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December 22, 2015

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VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: In the Matter of Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to Transfer Control of Licenses and Authorizations, MB Dkt. No. 15-149

Dear Ms. Dortch:

In its Public Interest Statement, New Charter committed to deploy a low-cost broadband service. This letter provides additional details about the offering and quantifies the benefits of the offering to millions of consumers in the New Charter footprint that would not be realized absent the Transaction.

A. New Charter's Low-Cost Broadband Offering

Consistent with Charter's commitment to offering all of its customers a superior broadband product designed for data-intensive applications, New Charter's low-cost broadband service will lead the industry by providing Internet access at speeds far higher than any comparable service at a price that is affordable to low-income households. New Charter's offering¹ will deliver 30/4 Mbps service at a price of \$14.99 per month, with no additional charge for modem rental. Households with at least one child enrolled in the National School Lunch Program ("NSLP") (either free or reduced) and/or at least one senior 65 or older receiving Supplemental Security Income ("SSI") will be eligible to purchase the service.² New Charter's low-cost offering will be the first in the nation to offer a fast broadband service aimed specifically at bridging the digital divide for low-income seniors.

¹ New Charter will begin making this service available within six months after the Transaction closes, and will offer it across the New Charter footprint within three years of closing. The availability of the service will depend, in some places, on technical limitations in existing networks and the completion of network upgrades that Charter has already committed to making in those footprints within 30 months. See *Application of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to the Transfer of Control of Licenses and Authorizations*, Public Interest Statement at 3, MB Docket No. 15-149 (July 25, 2015).

² No credit check will be performed, but eligibility will be subject to an individual settling any outstanding debt to New Charter. Current video and/or phone customers of New Charter would be eligible, but

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In developing this low-cost offering, Charter conducted extensive outreach with interested parties, including groups representing communities with low levels of broadband adoption, in order to develop a plan that meets the needs of such communities. Charter also recognized the limitations of the “Connect2Compete” program noted by commenters,³ and took those concerns into account in developing Charter’s new offering.⁴ Charter’s efforts to create a plan that truly meets the needs of low-income households have already been recognized by organizations representing the interests of underserved communities, many of which have come out in support of New Charter’s low-cost offering since Charter announced further details regarding the service.⁵

The resulting low-cost broadband service will offer underserved communities the opportunity to access broadband at industry-leading speeds. As Chairman Wheeler has acknowledged, “low-income consumers disproportionately lack access” to broadband, which is needed to help their children do homework, find a job, and manage healthcare.⁶ Charter’s offering will give eligible low-income households access to robust broadband that will facilitate their access to job applications,⁷ government

individuals who have subscribed to New Charter broadband services in the previous two months would not be.

³ See, e.g., Initial Comments of the Coalition for Broadband Equity at 4-6, MB Docket No. 15-149 (Oct. 13, 2015); Stop the Cap! Statement of Opposition, MB Docket No. 15-149 (Oct. 10, 2015); Reply of the California Emerging Technology Fund to Opposition to Petitions to Deny and Response to Comments of Applicants at 7-8, MB Docket No. 15-149 (June 25, 2015).

⁴ For example, the New Charter low-cost program will offer faster speeds, be available to a much broader group of low-income individuals (including seniors on SSI), and will be available for subscription year round as opposed to limited to a seasonal period that is tied to school enrollment. Assuming that they meet all eligibility criteria, BHN households that are currently enrolled in Connect2Compete will be allowed to subscribe to New Charter’s low-cost offering when it becomes available in their service area.

⁵ See, e.g., Charter Communications, Press Release, *Charter Announces Details of Industry Leading Low-Cost Broadband Service* (Dec. 17, 2015), <http://www.prnewswire.com/news-releases/charter-announces-details-of-industry-leading-low-cost-broadband-service-300194831.html> (including praise for the New Charter plan from, *inter alia*, leaders of the National Urban League, the National Action Network, the League of Latin American Citizens, Connected Nation, and the Rainbow Push Coalition); Jeff Baumgartner, *Charter Pledges Low-Cost Broadband After TWC-BHN Deals*, Multichannel News (Dec. 17, 2015), <http://www.multichannel.com/news/distribution/charter-pledges-low-cost-broadband-after-twc-bhn-deals/396091> (reporting on Public Knowledge’s statement in support of the New Charter plan).

⁶ Chairman Tom Wheeler, *A Lifeline for Low-Income Americans*, FCC Blog (May 28, 2015), <https://www.fcc.gov/news-events/blog/2015/05/28/lifeline-low-income-americans>; see also Thom File & Camille Ryan, U.S. Census Bureau, *Computer and Internet Use in the United States: 2013*, at 3 tbl.1 (Nov. 2014) (survey data indicating that only 47.2% of households with less than \$25,000 annual income and 67.6% of households with annual income between \$25,000 and \$49,999 have a high-speed Internet connection at home, with “[h]igh-speed Internet” defined as “Internet service type other than dial-up alone”).

⁷ See, e.g., Benefits.gov, *Job Opportunities for Low-Income Individuals*, <http://www.benefits.gov/benefits/benefit-details/789> (online portal providing information and access to

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services,⁸ homework assignments and other aspects of technology-based curricula,⁹ healthcare and insurance coverage,¹⁰ and free educational and entertainment content.¹¹ Indeed, households subscribing to the low-cost service in New Charter's footprint will experience the Internet at speeds faster than most broadband subscribers in the United States enjoy.¹²

New Charter's offering also will be the *only* service on the market that provides low-income households access to the Internet at speeds that exceed the FCC's new benchmark definition of an "advanced telecommunications capability."¹³ Moreover, New Charter will offer this service across its

web-based applications for employment programs open to low-income individuals); Chicago Housing Authority, Section 3 Job Opportunities, <https://section3jobs.thecha.org/> (website allowing public housing residents and other low-income Chicago area residents to apply for jobs with the Chicago Housing Authority and its contractors).

⁸ See, e.g., Benefits.gov, Benefit Finder, http://www.benefits.gov/benefits/benefit-finder/#benefits&qc=cat_1 (online worksheet providing comprehensive information about the availability of federal benefits programs).

⁹ See, e.g., Rachel Monahan, *What Happens When Kids Don't Have Internet at Home?*, The Atlantic (Dec. 12, 2014), <http://www.theatlantic.com/education/archive/2014/12/what-happens-when-kids-dont-have-internet-at-home/383680/> (reporting that, as the use of technology in schools increases, low-income students without access to Internet at home face additional obstacles to completing homework assignments).

¹⁰ See, e.g., U.S. Ctrs. for Medicare & Medicaid Servs., HealthCare.gov, <https://www.healthcare.gov/> (online application for federally subsidized health insurance); U.S. Dep't of Health & Human Servs., *Connecting Kids to Coverage National Campaign*, <http://www.insurekidsnow.gov/> (website providing information about free and low-cost health insurance coverage for children).

¹¹ See, e.g., Coursera, <https://www.coursera.org> (searchable database providing access to online education opportunities, including free and low-cost courses, in partnership with universities and organizations); Khan Academy, <https://www.khanacademy.org> (offering free educational materials in a broad range of subjects, in addition to free coaching tools for parents and teachers); Freebook Sifter, <http://www.freebooksifter.com/> (online database tool that locates free e-books from a variety of online sources).

¹² See *Media Bureau Makes Available Broadband Subscriber Data Relevant to Review of Proposed Charter-Time Warner Cable-Advance/Newhouse Transactions*, Public Notice, DA 15-1310, Ex.1, MB Docket No. 15-149 (Nov. 13, 2015) (Residential Fixed Broadband Subscriber Counts by Provider and Speed (Nationwide)).

¹³ See *In re Inquiry Concerning the Deployment of Advanced Telecommunications Capacity 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*, 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd 1375, 1403 ¶ 45 (2015) (finding that a 25/3 Mbps benchmarks reflects "advanced" telecommunications capability).

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footprint within three years of closing, addressing the needs of both rural and urban low-income communities.¹⁴

New Charter's low-cost broadband service will offer much higher speeds for a lower per megabit cost than other services that specifically target low-income households, as well as low-cost offerings generally. New Charter's low-cost broadband service will be offered at just \$0.50 per Mbps download speed. By comparison, TWC's Everyday Low Price plan costs \$7.50 per Mbps in areas that have not received broadband speed upgrades associated with TWC's Maxx initiative (and \$5 per Mbps in areas that have received such speed upgrades), and BHN's Connect2Compete costs \$10 per Mbps. Comcast's Internet Essentials program provides 10 Mbps for \$9.95, which translates to approximately \$1 per Mbps. Likewise, when AT&T/DIRECTV's low-income offering goes into effect, it will cost approximately \$1 to \$2 per Mbps, depending on the service area.

New Charter's offering will also be the only high-speed, footprint-wide, low-cost broadband service aimed at low-income seniors. Low-income seniors continue to be far more removed from online life than the general population. Only about half of seniors have access to broadband at home,¹⁵ and, for less affluent seniors, the adoption rate decreases to 25%.¹⁶ New Charter's service will help low-income seniors in the combined company's footprint to benefit from telemedicine at home, to stay connected to friends and family, and to engage with their communities.¹⁷

B. Quantifying the Benefit of Increased Access to Broadband Created by New Charter's Offering

New Charter's low-cost broadband offering will generate significant public interest benefits. First, it will increase penetration of broadband services among low-income families with school-age children and low-income seniors who do not currently subscribe to broadband. Second, it will reduce prices for all participating households below what they would otherwise pay for comparable service. Third, because the New Charter service will offer the highest speeds of any plan targeted at low-income households

¹⁴ See *id.* at 1480 (statement of Chairman Tom Wheeler) (noting that more than half of Americans in rural areas lack access to broadband at the 25/3 Mbps benchmark).

¹⁵ Pew Research Center, *Older Adults and Technology Use: Adoption is Increasing, but Many Seniors Remain Isolated from Digital Life* 1, 7 (Apr. 3, 2014), http://www.pewinternet.org/files/2014/04/PIP_Seniors-and-Tech-Use_040314.pdf (47% of seniors reported having a high-speed broadband connection at home); see also File & Ryan, *supra*, at 3 tbl.1 (indicating that 56.3% of seniors 65 years and older have high-speed Internet connection at home, with "high-speed Internet" defined as "Internet service type other than dial-up alone").

¹⁶ See Pew Research Center, *supra*, at 2.

¹⁷ See, e.g., U.S. Administration on Aging, ElderCare Locator, <http://www.eldercare.org> (online resource connecting individuals to resources for older adults and their families); New LifeStyles Online, <http://www.newlifestyles.com> (providing searchable, nationwide database of resources for senior living and care as well as products and services of interest to seniors).

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(speeds that are faster than most broadband subscriptions of all types), it will provide participants with higher speed services than they would otherwise receive. This section presents quantitative estimates of the benefits that will flow from the first two factors only. Accordingly, Charter's estimates are conservative because (among other reasons noted below) they do not account for the increased speeds that subscribers to the new service will enjoy. Indeed, though not quantified here, the benefits associated with increased speed could be quite significant, with studies suggesting that speed increases are associated with both appreciable consumer benefits and increases in per capita gross domestic product.¹⁸

The starting point to quantify these benefits is to estimate the number of households in the New Charter footprint that will be eligible to subscribe to the low-cost service. As detailed in the Appendix, Charter developed this estimate using data from the U.S. Department of Agriculture, the U.S. Census Bureau, and other sources, in addition to internal data on homes passed. Table 1 provides Charter's estimates.

¹⁸ See, e.g., Chatchai Kongaut & Erik Bohlin, *Impact of Broadband Speed on Economic Outputs: An empirical study of OECD countries*, Paper Presented at the 25th European Regional Conference of the International Telecommunications Society (ITS), Brussels, Belgium (June 22-25, 2014) (finding that a 10% increase in broadband speed is associated with an increase in per capita gross domestic product of approximately 0.6%); Mark Dutz, Jonathan Orzsag, & Robert Willig, *The Substantial Consumer Benefits of Broadband Connectivity for U.S. Households*, Compass Lexecon at 27 (July 2009) (finding that an increase in broadband speed from 5 Mbps to 50 Mbps resulted in a consumer benefit of approximately \$5.8 billion per year for existing residential broadband users—approximately \$87 per household per year).

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Table 1: Eligibility of New Charter Households for Low-Cost Broadband Service¹⁹

Eligibility Criteria	Charter Footprint	TWC Footprint	BHN Footprint	New Charter Footprint
National School Lunch Program	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	4,771,369
SSI - Recipients 65 years or older	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	472,837
Totals	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	5,244,206

Using household eligibility as a baseline for determining who may benefit from the low-cost offering, the analysis next estimates the potential benefits that these consumers might obtain from the service. As noted above, those benefits include: (a) benefits associated with increased broadband penetration (*i.e.*, benefits to new subscribers who would not subscribe to broadband service in the absence of the offering); and (b) benefits associated with lower prices paid by participants who subscribe to another broadband offering.

¹⁹ The New Charter total is less than the sum of the three merging parties as a result of census mapping data not aligning with the Applicants' footprints.

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Based on national penetration data, it is reasonable to assume that overall broadband penetration among households eligible for New Charter's program is approximately 56%.²⁰ Likewise, it is reasonable to assume that households that currently subscribe to a broadband service but seek either a lower price or a better value through New Charter's offering and households that do not currently subscribe to any broadband service would be motivated similarly and equally as likely to take advantage of New Charter's low-income service. Accordingly, these assumptions imply that 44% of households that sign up for the low-cost service will be new broadband subscribers.²¹

A reasonable estimate of the benefit of New Charter's low-cost offering to these new broadband subscribers is the consumer surplus they will receive as a result of broadband subscribership, which at least one study has estimated to be equal to between 2% and 3% of household income.²² As described in the Appendix, Charter estimates that the average annual income of households within New Charter's footprint meeting the NSLP eligibility criteria is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**.²³ Thus, each household that signs up for the low-cost service as a new broadband subscriber will experience benefits of between **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** (2% * **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**) and **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** (3% * **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**) annually in additional consumer surplus as a result of their subscription (or, in monthly terms, between **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]** and **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**).

²⁰ See File & Ryan, *supra*, at 3 tbl.1 (reporting high speed Internet penetration by income bracket). The 56% estimate represents a weighted average of high speed Internet penetration for households with incomes between \$0 and \$25,000 (47.2 %) and households with incomes between \$25,000 and \$49,999 (67.6%), where the latter figure is weighted to reflect the NSLP cutoff of \$44,863 for a family of four.

²¹ Eligibility for the low-cost service is limited to households that have not been New Charter broadband subscribers for at least 60 days. While this restriction would prevent current broadband subscribers from participating, due to individuals moving and other mobility factors the "new customer" eligibility criterion will have only a limited effect on participation over time.

²² Austan Goolsbee & Peter J. Klenow, *Valuing Consumer Products by the Time Spent Using Them: An Application to the Internet*, 96 Am. Econ. Rev. 108 (May 2006). The Applicants note that use of the 2% estimate is conservative for two reasons. First, when estimating alternate specifications of demand, Goolsbee and Klenow find that the surplus is "substantially larger" than 2% and on the order of 7% to 27% of full income. Second, Goolsbee and Klenow compute the surplus using the benefits to leisure time as well, while the analysis presented here excludes any leisure time calculation.

²³ This estimate is substantially lower than the maximum income threshold for participation in the NSLP, which is \$44,863 for a family of four. See U.S. Department of Agriculture, *Child Nutrition Programs—Income Eligibility Guidelines*, 80 Fed. Reg. 17,026 (Mar. 31, 2015), available at <https://www.gpo.gov/fdsys/pkg/FR-2015-03-31/pdf/2015-07358.pdf> (For the period of July 1, 2015 through June 30, 2016, the income criteria for the NSLP for a family of four are \$31,525 for the free lunch and \$44,863 for the reduced price lunch).

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INFORMATION] **[END HIGHLY CONFIDENTIAL INFORMATION]**). And because broadband penetration rates decrease as annual household income decreases, with only 47.2% of households with less than \$25,000 annual income having high-speed Internet access at home,²⁴ the most impoverished households in New Charter’s footprint are the most likely to benefit from this offering.

For the estimated 56% of households that take advantage of the New Charter offering that are already broadband subscribers, the consumer benefits of participation consist of the savings from paying a lower price. Based on data from the Open Technology Institute, the average cost of a 30 Mbps download plan with upload speeds comparable to those available as part of New Charter’s offering is \$52.67 per month, while the lowest priced 30 Mbps download plan is \$30.²⁵ Based on these figures, New Charter’s low-cost broadband service will offer savings to existing broadband subscribers of between \$37.68 (\$52.67 – \$14.99) and \$15.01 (\$30 – \$14.99) per month, or between \$452.16 (\$37.68 * 12) and \$180.12 (\$15.01 * 12) annually.

Table 2: Estimated Per Household Annual Benefits

Annual Benefits	Current Broadband Households	New Broadband Households
High Estimate	\$452.16	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]
Low Estimate	\$180.12	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]
Mid-Point Estimate (Average)	\$316.14	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]

Combining the estimate of households eligible for New Charter’s offering with the per household benefits that will inure to subscribers of the service allows for a calculation of the total potential annual benefits associated with the service. As noted above, Charter estimates that approximately 5.24 million households in the New Charter footprint are eligible under either the NSLP or SSI criteria, and that approximately 56% of those households (2.93 million) currently subscribe to a broadband service while

²⁴ See File & Ryan, *supra*, at 3 tbl.1.

²⁵ See Open Technology Institute, Cost of Connectivity 2014, <https://data.opentechinstitute.org/dataset/2014-cost-of-connectivity>. The Charter 30/4 Mbps plan in that sample was \$47.49. The average across TWC and Charter 30 Mbps plans in that sample was \$56.74. The lowest price for any plan offering 30 Mbps download speeds in this study was \$30 per month.

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the remaining 44% (2.31 million) do not currently subscribe. Applying these figures to the average per household annual benefit estimates in Table 2 indicates total potential benefits from the service of approximately [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] billion annually, of which [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] billion ([BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]) is the result of new broadband subscribership and \$926 million ([BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]) is associated with lower prices for households that currently subscribe to a different broadband service.²⁶

Table 3: Estimated Total Potential Annual Benefits

	Current Broadband Households	New Broadband Households	All Potential Participants
Number of Households	2.93 million	2.31 million	5.24 million
(x) Estimated Annual Benefits per Household	\$316.14	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]
= Total Annual Benefits (millions)	\$926.3	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]

*Weighted average based on 56/44 split between current and new subscriber broadband households.

C. Conclusion

The discussion above makes clear that New Charter’s low-cost broadband service will result in significant public interest benefits that are achievable only because of the Transaction. These benefits will accrue both to households that did not previously have Internet access at home and that will receive a significant consumer surplus from broadband subscribership, in addition to households that already have Internet access but will benefit from purchasing broadband at a significantly lower cost. Moreover, the benefits discussed here are likely under-inclusive in that they represent only direct benefits to customers

²⁶ The actual net benefits from the low-cost service will depend on the “take rate” associated with the offering. Thus, for example, if 25% of eligible households choose to sign up for the service, the net annual benefits would be approximately [BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION] million.

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in the New Charter footprint and do not include any macro-level benefits to the national economy. For example, additional broadband options in rural areas have been associated with higher job growth, business growth, and higher earnings, all of which should be expected to accrue to low-income areas as a result of New Charter's offering.²⁷ Higher speeds and expanded eligibility also typically increase broadband adoption, which in turn increases economic output, especially in rural or low-income areas.²⁸ Because these types of benefits are difficult to quantify with precision, this analysis is limited to the direct benefits that will accrue to customers in New Charter's footprint. In addition to these purely economic benefits, New Charter's offering will benefit the public interest by delivering high-speed Internet access to some of the most underserved populations in the country and thereby facilitating access to valuable information for low-income families, children, and senior citizens.

Please contact me if you have any questions regarding these matters.

Sincerely,

/s/ John L. Flynn

John L. Flynn
Counsel for Charter Communications, Inc.

cc: Vanessa Lemmé

²⁷ See Brian Whitacre, Roberto Gallardo, & Sharon Strover, *Broadband's Contribution to Economic Growth in Rural Areas: Moving Towards a Causal Relationship*, 38 *Telecomm. Pol'y* 1011 (Dec. 2014) (finding that rural counties with 60% or higher levels of broadband adoption had about 0.1% greater median household income and 0.96% lower unemployment than otherwise similar counties). While New Charter's commitment is likely to affect urban and rural areas alike, studies concerning broadband access by rural consumers are a good indicator of the potential results from these commitments, because there is an established correlation between rural households and lower income/higher poverty levels. See *Rural Poverty & Well-Being*, U.S. Dep't of Agriculture, Economic Research Service, <http://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being.aspx>.

²⁸ See David Shideler, Narine Badasyan, & Laura Taylor, *The Economic Impact of Broadband Deployment in Kentucky*, Federal Reserve Bank of St. Louis Regional Economic Development, Vol. 3, No. 2 at 88-188 (2007) (studying broadband deployment and in Kentucky and finding that the introduction of broadband to local communities increased total employment growth by at least 0.14%).

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Appendix

This Appendix provides additional detail regarding Charter’s method of estimating (1) the number of households eligible for New Charter’s low-cost offering in the merged company’s footprint, which consist of households with at least one child enrolled in the National School Lunch Program (“NSLP”) (eligible to receive either free or reduced lunches) and/or at least one senior 65 or older receiving Supplemental Security Income (“SSI”); and (2) the average monthly income for Charter households that would be eligible to purchase the low-income offering under the NSLP eligibility criterion.

A. Household Eligibility Estimate

Charter estimates the number of NSLP eligible households based on data from the U.S. Department of Agriculture Food and Nutrition Service Farm to School Census, which reports the proportion of students in each school district participating in the NSLP; data from the U.S. Census Bureau, which reports the proportion of households in each census block group with children under 18; and internal Charter, TWC, and BHN data regarding the number of homes passed by census block. Charter developed this estimate by first matching data on individual census blocks with the appropriate school districts.²⁹ Charter then calculated the number of eligible households by multiplying the proportion of students participating in the NSLP by the number of households with children under 18.³⁰ These census block estimates were then aggregated to arrive at an estimated total of NLSP-eligible households within New Charter’s footprint.

In order to estimate the total number of households with at least one senior 65 or older receiving SSI, Charter drew from data from the U.S. Census Bureau American Community Survey, which provides census-block-specific percentages of households with at least one SSI recipient.³¹ Charter applied those census-block-specific percentages to each census block within New Charter’s footprint. Charter then multiplied its estimates of SSI recipients by census block by the national percentage of SSI recipients who are 65 or older.³² As with the NSLP estimates, these census block estimates were then aggregated to

²⁹ See U.S. Dep’t of Agriculture, Farm to School Census, (2014), <http://www.fns.usda.gov/farmtoschool/census#/>. Charter used school district boundary data from the U.S. Census Bureau Topologically Integrated Geographic Encoding and Referencing (“TIGER”) boundary database. See U.S. Census Bureau, TIGER/Line Shapefiles and TIGER/Line Files (2015), <https://www.census.gov/geo/maps-data/data/tiger-line.html>. Charter notes that the percentage of NSLP students applied to each census block is for the school district associated with the given census block and not the census block itself.

³⁰ Charter obtained data on the number of households with children under the age of 18 from the American Community Survey by the U.S. Census Bureau. See U.S. Census Bureau, American Community Survey, 5-Year Estimates 2009-2013, Detailed Tables: Block Group – National File (2014) (“American Community Survey Data”), <https://www.census.gov/geo/maps-data/data/tiger-data.html>.

³¹ See American Community Survey Data.

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arrive at an estimated total of households within New Charter’s footprint with at least one senior 65 or older receiving SSI. Table 1 shows the results of this analysis.

**Appendix Table 1:
 New Charter Low-Cost Broadband Service Eligibility³³**

Type of Eligible Customer	Charter	TWC	BHN	New Charter
National School Lunch Program	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	4,771,369
SSI - Recipients 65 years or older	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	472,837
Totals	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]	5,244,206

³² As of December 2014, the national percentage of SSI recipients 65 years or older was approximately 25.3%. See Office of Research, Evaluation, & Statistics, Social Sec. Admin., *Fast Facts & Figures About Social Security, 2015*, at 24 (Sept. 2015), available at https://www.ssa.gov/policy/docs/chartbooks/fast_facts/2015/fast_facts15.pdf.

³³ The New Charter total is less than the sum of the three merging parties as a result of census mapping data not aligning with the Applicants’ footprints.

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B. Average Monthly Income Estimate

To calculate the consumer surplus that new broadband subscribers will receive as a result of Charter's low-cost offering, Charter developed an estimate of the average annual income of households within the current Charter footprint that qualify for the NSLP and used this as a proxy for the New Charter footprint. This estimate is based on data developed by Epsilon showing the number of homes passed with children within Charter's footprint broken down by various income brackets. To estimate the average income of households among those that qualify for NSLP (*i.e.*, households with children and incomes below \$44,863 cutoff for a family of four), Charter weighted the midpoint of each eligible income bracket by the number of households passed that fall within that bracket. Charter then weighted those figures by the total number of households within a given income bracket as a proportion of the total for all relevant brackets. The resulting estimated weighted average income for households eligible for Charter's low-cost offering is **[BEGIN HIGHLY CONFIDENTIAL INFORMATION]** **[END HIGHLY CONFIDENTIAL INFORMATION]**.