



Multicultural Media, Telecom and Internet Council

Understanding and Appreciating Zero-Rating: The Use and Impact of Free Data in the Mobile Broadband Sector

FOR MEDIA OR OTHER INQUIRIES:

Marcella Gadson, Communications Director
(202) 763-9548

www.mmtconline.org

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About the Multicultural Media, Telecom and Internet Council

The Multicultural Media, Telecom and Internet Council (MMTC) is a national nonprofit organization dedicated to promoting and preserving equal opportunity and civil rights in the mass media, telecommunications and broadband industries, and closing the digital divide. MMTC is generally recognized as the nation's leading advocate for minority advancement in communications. www.mmtconline.org.

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**UNDERSTANDING AND APPRECIATING ZERO-RATING:
THE USE AND IMPACT OF FREE DATA IN THE MOBILE BROADBAND SECTOR**

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I. INTRODUCTION

The global telecommunications landscape is in an era of explosive growth, giving rise to the proliferation of high-speed Internet access and increasing consumer demand for greater and cheaper service. In the U.S., this Digital Age brings with it a multitude of communications policy issues, ranging from consumer protection and net neutrality to the looming spectrum shortage. In the midst of all this, telecommunications companies have created “zero-rating” or “free data” mobile plans to meet the increased consumer demand and competition within the industry.

Wherever one stands on the open Internet debate in the United States, the new reality is that consumers have overwhelmingly selected mobile offerings that provide free data to their users. Despite the uncertainty surrounding the Federal Communications Commission’s (FCC) open Internet ruling,¹ competitive pressures and insatiable consumer demand continue to drive firms to deliver more robust and tailor-made services to end-users.² The source of much of this innovation is the necessity for mobile broadband service, which all consumers – and especially low-income households and consumers of color – increasingly rely on.³ Wireless Internet connectivity delivers a range of benefits to users in these communities, and it serves as the foundation for a blossoming “Internet of things” that promises to disrupt and restructure key sectors and services such as healthcare and education.⁴

In addition to deploying next-generation networks that encourage the design of innovative devices and foster the creation of cutting-edge apps and content, firms in this space are also engaged in

¹ See *Protecting & Promoting the Open Internet*, Report & Order on Remand, Declaratory Ruling & Order, 30 FCC Rcd 560 (rel. March 12, 2015) (hereinafter *Open Internet Order*).

² On many occasions in the past, MMTC and numerous other civil rights organizations have highlighted the likely negative impacts of imposing common carrier regulation on wired and wireless broadband service providers. See, e.g., *In the Matter of Protecting and Promoting the Open Internet*, Comments of the National Minority Organizations, p. 8-11, GN Docket No. 14-28 (July 18, 2014), available at <http://mmtconline.org/wp-content/uploads/2014/07/Natl-Minority-Orgs-Open-Internet-Comments-071814.pdf>. Since adoption of the Open Internet Order, there have been several analyses indicating an overall decrease in investment by ISPs. See, e.g., Hal Singer, *ISP Capital Expenditures in the Title II Era (4Q Edition)*, Feb, 24, 2016, Hal Singer blog, available at <https://haljsinger.wordpress.com/2016/02/24/isp-capital-expenditures-in-the-title-ii-era-4q-edition/> (“Across this sample of the twelve largest ISPs, capex growth was slightly negative in 2015. The net change for the year was -0.4 percent, down nearly a quarter of a billion from 2014 levels.”).

³ See, e.g., John B. Horrigan & Maeve Duggan, *Home Broadband 2015*, Pew Research Center (Dec. 21, 2015), available at <http://www.pewinternet.org/files/2015/12/Broadband-adoption-full.pdf> (finding that African Americans and low-income households have among the highest percentages of broadband users who rely just on their smartphones to access the Internet) (hereinafter “*Home Broadband 2015*”); Giulia McHenry, *Evolving Technologies Change the Nature of Internet Use*, April 19, 2016, NTIA blog, available at <https://www.ntia.doc.gov/blog/2016/evolving-technologies-change-nature-internet-use> (finding that “low-income households that used the Internet at home were significantly more likely to depend on a mobile data plan than those with higher incomes. The data shows 29 percent of online households with family incomes below \$25,000 only used mobile Internet service at home, compared with 15 percent of those households with incomes of \$100,000 or more.”) (hereinafter “*Evolving Technologies*”).

⁴ See, e.g., David Honig & Nicol Turner-Lee, *Refocusing Broadband Policy: The New Opportunity Agenda for People of Color*, MMTC (Nov. 21, 2013), available at <http://mmtconline.org/wp-content/uploads/2013/11/Refocusing-Broadband-Policy-112113.pdf> (hereinafter “*Refocusing Broadband Policy*”).

nonstop experimentation with packages of services they hope will resonate with existing consumers and attract new subscribers. Such unceasing jockeying for market share, which has characterized the mobile space for decades, has yielded a range of options for consumers to make calls, send texts, and consume data on the terms and at the price of their choosing.⁵ To that end, one of the key points of competition among mobile broadband providers is the provision of free data services. While several different kinds of free data services exist, a feature they have in common is that they provide consumers with the option of consuming data-intensive services such as streaming video without depleting their monthly data allowance.⁶ To date, free data has proven to be enormously popular with consumers, a fact that is supported both by survey data and by the rapid proliferation of this particular business model across the market.⁷

Despite such popularity and promise, however, free data has come under attack as being contrary to the “spirit and the text” of the FCC’s open Internet regime.⁸ In particular, those opposed to providing consumers with more control over their data consumption and more diverse pricing options fear that zero-rated services will instead deliver to users an incomplete online experience.⁹ But as discussed at length in this paper, these views ultimately overlook and dismiss the benefits of free data, many of which accrue most immediately to people of color and low-income households – communities that are benefitting from mobile broadband access in much more profound ways than other user groups because it is more likely that they cannot afford other means of home broadband access.¹⁰

Zero-rating is also poised to play a key role in helping to close the digital divide by addressing cost concerns and strengthening the value proposition offered to skeptical non-users, two key considerations for the millions of Americans who remain offline.¹¹ The actual contours of the free data plans are fluid, responsive to consumer demand, optional, and, unlike many other online offerings, they do not rely on targeted ads to pay for the data. Accordingly, policymakers should not categorically ignore the very real benefits of free data and should instead allow this kind of

⁵ See, e.g., *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Eighteenth Report, WT Docket No. 15-125, DA 15-1487 (rel. Dec. 23, 2015), available at https://apps.fcc.gov/edocs_public/attachmatch/DA-15-1487A1.pdf (providing an overview).

⁶ The nuances of specific free data services currently on offer are discussed in section II.

⁷ See Dr. Robert Roche, *America Loves #FreeData*, April 7, 2016, CTIA blog, available at <http://www.ctialatest.org/2016/04/07/americans-love-freedata/> (reporting the results of a survey that found overwhelming support for free data services among U.S. adults of all ages) (hereinafter “CTIA Survey”).

⁸ See *Letter from 18MillionRising.Org et al. to FCC Chairman Wheeler*, March 28, 2016, <https://static.newamerica.org/attachments/12903-zero-rating-plans-are-a-serious-threat-to-the-open-internet/FinalZeroRatingSign-OnLetter.fa929bef59a5423089a496b4f909fb97.pdf>.

⁹ *Id.*

¹⁰ See, e.g., James E. Prieger, *The Broadband Digital Divide and the Benefits of Mobile Broadband for Minorities*, *The Journal of Economic Inequality*, Vol. 13, Iss. 3 (Sept. 2015), draft available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2258081 (providing data and analysis regarding the many benefits of mobile broadband for minorities and noting the “particular promise that [it] may hold for minorities regarding social, medical, and economic inclusion.”).

¹¹ See, e.g., *Home Broadband 2015* (providing data about primary barriers to broadband adoption).

innovation and experimentation to continue without unnecessary interference. Moreover, as discussed below, offering “free stuff” is at the core of attracting consumers in virtually every other American industry, *e.g.* fast food (meal deals), online purchases (free shipping), and Buy-One-Get-One (“BOGO”) offers.

II. AN OVERVIEW OF FREE DATA IN THE U.S. MOBILE BROADBAND SECTOR

The basic arrangement at the heart of many free data offerings – *i.e.*, providing consumers with something for free to attract or retain their business – is neither new nor unique to the telecommunications space. Loyalty programs of all kinds, for example, often offer customers a number of free upgrades or exclusive deals. Amazon Prime, for example, provides subscribers with free shipping for most physical goods; companies such as Pandora and Netflix offer unlimited streaming media services for video and music.¹² In the communications space, this model has deep roots. Over-the-air broadcast television and radio has always been free because programming is subsidized by advertisers. Most websites rely on the same dynamic. Similarly, toll-free calling, which has been around for nearly 50 years, remains enormously popular among consumers and companies alike.¹³

Viewed in this way, free data in the mobile space is nothing more than the adaptation of similar business practices in sectors spanning the entirety of the U.S. economy. As discussed in this section, current free data offerings by U.S. mobile broadband providers include many attributes of these common practices, while also integrating aspects that reflect the unique nature of wireless service. This section begins with an overview of the general mechanics of free data in the mobile space, including a discussion of the different kinds of zero-rated services and the rationales for offering them. It then summarizes the free data offerings of the four major mobile broadband Internet service providers in the U.S. and offers some observations and takeaways about this evolving business practice in the wireless sector.

A. The What and Why of Free Data

In the mobile space, there are two general categories of free data: zero-rated content and sponsored data. Both allow customers to consume particular kinds of content without the data from those uses counting toward their monthly data allowances.¹⁴ The difference between the two, though, stems from the arrangements between the content producer and the mobile service provider. When content is *zero-rated*, it means the service provider and content producer have made an agreement to offer “free mobile data to allow customers to access particular online content or services at no

¹² See, *e.g.*, Amazon Prime, About, <https://www.amazon.com/gp/help/customer/display.html?nodeId=200444160>.

¹³ See, *e.g.*, Charles Fishman, *The Man Who Invented 1-800*, Oct. 31, 1997, Fast Company, available at <http://www.fastcompany.com/33383/man-who-invented-1-800>.

¹⁴ *Open Internet Order* at ¶ 151.

additional cost.”¹⁵ These agreements usually do not include the exchange of money, but they can involve adherence by the content producer to certain technical requirements or other criteria set by the service provider.¹⁶ *Sponsored data*, on the other hand, revolves around payment by a content producer to the service provider to deliver specific content without it counting against a data allowance.¹⁷ This echoes the structure of toll-free calling arrangements that have existed for nearly half a century, wherein “[t]he charge for using a toll free number is paid by the called party (the toll free subscriber) instead of the calling party.”¹⁸

Mobile broadband service providers are experimenting with these kinds of offerings for several related reasons. In general, they are responding to profound shifts in how consumers use wireless services. The growth of wireless data consumption over the last few years has been remarkable. By the end of 2015, the average smartphone owner in the U.S. consumed almost four gigabytes of data each month,¹⁹ compared with just 350 megabytes each month in 2010.²⁰ Previously, wireless service plans were built around calling and texting options; now they feature mobile data, with phone and texting seen as secondary offerings.²¹ The explosion of mobile data usage was made possible by the widespread availability of 3G and 4G wireless networks, but the technical limitations inherent in these systems – a unique feature of the wireless market owing to the innate capacity constraints of spectrum and the limited availability of additional spectrum assets, among other factors²² – precipitated a shift to usage-based pricing.²³ Free data has become a way for service providers to cater to consumer demand for streaming video and other data-intensive services by providing the means for consuming popular content without exceeding data

¹⁵ See Noelle Francesca de Guzman, *Zero Rating: Enabling or Restricting Internet Access?*, Sept. 24, 2014, Internet Society blog, available at <https://www.internetsociety.org/blog/asia-pacific-bureau/2014/09/zero-rating-enabling-or-restricting-internet-access>.

¹⁶ The T-Mobile programs discussed below are prime examples of zero-rated services.

¹⁷ See, e.g., Diana Carew, *Zero-Rating: Kick-Starting Internet Ecosystems in Developing Countries*, at p. 2 Progressive Policy Institute (March 2015), available at http://www.progressivepolicy.org/wp-content/uploads/2015/03/2015.03-Carew_Zero-Rating_Kick-Starting-Internet-Ecosystems-in-Developing-Countries.pdf (hereinafter “*Kick-Starting*”).

¹⁸ See *What is a Toll Free Number and How Does it Work?*, FCC Consumer Guide, available at <https://www.fcc.gov/consumers/guides/what-toll-free-number-and-how-does-it-work>.

¹⁹ See *U.S. Wireless Market Update 2015*, at slide 7, Chetan Sharma Consulting (March 2016), available at http://www.chetansharma.com/US_Wireless_Market_2015_Update_Mar_2016_Chetan_Sharma_Consulting.pdf.

²⁰ See *U.S. Wireless Market Update Q4 2010 and 2010 Update*, at slide 3, Chetan Sharma Consulting (Feb. 2011), available at <http://www.chetansharma.com/US%20Wireless%20Market%20Q4%202010%20and%202010%20Update%20-%20Feb%202011%20-%20Chetan%20Sharma%20Consulting.pdf>.

²¹ According to recent CTIA data, the amount of voice minutes used and text messages sent has been flat in recent years after growing exponentially for much of the previous decade. See *Annual Wireless Industry Survey*, CTIA, available at <http://www.ctia.org/your-wireless-life/how-wireless-works/annual-wireless-industry-survey>.

²² See, e.g., *Connecting America: The National Broadband Plan*, at p. 77-79, FCC (March 2010), available at <https://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf> (hereinafter “*National Broadband Plan*”).

²³ See, e.g., Daniel A. Lyons, *Internet Policy’s Next Frontier: Data Caps, Tiered Pricing Plans, and Usage-Based Broadband Pricing*, 66 Fed. Comm. L. J. 1, 11 (2013), available at <http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1602&context=lsfp>.

allowances. For communities of color, this gives consumers more opportunity to explore other needs in the digital space, such as access to jobs and healthcare information, without exceeding their data limits.

This type of experimentation is part of a larger evolution of wireless service offerings. One-size-fits-all plans based around unlimited offerings of talk, text, and/or data have been replaced with a menu of options from which consumers can choose the components and price points that match their needs. A key attribute of enhanced choice in this context is that the amount each user pays for service will more accurately reflect their actual consumption of mobile services.²⁴ The benefits of such enhanced choice have accrued most immediately to minorities and low-income households – the very communities that rely on or prefer these services for Internet connectivity.²⁵ Such flexibility also provides new opportunities for wireless providers to offer free services such as zero-rated content in an attempt to further expand their customer base by attracting cost-conscious non-subscribers.²⁶

B. A Summary of Current Free Data Offerings

Over the last few years, each of the four national mobile broadband service providers has made free data packages available to its subscribers. The following provides a summary.

AT&T, an early mover, launched a sponsored data program in January 2014 so its customers could “browse, stream and enjoy content from... data sponsors without impacting their monthly data plan allowance.”²⁷ To date, *AT&T* has partnered with a small number of firms that work with content producers to deliver sponsored data to subscribers.²⁸ These offerings range from free movie trailers and other video content, to a suite of word processing tools.²⁹ They also include “wellness videos” and other healthcare-related content.³⁰ These sponsored data services are available to “post-paid and DataConnect Pass session-based customers” with a “4G...capable device...and access [to] the

²⁴ *Id.* at p. 12.

²⁵ See, e.g., Robert Shapiro and Kevin Hassett, *A New Analysis of Broadband Adoption Rates by Minority Households*, at p. 8, Georgetown Center for Business and Public Policy in the McDonough School of Business (June 2010), available at http://www.sonecon.com/docs/studies/Report_on_Broadband_Pricing_and_Minorities-Shapiro-Hassett-June-21-2010.pdf (nothing that “some observers believe that the greater use of wireless services [by minorities] is a reflection of the wide range of pricing options, which include plans that subsidize the cost of wireless devices.”).

²⁶ See, e.g., Jeffrey A. Eisenach, *The Economics of Zero Rating*, NERA (March 2015), available at <http://www.nera.com/content/dam/nera/publications/2015/EconomicsofZeroRating.pdf> (hereinafter “*Economics of Zero Rating*”). For further discussion, see section III.

²⁷ See *AT&T Sponsored Data, FAQ*, <http://www.att.com/att/sponsoreddata/en/index.html#tab2> (hereinafter “*AT&T FAQ*”).

²⁸ For an overview, see *AT&T Sponsored Data, Home*, <http://www.att.com/att/sponsoreddata/en/index.html>.

²⁹ *Id.* See also Press Release, *AT&T Introduces Sponsored Data for Mobile Data Subscribers and Businesses*, Jan. 6, 2014, *AT&T*, available at <http://www.att.com/gen/press-room?pid=25183&cdvn=news&newsarticleid=37366&mapcode=&partner=LinkShare&siteId=TnL5HPStwNw-1heblblaLBUC2VgqPrXdQQ>.

³⁰ *AT&T FAQ*.

Sponsored Data over AT&T’s domestic wireless network.”³¹ A related offering is Data Perks, an app “through which [users] earn extra data...by completing a featured offer, like taking a survey or completing a purchase.”³² This program was developed with Aquato, a partner with AT&T in its Sponsored Data program.

Sprint, under both its *Virgin Mobile* and *Boost Mobile* prepaid brands, offers customers zero-rated music streaming. The Virgin Mobile program, called Data-Free Music, lets subscribers stream as much content as they want from Pandora, iHeartRadio, Slacker, 8tracks, and Milk Music.³³ Customers are responsible for paying subscription fees to those services if applicable. Data-Free Music is available to all subscribers with 3G and 4G-capable phones and who have any monthly plan that includes data.³⁴ Under a separate program – a partnership with Walmart that sells 4G phones and data plans – Virgin Mobile customers also have the option of paying an additional \$5 per month to use specific apps – Facebook, Instagram, Pinterest, Pandora, and Twitter – without incurring data charges.³⁵ Boost Mobile’s zero-rated music program, which was announced in December 2015, mirrors Virgin Mobile’s Data-Free Music in many ways, including offering customers the same set of options and websites for streaming music.³⁶

T-Mobile has been among the most aggressive in exploring free data offerings as it focused on rebranding itself as the “un-carrier” in recent years. Its first zero-rated program, Music Freedom, was launched in June 2014.³⁷ From the start, customers subscribing to a Simple Choice plan could stream as much music as they wanted from partner sites such as Pandora, Rhapsody, and Spotify.³⁸ Since then, the number of partners in Music Freedom has eclipsed 40,³⁹ “covering a full 96% of all music streamed by T-Mobile customers.”⁴⁰ In November 2015, T-Mobile launched Binge On, a similar program for streaming video.⁴¹ As part of this program, “any customer with a qualifying

³¹ *Id.*

³² See AT&T, Data Perks – FAQ, <http://www.att.com/att/dataperks/en/index.html>.

³³ See Virgin Mobile, Data-Free Music, <https://www.virginmobileusa.com/?intid=MOBILE:AB:HERO4:160215:BT:DFMLM#!/datafreemusic/>.

³⁴ See Virgin Mobile, Data-Free Music – FAQ, http://virginmobileusa.custhelp.com/app/answers/detail/a_id/5871.

³⁵ See Virgin Mobile, Data Sharing Done Right, <https://www.virginmobileusa.com#!/datashare/>. See also Press Release, *Enhanced Virgin Mobile Data Done Right Multi-line Plans Now Offer Even More Data, Available Exclusively At Walmart*, May 15, 2015, Sprint, available at <http://newsroom.sprint.com/news-releases/enhanced-virgin-mobile-data-done-right-multi-line-plans-now-offer-even-more-data-available-exclusively-at-walmart.htm>.

³⁶ See Press Release, *Boost Mobile Adds Unlimited Music Streaming*, Dec. 9, 2015, Boost Mobile, available at <http://newsroom.boostmobile.com/press-release/products-offers/boost-mobile-adds-unlimited-music-streaming>.

³⁷ See Press Release, *T-Mobile Sets Your Music Free*, June 18, 2014, T-Mobile, available at <https://newsroom.t-mobile.com/news-and-blogs/t-mobile-sets-your-music-free.htm>.

³⁸ *Id.*

³⁹ See T-Mobile, Music Freedom, <http://www.t-mobile.com/offer/free-music-streaming.html#>.

⁴⁰ See Press Release, *Now, More Than 100 Services Stream Free With T-Mobile’s Binge On and Music Freedom*, April 5, 2016, T-Mobile, available at <https://newsroom.t-mobile.com/news-and-blogs/binge-on-music-freedom-new-services.htm> (hereinafter “*More Than 100*”).

⁴¹ See Press Release, *T-Mobile Unleashes Mobile Video with Binge On*, Nov. 10, 2015, T-Mobile, available at <https://newsroom.t-mobile.com/media-kits/un-carrier-x.htm>.

3GB or higher data plan can stream unlimited video” from partner sites such as YouTube, Netflix, Hulu, ESPN, and other video providers that meet specific technical criteria.⁴² To accommodate such significant amounts of video traffic, the quality of the video is reduced.⁴³ The service is automatic, but subscribers have the choice to opt out if they do not want to participate.⁴⁴

Verizon’s sponsored data program, FreeBee Data, was launched in January 2016.⁴⁵ Like AT&T’s offering, Verizon’s free data approach is to partner with content producers that wish to sponsor particular kinds of data delivered to customers. For example, a production company could partner with Verizon to deliver movie clips to customers without access to them counting against monthly data allowances.⁴⁶ Larger content “campaigns,” promotional videos, podcasts, and other partner-provided content are also possible under FreeBee, which was launched in “beta” in order to further hone the program before making it widely available to all post-paid 4G customers.⁴⁷ A related program, FreeBee 360, is also available to content producers that wish to sponsor “some or all of the content on their mobile app or website.”⁴⁸ In February, Verizon announced that its video service, go90, would be available to subscribers via FreeBee 360, meaning that qualifying customers would be able to use that service without it counting against their data allotment.⁴⁹ This is not an exclusive arrangement – FreeBee is open to any content producer that wishes to partner with Verizon in a manner consistent with the program criteria.

C. Observations and Takeaways

The primary takeaway from the preceding analysis is that free data in the mobile broadband space is still evolving. Service providers are continually adjusting each of their programs in an effort to expand offerings, attract more partners, and cater to new consumer demands.⁵⁰ But overall, these programs are proving to be enormously popular with consumers. One recent survey, for example, found broad acceptance and use of these services – 84% of adults said they would be “extremely/somewhat likely to try a new online service if it is a part of a free data offering,” while 85% reported they were “extremely/somewhat likely to use more data if it didn’t count against

⁴² See T-Mobile, Binge On, <http://www.t-mobile.com/offer/binge-on-streaming-video.html>.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ See, e.g., Jeff Baumgartner, *Verizon Launches ‘FreeBee Data,’* Jan. 19, 2016, Multichannel News, available at <http://www.multichannel.com/news/content/verizon-launches-freebee-data/396634>.

⁴⁶ See Verizon FreeBee Data – FAQ, <http://freebee.verizonwireless.com/business/support/faqs>.

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ See Press Release, *Verizon Wireless Customers Can Now Watch All Shows, Live Sports, and Concerts on go90 Without Using Up Data*, Feb. 5, 2016, Verizon, available at <http://www.prnewswire.com/news-releases/verizon-wireless-customers-can-now-watch-all-shows-live-sports-and-concerts-on-go90-without-using-up-data-300216126.html>.

⁵⁰ See, e.g., Jefferson Graham, *T-Mobile’s Revised Binge On Plan Includes YouTube*, March 17, 2016, USA Today, available at <http://www.usatoday.com/story/tech/2016/03/17/google-finds-compromise-t-mobiles-binge-/81911348/> (reporting on how T-Mobile and Google worked together to bring YouTube into Binge On).

their monthly data usage.”⁵¹ Initial usage data from T-Mobile, the only provider to make such information available to date, supports these findings: via Binge On, “customers are watching 2x more from free streaming sites on plans with limited data,” and overall data consumption from streaming video and music through its two free data programs has soared in just a few months.⁵²

In spite of consumer benefits, free data offerings have not been met with universal acceptance. FCC Chairman Tom Wheeler initially praised Binge On and other programs, calling them “highly innovative and highly competitive.”⁵³ This echoed the conclusion the Commission made in its Open Internet Order regarding free data services, which noted that such “new service offerings, depending on how they are structured, could benefit consumers and competition” and also stated that the Commission would monitor the market for practices that it deemed “unreasonable.”⁵⁴ However, the Commission quickly reconsidered its initial reaction to free data plans and instead decided to take a skeptical approach to these otherwise normal market trends.⁵⁵

Others have framed free data offerings as contrary to the open Internet ruling. An important takeaway, then, is that free data remains vulnerable to the capricious political winds that are increasingly shaping the broadband ecosystem. Premature or unnecessary intervention by an entity like the FCC would likely chill further experimentation with offerings such as free data, an outcome that would prove devastating to consumers and contrary to the innovative ethos that has long permeated the U.S. wireless space. Ultimately, consumers should have the right to choose from better offerings and have the opportunity to be exposed to the breadth of relevant activities on the Internet.

III. EVALUATING THE IMPACTS OF FREE DATA

At a very superficial level, the benefits of free data appear obvious – mobile broadband customers have the ability to stream more music and video, thereby satisfying their demand for consuming media whenever, wherever, and however they want. These are significant benefits at a time when nearly half of all U.S. households rely on their cell phones for voice service,⁵⁶ a growing share of

⁵¹ CTIA Survey.

⁵² *More Than 100*. See also Sascha Segan, *New Study: T-Mobile’s ‘Binge On’ is Working*, Jan. 15, 2016, PC Mag, available at <http://www.pcmag.com/article2/0,2817,2497994,00.asp> (summarizing an independent study of Binge On, which found the free data program to be “good for users, who get to watch more video; good for providers, who have more video exposed to users; and good for T-Mobile, which wrings more usage out of the same network capacity.”).

⁵³ See Dan Meyer, *Wheeler: T-Mobile Binge On Does Not Violate Net Neutrality*, Nov. 19, 2015, RCR Wireless, available at <http://www.rcrwireless.com/20151119/policy/wheeler-t-mobile-binge-on-does-not-violate-net-neutrality-tag2>.

⁵⁴ *Open Internet Order* at ¶ 152.

⁵⁵ See Jim Puzzanghera, *FCC Asking if Free-Data Plans from T-Mobile, AT&T and Comcast Break Internet Rules*, Dec. 17, 2015, L.A. Times, available at <http://www.latimes.com/business/la-fi-fcc-tmobile-free-video-20151217-story.html>.

⁵⁶ See Stephen J. Blumberg, Ph.D., and Julian V. Luke, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, January-June 2015*, Centers for Disease Control and Prevention, U.S. Dept. of

all households are opting for wireless broadband over wired broadband,⁵⁷ and more than half of all mobile data traffic stems from video consumption.⁵⁸ Beyond these, however, the benefits and impacts of free data are much more profound and wide-ranging. As discussed in this section, these offerings hold enormous potential to:

- Help close the digital divide and bring more people online;
- Bolster the uses and experiences of those who rely on mobile broadband connections;
- Enhance mobile broadband business model experimentation;
- Support more robust and vibrant innovation in the mobile ecosystem; and
- Further empower mobile customers.

A. Impacts on the Digital Divide

Although zero-rating is relatively new in the U.S., a range of private companies and other entities have already explored the use of zero-rating as a means of connecting more citizens to the Internet in other countries. Companies such as Facebook and Wikipedia, for example, have partnered with local wireless service providers in a number of developing countries to deliver zero-rated access to a suite of resources, including their sites and apps.⁵⁹ There have been numerous benefits as a result: participating companies have grown their global brand by building a broader user base, local users have had access to more affordable Internet, and tech ecosystems have been incentivized to develop their own services to meet new demands.⁶⁰ These same dynamics and impacts are increasingly evident in the United States. Indeed, although the U.S. mobile sector and overall economy are far more advanced than in most other countries that have explored these offerings, free data nevertheless holds as much, if not more, potential for bridging stubborn connectivity gaps.

The digital divide in the U.S. has existed since the earliest days of the commercial Internet.⁶¹ The characteristics of the gap between those who are online and those who are not have remained mostly unchanged – in general, Internet connectivity continues to correlate with age, income, and educational attainment.⁶² Broadband adoption has also long lagged among African Americans and

Health & Human Services (Dec. 1, 2015), *available at* <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201512.pdf>.

⁵⁷ *Evolving Technologies*.

⁵⁸ *See Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2015–2020 White Paper*, Feb. 1, 2016, Cisco, *available at* <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html>.

⁵⁹ *See, e.g., Economics of Zero Rating* at p. 2-3.

⁶⁰ *See, e.g., Kick-Starting* at p. 2.

⁶¹ The digital divide was first formally explored by the federal government in the mid-1990s. *See Falling Through the Net: A Survey of the “Have Nots” in Rural and Urban America*, NTIA (June 1995), *available at* <https://www.ntia.doc.gov/ntiahome/fallingthru.html>.

⁶² *Id.* For recent data, *see Home Broadband 2015*.

Hispanics.⁶³ Although the specific reasons for non-adoption vary from community to community, two primary and related impediments to greater connectivity are now widely accepted: many do not see broadband as relevant to their everyday lives, and there is a perception that Internet connectivity is too expensive.⁶⁴

Free data helps to address these barriers by enhancing the value proposition for non-adopters. The ability to stream as much video and music content as possible – activities that are among the most popular wireless uses across every user group⁶⁵ – could become an enticing on-ramp for non-users: if they come to wireless broadband for unlimited Netflix streaming, they may very well stay online and use their connections for additional, more meaningful uses. For those who perceive broadband of any kind – wired or wireless – to be too expensive, the promise of free data could allow them to purchase more basic plans with lower data caps, which would deliver significant monthly cost-savings.

For many years, there has been a bias toward equating true broadband connectivity with access to a wired connection at home from a desktop or laptop computer. Others have raised concerns about the existence of charges for exceeding data allowances as a potential costly pitfall for low-income and minority households that use only mobile broadband to go online.⁶⁶ However, there is a national trend away from “traditional” broadband access as more and more households, led by people of color and low-income consumers, embrace mobile broadband and view it as a substitute for a wired connection.⁶⁷ Mobile devices such as tablets are increasingly taking on the functionality of traditional laptop and desktop computers, including access to word processing and other programs in addition to the Internet. As such, the availability of a diverse array of free data options is critical to efforts focused on closing the digital divide because they represent a viable workaround to data cap costs and are a generally appealing feature for non-adopters. Coupled with recent proposed reforms to the federal Lifeline program, there appears to be considerable momentum toward finally achieving digital connectivity and equality for all Americans.⁶⁸

B. Impacts on Those Who Rely on Mobile Broadband Connectivity

Many of the potential benefits of free data for non-adopters are proving to be actual benefits for existing users who rely on mobile broadband connectivity as their primary on-ramp to the Internet. As noted previously, mobile broadband has become an indispensable tool for people of color and

⁶³ *Id.*

⁶⁴ See, e.g., *Home Broadband 2015; Refocusing Broadband Policy*;

⁶⁵ See generally Aaron Smith, *U.S. Smartphone Use in 2015*, Pew Research Center (April 1, 2015), available at http://www.pewinternet.org/files/2015/03/PI_Smartphones_0401151.pdf (hereinafter “*U.S. Smartphone Use in 2015*”).

⁶⁶ See, e.g., *Home Broadband 2015* at p. 3-4.

⁶⁷ *Evolving Technologies*.

⁶⁸ For further discussion of the importance of Lifeline reform to bolstering broadband adoption among low-income and minority consumers, see Nicol Turner-Lee et al., *A Lifeline to High-Speed Internet Access: An Economic Analysis of Administrative Costs and the Impact on Consumers*, MMTTC (March 2016), available at <http://mmtconline.org/WhitePapers/March2016-Lifeline-Analysis-Consumer-Impact.pdf>.

low-income households. For many years, these users have been among the most intense users of wireless services, and free data promises to deliver additional benefits to these communities.

As far back as 2009, people of color, especially African Americans, emerged as the most avid users of mobile devices to access the Internet.⁶⁹ This trend has continued over the last seven years even as other demographic groups have caught up.⁷⁰ Such reliance, however, has caused some to highlight perceived limits of mobile broadband, especially with regard to potential constraints on Internet use caused by data allowances. A recent survey, for example, found that people of color and low-income households are more likely than others to have higher-than-expected monthly wireless bills due to overages and to have had their service canceled or cut off for financial reasons.⁷¹ The popularity of data-intensive streaming media services is a likely culprit, which is why free data represents such an enormous opportunity.

Free data can help these communities save on monthly bills by keeping data use within their allotments, which could, in turn, provide them with the opportunity to choose more affordable plans (e.g., plans with smaller data allowances). Equally as important, having more data available by being able to stream media via a free data program could encourage consumers to use their devices in other, more meaningful ways. For example, mobile broadband consumers are increasingly using their devices to “navigate numerous important life events” such as searching for health information, using online banking, researching employment opportunities, and accessing government benefits.⁷² As noted in many previous analyses, these particular uses are of enormous value to communities of color and low-income households.⁷³ Having more data available to engage in these uses would be an essential advantage to these communities and to every other consumer.

C. Impacts on Mobile Broadband Business Model Experimentation

Among the many notable trends evident throughout the ongoing evolution of the wireless sector in the United States is the consistency with which policymakers have afforded this space considerable latitude to grow, innovate, and compete. Since the early 1990s, when Congress implemented a national regulatory framework for wireless, the mobile sector has blossomed

⁶⁹ See John Horrigan, *Wireless Internet Use*, at p. 4, Pew Internet & American Life Project (July 2009), available at <http://www.pewinternet.org/files/old-media/Files/Reports/2009/Wireless-Internet-Use-With-Topline.pdf>.

⁷⁰ *U.S. Smartphone Use in 2015; Home Broadband 2015*.

⁷¹ *U.S. Smartphone Use in 2015* at p. 15-16.

⁷² *Id.* at p. 5.

⁷³ See, e.g., Nicol Turner-Lee et al., *Minorities, Mobile Broadband and the Management of Chronic Diseases*, Joint Center for Political & Economic Studies (April 2012), available at http://jointcenter.org/sites/default/files/Minorities%20Mobile%20Broadband%20and%20the%20Management%20of%20Chronic%20Diseases_0.pdf (hereinafter “*Mobile Broadband and the Management of Chronic Diseases*”); Kristal Lauren High, *Blueprint for Universal Economic Inclusion: Streamlining Pipelines to Prosperity in the Digital Age*, Politic365 (2015), available at <http://politic365.uberflip.com/i/595794-2015-politic365-blueprint-report/>.

because of this near-boundless freedom to experiment with networks and product offerings.⁷⁴ Although recent changes to the regulatory regime by the FCC might ultimately reverse or undermine these gains, the prevailing dynamic has been, and continues to be, vibrant business model experimentation.⁷⁵ The rise of free data provides yet another example of firms in the sector experimenting with new ways of serving customers.

Free data, as currently structured, highlights several notable features that, over time, could become part of the foundation of mobile offerings going forward. These programs have been voluntary from the start – depending on the service provider, subscribers are free to either opt in or opt out at any time. This builds on the modularity inherent in the modern wireless sector, where users have significant freedom to customize their user experience by, for example, picking and choosing which apps to install, which handset to purchase, which network to use, and which service option best matches their data needs. Free data programs are also open to any content provider that meets certain technical criteria set by the service provider, an approach that is similar, in many respects, to how companies such as Apple and Google manage their app stores.

The adoption of these kinds of practices by service providers reflects the interconnected nature of the mobile broadband ecosystem, where firms of all kinds – network owners, content producers, and device manufacturers – compete vigorously for the attention and dollars of users. Refraining from interfering with the provision of offerings like free data would signal to the ecosystem that, absent blatantly anti-consumer and anti-competitive action, this ever-changing space will remain free to continue tinkering with every aspect of the mobile consumer experience. Moreover, service providers must endeavor to fairly include multicultural content in categorical free data offerings.

D. Impacts on Innovation in the Mobile Ecosystem

The vast majority of content provided via free data programs is entertainment-related, with streaming video and music being the most prevalent. As discussed above, this makes sense because this content is increasingly popular among mobile customers; carriers are ultimately just responding to these demands by developing new service offerings that support these uses. Over time, though, these programs might grow to encompass critical uses such as the monitoring of personal health metrics, energy consumption, smart car information, smart city apps, and other real-time services. Gauging interest in free data now and experimenting with different program elements could very well lay the groundwork for further exploration of how best to structure these arguably more important offerings.

⁷⁴ See, e.g., *U.S. Telecom v. FCC*, Amicus Brief of MMTC, at p. 12-13, No. 15-1063 (D.C. Cir.) (filed Aug. 6, 2015), available at <https://www.ustelecom.org/sites/default/files/documents/15-1063%20MMTC%20Amicus%20Brief%20080615.pdf>.

⁷⁵ *Id.*

These kinds of services are not purely hypothetical. To the contrary, numerous federal entities – including the FCC,⁷⁶ FTC,⁷⁷ FDA,⁷⁸ and the Departments of Energy,⁷⁹ Education,⁸⁰ and Transportation,⁸¹ among many others – have been exploring the benefits and challenges associated with the emerging array of wireless-enabled smart services and applications for the last few years. It is widely acknowledged that these services hold significant promise and that the data generated from using them will add significantly to the torrent of data currently consumed by users in the form of streaming media.⁸² Providing individuals with the opportunity to consume some of these real-time services under a free data program could encourage use and spur further investment and innovation in what many see as transformational services for communities of color in particular. For example, zero-rating certain health-related mobile tools could prove enormously beneficial for African Americans, who, as a group, are more likely to develop chronic diseases such as diabetes and heart disease. Left unaddressed, these kinds of ailments incur significant healthcare costs. But when treated in a preventative and real-time manner, there is evidence to suggest that health outcomes in these communities improve while also helping to realize cost-savings for patients and healthcare providers alike.⁸³ These benefits inure not just to communities of color but to everyone.

Even as more robust networks like 5G are deployed, the inherent capacity constraints of mobile networks will persist – that is simply the nature of spectrum and the underlying physical components of mobile broadband infrastructure. At the same time, innovation in the emerging “Internet of things” will continue forward and will revolve primarily around mobile services, exponentially increasing the strain on wireless networks but also providing consumers with a growing number of choices for receiving critical, time-sensitive, and life-enhancing services. As such, the free data business model appears poised to play a key role in mobile broadband use over the long-term. Allowing for continued experimentation could hasten the development of additional innovative offerings that go far beyond streaming media.

⁷⁶ See, e.g., *National Broadband Plan*.

⁷⁷ See, e.g., *Internet of Things: Privacy and Security in a Connected World*, FTC Staff Report (June 2015), available at <https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-staff-report-november-2013-workshop-entitled-internet-things-privacy/150127iotrpt.pdf>.

⁷⁸ See, e.g., *Mobile Medical Applications: Guidance for Industry and FDA Staff*, FDA (Feb. 9, 2015), available at <http://www.fda.gov/downloads/MedicalDevices/.../UCM263366.pdf>.

⁷⁹ See, e.g., *2014 Smart Grid System Report*, U.S. Dept. of Energy (Aug. 2014), available at <http://energy.gov/sites/prod/files/2014/08/f18/SmartGrid-SystemReport2014.pdf>.

⁸⁰ See, e.g., *2016 National Education Technology Plan*, U.S. Dept. of Education (Dec. 2015), available at <http://tech.ed.gov/files/2015/12/NETP16.pdf>.

⁸¹ See, e.g., *Beyond Traffic 2045: Trends and Choices*, U.S. Dept. of Transportation (Feb. 2015), available at https://cms.dot.gov/sites/dot.gov/files/docs/Draft_Beyond_Traffic_Framework.pdf.

⁸² See, e.g., Charles McLellan, *The Internet of Things and Big Data: Unlocking the Power*, March 2, 2015, ZDNet, available at <http://www.zdnet.com/article/the-internet-of-things-and-big-data-unlocking-the-power/>.

⁸³ See, e.g., *Mobile Broadband and the Management of Chronic Diseases*.

E. Impacts on Consumer Empowerment

The emergence of free data is part of the ongoing evolution of the broader wireless space. The sector as a whole has a long history of individual providers constantly adjusting offerings in an effort to outdo competitors. The typical pattern involves a single provider making a significant alteration to the “status quo” and other providers responding by innovating further. This dynamic has been evident in many of the modifications made to prevailing pricing structures and service features in recent years.⁸⁴ Along with the shift toward more individualized pricing that was discussed above, consumers now have a distinct set of offerings from many of the competing mobile service providers available to them.

This overall trend toward greater consumer empowerment, of which free data is the most recent example, benefits all consumers in many ways – but for communities of color and low-income households, these benefits are especially impactful given their above-average use of mobile broadband. To date, there has been great reluctance on the part of regulators to intervene or otherwise attempt to alter this organic evolution. Such restraint should continue lest unnecessary meddling undermines this promising dynamic.

IV. CONCLUSION

As policymakers, innovators, and other stakeholders continue to discuss and debate the proper level of regulation in the modern mobile broadband ecosystem, they should not lose sight of the fact that, by and large, consumers are reaping the benefits of intense competition among network, device, and content providers. Free data, a common business practice that has quickly diffused across the mobile broadband space, is a prominent feature of such heightened competition. It is a symptom of a hyper-innovative space, not an invasion of an Open Internet. The digital elite can afford to intellectualize the value of free data, but for communities of color it can mean an affordable digital connection to the future. This is even more true for small, multicultural businesses that rely on mobile connections to reach their audiences.

The increasing prevalence and significant popularity of free data also underscores the critical role that mobile broadband plays in ensuring that people of color and low-income consumers have a viable on-ramp to the Internet. Wireless connectivity is preferred in these communities, and free data delivers to them additional benefits in the form of lower bills and additional data to use on more meaningful activities. Similarly, free data holds enormous promise in the ongoing struggle to close the digital divide and ensure that as many people as possible are online and using the Internet to improve their lives. Free data can and should play a key role in finally making progress toward universal first-class digital citizenship for every American.

⁸⁴ See, e.g., Daniel Kline, *Are Smartphone Subsidies a Thing of the Past?*, Aug. 19, 2015, The Motley Fool, available at <http://www.fool.com/investing/general/2015/08/19/are-smartphone-subsidies-a-thing-of-the-past.aspx> (discussing recent shifts away from carrier subsidization of wireless handsets).