

“Someday We’ll Find It: The Rainbow Connection”¹

Broadband Connectivity and the Proposed Infrastructure Bill

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Like Kermit in the Muppets song, we too believe that one of these days universal broadband connectivity will no longer just be a vision – and we will have adequate high-speed broadband connection for all Americans. The proposed Infrastructure Bill, which has now passed the Senate and is awaiting a House vote, may very well be the way of finding that rainbow connection.

The pandemic has underscored the importance of broadband connectivity in unprecedented ways. Now more than ever, citizens are dependent on broadband access for everyday activities such as work, school, entertainment, and shopping. In light of this, the \$1 trillion bipartisan infrastructure bill – currently being crafted by Democrats – has designated \$65 billion for broadband-related spending.²

Different technologies provide broadband connectivity, such as fixed (wired), mobile, fixed wireless, and satellite networks. While mobile, fixed wireless, and satellite provide a vital complement to fixed wired networks, the vast majority of broadband is provided over fixed wired networks, which are the most economical way to serve most urban areas. Broadband connectivity has become a lightning rod for debates surrounding issues of adequate access, affordability, the rural-urban digital divide, digital discrimination and digital equity, the classroom and homework gap, and the government’s role in all of these areas.

Availability Versus Adoption

Internet connectivity can be considered along two dimensions: availability (is it supplied?) and adoption (is the service taken?). Broadband deployment/availability is primarily driven by population density (sometimes thought of as a rural-urban issue), miscellaneous cost factors such as terrain, regulatory factors such as rights-of-ways, and demographic factors such as the population’s age and income composition. There is some dispute about whether racial factors – separate from other demographic variables such as income – help explain where broadband networks are deployed, but there is little dispute that the majority of unserved areas are rural and high-cost to serve.

Typically, the policy response to solving the supply-side issue – *i.e.*, the lack of adequate broadband deployment – has been to subsidize infrastructure. The Connect America Fund (CAF) and the recent Rural Digital Opportunity Fund (RDOF) focus on the supply-side availability issue.³ These are subsidy programs that provide money for building infrastructure in unserved and under-served rural areas that have been identified as high-cost. In these programs, providers commit to serving a certain percentage of households in the unserved/under-served area at certain speeds, and the Federal Communications Commission (FCC) disburses funds through reverse auctions.

To address the demand-side problem – *i.e.*, the lack of adoption by consumers – the policy response is to create incentives for individuals to adopt broadband, especially



targeted towards income and economic barriers. Programs such as Lifeline and the recent Emergency Broadband Benefit (EBB) Program are targeted towards low-income populations and provide low-cost broadband plans and subsidies on subscribed plans and devices.⁴

The current infrastructure bill proposes \$65 billion in broadband investment that is aimed at addressing both the availability and the adoption sides of high-speed broadband access. It is a historic first step in a holistic solution for the lack of adequate broadband service for a section of Americans in both rural and urban communities.⁵

What Does the Infrastructure Bill Do?

- Two-Thirds of the Effort: Targeting Availability Issues
 - ▶ The bill allocates a majority (\$42.5 billion) of the broadband-related funding to a state-level grant program called the Broadband Equity, Access, and Deployment Program. States will receive grant funds in proportion to the number of unserved locations within the state, and can then choose how to use this money to fund broadband projects such as ones improving availability in underserved, unserved, and high-poverty areas; connecting anchor institutions; and collecting data.⁶
 - ▶ Another \$1 billion is reserved for middle-mile infrastructure grants, particularly for unserved areas.
- Remaining One-Third of the Effort: Targeting Adoption Issues
 - ▶ The new Affordable Connectivity Fund is an extension of the existing but temporary EBB Program,

and it expands eligibility for broadband subsidies, from households at or below 135% of the federal poverty line to those at or below 200% of the poverty line. However, it decreases the size of the maximum monthly subsidy amount from \$50 to \$30.⁷

- ▶ To encourage adoption of the monthly subsidy, the bill instructs providers to create public service announcements informing consumers about the monthly broadband subsidies, and requires providers and government agencies to notify eligible households.
- ▶ The current program has no mandated device subsidies like the EBB, but in the Broadband Equity, Access, and Deployment Program, the bill calls out adoption efforts, particularly device subsidies, as one of five explicitly acceptable uses of the funding by states.

“What Do We Think We Might See?”⁸

Equitable broadband adoption is a difficult problem – if it were not, given the existing programs, we likely would have solved it by now. High-quality broadband networks are a prerequisite to solving our current digital divide. Investments are needed throughout the country, with unserved rural areas most in need of funds.

Although a handful of citizens may never want a broadband connection, most of those without adequate broadband connections have broadband available, but have not adopted it, mostly hindered by low incomes. In such situations, the expansion of monthly subsidies provided by the infrastructure bill are on target. This

portion of the bill would be enhanced by further promoting (beyond just allowing) device subsidies where needed. Although tackling availability and adoption is critical to closing the digital divide, it is unclear if the infrastructure bill's current ratio of \$2 in infrastructure spending to \$1 in adoption incentives will fully address the problem.

Once adequate infrastructure is in place, the focus will be solely on promoting adoption. Only then will we know if the infrastructure bill's \$65 billion provided the rainbow connection of adequate high-speed universal broadband connectivity for all Americans that, as of yet, is still an aspirational goal 11 years after the National Broadband Plan.⁹

ENDNOTES

- 1 The Muppet Song, <https://genius.com/Kermit-the-frog-the-rainbow-connection-lyrics>
- 2 https://www.epw.senate.gov/public/_cache/files/e/a/ea1eb2e4-56bd-45f1-a260-9d6ee951bc96/F8A7C77D69BE09151F210EB4DFE872CD.edw21a09.pdf.
- 3 <https://www.fcc.gov/auction/903>; <https://www.fcc.gov/auction/904>.
- 4 <https://docs.fcc.gov/public/attachments/DA-21-930A1.docx>; <https://www.fcc.gov/general/lifeline-program-low-income-consumers>; <https://www.fcc.gov/broadbandbenefit>.
- 5 https://www.epw.senate.gov/public/_cache/files/e/a/ea1eb2e4-56bd-45f1-a260-9d6ee951bc96/F8A7C77D69BE09151F210EB4DFE872CD.edw21a09.pdf
- 6 Unserved locations are defined as having either no access to broadband, or a download speed of less than 25 Mbps, an upload speed of less than 3 Mbps, and insufficient latency to support "real-time, interactive applications." Underserved locations are similarly defined, instead using a download speed of less than 100 Mbps and an upload speed of less than 20 Mbps.
- 7 Households receiving more than \$30 monthly under the previous law will continue to receive the same subsidy for 60 days after the new program is launched. After 60 days, they will have access to "affordable service options." <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/what-the-14-2b-affordable-connectivity-fund-could-mean-for-broadband-providers-66018385>; <https://www.consumerreports.org/internet/infrastructure-bill-includes-65-billion-for-internet-access-a6861027212/>
- 8 The Muppet Song, <https://genius.com/Kermit-the-frog-the-rainbow-connection-lyrics>
- 9 National Broadband Plan, <https://www.fcc.gov/general/national-broadband-plan>

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