission took steps to expand the subsidy to all telecommunications services.

First, as noted above, a large number of households that would be ineligible based on their income alone qualify exclusively via Medicaid. As the Affordable Care Act continues to shrink the ranks of the uninsured, the maximum size of the potential Lifeline population will decrease.[79] Second, even with improved outreach and education, many homes that could participate will not do so, for myriad reasons. Third, if the per-household subsidy remains at $9.25, many current participants may choose to apply the subsidy to broadband or a bundle but this will not change their net draw from the fund. Fourth, we estimate (using the model discussed in detail below) that a portable $9.25 subsidy that can be used for retail broadband would induce

[79] Because of this, and because of the high number of Medicaid participants who live in households well above the 135 percent of poverty income threshold, it may be prudent for the Commission to consider removing Medicaid from the list of programs whose participants automatically qualify for Lifeline. Doing so would have no material impact on adoption. Furthermore, the need for an income subsidy for many (but not all) of these households is small, and certainly far less than the need for households who qualify via participation in programs that offer free lunches to school children, energy assistance, food subsidies, and rental support.

approximately 1.2 million new broadband subscribers, adding just $134 million annually to the size of the Lifeline fund.[80] Certainly a portable subsidy would attract new Lifeline subscribers who would apply it to voice or broadband services that they had previously purchased without subsidy; but the experience with the existing fund and its current offering of free mobile voice service suggests that this will not be a large population, even if the Commission streamlines the eligibility verification process.[81]

## IV. Changes to the Contributions System Have the Potential to Undermine the Lifeline Reforms and the Overall Goals of the Universal Service Program. The Commission Should Undertake Lifeline Reform with a Heightened Awareness of How Future Changes to Contributions Policy Will Impact Broadband Adoption Among All Americans, Including the Low-Income Americans It Helps Through Lifeline.

While this proceeding is about reforming Lifeline, the Commission cannot make substantive changes to any universal service program without considering the impact on USF contributions. Fixed and mobile broadband networks currently receive substantial USF High-Cost funding. The Commission recently expanded the size of the Schools and Libraries fund by $1.5 billion annually, explicitly due to expanded support for broadband and Wi-Fi networks. If the proposals in the *2015 Lifeline NPRM* are adopted, broadband users will also receive Lifeline

[80] This estimate is for change in home, fixed-line broadband subscriptions among Lifeline-qualifying households, with no changes to the current contributions system. As discussed below, if broadband were added to the contribution base this estimate would be lower.

[81] While we do not offer detailed comment on the Commission's proposals to shift the verification process away from carriers, we do note that a single third-party verification process and database would better facilitate the use of a portable subsidy that works in practice as a voucher. Increasing the ability of a participant to move to a different carrier and/or different plan without having to go through a potentially burdensome and delayed verification process would likely increase overall program efficiency and effectiveness, as it would make the market more responsive to competitive triggers and increase user surplus. The Commission should be skeptical of arguments against the third-party verifier approach, particularly when those arguments come from carriers who currently dominate the Lifeline market and stand to benefit from low churn and limiting new options.

subsidies. These expansions will no doubt increase calls to expand the contribution base to retail broadband services, something the Joint-Board recommended years ago.[82]

In the abstract, it makes sense that if broadband networks and users are supported by USF then broadband should be a part of the contributions base. But it does not make practical sense. At this time, it is likely that an expansion of the contributions base to broadband would result in a net decline in broadband adoption, even if subsidies were made available to low-income users to offset some of this decline. Demand for broadband service is simply far more sensitive to increases in price than demand for telephony, making any residential broadband USF assessment a potential threat to the overall goal of universal service.

We estimate that currently, the average household contributes $2.97 to the USF each month. When the full weight of the e-Rate fund increase is realized, this average will rise to $3.40. If all broadband Internet access services were included in the contribution base (*i.e.* business broadband access, residential broadband access, commercial mobile data and residential mobile data), with the fund size held constant at the expected $10.3 billion post-e-Rate increase level, we estimate that the average household monthly contribution would further increase to $4.99. Furthermore, if broadband were added to the contribution base, the portion of the USF funded by consumers would increase from 50 percent to 73 percent, while the share of the fund borne by businesses would decrease from 50 percent to 27 percent. The effective tax rate on broadband would be 4.6 percent (which would also be the overall contribution factor because broadband is a pure interstate service).[83]

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[82] *See, e.g.*, Comments of State Members of Universal Service Joint Board, WC Docket No. 10-90, at 119 (filed May 2, 2011).

[83] We estimate that if the new contribution factor under this expanded contributions base scenario were applied to telephony, the effective total tax rate on residential telephone service would be approximately 1.67 percent and approximately 1.71 percent on mobile, as these

Based on an analytical model we constructed that assumes a constant-value price elasticity of demand for fixed broadband at -0.65, we estimate that expansion of the contributions base to broadband would result in a net loss of 2.7 million of the current near 91 million fixed-line broadband homes. Of these 2.7 million lost subscribers, 700,000 would come from the ranks of those homes who qualify for Lifeline.

If broadband were added to the contributions base and Lifeline subsidies were made portable to retail broadband, using the price elasticity above and assuming no change in the overall Lifeline-eligible home participation rate beyond those new broadband homes added through the fund, we estimate that there would be a net loss of 1.7 million fixed line broadband-adopting homes. Just over 700,000 net new fixed-line broadband homes would be added from the population of Lifeline-qualifying homes. Even if participation in Lifeline increased to 100 percent, there would be a loss of 2.6 million fixed line broadband-adopting homes and just under 600,000 net new fixed-line broadband homes added from the Lifeline qualifying population.[84]

This model of course only produces estimates, built upon many assumptions that could change and thus pull the results in the opposite direction. First, the model assumes not only a specific price elasticity value, but also that this price sensitivity is uniform across the entire

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services are mixed inter- and intrastate services. Though we do not discuss it further herein, if the contributions base were expanded to broadband but assessed on a per connection and not a revenues basis, the results would be even more burdensome for consumers and more regressive. Under a connections-based approach, the per-line USF charge would be approximately $1.11 per month, and based on existing revenue data that would amount to an effective tax of 4.5 percent on mobile telephony, 2.9 percent on mobile data, 1.9 percent on fixed telephony, and 2.4 percent on broadband. Because the original impetus for the connections-based proposal (to reduce the deadweight loss USF contributions cause on long distance or other variable priced services) is not what it was a decade ago, and because of the highly regressive nature of charging low- and high-revenue generating users the same per-line fee, we strongly recommend that the Commission not consider this approach.

[84] Again, this is the case under the hypothetical 100 percent program participation scenario, because only a tiny fraction of those that take the subsidy will be new broadband adopters; the rest will be current adopters who take the income subsidy.

demand curve. While it is certainly possible that low- and high-income populations have, on average, the same sensitivities to changes in broadband price (*e.g.*, some seniors may place the same value on broadband service no matter their income), it may be the case that lower-income consumers are generally more price sensitive than higher-income consumers. Second, our estimates assume that Lifeline subsidies are fully portable to broadband services, and not restricted to a small subset of "free" (to the consumer) offerings. Third, the model is built upon inputs that consist of estimates of existing telecommunications subscriptions, prices, and revenues, each subject to some degree of estimation error. Fourth, though our model assumes mobile broadband would be part of the contributions base in this scenario, we do not model how overall mobile subscription rates and use might change – looking only at the impact on home fixed-line broadband adoption. Mobile presents special analytical challenges, because unlike fixed-line broadband it typically consists of a two-part monthly charge: a fixed subscription charge and a variable data usage charge. Because of this, a broadband contributions assessment would reduce mobile data usage as well as overall adoption. But since we have no elasticity information on either, we are unable to estimate the degree to which this would occur.[85]

The values used for price elasticity of demand and the overall Lifeline program participation rate are by far the two biggest factors in the model. They have the greatest impact

[85] The expansion of the contribution factor to mobile data could also have a conflicting impact when it comes to the equity of such a change. First, high-earners likely do use larger amounts of mobile data while also subscribing to landline broadband. They may also have a lower price sensitivity on variable data use charges than low-income users. Thus, contributions expansion could fall more heavily on higher-income consumers, and therefore be less regressive than a purely connections-based approach. However, low-income households are more likely to be mobile-only or mobile-reliant, and thus could be more price sensitive. Contributions expansion could have a greater impact on low-income use, because the impact of the tax on data tiers would push price sensitive users to consume less data. Though we do not have the data to estimate demand elasticities here, Pew in an October 2014 survey did find that a near-majority of low-income smartphone users have had to drop service due to affordability issues. *See* Aaron Smith, Pew Research Center, "U.S. Smartphone Use in 2015," at 4, April 1, 2015.

on how big the net decline in overall home fixed broadband adoption would be, and how big an impact the Lifeline program would have on low-income adoption in this scenario. Therefore we present below in Figure 32 a sensitivity analysis of these two variables. We model the impacts of price elasticities ranging from a very low -0.05, up to a unit elastic value (-1). We do so first assuming no net change in the Lifeline participation rate beyond those new fixed-line broadband homes added. We then model these various elasticity values assuming 100 percent program participation. As the results indicate, if demand is more elastic than the baseline assumption, overall subscription losses are higher, even as the number of added low-income homes is higher. If instead consumers are not very sensitive to price increases, contributions expansion would create overall broadband home losses that, while material, would only number in the hundreds of thousands instead of millions. However, as consumers become less sensitive to price increases, it becomes more difficult to induce new subscribers into adopting with Lifeline-created price discounts.

We believe that our model and the estimates its produces are at the very least instructive regarding the potential for contributions methodology changes to harm the goals of universal service.[86] As the Commission proceeds with changes to the Lifeline program, it should be very

[86] The Act gives the Commission flexibility to forbear from applying individual provisions of Title II if forbearance is, *inter alia*, "consistent with the public interest," 47 U.S.C. § 160(a)(3), and if application of such provisions would run counter to the overall purpose of the Act. The Commission recognized that the issue of broadband contributions is an ongoing subject of debate, and chose to forbear from requiring any contributions under Section 254(d) on retail broadband Internet access services. *See In the Matter of Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601, ¶ 58 (2015) ("*Open Internet Order*"). That a broadband USF assessment could cause a substantial drop in adoption amongst the general population as well as the populations targeted by the Universal Service programs is certainly inconsistent with the public interest, and forbearance from such contributions at this time is necessary to protect consumers.

aware of the potential for all of its hard work in this proceeding to be undermined in the future if the wrong choices are made on contributions reform.[87]

**Figure 32: Modeling How Expanding the USF Contributions Base to Broadband Could Undermine Home Fixed Line Broadband Adoption**
**(Sensitivity Analysis of Constant Price Elasticity of Demand Assuming No Change to the Lifeline Participation Rate vs. Full Participation)**

| Lifeline Participation Rate | Sensitivity Variables Matrix [Price Elasticity of Demand X Lifeline Program Participation Rate] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Price Elasticity of Demand (Contstant Elascitcy) | -0.65 | -0.05 | -0.1 | -0.25 | -0.5 | -0.75 | -1 |
| Lifeline Participation Rate (excluding newly added Lifeline broadband adopters) = 32% | Effective Tax Rate on Broadband | 4.65% | 4.60% | 4.61% | 4.62% | 4.64% | 4.66% | 4.68% |
| | Percent of Lifeline-Qualifying Homes that Become New Broadband Homes (No Change in Overall Lifeline Participation Rate) | 2.9% | 0.2% | 0.4% | 1.1% | 2.2% | 3.3% | 4.4% |
| | Net Change in Lifeline-Qualifying Broadband Adopting Homes | 726,516 | 56,330 | 112,660 | 281,649 | 563,298 | 844,947 | 1,126,596 |
| | Net Change in Broadband Adopting Homes | -1,749,540 | -132,088 | -264,176 | -660,440 | -1,320,880 | -1,981,321 | -2,641,761 |
| Lifeline Participation. Rate = 100% | Effective Tax Rate on Broadband | 5.96% | 5.96% | 5.96% | 5.96% | 5.96% | 5.96% | 5.96% |
| | Percent of Lifeline-Qualifying Homes that Become New Broadband Homes (100 percent overall Lifeline program Participation) | 2.8% | 0.2% | 0.4% | 1.1% | 2.2% | 3.3% | 4.4% |
| | Net Change in Lifeline-Qualifying Broadband Adopting Homes | 575,516 | 44,270 | 88,541 | 221,352 | 442,704 | 664,056 | 885,408 |
| | Net Change in Broadband Adopting Homes | -2,598,096 | -199,854 | -399,707 | -999,268 | -199,535 | -2,997,803 | -3,997,071 |

*Source: Free Press estimates*

## V. Lifeline Reforms Will Be Minimally Effective if the Commission Fails to Take Other Steps to Increase Broadband Affordability and Competition.

If the Commission's primary goal is to get as many people using broadband as possible, then the best thing it can do is take all possible steps to increase affordability for *all* broadband services. As discussed above, an appreciable portion of the telephony adoption gains following the AT&T divestiture came from declining prices for telephony service and the increased use and

[87] We note too the shortsighted nature of the decision in the *Open Internet Order* to forbear from 47 U.S.C. § 254(k)'s prohibition on telecommunications carriers using services that are not subject to competition to cross-subsidize those that are. If one day broadband consumers are required to contribute to USF, then the Commission must revisit this decision.

perceived utility of these services – developments that stemmed from increased competition and technological innovations.

The issue of affordability is deeply intertwined with the difficult and often ignored issue of competition in markets that are ruled by natural monopoly economics. If the Commission wants to increase affordability, it cannot continue to sidestep the competition problem; it has to implement policies that confront this problem. To date, the Commission has shown reluctance to take even seemingly mundane first steps, such as following through on the National Broadband Plan's recommendation to collect pricing information from broadband carriers who file Form 477. This is inexcusable, as the Commission and outside researchers need this information to study how existing market competition impacts price and, in turn, affordability.

One barrier to affordable broadband services may be the lack of a well functioning wholesale market, particularly within wireline broadband. The experience of the past two decades indicates that a robust wholesale market is a necessary precondition to a retail market that serves all portions of the demand curve, including low-income consumers with limited resources and/or poor credit histories. It was not the entrenched incumbents who first served the value-seeking prepaid market; it was MVNOs. But there is no equivalent to MVNOs in the wired broadband market. Only recently have prepaid options surfaced, and these plans (offered by the facilities owners) are at best half-hearted attempts by incumbent ISPs to bring in more customers without sacrificing high margins.

And while the nonexistent wireline wholesale/resale market deserves the Commission's attention, so too does the wholesale wireless market – particularly for wireless data. Currently, many of the Lifeline ETCs are not facilities-based carriers, and instead purchase wholesale capacity from one of the four national providers. Each of those four national providers has

differing incentives to sell excess capacity in a manner that does not cannibalize their own retail businesses. Thus, the price paid by the resellers to the facilities owners may not be an efficient price. The Commission expressed concern in the *2015 Lifeline NPRM* about the resellers returning their efficiencies to Lifeline subscribers. This is a valid concern, but the Commission also should determine whether the resellers are capturing those efficiencies and whether the wholesale wireless market is functioning competitively.

## VI. Conclusion

The Commission should be commended for taking the next steps to ensure low-income Americans have more affordable access to all telecommunications services, including broadband. We believe this issue is long overdue for attention, and the recent reclassification of broadband as a Title II telecommunications service clears the path to action.

There are many lessons that the Commission can draw from its thirty years of experience administering the Lifeline program. The largest lesson is that the program operates at its best when it enables users to fully participate in the telecommunications services market. The Commission's expansion of Lifeline to mobile telephony services greatly enhanced user utility, and thus was a policy change that better effectuated the program's overarching goal of increasing telecom service affordability. It is now time for the Commission to take the next logical step and make the Lifeline subsidy fully portable, enabling low-income consumers to choose which service or plan best suits their needs.

In Section 254(j), Congress gave the Commission a blank canvas to use Lifeline to promote affordability, but it did not give the Commission a blank check. The Commission has an obligation to maximize affordability at all tangible market points – and its universal service policies will only be a success if it does so. We therefore recommend that in addition to making

the subsidy fully portable, that the Commission set minimum service standards through the use of reverse auctions. In addition, the overall efficiency of the Lifeline program is predicated on a well-functioning, competitive wholesale telecommunications services market. Thus, the Commission must take action not only to ensure that the existing wholesale wireless telephony market is functioning well, but also to address the lack of a wholesale market in residential broadband.

Respectfully Submitted,

_____/s/_____

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