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July 31, 2014

VIA ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: *In the Matter of Applications of Comcast Corporation, General Electric Company, and NBC Universal Inc. for Consent to Assign Licenses and Transfer Control of Licensees,* MB Docket No. 10-56

Dear Ms. Dortch:

In accordance with the Memorandum Opinion and Order adopted in the above-referenced proceeding, Comcast Corporation hereby submits its third Annual Compliance Report on *Internet Essentials*, the Comcast Broadband Opportunity Program. A copy of this report is also available as of today at http://corporate.comcast.com/news-information/nbcuniversal-transaction.

Please do not hesitate to contact me should you have any questions.

Sincerely yours,

Lynn R. Charytan
Senior Vice President, Legal Regulatory Affairs,
Senior Deputy General Counsel
Comcast Corporation

Enclosure

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Applications of Comcast Corporation,	)	
General Electric Company,	)	
and NBC Universal, Inc.	)	MB Docket No. 10-56
	)	
For Consent to Assign Licenses and	)	
Transfer Control of Licensees	)	

THIRD ANNUAL COMPLIANCE REPORT ON *INTERNET ESSENTIALS*, THE COMCAST BROADBAND OPPORTUNITY PROGRAM

Comcast Corporation
300 New Jersey Avenue, NW
Suite 700
Washington, D.C. 20001
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July 31, 2014

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For Consent to Assign Licenses and	)	
Transfer Control of Licensees	)	

July 31, 2014

THIRD ANNUAL COMPLIANCE REPORT ON *INTERNET ESSENTIALS*, THE COMCAST BROADBAND OPPORTUNITY PROGRAM

Comcast Corporation ("Comcast") submits this report regarding the third year (June 22, 2013 through June 28, 2014) of its *Internet Essentials* offering, the Comcast Broadband Opportunity Program required by Condition XVI.2 of Appendix A to the *Transaction Order*[1] (the "Condition").

Because Comcast has completed the final year of the Condition, this report is structured slightly differently from the prior annual reports. Part I provides a high level overview of Comcast's satisfaction of each of the Condition's requirements. Part II provides a more detailed discussion of how *Internet Essentials* has met, and in many cases significantly exceeded, each component of the Condition. Parts III and IV provide the specific information required by sub-part XVI.2.m of the Condition: the results of the program to date and an analysis of its effectiveness, including the results of a landmark study conducted by the leading researcher on broadband adoption issues, Dr. John B. Horrigan, head of research for the National Broadband Plan and a former research director with Pew Research Center's Internet and American Life Project. Lastly, the report summarizes the many enhancements Comcast has made to continue improving *Internet Essentials* above and beyond any of its original commitments.[2]

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[1] *In the Matter of Applications of Comcast Corporation, General Electric Company, and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licensees*, Memorandum Opinion and Order, 26 FCC Rcd 4238 (2011) ("*Transaction Order*").

[2] As required by Condition XVI.2.m, a copy of this report will be posted on the Comcast corporate site (http://corporate.comcast.com/news-information/nbcuniversal-transaction).

I.

SUMMARY OF COMCAST'S FULFILLMENT OF THE CONDITION

As voluntarily proposed by Comcast and adopted by the Commission, Comcast agreed to offer a broadband adoption program with the following components:

- It would provide participants with the Economy version of Comcast's broadband service (then 1.5 Mbps downstream) for $9.95 a month with no installation or modem charges or fees;

- The program would be offered to low-income households in the Comcast footprint if (i) at least one child is eligible to receive free lunches through the National School Lunch Program ("NSLP"); (ii) the household is not the subject of a current Comcast collections activity; and (iii) the household has not subscribed to a Comcast Internet service within 90 days prior to installation.

- Participation would be solicited through school districts' NSLP enrollment processes, and Comcast would rely on that enrollment process to determine eligibility;

- Prospective participants would be directed to a dedicated call center that would verify NSLP eligibility;

- In addition to the low-priced service, the program would include the option to purchase an Internet-ready computer at a subsidized price below $150;

- Comcast and its community partners would provide free access to web-based, print, and classroom-based digital literacy training;

- Comcast would implement the program in coordination with state education departments and local school districts;

- Comcast would publicize the availability of the program, in coordination with community partners, to areas with high concentration of low-income residents; and

- Comcast would offer the program for three school years (although the program would continue to provide the price-capped service to households that qualify during the three-year program for as long as they have a student in the household who qualifies).

The Condition did not include any specific requirements regarding the marketing of and publicity for *Internet Essentials* to the eligible population, define the objectives and scope of the digital literacy training requirements, or address how the program would accommodate the Spanish-speaking population with no Internet access at home. All these matters were left to Comcast's discretion.

Comcast's *Internet Essentials* offering not only satisfied the Condition, but also was, and continues to be, an unparalleled success.

- It is the nation's largest and most comprehensive broadband adoption program;

- Participation in the program has now surpassed 350,000 homes or 1.4 million low income Americans;

- Surveys of *Internet Essentials* customers reflect very high user satisfaction and engagement:

    - 90% are "highly satisfied" with the service
    - 98% would recommend *Internet Essentials* to others (84% have already done so)
    - 97% said their children needed it for school work
    - 84% said that either they or others in the household use the Internet at home using their *Internet Essentials* service at least occasionally, and 63% use it every day;

- Comcast voluntarily expanded and improved upon the program's initial design in multiple ways every year. With input from thousands of partners, including major service organizations like Big Brothers/Big Sisters, Easter Seals, the NAACP, and NCLR, Comcast increased the speed of the service, expanded eligibility, created an instant approval process, and made dozens of other enhancements;

- Comcast's marketing and outreach effort and investments in support of the program have gone far beyond any expectations that the Commission had in accepting Comcast's voluntary commitment;

- And, as has been publicly announced, Comcast has extended the program indefinitely – even though the Condition has now been fully satisfied.

The table below illustrates in summary fashion how Comcast has satisfied, and in so many cases exceeded, the Condition's requirements:

What the Condition Requires	**How Comcast Met and Surpassed the Requirement**
Launch the program within nine months of the Closing of the Transaction (*i.e.*, by October 28, 2011).	Over-delivered. Comcast launched *Internet Essentials* ahead of schedule in May 2011 in an effort to engage educators and community groups to help publicize the program in time for the back-to-school season.
Offer eligible households Comcast's Economy broadband service for $9.95 per month.	Over-delivered. Comcast offered its 1.5 Mbps Economy broadband service tier as part of the initial *Internet Essentials* offering, but voluntarily increased the speed of the service to 3 Mbps in April 2012 and to 5 Mbps in August 2013, which is faster than Comcast's entry-level Economy service in most markets (and no lower than it is in any market), for $9.95 a month.

What the Condition Requires	How Comcast Met and Surpassed the Requirement
No installation or modem charges or fees.	Over-delivered. Comcast not only exempted *Internet Essentials* customers from installation or modem charges or fees, but also expanded on this no-hassle sign up approach by allowing enrollment without credit checks and without having to sign any contracts to take the service for a specified period of time. This enhancement to the Condition has been in place since inception of the program.
Offer a reduced-price computer for less than $150.	Done. Comcast has supplied nearly 30,000 low-cost computers since launch. Originally offered as netbooks, earlier this year Comcast replaced the netbooks with a larger-screen laptop model and broadened the computer choices to include either the laptop or a family-oriented desktop, all at the same low price of $149.99.
Provide free access to web-based, print and classroom-based digital literacy training programs.	Over-delivered. Although the Condition did not specify the components of the program's training requirement, Comcast went to great lengths to develop best-in-class digital literacy training options and invested millions in cash and in-kind support to train people through the program's non-profit digital literacy partners. Training options designed for *Internet Essentials* participants – and made available to the general public at no charge – included in-print guides on digital literacy and online safety, an innovative online Learning Center (revamped in 2012 to include a virtual guided tour for easier navigation, a social media section, and new digital literacy education videos), and classroom-based training sessions designed and conducted by community partners who are experts in delivering their own digital literacy curricula. In-person training sessions were offered in both English and Spanish, another program feature that exceeded the Condition's requirements. Comcast also awarded over $1 million to community partners across the country to create *Internet Essentials* Learning Zones that will host additional training opportunities.
Offer the program for a total of 36 months (i.e., through the end of the 2013-2014 school year) across the Comcast footprint.	Over-delivered. This requirement has been completed. On March 4, 2014, near the completion of the third and last school year period required by the Condition, Comcast announced that it was extending *Internet Essentials* indefinitely.

What the Condition Requires	How Comcast Met and Surpassed the Requirement
Implement the program in coordination with state education departments and local school districts.	Done. Comcast met this general condition by aggressively pursuing such coordination throughout its service area: the company made information about the program available at 30,000 schools and 4,000 school districts in the 39 states, plus the District of Columbia, and continues to do so today.
Require participants to have a child that is eligible to receive free lunches through the NSLP.	Over-delivered. Although the Condition originally required that families be eligible to receive free lunches through the NSLP, Comcast acted in the first year to expand the eligibility criteria to a broader range of low-income families. Specifically, in April 2012, Comcast extended eligibility to families with children eligible to receive a NSLP reduced-price school lunch, and then in April 2013 expanded the eligibility criteria yet again to families with homeschooled, private, and parochial students who otherwise meet the NSLP reduced-price eligibility criteria.
Rely on the established NSLP certification process to qualify participants.	Over-delivered. Although Comcast complied with the requirement that all applicants must submit proof of NSLP eligibility, in January 2012, Comcast created an instant approval process so that families with children who attend schools with high NSLP participation would not need to submit proof of eligibility for *Internet Essentials*. Instant approvals account for 56% of all *Internet Essentials* orders received from December 22, 2013 through June 28, 2014.
Request that school districts include program information with their first communication to families in advance of the school year and in each NSLP communication, using collateral materials provided by Comcast.	Over-delivered. Comcast more than satisfied this requirement, collaborating with thousands of schools to send literature to families before and during each school year. And notwithstanding the absence of any such requirement, Comcast also conducted a "spread the word" campaign featuring collateral created by Comcast in English, Spanish, and 12 other languages. Collateral is redesigned at least once a year to keep the content up-to-date and focus on the messaging theme chosen for each campaign.

What the Condition Requires	How Comcast Met and Surpassed the Requirement
Educate school professionals who work closest with NSLP-eligible families about Internet Essentials.	Over-delivered. Comcast engaged educators leading up to and through each back-to-school season through continued personal engagement and a direct mail campaign targeting superintendents and principals in the school districts in the Comcast footprint with the greatest NSLP participation. Understanding that 97% of *Internet Essentials* customers recognize that schoolwork is the main driver for subscribing to broadband access at home, *Internet Essentials*' promotional campaign has featured testimonials from teachers who have witnessed first-hand the many advantages of having Internet access at home. Teachers also receive access to the Partner Portal on the *Internet Essentials* website so they can sign up for program updates and newsletters, as well as download form notices to parents and other collateral. Comcast also engaged dozens of national education organizations to collaborate on best practices in student and educator engagement and to get their membership involved in publicizing the benefits of *Internet Essentials*.
Direct prospective participants to a Comcast phone number dedicated to this program to verify eligibility.	Over-delivered. Here too Comcast met and exceeded the Condition's requirements. The requirements of the Condition were met through the establishment of a dedicated call center reachable by toll-free number, as required. But Comcast also established a toll-free number staffed by Spanish-speaking customer representatives and translated most collateral to Spanish – exceeding the Condition's requirements. It also launched a dedicated website that has acted as a program information conduit to nearly 2.2 million visitors. Comcast recently added an online application tool to the *Internet Essentials* website so that eligible families can apply for the program from anywhere, including mobile devices. Comcast has received over 428,000 applications to date, including 10,000 through the online application tool.

What the Condition Requires	How Comcast Met and Surpassed the Requirement
Publicize the availability of the program, in coordination with community partners, to areas with high concentration of low-income residents and especially through vehicles that are targeted to eligible households.	Over-delivered. Comcast zealously pursued this requirement. The company invested millions in promoting *Internet Essentials* in paid media, including tens of thousands of radio and print ads in local media, and by holding dozens of launch events across the country at the beginning of each school year. Most events featured high-profile guests whose involvement raised the profile of the program and helped schools drive awareness and interest from students and their parents, including U.S. Secretary of Education Arne Duncan, several FCC Commissioners, and *Internet Essentials* spokesperson coach Tony Dungy. These events have generated over 3 billion earned media impressions for *Internet Essentials*. Comcast has also run special promotional campaigns, including membership drives offering free months of *Internet Essentials* service, laptop giveaways, and pre-paid service via *Internet Essentials* Opportunity Cards.
Promote *Internet Essentials* through public service announcements ("PSAs"), as well as through segments of Comcast Newsmakers.	Over-delivered. Comcast easily satisfied this requirement, going beyond anything that the Condition could have been reasonably construed to required. Comcast aired nearly 4 million PSA spots in English and Spanish with a value of more than $51 million and produced 49 "Comcast Newsmakers" public affairs segments in support of *Internet Essentials*.
Distribute *Internet Essentials* materials to its partners who work with low-income communities.	Done. Comcast satisfied this requirement by again going above and beyond expectations. It built a unique Partner Portal that allows *Internet Essentials* partner organizations to download program materials directly or order materials, which are shipped for free regardless of the quantity ordered. Nearly 25,000 individuals and organizations registered for the Partner Portal and requested nearly 37 million pieces of promotional collateral. All promotional collateral was delivered to program partners at no cost to them.
At the time of installation, each participating household shall receive basic instructional materials and a phone number for a dedicated support desk.	Done. The self-install kit sent to every *Internet Essentials* customer included printed guides on how to connect to the Internet, plus a toll-free support number where customers can obtain 24/7 support for any questions or issues about using their XFINITY Internet service.

What the Condition Requires	How Comcast Met and Surpassed the Requirement
Each low-cost computer offered by the program shall ship with Norton security pre-installed.	Over-delivered. Comcast met this requirement by ensuring that each computer included the Constant Guard all-in-one security dashboard (a $360 value), at no additional charge. Constant Guard includes the Norton Security Suite's top-rated tools for core protection against viruses and other cyber threats.

II.

COMPLIANCE WITH THE SPECIFIC REQUIREMENTS OF THE BROADBAND ADOPTION CONDITION

A. Eligibility Criteria *(Condition XVI.2.f)*

As proposed by Comcast in connection with the NBCUniversal transaction and set forth in the Condition, Comcast initially offered the program based on the eligibility criteria outlined in Condition XVI.2.f: a household was eligible to participate in *Internet Essentials* if it (1) is located where Comcast offers Internet services (over 99% of the Comcast service area); (2) has at least one child eligible for a free school lunch through the National Lunch School Program ("NSLP"); (3) has not subscribed to Comcast Internet service within the last 90 days; and (4) does not have an overdue Comcast bill or unreturned equipment.

As described in last year's report, Comcast went beyond the initial eligibility criteria outlined in the Condition and, in 2012, extended eligibility to families with children eligible to receive *reduced*-price school lunches. This enhancement made close to 300,000 additional households in Comcast's service area eligible for *Internet Essentials* – raising the total number of *Internet Essentials*-eligible households to an estimated 2.3 million families. In April 2013, Comcast expanded the eligibility criteria yet again to include families with homeschooled, private, and parochial students who otherwise meet the NSLP eligibility criteria. This enhancement made nearly 200,000 additional families eligible for *Internet Essentials* in Comcast's service area – bringing the total to nearly 2.6 million eligible families, which is 30% more than the initial estimated eligible population.

1. Reliance on NSLP Eligibility *(Condition XVI.2.g)*

To determine eligibility for the *Internet Essentials* program, Comcast proposed, and the Condition requires, that eligibility for the program be based on the well-established certification processes for participation in the NSLP.

2. Eligibility Verification *(Condition XVI.2.j)*

Third party verification specialist Solix continues to assist Comcast with eligibility verification of *Internet Essentials* applicants. Solix's experience with income-based

qualification programs like NSLP allows it to expeditiously handle verification requests, including any customer care issues that may arise during the verification process.

To help expedite the eligibility verification process, in 2012 Comcast implemented the *Internet Essentials* instant approval process at schools that qualify as "Provision 2" schools (generally those with a high percentage of low income students) and for all schools with 70% or more NSLP participation based on National Center for Education Statistics (NCES) data, irrespective of their Provision 2 status. This means that families of students attending the tens of thousands of schools across the Comcast footprint that are either Provision 2 or NCES-validated can be instantly approved for the program and are not required to submit eligibility verification. Instant approvals significantly reduce the amount of time it takes to provision the service after the application is submitted – averaging just 5 days from the moment the application is received to shipment of the self-install kit to the customer.

Instant approvals are another voluntary enhancement to the *Internet Essentials* application process that goes far beyond Comcast's original commitment. The enhancement has facilitated participation for many families: instant approvals account for a majority (56%) of all *Internet Essentials* orders,[3] a share that has been steadily increasing since the instant approval process was launched in 2012, when it captured 39% of all orders for that year.

B. Launch and Duration of the Program *(Conditions XVI.2.a; XVI.2.d)*

In March 2014, Comcast announced that the *Internet Essentials* program had been extended indefinitely, meaning that eligible households will be able to enroll in the program beyond the three school year period originally proposed by Comcast and adopted by the Condition. Enrolled households will remain eligible for the program so long as at least one child in the household continues to meet the program's NSLP eligibility requirements (including the eligibility enhancements made by Comcast).

C. *Internet Essentials'* Principal Components

The *Internet Essentials* program has three principal components:

1. Low Cost Internet Service *(Conditions XVI.2.c.i; XVI.2.c.ii)*

Internet Essentials provides eligible low-income families in the Comcast service area affordable access to high-speed Internet service from their homes. For just $9.95 per month, plus tax, eligible families receive Comcast's XFINITY Internet service with speeds up to 5 Mbps downstream and up to 1 Mbps upstream. Downstream speeds for all *Internet Essentials* customers have been increased twice since the launch of the program, first from 1.5 Mbps to 3 Mbps in 2012, and then from 3 Mbps to 5 Mbps in 2013.

[3] Percentage of total *Internet Essentials* orders for the period beginning on December 22, 2013 and ending on June 28, 2014.

Participants do not have to pay monthly modem or other equipment fees, installation charges, or activation fees for as long as the family remains eligible and maintains the service. In addition, *Internet Essentials* families are not subject to standard credit checks or asked to sign any contracts to take the service for a specified period of time.

2. Discounted Computers *(Condition XVI.2.c.iii)*

Working with the program's partners, Comcast offers *Internet Essentials* families the opportunity to purchase an Internet-ready computer at a discounted price of $149.99 plus tax. *Internet Essentials* families now have the option to purchase a family-oriented desktop or a mobile-friendly laptop. Both options include Microsoft Office, a 90-day limited warranty, and all the hardware needed to connect to the Internet right out of the box. Computers offered through the program come with web browser and security software. As described in the "Ordering the Discounted Computer" section below, the Welcome Kit sent to new program participants includes a voucher with instructions on how to purchase the discounted computer.

3. Digital Literacy Training *(Condition XVI.2.c.iv)*

The third pillar of *Internet Essentials* addresses the need to increase the program participants' digital and computer skills to help them understand the value, the relevance, and the ease of using the Internet. Since 2011, Comcast has invested more than $200 million in cash and in-kind support to help close the digital divide, reaching more than 1.75 million people through the program's non-profit digital literacy partners and special initiatives like the Comcast Digital Connectors program.

Internet Essentials customers have multiple options to access free digital literacy training in print, online, and in-person. For in print training, Comcast designed detailed guides on digital literacy topics such as avoiding online threats and safeguarding personal information online. Hard copies of these guides are included in every Welcome Kit that is mailed to each new *Internet Essentials* customer and are available on the *Internet Essentials* website for download.

As described in last year's report, the concept and execution of the program's online and classroom-based training components has been significant enhanced since launch. In compliance with Comcast's original commitment to feature "web-based" training, the *Internet Essentials* website featured video tutorials on fundamental digital literacy topics. Last year's re-launch of a completely revamped online Learning Center on the *Internet Essentials* website enhanced Comcast's central hub of online digital literacy training materials. The Learning Center is available in both English and Spanish, and features tutorials on how to set up e-mail, guard against viruses and other malware, keep children safe on the Internet, and locate useful resources. And, in March 2014, Comcast announced that it was bolstering *Internet Essentials*' digital literacy component by partnering with the Khan Academy and its world-class online educational website (www.khanacademy.org). By providing unprecedented promotion and support, this partnership aims to expose millions of students to the acclaimed video lessons available for free at Khan.

The program's in-person training model has also dramatically changed since launch. In the first six months of the program, Comcast developed a best-in-class digital literacy training curriculum and worked with its local CBOs to deliver the modules. In 2012, the program was improved through moving to a sponsorship model and worked with local partners who were experts in the field in delivering their own digital literacy curricula. Comcast sponsored partners in major markets where it provides service, and after six months of implementing the new model, attendance had increased by 65% compared to the previous six months. This is the model that continues today, and Comcast's training partners include numerous public libraries, Boys & Girls Clubs, LIFT, LULAC, city recreation centers, local affiliates of the National Urban League, technology learning centers, and many more. To facilitate attendance, the *Internet Essentials* website features a lookup tool that allows users to search and sign up for training sessions in their area. Users can also sign-up to receive e-mail alerts when a class is scheduled to be held nearby.

D. Operationalizing *Internet Essentials* *(Condition XVI.2.j)*

The experience obtained since the launch of the program has allowed Comcast to further refine the application and intake processes to ensure a smooth customer experience and efficient, timely sign-ups. The process involves the following elements:

1. Avenues to Get Information and Request an Application

a. Dedicated *Internet Essentials* phone numbers and branded website

Comcast operates dedicated phone numbers for English and Spanish speaking consumers – 1.855.8.INTERNET (1.855.846.8376) and 1.855.SOLO.995 (1.855.765.6995) – which connect participants to customer account executives ("CAEs") at a dedicated call center specifically trained to assist with *Internet Essentials* enrollment and answer questions about the program. These dedicated phone lines continue to be the central tool that Comcast uses to ensure that interested consumers get the information they need.

In addition, Comcast operates InternetEssentials.com to promote the service, inform potential customers of application requirements, and serve as a portal to information about the program, including the Partner Portal and the online Learning Center. And, as described in section II.D.1(c)(2) *infra*, Comcast has enhanced the application process by deploying an online application tool on the *Internet Essentials* website.

b. General customer service support

Customers can find *Internet Essentials* information through other contacts with Comcast, including training regular CAEs to redirect *Internet Essentials* applicants to the dedicated toll-free number. Customers who visit Comcast.com can find information about the program by searching for "*Internet Essentials"* or using other descriptive terms (*e.g.*, "low-cost broadband") on the site's search tool.

c. The application process

Comcast's objective is to make the application and intake processes as simple and efficient as possible, providing applicants with clear instructions, guidance, and regular reminders throughout the process. For example, Comcast made students at tens of thousands of schools eligible for instant approval, an enhancement that is benefiting a majority of current applicants. To complement the dedicated toll-free number, this year Comcast deployed an online application tool to ensure that eligible families can apply from anywhere, even mobile devices.

(1) Dedicated phone numbers

The primary signup mechanism used by *Internet Essentials* customers continues to be the dedicated toll-free numbers that are staffed by the program's specially-trained CAEs. As of June 28, 2014, *Internet Essentials*' dedicated call center had processed close to 420,000 applications.

After a customer calls to enroll, Comcast sends an application – by regular mail or email, based on the customer's preference – that is pre-populated with information provided by the caller. The pre-populated application is generated in either English or Spanish, printed, and sent to the customer within one business day from the initial call date. Comcast tracks the application and follows up on its completion through a "remind and resend" procedure: if the completed application is not received within 30 days, Comcast sends a replacement application to the home, and a second notice is sent if a response is not received within 60 days.

Next, customers send their completed *Internet Essentials* application and supporting documentation by mail, email, or fax to Solix for verification. Verified applications are forwarded to a Comcast order entry center for provisioning of the new *Internet Essentials* account. Comcast will then mail a Welcome Kit with everything needed to set up the household's Internet service and receive the program's free Internet training. As a general matter, customers can expect to receive their *Internet Essentials* equipment within 7-10 days after Comcast receives the required documentation. Applicants can check the status of their application on the *Internet Essentials* website by entering the phone number associated with the application or calling the dedicated toll-free line.

As described in the "Eligibility Verification" section, above, Comcast has simplified the application process for families with children that attend one of the tens of thousands of instant approval schools. As a result, applicants in qualifying school districts can now complete the *Internet Essentials* application over the phone and be instantly approved for the program without having to send eligibility documentation to Solix.

(2) Online application tool

Comcast launched an online application tool available in English and Spanish in August 2013.[4] Depending on the school information entered in the online form, the applicant will receive a message confirming instant approval or information about how to complete the application process via mail or email. Customers who cannot or do not wish to complete the online form may contact the dedicated toll-free numbers in order to obtain personalized assistance and answer any questions about the signup process. In order to accommodate the growing use of smartphones and other mobile devices, Comcast optimized the online application form so that families can complete the form easily via a mobile device. Comcast will soon enhance the online application tool to allow customers from non-instant approval schools to upload eligibility documentation through the website. As of June 28, 2014, Comcast had processed close to 10,000 applications originated through the online tool since the application's launch.[5]

(3) Additional signup mechanisms

Eligible households may also receive *Internet Essentials* through a bulk registration program which allows non-profits, community-based organizations ("CBOs"), faith-based organizations, school districts, and community colleges to make bulk purchases of *Internet Essentials* service for households that are "sponsored" by each organization.

To further enhance bulk purchasing opportunities, Comcast started selling *Internet Essentials* Opportunity Cards so non-profit partners and others can purchase up to a year of *Internet Essentials* service for qualified families. Comcast's partners have purchased more than $30,000 or approximately 3,000 months' worth of Opportunity Cards for distribution to eligible families. In addition to making them available for bulk purchase, Comcast has allocated over $130,000 or approximately 13,000 months' worth of Opportunity Cards for distribution at the public events in which the company convenes the program's school and community partners.

2. Service Activation

The service activation process remains unchanged since last reported: once a household has been approved for *Internet Essentials* service, Comcast ships a self-install kit that includes the broadband service modem, cabling, and a self-install guide. Customers who require assistance with the activation process may contact the support line indicated in the installation materials and a service visit will be scheduled at no charge to the customer. Comcast contacts new *Internet Essentials* customers to promptly schedule an installation visit in those cases where the Company's records suggest that the customer's home is not pre-wired for Comcast service,

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[4] Comcast also created direct URLs to the application in both English (https://apply.internetessential.com) and Spanish (https://aplicar.internetbasico.com).

[5] Comcast expects that the proportion of online applicants will remain low considering that many of the program's prospective customers have no broadband access at home.

since this suggests that the customer would not be able to use the self-install process without assistance.

3. Ordering the Discounted Computer

The Welcome Kit sent to each *Internet Essentials* participating household includes a voucher with a unique code and instructions on how to obtain the discounted computer. To place an order, *Internet Essentials* customers must call the toll-free number indicated on the voucher and use one of the vendor's payment methods to complete the purchase. The vendor also provides end-to-end customer service including sales, technical support, and warranty coverage for the discounted computer. Organizations participating in the bulk registration program also have the option of purchasing discounted computers for *Internet Essentials* participants during the initial enrollment.

E. Publicizing *Internet Essentials* to Eligible Families *(Condition XVI.2.k)*

Comcast continues to undertake significant efforts and investments to publicize the program, and in doing so, has gone well beyond the original commitment. The components of this broad and ongoing promotional campaign are described below.

1. *Internet Essentials* Website and Partner Portal

The *Internet Essentials* outreach plan includes a dedicated website which serves as a one stop destination for information, resources, and collateral on *Internet Essentials*. Built into this website is a Partner Portal that allows *Internet Essentials* partner organizations to download program materials directly or order materials which are shipped for free regardless of the quantity ordered. Registered partners also receive program updates, including regular newsletters and other announcements. As of June 28, 2014, the dedicated website, including the *Internet Essentials* Learning Center, had received nearly 2.2 million visits, with nearly 25,000 individuals and organizations registered for the Partner Portal, and partners requested and received nearly 37 million pieces of promotional collateral – all at no charge.

2. "Hyper-local" Paid Media

By the end of 2014, Comcast will have placed close to 24,000 radio spots and 1,500 print advertisements in hyper-local media to promote *Internet Essentials* among NSLP-eligible families. The 2013 campaign placed more than 6,100 spots on local radio stations and more than 410 print ads in 93 community and minority-owned print publications in 12 metropolitan areas. For 2014, the paid media campaign has been expanded to 15 metropolitan areas and will feature an estimated 6,400 radio spots, print ads in104 community and minority-owned publications, 87 local community events, and a broader mobile and social media presence. In addition, Comcast utilized PSAs running on its cable systems to promote the program, as discussed in section II.F.4, below.

3. Earned Media

Through June 28, 2014, Comcast has generated more than 3 billion media impressions for *Internet Essentials* through sustained media efforts across print, online, broadcast, and radio outlets. *Internet Essentials* launch events marking the start of the 2013-2014 school year were once again the centerpiece of the earned media strategy, galvanizing a broad range of stakeholders around the mission of urging as many eligible families as possible to enroll. Comcast held 30 launch events across the country, including events in Washington D.C., Chicago, Miami, Atlanta, Denver, Pittsburgh, and Sacramento. The estimated 500 million media impressions generated by coverage of these launch events continued generating millions of dollars' worth of earned media for *Internet Essentials* during the rest of the school year.

Each event featured a speaker from Comcast describing the program and included public officials, school superintendents, community leaders, and special guests like Coach Tony Dungy – all helping to drive the message of the importance of broadband. For example, Comcast Executive Vice President David L. Cohen was joined by FCC Commissioner Jessica Rosenworcel and other civic and community leaders to kick off year three of *Internet Essentials* during a special event held on September 24, 2013 at Neval Thomas Elementary School in Washington, D.C. In addition to re-launching *Internet Essentials* in the Washington, D.C. area, Comcast and the DC Promise Neighborhood Initiative (DCPNI) announced a partnership to help increase digital literacy and connect more families to the Internet in the Kenilworth-Parkside neighborhood in the Northeast section of the District. As part of the partnership, families with children who attend Neval Thomas Elementary School, the Parkside Campus of Cesar Chavez Public Charter Schools for Public Policy, and Educare of Washington, D.C. were eligible to receive a free computer upon enrollment in the *Internet Essentials* program.[6]

In addition to hosting launch events, Comcast attended close to 75 community events held in low-income areas during 2013 and will have a presence at nearly 90 additional events before the end of 2014.

4. Public Service Announcements ("PSAs") and Comcast Newsmakers

Comcast also conducted a bilingual PSA campaign promoting the availability of *Internet Essentials* across its service area. Since August 2011, the Company has aired nearly 4 million PSA spots with a value of more than $51 million. In addition, Comcast has produced 49 "Comcast Newsmakers" public affairs segments in support of *Internet Essentials*, 17 of those in

[6] Comcast Voices, *Comcast's Internet Essentials Forges Neighborhood Partnership in D.C.* (Sep. 24, 2013), http://corporate.comcast.com/comcast-voices/comcasts-internet-essentials-creates-opportunities-in-d-c-through-neighborhood-partnership.

the last year.[7] Segments produced this year included interviews with key stakeholders, plus coverage of launch events.

5. Comcast Employees

Comcast empowered its employees to directly connect eligible families in their communities through its *Internet Essentials* Ambassadors Program. Interested employees could call on existing relationships with schools, libraries, or CBOs in their neighborhoods and help these organizations prepare for the 2014 *Internet Essentials* back-to-school season. Since May 2012, the *Internet Essentials* Ambassadors Program has been replicated and launched in almost every market across the Comcast footprint. The program counts nearly 1,300 Ambassadors across the country working with Comcast's Government Affairs representatives to connect with schools, community organizations, and religious institutions. *Internet Essentials* Ambassadors have reached over 647 organizations, distributed over 208,000 pieces of *Internet Essentials* materials, attended more than 630 events which drew in more than 1,275,000 members of the public, and offered over 2,150 volunteer hours.

F. Comprehensive Stakeholder Campaign *(Conditions XVI.2.g-i)*

Comcast's 8,000 *Internet Essentials* partners are the cornerstone of the program. These non-profit organizations, CBOs, libraries, school districts, members of faith-based organizations, as well as federal, state, and local elected officials have helped build the digital literacy infrastructure of the communities served by *Internet Essentials*. Comcast worked with these partner organizations to help educate eligible families about *Internet Essentials*, distribute promotional materials, and spread the word about the benefits of this broadband adoption opportunity.

1. Schools

Thousands of schools helped promote *Internet Essentials* to eligible families by allowing Comcast to send literature to students and families at the start of the 2013-2014 school year and will continue to help promote the program during the upcoming back-to-school season. The campaign consisted of extensive outreach to students in private, parochial, online, and charter schools, as well as public schools, to ensure that our newly-eligible families were aware of the program. Direct mail campaigns, emails to school officials, and distribution of promotional materials were all leveraged to build program awareness.

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[7] Comcast Newsmakers is a five minute public affairs program that aired on various platforms, including HLN (f/k/a CNN Headline News) on Comcast Cable systems at 24 and 54 minutes past the hour, on Comcast's video on demand platform – with both national and local placement – as well as on the Newsmakers website, www.comcastnewsmakers.com. HLN has begun phasing down these cut-ins, thus reducing segment availability on the network, and has informed Comcast that the six minute windows will no longer be available for preemption by Comcast cable systems as of November 2014.

Schools also have access to a full range of *Internet Essentials* promotional materials ranging from professional-looking posters to simple letters – and all of them are available through the online Partner Portal in English, Spanish, and 12 other languages, including: Arabic, Oromo, Somali, Tibetan, Chinese Mandarin, Haitian Creole, Portuguese, Hmong, Korean, Vietnamese, Polish, and Russian.

Comcast will be distributing redesigned consumer and partner-facing marketing campaign for the 2014 back-to-school season which will focus on demonstrating the ultimate value of home broadband through best-in-class educational content and the myriad of digital tools available to prepare high school students for college, including financial aid resources. *See* Appendix A. Comcast will continue to engage educators leading up to and through the upcoming back-to-school season with continued outreach and a hybrid e-mail and direct mail campaign targeting all program partners.

2. Community Partners

More than 4,000 CBOs, including churches, libraries, and parent-teacher associations have partnered with Comcast to help spread the word about *Internet Essentials*. Comcast continues to work with CBOs that have both strong national and local presences to facilitate the growth of partnerships across the nation, including the Boys & Girls Clubs, the National Urban League, United Way, LIFT, LULAC, and Easter Seals. These partners helped create an atmosphere of support and excitement around *Internet Essentials* by leveraging their relationships with the education community, sharing "best practices" with Comcast and each other, and by driving other organizations to register at the Partner Portal.

The success of *Internet Essentials* would not have been possible without the tireless support of hundreds of community partners nationwide. To honor the efforts of these community partners, Comcast awarded more than $1 million in grants to non-profit organizations in 15 communities across the country whose school districts have done the most to the close the digital divide. The grants are part of the Comcast Gold Medal Recognition Program and they will enable these communities to create *Internet Essentials* Learning Zones. Each Learning Zone will feature: (1) enhanced public Internet access, including indoor Wi-Fi service at community-based organizations; (2) digital literacy training programs in community settings designed to teach parents and children how to use the Internet effectively and safely, and parents how to monitor their children's online activity and school work; and (3) events designed to inform parents about *Internet Essentials* and how they can enroll. The Learning Zones will bring together partners and institutions to create a continuum of connectivity that begins online in the classroom, extends to libraries, computer labs, and after-school programs, and then ends in the home.

To further celebrate the success of the Gold Medal communities, Comcast offered an opportunity for all eligible families in all 15 Gold Medal communities, plus five additional communities that were deemed "most improved", to receive free *Internet Essentials* service for six months if they registered with the program during a three-week period in March 2014. Comcast gave Opportunity Cards to cover six months of service to each of the more than 4,300 households who signed up for *Internet Essentials* under this promotion, a donation worth close to

$260,000. The free service promotion was in addition to the hundreds of free laptop computers that Comcast has given away to families at community events, more than 200 laptops in the last year.

3. Federal, State, and Local Officials

Public officials continue to play an essential role in promoting awareness of *Internet Essentials*. As of June 28, 2014, Comcast had delivered the *Internet Essentials* message to more than 3,000 federal, state, and local elected or appointed officials.

4. Education Associations

Comcast continues to engage national education organizations to collaborate on best practices in student and educator engagement and to get their membership involved with publicizing the benefits of *Internet Essentials*, including the National Parent Teacher Association, National School Boards Association, American Association of School Administrators, Consortium for School Networking, Council of the Great City Schools, State Education Technology Directors Association, National Alliance for Public Charter Schools, and the American School Counselor Association.

G. More Than Just Broadband Service

1. Computer Setup Support *(Conditions XVI.2.l.i-iii)*

The self-install kit sent to every *Internet Essentials* customer includes printed guides on how to connect to the Internet, plus a toll-free support number where customers can obtain 24/7 support for any questions or issues about using their XFINITY Internet service. *Internet Essentials* customers can also take advantage of the comprehensive support tools available online, including live chat with CAEs and comprehensive online self-help tools.

2. Free Security Software *(Condition XVI.2.l.iv)*

To ensure that *Internet Essentials* users have a secure online experience, all *Internet Essentials* subscribers enjoy access to the Constant Guard all-in-one security dashboard (a $360 value), at no additional charge. Constant Guard includes the Norton Security Suite's top-rated tools for core protection against viruses and other cyber threats, plus powerful tools to help protect passwords, secure credit card information, and setup safe, one-click access to online accounts. The service also includes a Safe Search feature that provides safety ratings that clearly identify dangerous and malicious sites before customers visit them.

3. Digital Literacy Training *(Condition XVI.2.c.iv and XVI.2.l.v)*

As described in the "Digital Literacy Training" section, above, *Internet Essentials* participants have the choice of using the comprehensive printed digital literacy guides included in the service Welcome Kit mailed to each new *Internet Essentials* customer (copies of which are accessible on the *Internet Essentials* website), accessing the courses featured in the online

Learning Center, or attending an in-person training session hosted by one of Comcast's community-based digital literacy partners.

III.

YEAR THREE RESULTS

As of June 28, 2014, *Internet Essentials* has connected more than 350,000 households to the power of the Internet – a number that represents more than 1.4 million children and their families. The program also sold nearly 30,000 low-cost computers.

IV.

ANALYSIS OF THE PROGRAM'S EFFECTIVENESS

As in previous reports, Comcast has conducted analyses of *Internet Essentials'* effectiveness as measured by application process statistics and customer satisfaction results. Year three's analysis is supplemented by the findings of a March 2014 study published by the leading researcher on broadband adoption issues, Dr. John B. Horrigan. The survey "explored what drew [*Internet Essentials*] customers to the service and what has engaged them in becoming active (or not) online users, yielding lessons on how to accelerate the process of drawing non-users to broadband."[8]

A. "The Essentials of Connectivity" Study

The Horrigan report was based on an in-depth survey of nearly 2,000 *Internet Essentials* customers who signed up for the service in the latter part of 2013. To understand the survey respondents' reasoning for subscribing to *Internet Essentials*, Horrigan surveyed "why people bought service, the influential factors behind the decision, and whether outside expectations played a role."[9]

The results showed that institutions are "important drivers in encouraging non-broadband users to purchase service, with schools having a preeminent role". In fact, almost all (98%) *Internet Essentials* customers had signed up because their children needed it for school.[10] Among those who had not had home Internet service in the past, 93% said their children drove the decision to get home Internet service through *Internet Essentials* and 64% cited a child's

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[8] *See* John B. Horrigan, Ph.D., *The Essentials of Connectivity: Comcast's Internet Essentials Program and a Playbook for Expanding Broadband Adoption and Use in America* (Mar. 2014) ("Horrigan"), at 5 (attached hereto as Appendix B).

[9] *Id.*, at 17.

[10] *Id.*, at 5.

teacher.[11] Community institutions came into play as well. Overall, 31% of respondents cited either a public library or a CBO as an influential factor behind getting *Internet Essentials* – a figure on par with the influence of family and friends. These findings validate Comcast's strategy of engaging school districts and its CBO partners to help spread the word about the program and the benefits of broadband Internet access at home.

When asked to rate how much the Internet has helped them or their household, school work leads, "with an overwhelming majority (84%) saying broadband has helped with school work a lot."[12] The results also established a clear correlation between having received training and saying that the Internet helps "a lot" for a greater range of activities (*e.g.*, job searches and access to government services). "[T]raining makes a difference in how people engage with the Internet, but there needs to be a variety of training resources to 'meet users where they are' in their Internet adoption process."[13] For example, nearly half (48%) of respondents said that the most helpful way to learn new things is to teach themselves through reading or online videos. Accordingly, Dr. Horrigan recommends that "broadband adoption programs should collaborate with online training resources such as those available at Khan Academy."[14] As with *Internet Essentials'* training resources, the survey revealed that purchasing a low-cost computer through the program generated higher rates of respondents saying the Internet helps "a lot" for school work, job search, staying touch with others, accessing entertainment, and learning about government services.[15]

The study also validated Comcast's outreach strategy to the *Internet Essentials* eligible population. Horrigan's research found that the population of *Internet Essentials* customers is more Latino than the population at-large without broadband at home.[16] One of Comcast's priorities has been to rollout new features like the online application tool in both English and Spanish. Indeed, the availability of Spanish language information and signup mechanisms, bilingual CAEs, and the Learning Portal are proving vital to a significant number of program participants.

Horrigan's "playbook", along with Comcast's ongoing research on *Internet Essentials* effectiveness and customer satisfaction, will continue to guide the planning and execution of the company's broadband adoption strategy.

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[11] *Id.,* at 17.

[12] *Id.,* at 20.

[13] *Id.,* at 3.

[14] *Id.*

[15] *Id.*, at 28.

[16] *Id.*, at 15.

B. Usage Statistics

The program is having a real and meaningful impact on families and the communities in which they live. In a survey of *Internet Essentials* customers conducted on May 22, 2014, 63% of respondents said they use the service every day; an even higher percentage said they use it periodically (84%). School work is the most prevalent use (97%), followed by finding general information (91%), and email (80%). Regarding the impact that *Internet Essentials* has had on their children's education, 94% of respondents felt the service helped improved school grades. For those using the service for job hunting, nearly two-thirds claimed it helped in their search.

C. Application Process Statistics

Key metrics of the program's effectiveness include the call statistics tracked by the dedicated *Internet Essentials* call center. Since launching *Internet Essentials* in the 2011 back-to-school season, the call center has received nearly 2,315,000 phone calls inquiring about the program. Call center statistics through June 28, 2014 break-down as follows:

- 364,488 calls were ineligible for *Internet Essentials* (15.8% of the total and 19.2% of the callers who did not request applications).
- 243,304 calls were follow-ups to previous orders (10.5% of the total and 12.9% of the callers who did not request applications).
- 147,107 were dropped calls or hang ups (6.4% of the total and 7.7% of the callers who did not request an application).
- 1,140,784 were calls requesting general information about the program (49.3% of the total and 60.2% of the callers who did not request applications).
- 419,075 were calls that resulted in applications (18% of the total). Of those:
  - 77.7% or 325,660 were submitted and accepted (includes instant approvals); 2.4% or 10,030 were submitted but returned to the customer for correction. Comcast followed up with these families by providing a replacement application and asking them to correct the application and then resubmit it for approval.
  - 19.9% or 83,385 were never returned by the customer. Comcast's "resend and remind" program followed up with these families by providing a replacement application and asking them to complete the application and return it for approval.

D. General Satisfaction

Satisfaction with *Internet Essentials* continues to be very high. The results of the May 2014 survey of *Internet Essentials* customers cited above showed high satisfaction ratings consistent with those obtained during the program's first two years: 90% of *Internet Essentials* customers surveyed are "highly satisfied" with the service, and 98% of these surveyed customers

would recommend *Internet Essentials* to others (and 84% have already done so). The priority that Comcast has placed on customer care also received high marks from survey participants: 90% stated that they were "highly satisfied" with Comcast's customer service and 94% of those who required an on-site Comcast technician to install their *Internet Essentials* service indicated they were satisfied with the installation. In addition, a very high number (86%) of survey respondents also said they were "highly satisfied" with the reliability of their *Internet Essentials* broadband connection.

V.

SUMMARY OF ENHANCEMENTS TO THE PROGRAM

The implementation of *Internet Essentials* has gone far beyond Comcast's voluntary commitment. As Comcast has gained insights from hands-on experience, it has implemented significant enhancements to *Internet Essentials* along the way. Enhancements made to the program since launch include:

- Extending the program indefinitely – beyond Comcast's initial three-year commitment.

- Expanding the eligibility criteria for *Internet Essentials* twice, first by extending eligibility to families with children eligible to receive reduced-price school lunches, and then by including parochial, private, cyberschool, and homeschooled students.

- Increasing the broadband speeds for *Internet Essentials* customers twice in less than two years; *Internet Essentials* now offers up to 5 Mbps downstream, which is triple the speed offered at the beginning of the program, and faster than Comcast's entry-level service (3 Mbps) in most of its markets.

- Expanding an instant approval process for families whose students attend schools with 70 percent or more NSLP participation (previously, the threshold was 75 percent), which enhanced participation rates.

- Creating an online application tool on the *Internet Essentials* website to make it easier and faster for a family to apply for *Internet Essentials*. The online application form is now available in English and Spanish, and is optimized for use on mobile devices.

- Enabling Comcast's community partners to help connect low-income families to the Internet by purchasing Opportunity Cards that can be used toward the cost of paying for *Internet Essentials* service.

- Launching an enhanced version of its online Learning Center to provide families with enhanced and dynamic content, including interactive content in Spanish.

– Creating the Gold Medal Recognition Program to award grants to communities that have done the most to help close the digital divide and create *Internet Essentials* Learning Zones.

Appendix A

Sample Promotional Materials

2014 Back-to-School Campaign

INTERNET ESSENTIALS from Comcast

With Internet at home, their opportunities can grow as fast as they do.

Now your family has an easier way to do homework, look for a job and keep in touch.

With Internet Essentials℠ from Comcast, your family can:

- Do homework
- Email teachers
- Look for jobs
- Pay bills
- Find doctors
- Get online tutoring
- Take online classes
- Research colleges

Enrolled families may also purchase a low-cost computer. Anyone can access our free online Learning Center, with a library of videos and other resources that help you create a safe, secure and fun online experience for your family. Just visit InternetEssentials.com/learning.

To qualify for Internet Essentials, your household must meet all of these criteria:

- Is located where Comcast offers Internet service
- Has at least one child eligible to participate in the National School Lunch Program
- Has not subscribed to Comcast Internet service within the last 90 days
- Does not have an overdue Comcast bill or unreturned equipment

To learn more or apply, visit: **InternetEssentials.com** Or call: **1-855-8-INTERNET (1-855-846-8376)**

AFFORDABLE INTERNET

$9.95 a month + tax

- No price increases
- No activation fees
- No equipment rental fees

A LOW-COST COMPUTER

$149.99 + tax Available at initial enrollment

FREE INTERNET TRAINING

Available online, in print and in person

COMCAST

INTERNET ESSENTIALS from Comcast

Con Internet en casa, sus oportunidades pueden crecer tan rápido como ellos.

Ahora tu familia tiene una manera más fácil de hacer las tareas, buscar empleo y mantenerse comunicada.

Con el Servicio de Internet Básico℠ de Comcast, tu familia puede:

- Hacer tareas
- Enviar emails a los maestros
- Buscar empleo
- Pagar facturas
- Encontrar médicos
- Recibir apoyo académico en línea
- Tomar clases en línea
- Buscar universidades

Las familias registradas también pueden comprar una computadora de bajo costo. Cualquiera puede tener acceso a nuestro Centro de Aprendizaje, con una colección de videos y otros recursos para ayudarte a crear una experiencia en línea segura y divertida para tu familia. Solo visita aprendizaje.Internetbasico.com.

Para calificar para el Servicio de Internet Básico℠ de Comcast, tu hogar debe cumplir con todos estos criterios:

- Estar ubicado en una zona en la que Comcast ofrezca servicio de Internet
- Tener por lo menos un niño elegible para participar en el Programa Nacional de Almuerzos Escolares
- No haber estado suscrito al servicio de Internet de Comcast en los últimos 90 días
- No tener saldos vencidos con Comcast o equipo no devuelto

Para obtener más información o llenar una solicitud, visita: **InternetBasico.com**
Or llama al: **1-855-SOLO-995 (1-855-765-6995)**

INTERNET A TU ALCANCE

$9.95 al mes + impuestos

- Sin aumento de precio
- Sin cargo por activación
- Sin cargo de alquiler por equipo

UNA COMPUTADORA DE BAJO COSTO

$149.99 + impuestos

Disponible en la inscripción inicial

GRATIS

Capacitación de Internet

aprendizaje.Internetbasico.com
Por el Internet, en persona y con materiales impresos

Se aplican restricciones. El servicio no está disponible en todas las áreas. Limitado al Servicio de Internet Básico de Comcast para nuevos clientes residenciales que cumplen con ciertos criterios de elegibilidad. Los precios anunciados aplican a una sola caja digital. Las velocidades reales varían y no están garantizadas. Después de la participación inicial, si se determina que un cliente ya no es elegible para el programa, pero continúa recibiendo el servicio de Comcast, se aplicarán las tarifas regulares. Sujeto a los términos y condiciones del programa del Servicio de Internet Básico de Comcast. Llame al 1-855-SOLO-995 (1-855-765-6995) para obtener las restricciones y todos los detalles, o visite InternetBasico.com. El Servicio de Internet Básico es un programa creado para proporcionar a las familias un servicio de Internet residencial. No se trata de un programa escolar y no es requerido ni está patrocinado por su escuela. Su escuela no es responsable de las cuentas del Servicio de Internet Básico.

COMCAST

Appendix B

John B. Horrigan, Ph.D., *The Essentials of Connectivity*

March 2014

March 2014

The Essentials of Connectivity

Comcast's Internet Essentials Program and a Playbook for Expanding Broadband Adoption and Use in America

John B. Horrigan, PhD

Research Funded by the Comcast Technology Research & Development Fund

The Comcast Technology Research & Development Fund, launched in March 2013, offers funding for researchers at leading academic institutions. The Fund is designed to be a significant investment in the future of technology by supercharging research and development into innovations that will shape the Internet industries for years to come. A wide range of research is funded, including research that focuses on public policy issues that go to enabling communities to take advantage of that innovation and growth. Funding is also provided to support open source development efforts.

Researchers who are selected to participate in the program have access to resources ranging from financial support and hands-on support from Comcast's extensive and experienced network of engineers and other experts. To date, the Fund has funded Georgia Institute of Technology, University of California San Diego, Villanova University, University of Connecticut and other research institutions.

More information about the Fund can be found at http://techfund.comcast.com/.

Table of Contents

Executive Summary

Low levels of broadband adoption among some groups remain a stubborn problem in the United States. One particularly at-risk group is families with school age children. Given that digital resources are increasingly critical to education, families without Internet access are at a severe disadvantage. Comcast's Internet Essentials (IE) is targeted at low-income families with school-age children who do not have home broadband service.

This report explores how homes that have recently signed up for Comcast's IE service travel the path to becoming engaged online users. It does this in a unique way: an in-depth survey of 1,969 Comcast IE users who signed up for the service in the latter part of 2013. The survey found that the population of IE customers is relatively poorer, more Latino, more female, and somewhat better educated than the population at-large without broadband at home.

This landmark survey offers lessons for all of America on how to increase broadband adoption and use. The key findings are:

Institutions are important drivers in encouraging non-broadband users to adopt broadband, with schools having a preeminent role.

- Children and teachers are highly influential in encouraging families to get broadband:
  - 98% of families said they got IE because their kids needed it for school.
  - 91% said their children influenced their decision to get IE.
  - 60% said teachers at their child's schools influenced their decision to get IE.
- Other institutions exerted influence through expectations:
  - 83% said their child's school expected that students have online access at home.
  - 65% said that banks and financial institutions expect them to have home Internet access.
  - 53% said that health insurance companies expect that they have home Internet access.
  - 50% said that government agencies expect that they have home Internet access.
  - 49% said that their job or employer expects that they have home Internet access.
- Recommendation: Institutions should partner with the full spectrum of broadband adoption initiatives to encourage broadband adoption among client populations.

Social networks are an important ingredient to broadband adoption and engaged use.

- 50% say that all or most of the people in their community have Internet access at home.
- 40% say that all or most of the people in their community have "on the go" mobile access.
- Those who say that most of the people they know have home access are *much more* likely to use the Internet several times a day than those who do not – by a 66% to 51% margin.
- Those who have many home Internet users in their community are more likely to say the Internet helps "a lot" in most areas of their lives, such as staying in touch with family, looking for work, or accessing government services.
- Recommendation: Libraries, schools, and non-profits should create spaces where new users can find the "social effect" that hastens the path to engaged online use.

Training makes a difference in how people engage with the Internet, but there needs to be a variety of training resources to "meet users where they are" in their Internet adoption process.

- 29% took advantage of *either* Comcast IE's in-person *or* online training resources, and these users are significantly more likely to say the Internet helps their kids with school work, how they access government services, and look for or apply for jobs.
- 48% say that the most helpful way to learn new things is to teach themselves through reading or online videos and another 30% say it is through their children.
- Recommendation: Broadband adoption programs should collaborate with online learning resources such as those available at Khan Academy or PowerMyLearning.org that can help with education and digital skills.

Broadband adoption programs are an important resource for economic advancement for new home Internet users.

- 68% said a reason for getting broadband access at home was to get health and medical information online.
- 62% said they needed it to look for or apply for jobs.
- 90% said the Internet helps them "a lot" or "somewhat" to do schoolwork.
- 69% said the Internet helps them "a lot" or "somewhat" to stay in touch with family, friends, and neighbors.
- 59% said the Internet helps them "a lot" or "somewhat" to get access to government services.
- 57% said the Internet helped them "a lot" or "somewhat" for job searches.
- Recommendation: Stakeholders focused on economic and community development must make appropriate investments to facilitate broadband adoption at home.

The technology context of new home Internet users is important to understand in program design.

- New Comcast IE customers have experience with technology:
  - 72% have used the Internet from places other than home before getting IE.
  - 50% once had home Internet service at some point in the past.
  - 85% have desktop or laptop computers.
  - 57% have smartphones.
  - 36% have tablet computers.
- 34% said they had given no consideration to getting home Internet service in the 12 months prior to getting service through IE.
- Recommendation: Stakeholders should undertake periodic community and user needs assessments to facilitate dialogue on what strategies work to close broadband adoption gaps.

Part I

A Playbook for Broadband Adoption and Use

In 2010, the National Broadband Plan (NBP) challenged stakeholders in the public and private sectors to tackle a stubborn problem — closing the remaining gap in home broadband adoption in the United States. The puzzle the NBP identified was clear: Why, when 95% of Americans have access to at least one wireline broadband provider, did just 65% actually take service?[1] To address this 30 percentage point puzzle, the NBP recommendations focused on capacity-building. Public-private partnerships were to use public awareness campaigns to help non-users understand the benefits of service. Government agencies were, as they transitioned to digital service delivery, to use that as a lever to draw non-broadband users online. The National Telecommunications and Information Administration (NTIA), as it began its broadband adoption programs, was also to develop resources to improve the digital literacy of non-users.

In this context, the Comcast Internet Essentials (IE) program emerged as a large-scale initiative to address the broadband adoption gap for an especially at-risk population: low-income families with school-age children who qualify for free- or reduced-priced school lunches. The creation of IE was a voluntary commitment in the 2011 acquisition by Comcast of NBCUniversal. IE was first offered on May 11, 2011 and this commitment applied for a period of three school years. IE as it is offered today gives qualifying families a $9.95 broadband Internet service plan, access to training resources on how to use the Internet, and the chance to purchase a $150 computer. Today's IE is different from the initial offering in 2011 because Comcast has expanded speeds and eligibility several times and made a number of other enhancements to the program. On March 4, 2014, Comcast announced that it has extended IE beyond the three school years of its voluntary commitment.

After several years of operation, IE offers a unique opportunity to see how, in practice, the process of trying to get people online works. This report investigates the issue through a landmark survey of 1,969 Comcast IE customers who signed up for service in the latter part of 2013. This survey is unique because it focuses exclusively on individuals and families who have moved from being non-adopters to adopters and it assesses their adoption and engagement pathways. This is one of the only, if not the only, surveys on broadband adoption to do that. The survey explored what drew IE customers to service and what has engaged them in becoming active (or not) online users, yielding lessons on how to accelerate the process of drawing non-users to broadband.

The research, in other words, serves as a playbook for all of America on how to connect a greater share of the population with high-speed Internet at home.

The elements of the playbook are:

I. Institutions are important drivers in encouraging non-broadband users to purchase service, with schools having a preeminent role.

With school age children as IE's priority, it is no surprise that nearly all respondents (98%) said they the purchased IE service because their children needed it for school. A similar number (91%) say that their children played an influential role the decision to get IE service. Schools — teachers specifically — were important too, as 60% of IE users said a teacher at their child's school influenced their decision to get service. Some 83% of IE users said they believed their child's school *expected* that students have online access at home. Other community institutions mattered too; 31% said either their local public library or another community organization influenced their decision to get service.

Expectations from other institutions are part of the equation as well. Among IE users:

- 65% said that banks or other financial institutions expect them to have Internet access at home;
- 53% said that health insurance companies expect that they have home Internet access.
- 50% said that government agencies expect that they have home Internet access.
- 49% said that their job or employer expects that they have home Internet access.

These expectations suggest that these institutions see benefits to having a connected population of the clients and citizens they serve.

Recommendation for Action

As institutions increasingly integrate online means into how they deliver their services, they should partner with existing broadband adoption initiatives, such as Comcast IE, to encourage service adoption among client populations. This means ensuring that training is available for users to learn how to take advantage of online service delivery.

II. Social networks are an important ingredient to broadband adoption and engaged use.

When families purchase IE high-speed service at home, they become one more node on the Internet in communities, neighborhoods, and broader contexts of extended families and friends. Whether others in their social universe have broadband turns out to matter a great deal in how IE customers engage with the Internet.

- 50% of respondents say that all or most of the people in their community have Internet access at home and 40% say that all or most of the people in their community have "on the go" online access on a mobile device.
- The half of respondents who say most of the people they know have home access are *much more* likely to use the Internet several times a day than those who do not — by a 66% to 51% margin.
- IE customers who have many home Internet users in their community are more likely to say the Internet helps "a lot" in most areas of their lives, such as staying in touch with family and friends, looking for work, or accessing government services.

Recommendation for Action

Exposure to other people in their communities who have access to broadband at home will facilitate more engaged use of broadband by recent adopters. Although stakeholders cannot snap a finger to increase the pool of online users in adopters' lives, community organizations can serve as a bridge. Trusted community organizations such as libraries, schools, non-profits, and governments should create spaces where new broadband users can find the "social effect" that hastens the path to engaged online use, especially in relation to functions that empower personal economic well-being. This is one of the ways in which broadband adoption can drive community-level economic development.

III. Training makes a difference in how people engage with the Internet, but there needs to be a variety of training resources to "meet users where they are" in their Internet adoption process.

The IE offer comes with in-person and online training resources and the data show that the training helps users become more frequent and engaged users. Some 17% of IE customers said they have used in-person training and 23% used the Internet Essentials Online Learning Center; this means 29% of IE customers used at least one of the two training resources offered by IE. Among those who use the training, they are significantly more likely to say the Internet has improved how their children do school work, how they stay in touch with family and friends, and how it helps them look for or apply for jobs.

Yet all learning does not take place in a formal training environment. Half (48%) of IE respondents say that when they want to learn new things online, the most helpful way is for them to teach themselves through reading or online videos. Another 30% rely on their children.

Recommendation for Action

When broadband access is coupled with targeted training, adopters are more likely to transition from being mere adopters to those who use broadband to empower personal economic and social well-being. Broadband adoption programs should incorporate digital literacy and other training to ensure adopters become more empowered in that way. Since recent broadband adopters show a preference for online training and half like to learn on their own, a priority on Web-based resources, such as Khan Academy or PowerMyLearning.org, makes sense. Training should also involve working with place-based institutions — such as schools and community organizations — to ensure that they can direct users to curated online learning resources.

IV. Broadband adoption programs are an important resource for economic advancement for new home Internet users.

With its emphasis on reaching families with school-age children, IE is at its core about education. But in important ways, this serves as a conduit to opening up IE families to the skills to participate in the 21st century economy. When asked why they started using the Internet:

- 62% of respondents said they needed it to look for or apply for jobs;
- 57% said the Internet helped them "a lot" or "somewhat" for job searches.

Online access at home also permits families to communicate with institutions that help in their everyday lives, such as health care and government.

- 68% of respondents said a reason they got broadband at home was to get health and medical information online;
- 59% said the Internet has helped them "a lot" or "somewhat" to get access to government services.

Recommendation for Action

Stakeholders interested in economic and community development must prioritize the role of online access for all citizens in carrying out their missions. Investments in initiatives to facilitate broadband adoption and use are key complements to programs aimed broadly at economic and community development. This opens up to low-income communities the same kinds of economic and social benefits to which so many others have access.

V. The technology context of new home Internet users is important to understand in program design.

A key takeaway from the survey of IE users is the variety of backgrounds with information and communications technologies (ICTs) that they bring to the program:

- 72% of respondents said they used the Internet from someplace other than home before getting IE service; 27% did not.
- Half of respondents said they had home Internet service at some point in the past prior to getting IE service, while the other half said they had *never* had Internet service at home before having IE service.
- 34% of IE customers said they had given no consideration to getting home Internet service in the 12 months prior to getting service through IE.
- At the same time, many have access to modern ICT gadgets. Some 85% have desktop or laptop computers, 57% have smartphones, and 36% have tablet computers.

These differences impact what users need from broadband adoption programs. Those who have not had home Internet service in the past, or who have not recently given any consideration to getting service, are more likely to use — and need — digital literacy and other training. They are also less likely to say they prefer to learn about the Internet on their own (40% say this) and are more likely than those who had service once to say they turn to a child to learn about the Internet.

Recommendation for Action

Stakeholders should undertake periodic community and user needs assessments to understand the technology perspectives of communities that require interventions to encourage broadband adoption and use. This will not only help improve program design, but also facilitate ongoing dialogue among providers and communities on how ICTs can positively impact the economic and social prospects for low-income communities.

Survey Methodology

This report is based on a January 2014 telephone survey of 1,969 Comcast Internet Essentials customers who have started IE service in the prior six months. The survey was conducted by Princeton Survey Research Associates International; respondents had the option of having the interview conducted in English or Spanish. The margin of error for results based on the entire sample is +/- 2.2 percentage points.

Author's Preface

For the author, this report reflects continuation of work started more than four years ago, when he worked at the Federal Communications Commission on the development of the National Broadband Plan. One of the memorable phrases from the NBP is that the Plan is "in beta and always will be." For those interested in the National Broadband Plan's key objectives — increasing broadband adoption and use, improving deployment of the nation's broadband infrastructure, using broadband for national purposes — this means periodically revisiting and revising what the plan recommended.

It is in that spirit that this research is undertaken — looking at what is happening in the broadband environment, drawing lessons, and suggesting improvements. Comcast's IE program represents an important — and large — pillar of how America is going about getting all households online. NTIA's Broadband Technology Opportunities Program (BTOP), which was funded by the 2009 American Reinvestment and Recovery Act and built out a "broadband adoption infrastructure" that has reached hundreds of thousands of homes is another example. NTIA's indispensable "Broadband Adoption Toolkit" had drawn together important lessons from BTOP.

Now, with more than two years of work under its belt and its extension beyond the voluntary commitment already announced, IE is an example of how public and private action can be brought to bear on a problem that has important implications for low-income communities and the nation's economic and social health. It is also an opportunity to deepen understanding of how to increase broadband adoption and use, and utilize that understanding for the benefit of all others engaged in this endeavor. The objectives here are to:

- Develop a data-driven record for understanding how to address a key challenge in the broadband ecosystem — how to move the dial on home broadband adoption for the poorest families in society.
- Improve on how, as a nation, we get more homes online using the Internet in ways to improve their lives and in particular, give Americans who have the greatest challenges in participating in the 21st century economy the tools and the support to help do that.

In developing recommendations to promote broadband adoption and use, the NBP recognized that government could not alone tackle the problem — public-private partnerships are necessary. Internet Essentials is one example of that. This report offers a playbook for all stakeholders in the public and private sectors to continue to make investments on how to connect more Americans with broadband at home and help them to use it in their economic, educational, and personal lives. Consider this report, at least with respect to the broadband adoption and use, as Broadband Plan 2.0.

Part II

Introduction: The Path to Internet Essentials

The year 2010 marked the release of the U.S. National Broadband Plan (NBP), an ambitious effort to chart a future course for the use of high-speed Internet to improve societal and economic outcomes in the United States. The NBP focused on the quality and reach of broadband networks, how the country could use them for so-called national purposes (e.g., better health care and education), and how to increase rates of broadband adoption and use.

That year also marked a distinct point in the adoption path for broadband-at-home in the United States as home broadband adoption reached 68%.[2] After a decade of rapid adoption in the general population, data indicated that growth in home broadband subscriptions had slowed. Part of that was due to the severe economic downturn the country was experiencing. Additionally, the natural course of adoption rates of new technologies had something to do with it; typically when two-thirds of the population has a new technology, reaching the last third of "hard to reach communities" is a more protracted path.

The other part of the broadband story at that time was an inflection point on how our society thought about broadband and other information and communications technologies (ICTs). By 2010, plenty of telecom and Internet policymakers and stakeholders were accustomed to touting the economic benefits of broadband and the need to increase broadband adoption for equity reasons. What changed around 2010 was the understanding of how the Internet could improve performance and efficiencies in nearly every corner of our society, particularly when it comes to contributing to economic growth. High speed networks and powerful, portable computing devices could improve how we educate children. These same digital assets could help people manage their health better and governments deliver services more cheaply and effectively. Stakeholders came to see broadband as having a more central role to many key functions, making it problematic to have a significant portion of the population not using it.

It was this evolving context that new initiatives have emerged to draw more Americans to broadband adoption and use. The American Recovery and Reinvestment Act of 2009 invested $450 million in public computing centers and sustainable broadband adoption initiatives through the Commerce Department's National Telecommunications and Information Administration. These grants, which attracted additional funding from partners in the private and non-profit centers, have reached more than 500,000 people through community-based initiatives.[3] Comcast's IE program developed in this context too, aiming to draw online households with school-age children that are eligible for the free or reduced-price school lunch program.

This report examines how recent Comcast IE customers have traveled the path to having high-speed Internet service at home. The IE program was a voluntary commitment in the 2011 acquisition by Comcast of NBCUniversal, with the commitment being that the IE program run for three school years starting on May 11, 2011. The concept of industry-led efforts to reach non-broadband adopting populations including IE originated in 2009 with the cable industry's "Adoption Plus" initiative.[4] IE provides for eligible households:

- A $9.95 per month Internet connection at 5 megabits per second downstream and 1 Mbps upstream.
- A $149.99 computer.
- Free Internet training online, in-person, or in print.

Since its inception, IE has signed up 300,000 families for service or about 1.2 million people. For more history on IE and in particular how it has evolved from the program that was announced as part of the NBCUniversal transaction, please see Appendix I for an overview that Comcast has produced.

Closing Access Gaps: Understanding the Role of Poverty in Online Access

Just as so many stakeholders have updated their understanding of how broadband can impact society, the debate about the digital divide has evolved — and must continue to do so. Research and scholarship in the past dozen years has pushed stakeholders to see online access as about more than just access and fairness, as important as they continue to be. The discourse has expanded to view the digital divide as a difficult — though not intractable — problem that requires sustained interventions and widespread participation from stakeholders in the public and private sectors. It also calls for deep understanding of the circumstances of non-users that drive non-adoption. To see why, some background on the evolution of the digital divide debate will help.

The digital divide debate inherited a universal service policy framework that placed the social dimensions of the issue in terms of access to service. From the early days of the Bell Telephone System, universal service was about ensuring widespread network deployment and, later, making telephone service affordable to Americans. In establishing the Federal Communications Commission in 1934, the Communications Act stated as its goal "to make available, so far as possible, to all the people of the United States, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges."[5] Elaborate regulatory mechanisms developed to make sure the price for telephone would be low enough so that more and more Americans would purchase service.

As discussion of the National Information Infrastructure (NII) unfolded in the 1990s, traditional universal service values shaped how policymakers talked about the need for available and affordable advanced information tools. Discussion of the information "haves" and "have nots" from the Clinton Administration's 1993 Information Infrastructure Task Force (IITF) focused on closing gaps in network access and end-user devices for individuals and, importantly, for public institutions such as schools and libraries. Although initiatives of that era did discuss the need to train teachers on how to use the Internet in the classroom, a good deal of policy discourse involved watching metrics on device adoption (back then desktop computers) and consumer purchases of modems to connect to the Internet.[6]

By the turn of the 21st century, community-based efforts in many parts of the country sought to close the digital divide by reaching into mainly low-income neighborhoods. The Community Technology Center (CTC) movement created places in communities where people could go for services that many could not afford at home. Libraries and schools were also part of the equation in this era as access points. CTCs had the dual advantage of opening access to many people who might otherwise not have ways to get online, but also exposing stakeholders behind these initiatives to the challenges and nuances of introducing new technology to largely low-income populations.

From this work came an appreciation that adoption of ICTs had more dimensions than simply ensuring the availability of networks, inexpensive service offerings, and cheap access devices.

An early call for reformulation of the digital divide debate came in the early 2000s from Lisa Servon, now of the New School for Social Research. She argued that measures to address the digital divide had to include training on how to use the technology, since the problem is "much more complex than a mere lack of computers." Servon noted that access gaps would close, with falling prices for electronic devices and services resulting in more low-income people purchasing these goods. Yet "entrenched gaps" in usage would remain unless training programs and content were developed for specific groups.[7] Qualitative research that the Social Science Research Council (SSRC) conducted for the National Broadband Plan noted that, among poor Americans not using broadband, lack of high-speed service adoption at home "tracks closely with socio-economic inequality" and that access barriers tend to be multiple in nature.[8] More recent research from scholars at Temple University

centers on the structural barriers poor women in Philadelphia face to Internet access. Gilbert and Masucci find that contextual factors such as sexism, inequality, and challenges in poor women's daily lives are all crucial in devising approach to draw them to sustained technology use.[9]

Empirical research also demonstrates the role of poverty and broader social context in explaining the adoption of broadband, computers, and the Internet. In study of computer adoption using 1997 data, Goolsbee and Klenow found that people were more likely to have a computer at home if they live in areas where others have adopted and if a large share of family and friends had a computer.[10] A Gates Foundation study in 2003 found that, even when controlling for income, people living in low-income areas are less likely to be computer or Internet users. That is, a low-income person who happens to live in a middle income area with high uptake is more likely to use the Internet than a person at the same low level of income that lives in a poor (low adopting) area.[11] This same neighborhood effect has been found more recently in Chicago and in a survey conducted by the Joint Center for Political and Economic Studies.[12] Finally, research from the mid-2000s found that, in the relatively early stages of broadband's rollout as a consumer service, socio-economic factors (particularly income) explained broadband uptake more than price sensitivity, even when controlling for service availability.[13] This research indicates how problems with broadband adoption in low-income communities are intimately bound up in other problems that are markers of poverty, such as low high school graduation rates and health outcomes. Efforts to increase broadband adoption in these communities must understand the structural problems of poverty.

Research conducted for the National Broadband Plan extended understanding of non-adoption by examining in detail the barriers to non-adoption. That work found adoption barriers to be multiple in nature, while also determining, in the midst of multiple reasons for non-adoption, which factors loomed largest. In "Broadband Adoption and Use in America," the methodological approach to asking non-broadband users why they do not have service essentially let them check more than one box on a menu of possible reasons for not having broadband. That approach found that, among non-broadband users, when asked to choose more than one reason for not having broadband, 51% say the monthly cost is too expensive, 32% say they are not comfortable using a computer, 35% say they worry about bad things that can happen online, 32% say they cannot afford a computer, 25% say there is nothing online they want to see, and 24% say the Internet is a waste of time.[14]

When asked subsequently to identify the main reason they do not have broadband, reasons for non-adoption sort into three categories:

- Cost: 36% of non-broadband adopters cited a cost-related reason, such as 15% who cited monthly access fee, 10% who cited computer cost, 9% who cited activation fee, and 2% who cited a combination of reasons.
- Digital Literacy: 22% cited factors pointing to digital literacy including 10% who said they were worried about bad things that could happen online, and 12% who said they were not comfortable with computers.
- Lack of relevance: 19% of non-adopters said they did not find online content compelling enough to purchase service. This means they thought the Internet was a "waste of time," that there was nothing worth seeing online, or that offline alternatives for getting information sufficed for them.[15]

Since the NBP, research on non-broadband adoption has continued to find these same patterns for non-adoption. Research conducted for the Partnership for Connected Illinois in 2012 found that, for Illinois residents, non-broadband users cited multiple reasons for not having service and, when asked about the main reason, 29% of non-broadband adopters cited a cost related reason (16% cited the monthly access fee and 9% cited the cost of the computer), 17% cited the lack of relevance and 13% cited digital literacy.[16] NTIA's large-scale surveys on non-Internet use find that, when asked only to cite the main reason they do not have the Internet at home, 48% of respondents cite broadband's lack of relevance to them, 28% say it is too expensive, and 13% say they do not have a computer (or an adequate one).[17] The Pew Research Center, in asking the question in a way similar to NTIA, finds that 34% of non-internet users cite lack of relevance, 32% cite usability issues, and 19% cite cost which was made up of 13% saying they do not have a computer and 6% saying it is too expensive.[18]

Beyond shaping discourse about drivers to non-broadband adoption, the FCC research showed the complex nature behind the decision not to have service. The plural nature of reasons for non-adoption was most striking. Respondents could, and did, identify a main reason for not having service, but that was in the context of

multiple reasons (most designated three) they cited. Expected reasons for not having service, such as the cost (which included different cost elements), relevance and digital literacy clearly came into play. Non-broadband users, it turned out, occupied a range of different terrains when pressed for reasons underneath their choice not to have service. The research showed that, particularly to those hoping that pulling a single lever (such as lowering prices or offering free computers) would accelerate broadband adoption, the problem was indeed multi-dimensional.

This report builds on the FCC's 2010 and subsequent research but, importantly, extends it beyond issues such as consumer preference or even levels of skills. Although those things shape ICT adoption choices, the social context for non-broadband using Americans is important too. For the population of (mostly) poor non-broadband users, poverty understandably influences decisions on what services to purchase, the means of gathering information, and how to address day-to-day needs. Broadband can help in many ways, but it is often just not a realistic option.

By understanding non-adoption a problem nested in the context of the larger ones many low-income families face, initiatives to address non-adopters' needs have to focus on building their capacity for sustained adoption and use, not one-off efforts to procure service. This means "meeting people where they are" as opposed to top-down approaches that seem to demand that non-adopters conform to a single solution.[19] Worthwhile broadband adoption programs should foster not just digital skills, but also the wherewithal for clients to engage in:

- Problem-solving: to troubleshoot household and personal technology.
- Deepening engagement: so that people use digital resources to address issues in their lives pertaining to education, health care, and many others.
- Ongoing learning: The willingness to adapt to and be participants in discourse about a rapidly changing Internet environment that calls for high levels of trust that goes with sharing personal data with emerging applications.

A final element in considering Internet use among non-adopting population is that, in many cases, the digital divide is less an impenetrable barrier and more of a line that people cross from time-to-time. Research has shown that there is churn in the population of broadband users, that is, broadband service is something some have had in the past but have given up for some reason. A 2009 Pew Research Center study found that, at the onset of the recession, some 17% of low-income respondents had cut back on Internet service due to tight home finances. This finding is consistent with other research that shows that, during the Great Recession, there was a dramatic decline in all consumption components including (unlike past recessions), non-durable goods such as broadband.[20] Similarly, the 2010 FCC national survey found that 17% of non-broadband users had had home Internet service in the past; among non-broadband users with school age children *and* low-incomes, that figure was 35%. SSRC's qualitative study of low-income people without Internet access at home used the term "un-adopters" to describe the 24% of people in the SSRC focus groups who had broadband service at home at some point, but had to disconnect service (usually for financial reasons).[21]

The survey on which this report is based sought to understand not just who IE customers are or whether they like the service. It also explores the context of their lives, their past experience (if any) with broadband and other ICTs, their reasons for subscribing to broadband through IE, and their attitudes about broadband's usefulness to them. In approaching the research this way, the objective is to develop actionable insights for all stakeholders interested in increasing broadband adoption and use in the United States.

IE Customers: Reaching Low-Income Families through Their Kids' Schools and Connecting — and Reconnecting Many — to Home Internet Service

Finding One: Demographic Overview. The population of IE customers is relatively poorer, more Latino, more female, and more educated than the population at-large without broadband at home.

Because the IE program targets families with school age children who are eligible for free or reduced priced lunches (meaning their household income does not exceed 130% of the poverty level), IE customers are going to be poorer and younger than the general population. The survey conducted for this report interviewed 1,969 Comcast IE customers who had signed up for home broadband service via IE in the prior 6 months. Appendix II contains a detailed methodological account of the survey. This makes the sample gathered for this report truly

Table 1: Comparing IE customers to national data on families with school-age children lacking home broadband

	Comcast IE customers	Families with school age children without broadband at home
Gender		
Male	24%	44%
Female	76	56
Race/Ethnicity		
White	19%	25%
African American	20	21
Latino	52	38
Age		
18-29	20%	24%
30-49	68	56
50-64	10	15
65+	1	4
Income		
Under $20K	54%	35%
$20K to $50K	35	28
$50 to $75K	2	10
$75K to $100K	*	5
Over $100K	*	5
Education		
High school grads or less	60%	70
Some college	26	21
College +	13	9

* = less then 1%

distinctive — one of the only, if not *the* only — sample of recent broadband adopters who have been part of a structured program to bring them online.

Demographically, IE customers look very different from the typical family with school age children without broadband. In the table below, it is worth noting that the column labeled "families with school age children without broadband at home" includes families whose household incomes exceed 130% of the poverty level. Data in that column is based on combining publicly available Pew Research Center data from 2012-13 to have enough cases (239) of families with school age children without broadband to permit comparisons.

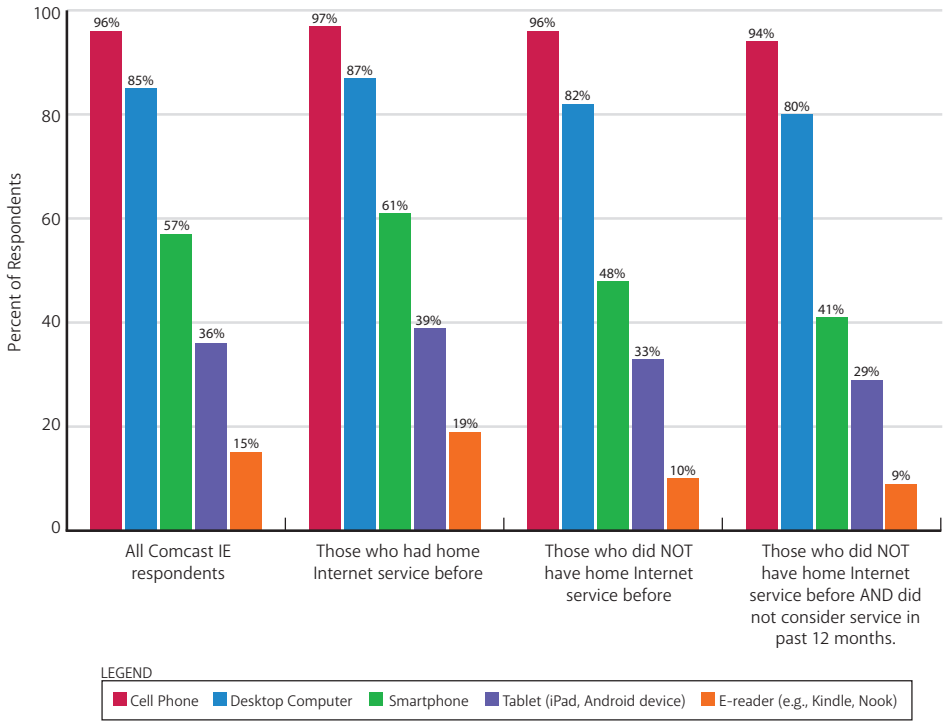
The average household size for respondents in the Comcast IE survey is four, which means the typical respondent has a household income under $20,000 per year to support four people. This compares to the U.S. government's definition of the poverty level for a family of four, which is approximately $23,000 per year.

Finding Two: Half of IE customers had home Internet in the past and a substantial share have smartphones or tablet computers.

When thinking about IE customers' circumstances as they have become home broadband users, it is important to understand the differences in online experience and assets that they bring. Past experience with home Internet use is a first marker. Half (50%) of respondents said that, before they had Comcast IE service, they had Internet service at home at some point in the past. Many Comcast IE users interviewed for this survey also had thought about getting broadband at home in the previous 12 months. When asked whether they had considered subscribing to broadband in the past 12 months:

- 28% considered it very seriously.
- 26% considered it somewhat seriously.
- 6% considered it not too seriously.

Table 2: Technology assets of IE customer



- 1% considered it not at all seriously.
- 34% said they had not considered it.

Of the one-third (34%) of respondents who had not at all considered getting service in the prior 12 months, 59% had never had broadband service before. This means that 20% of all respondents, before Comcast IE, had *never* had Internet service at home *and* had not considered subscribing in the past year.

Even with these differences in prior online experience, Comcast IE customers in this study are not disconnected from modern ICT gear.

Finding Three: IE customers overwhelmingly got service for kids and their school work, but expectations from other parts of society helped drive the adoption decision.

To understand respondents' reasoning for subscribing to Comcast IE, the survey asked directly why people bought service, the influential factors behind the decision, and whether outside expectations played a role. Given that IE is targeted to educators and families with children eligible for free or reduced-price lunches, it is not surprising that education tops the list of reasons cited for getting Comcast IE. When asked their reasons for getting service:

- 98% said their children needed it for school work.
- 68% said to get health and medical information online.
- 63% said they wanted access to music, movies, news, and entertainment like online games.
- 62% said they needed the Internet to find jobs and apply for them.
- 62% said they wanted the Internet to stay in touch with people via email or social media.
- 61% said they needed the Internet to get government and social service information.

As to what groups influenced their decision to get home Internet service through the IE program:

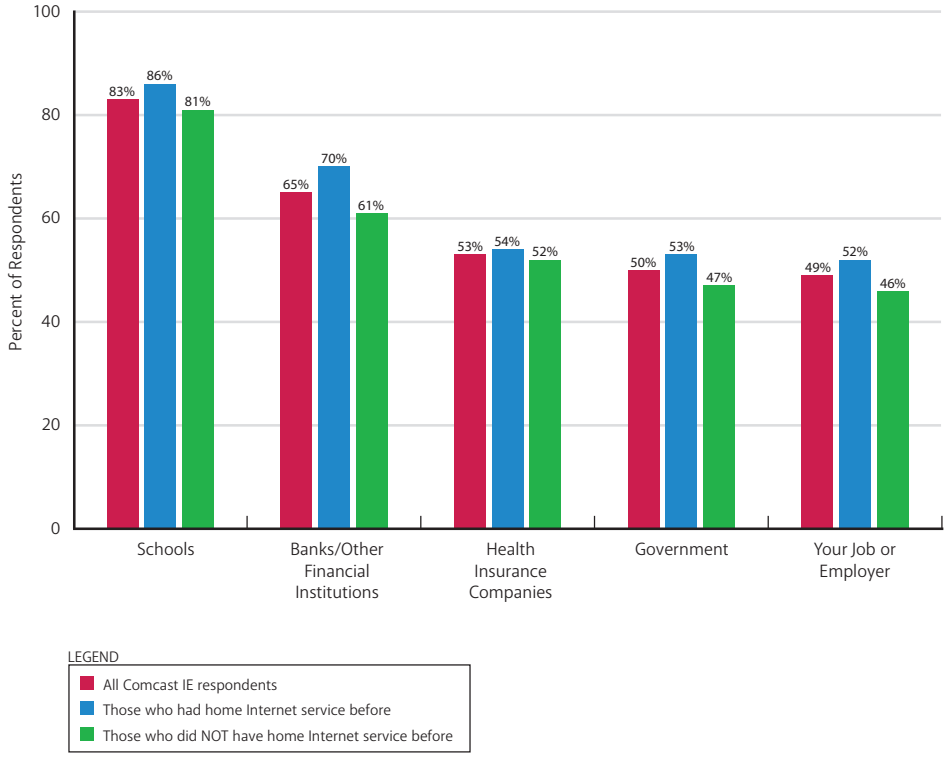
- 91% said their children influenced their decision.
- 60% said teachers at their child's school.
- 34% said family members or friends.
- 23% said public libraries.
- 18% cited community organizations.
- 16% said co-workers.

Those who had *not* had home Internet service in the past were somewhat more likely to say that their children or their teachers had something to do with the decision, with 93% saying their children drove the decision and 64% citing a child's teacher.

The other part of the equation was expectations. The survey probed whether Comcast IE customers had encountered people or institutions who presumed they had online access readily available at home. Again education rose to the top; 83% of respondents said that they believed that schools expected them to have online service at home. But other institutions had expectations about home Internet access for respondents, particularly in the financial sector. Whether a respondent had had online service in the past before IE or not shaped the degree to which respondents said they encountered the expectation that they should have online access from home.

In sum, Comcast IE customers have education in mind when asked about their motivation for and reasoning behind subscribing to broadband through IE. At the same time, other reasons are important. People see health care information as an important reason to have home broadband service, and that is in part driven by expectations that health insurance providers expect this. A similar dynamic is at work for government and social services, with consumer desire buttressed by institutional expectations. Comcast IE customers also share the same motivations for online access that so many of us take for granted, such as communicating with family and friends and using the Internet for entertainment.

Table 3: Institutions' expectations that people have home Internet
For each of the following groups, do they expect to be able to communicate at home via the Internet? (% yes)



Even though educational purposes are the main drivers behind getting access, it is important to note other factors that come into play for many IE users. One-third (34%) said family and friends influenced their decision to get service and 16% of co-workers did. Community institutions came into play as well. Nearly one-quarter of IE respondents (23%) said a public library influenced their decision to purchase broadband service via IE and 18% said community organizations had an influence. Overall, 31% of IE respondents cited *either* a public library *or* a community organization as an influential factor behind getting IE — a figure on par with the influence of family and friends.

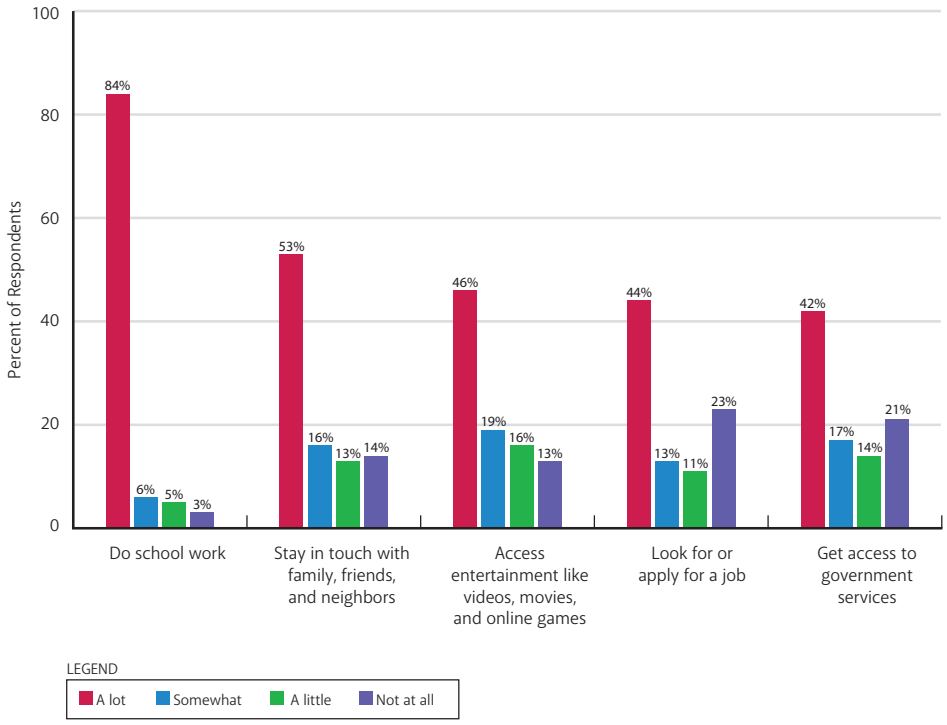
What Engages IE Customers with Broadband Once They Have Service

Finding Four: Users find the Internet helps children a lot with school work — and in other ways too.

Once people have made the decision to subscribe to broadband through the IE program, the questions become how much they use it and what fosters an important goal of any effort to promote broadband adoption — a pool of new broadband users who take advantage of broadband's benefits.

For the most part, once people get broadband via IE they use it; 84% of respondents said that either they or others in the household use the Internet at home using their IE service at least occasionally, with 15% saying they do not, at least occasionally, use the service. The 15% who say they do not use IE is not an insignificant minority of users; a section below explores in detail this group of users who use the service infrequently. Among those who use IE, however, use tends to be frequent. Three in five (59%) say they access the Internet several times a day and another 22% say they do so about once a day.

Table 4: Customers perspectives on how home access impacts their lives
Since you have had Comcast's Internet Essentials high-speed service at home, how much, if at all, do you think the Internet has helped you or someone in your household with each of the following?

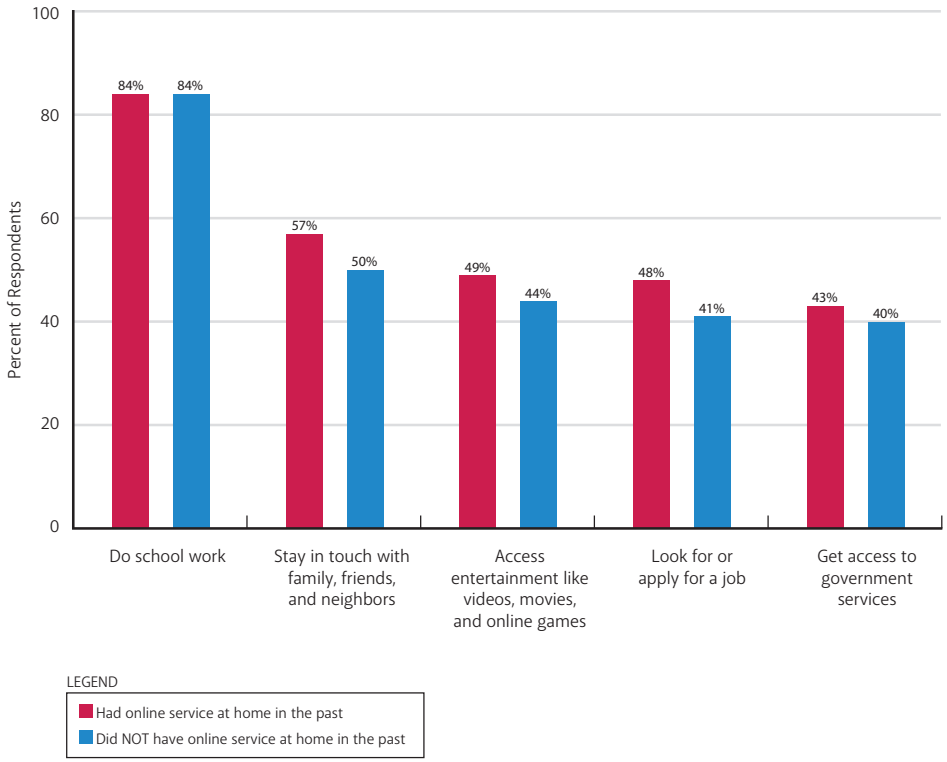


When asked to rate how much the Internet has helped them or their household in various areas in their lives, it is not a surprise that school work leads, with an overwhelming majority of 84% saying broadband has helped with school work a lot.

Yet the Internet has been helpful to households in more ways than school work. More than half say it has helped them a lot in staying in touch with others, and four in nine respondents rate the Internet very highly when thinking about its impact on access to entertainment, job search, or accessing government services. As Table 5 below shows, those who had home Internet access in the past reported, with exception of school work, somewhat higher levels of impacts of IE on different aspects of their lives.

Table 5: Customers perspectives on how home access impacts their lives — comparing past home online users to those without

Since you have had Comcast's Internet Essentials high-speed service at home, how much, if at all, do you think the Internet has helped you or someone in your household with each of the following?



Finding Five: The Role of Training. Relatively few use it, but it is effective for those who do, and those who do not use it are more likely to have had Internet access at home in the past or people close to them have Internet or mobile Internet access. Those who took advantage of training are more likely to help them a lot in utilizing the Internet in various activities.

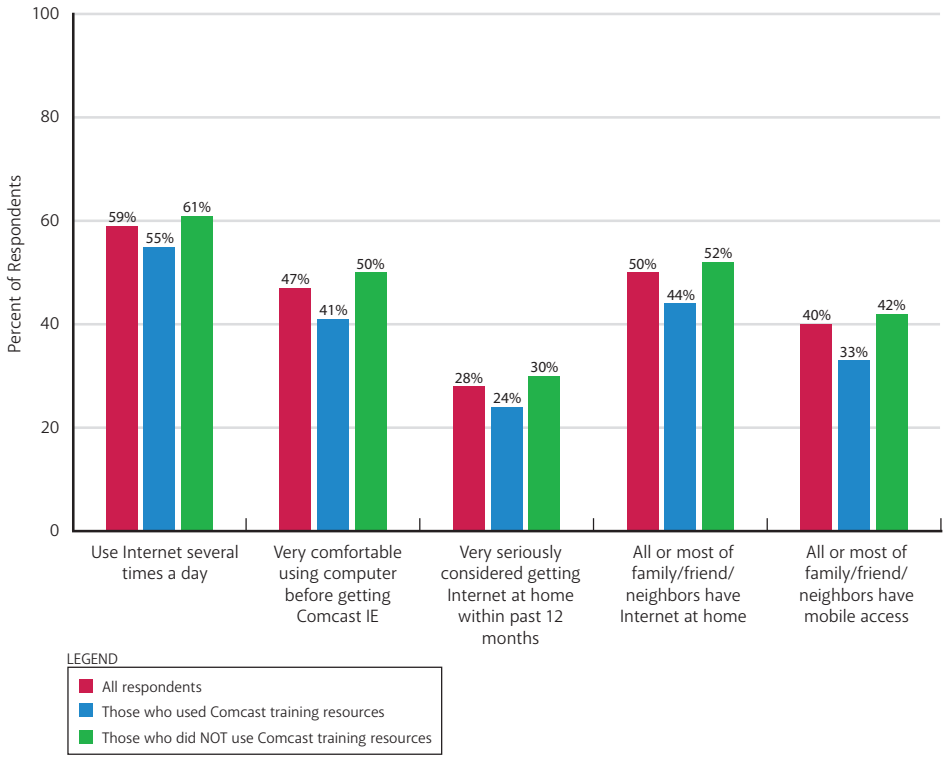
Customers who qualify for the IE offer can take advantage of several features in addition to the $9.95 monthly price for service. They can receive in-person training, online training at the Internet Essentials Online Learning Center, and the low-cost ($150) computer available at initial enrollment in the program. Among all respondents:

- 23% used the Internet Essentials Online Learning Center.

- 17% purchased the low-cost computer.
- 13% took advantage of in-person training on how to use the Internet.

Combining the two modes of training, 29% of IE customers received some training on how to use the Internet after signing up for IE (that is, they *either* used the online learning center *or* had in-person training through IE). On the survey's measures of intensity of online use or comfort with the Internet, those who sought out training from Comcast rated lower than those who did not seek training. Prior online experience is the main reason behind this. For the 29% who received Comcast Internet training, 41% had Internet service at home in the past, compared with 53% for remaining respondents. Table 6 shows results for all respondents, those who used Comcast training, and those who did not.

Table 6: The impact of training on measures of online capability and engagement

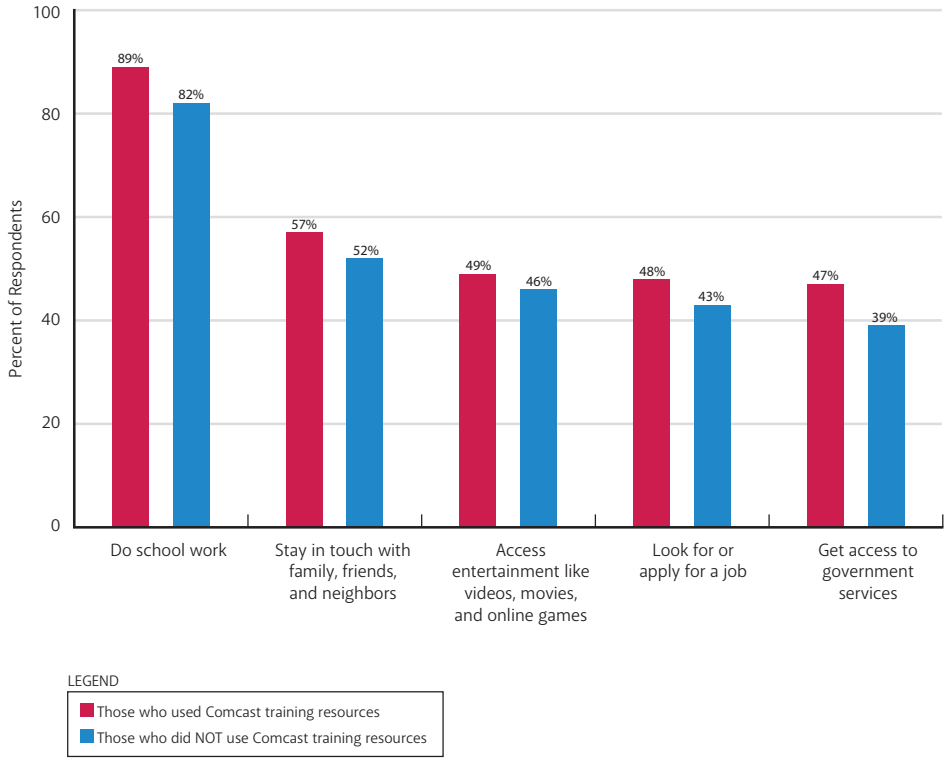


As the table shows, IE customers who did not take advantage of Comcast training are somewhat more distant from the Internet by all the measures — less frequency of use, lower comfort with computers, less likely to have considered getting broadband, and somewhat fewer people around them with access.

The picture changes when inquiring about people's attitudes about whether the Internet helps them in various facets of their lives.

Table 7 shows that, down the line, those who took advantage of the training that Comcast offers are more likely to help them a lot in the listed areas of their lives. Although the size of the differences vary, collectively they are statistically significant. The correlation between having received training and saying that the Internet helps a lot for a greater range of activities is significant, even when holding constant other respondent attributes, such as past home Internet service, level of education, gender, family size, and income. This pattern does not mean that the training is the causal factor behind the higher perceived level of the Internet's impact for those who took advantage of Comcast IE training programs. Nonetheless, the pattern clearly indicates that the training has an impact, whether by giving people the skills to put the Internet to work for them or by simply sparking enthusiasm for the Internet among some respondents who might already have that disposition.

Table 7: Online training and users' perspectives of Internet's impact on their lives
Since you have had Comcast's Internet Essentials high-speed service at home, how much, if at all, do you think the Internet has helped you or someone in your household with each of the following? (% who says Internet helps "a lot")



This analysis shows that people who take advantage of Comcast IE training need it and benefit from it. Their need is evident by their relative distance from the Internet. They are less likely to have had Internet service in the past and begin online service with IE less comfortable with computers. Those who sought training also have fewer people around them with online access than others IE customers. Importantly, however, the training has payoffs through its positive impacts on their attitudes toward the Internet.

Finding Six: The Social Effect. Those with lots of Internet users around them do more online and are more likely to say the Internet helps them with job search, community engagement, and accessing government services.

One objective of this research was to put online access in the context of where people live and their circumstances. For most part, respondents said they were satisfied with their neighborhood, its safety, and its public services. Fully 83% were satisfied with their neighborhood, 88% were satisfied with the quality of their libraries, hospitals, and transportation services, and 88% were satisfied with the safety of their children's schools.

In terms of online access and people they know, IE customers said that online access at home was common for people they knew. When asked whether all or most of the people in their community (including family, friends, and neighbors) had online access at home:

- 50% said that all or most of them did.

- 25% said that some of them did.
- 17% said that only a few or none did.

When asked whether people in their community had "on the go" access using a mobile device:

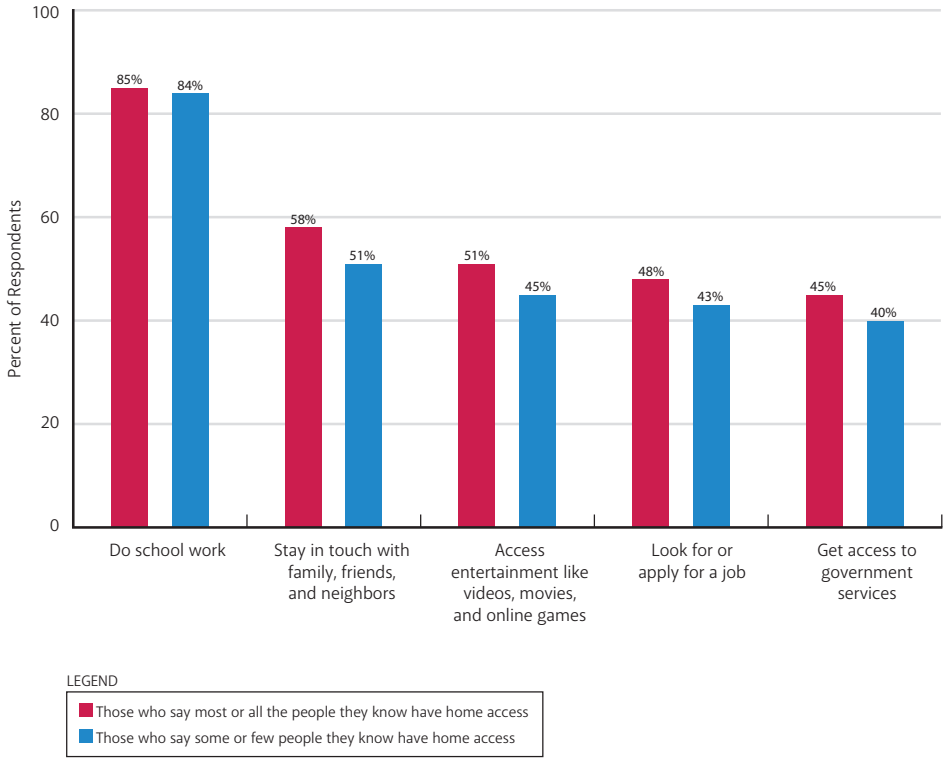
- 40% said that all or most of them did.
- 27% said some did.
- 22% said only a few or none did.

Whether respondents say most or all of people in their community have home access turns out to have a strong influence on measures of online use and impacts. For those who say all or most people they know have home access, 66% say they use the Internet through home IE service several times a day. For those who say that only some or very few of the people they know have home access, 51% use the Internet several times a day.

The pattern repeats itself when looking at how respondents view the Internet's impact on their lives now that they have service at home, as Table 8 shows.

Table 8: Past home service and users' perspectives on Internet's impacts

Since you have had Comcast's Internet Essentials high-speed service at home, how much, if at all, do you think the Internet has helped you or someone in your household with each of the following? (% who says Internet helps "a lot")



The "social effect," that is, being surrounded by many people who also have home Internet access, has significant impacts on the frequency with which respondents use the Internet and how they see its impacts. The notable exception pertains to school work, suggesting the strong educational orientation of IE is successful in overcoming social factors that may influence impacts. The social effect is embedded in other factors as well.

For instance, among those who report the "social effect" are more likely to have had home Internet service in the past than those who did not by a 56% to 43% margin. That said, the "social effect" is statistically significant when holding other factors constant, such as past Internet use, household income, education, whether the household had Comcast in-person or online training, race, and employment status. Unquestionably, then, the results indicate that the nature of people's social networks factors into the IE adoption proposition, just as prior research cited above found in other contexts.

It is worth noting that mobile has the same positive association with frequency of online use and perceptions of the Internet's impacts; those who say most or all of the people they know have mobile Internet access are more likely to say they use the Internet several times a day and say it impacts their lives "a lot" in areas noted. The size of the effect is somewhat smaller than that for home Internet access.

The Hardest-to-Reach IE Users

We found that 15% of the poorest and least educated IE customers are less engaged with the Internet. For these users, poverty weighs heavily on online engagement patterns, suggesting that broad-based interventions from stakeholders are needed for this "hardest to reach" group.

Even though they have gone to the effort to get Comcast IE service, 15% of respondents say, when asked if they or any members of their households access the Internet using Comcast IE at least occasionally, that they do not. This suggests that they are at best infrequent users of their home Internet service. They are also, on measures of socio-economic status and online behaviors and attitudes, different from the 84% of IE customers who answered the question affirmatively.

Although the group of self-identified infrequent IE users is somewhat more Latino than others, the notable differences are education and poverty. Nearly two-thirds of infrequent IE users live in homes whose annual

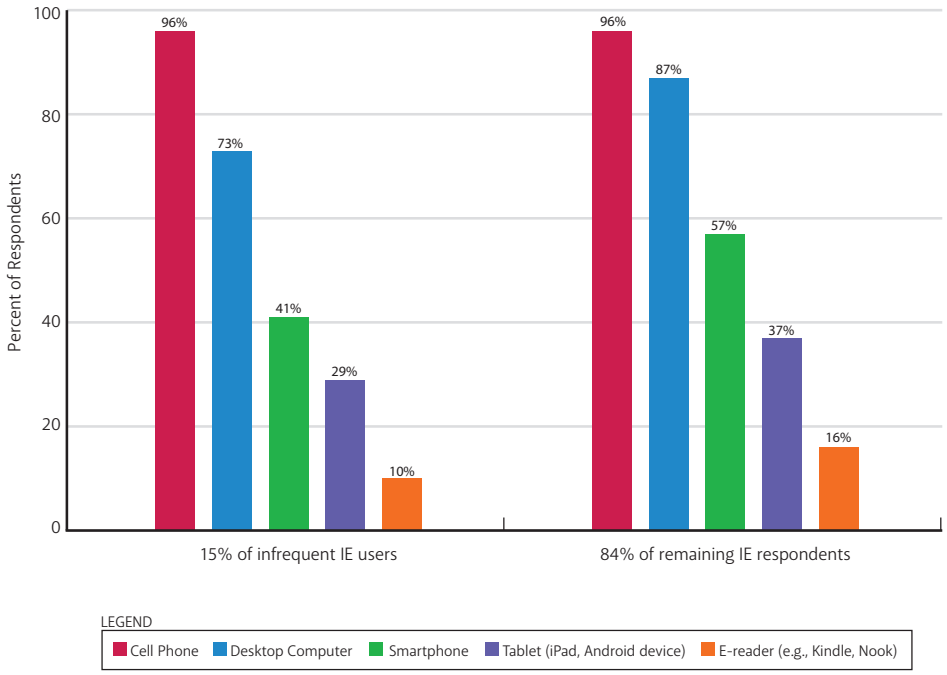
Table 9: Demographic comparisons by frequency of online use

	15% of infrequent IE users	84% of remaining IE respondents
Gender		
Male	23%	24%
Female	77	76
Race/Ethnicity		
White	12%	20
African American	21	20
Latino	56	51
Age		
18-29	19%	21
30-49	67	68
50-64	10	10
65+	2	1
Income		
Under $20K	64%	52%
$20K to $50K	26	36
$50 to $75K	1	2
$75K to $100K	1	1
Over $100K	*	*
Education		
High school grads or less	74%	58%
Some college	14	28
College +	9	14

* = less then 1%

incomes are $20,000 or below compared with half for IE-users. Three quarters (74%) have no more than a high school degree compared with 58% of others. Nonetheless, infrequent IE users do have access devices, though at significantly lower rates (cell phones excepted) than others.

Table 10: Tech assets by frequency of online use



Infrequent IE users are by other measures also less engaged with the Internet than other respondents. Some 42% had Internet service at home at some point in the past, against the 50% average, and 61% used the Internet someplace other than home in the past versus the 72% average. Three in eight (37%) said they were very comfortable with computers before getting IE (48% of all respondents said this) and 44% said they had not thought about getting home Internet service in the year prior to IE compared with 34% of all respondents.

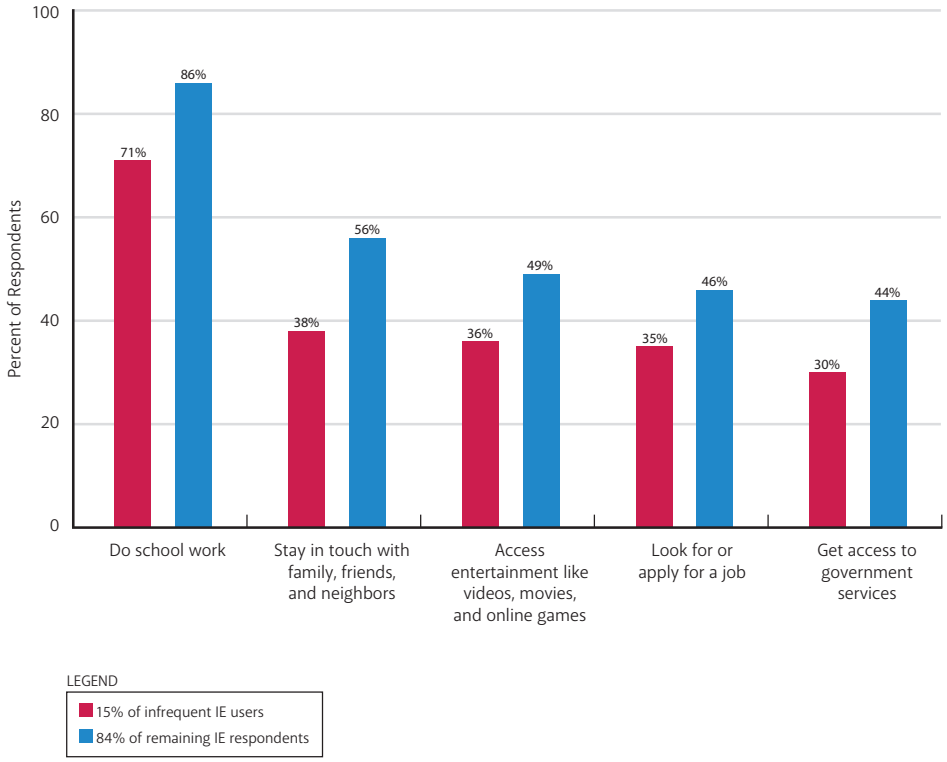
Lower levels of Internet use translate into lower-than-average responses when it comes to what drew them to online use and how they view the Internet's impacts. When asked why they decided to subscribe to home service through IE, the group of infrequent users that said they do not use it for access answered as follows:

- 97% said their children needed it for school work.
- 61% said it was to help them get health or medical children online.
- 61% said it was to get access to entertainment.
- 60% said it was to look for or apply for jobs.
- 54% said it was to get access to government information.
- 52% said it was to stay in touch with others via email or social media.

With the exception of their child's need for the Internet for school work and their need to look for or apply for jobs, infrequent IE users lag the average by several percentage points in the each of the remaining motives.

Significantly larger gaps are evident when comparing how IE users and infrequent users rate the impact of the Internet on different aspects of their lives.

Table 11: Users' perspectives on Internet impacts — by frequency of online use
Since you have had Comcast's Internet Essentials high-speed service at home, how much, if at all, do you think the Internet has helped you or someone in your household with each of the following? (% who says Internet helps "a lot")



Other Key Findings

Finding Seven: Comcast IE computer offer. Few use the computer they had a chance to purchase at the initial IE offer.

The third pillar in the Comcast IE program is a low-cost computer offer of $150. Some 17% of Comcast IE customers in this survey said they used a computer purchased as part of the Comcast IE program to go online. Note that this is different from what percentage of respondents *purchased* the computer. This rate of usage of the computer is the same whether a respondent had home Internet service before IE or not, or say they do not use IE to go online at home. For many of the households who use the computer purchased in connection with IE, this adds to their access assets. For these households, nearly half (47%) have a smartphone (compared to 57% of all respondents), one-third (35%) of those who purchased a computer with their IE package also have a tablet computer (compared to 36% for everyone), and 15% have an e-reader (matching the responses for everyone). As with Comcast IE training resources, the low-cost computer is associated with higher rates of respondents saying the Internet helps "a lot" for school work, job search, staying touch with others, accessing entertainment, and learning about government services.

Finding Eight: How they learn online. People mostly prefer to learn on their own, though people who never had service often call on their children to learn new things.

Although the in-person and online training that Comcast IE offers plays an important role for nearly one-third of IE customers, understanding the ways in which people learn to do things online is also important. When asked to identify the *most helpful* way for them to learn new things online, here is what IE customers said:

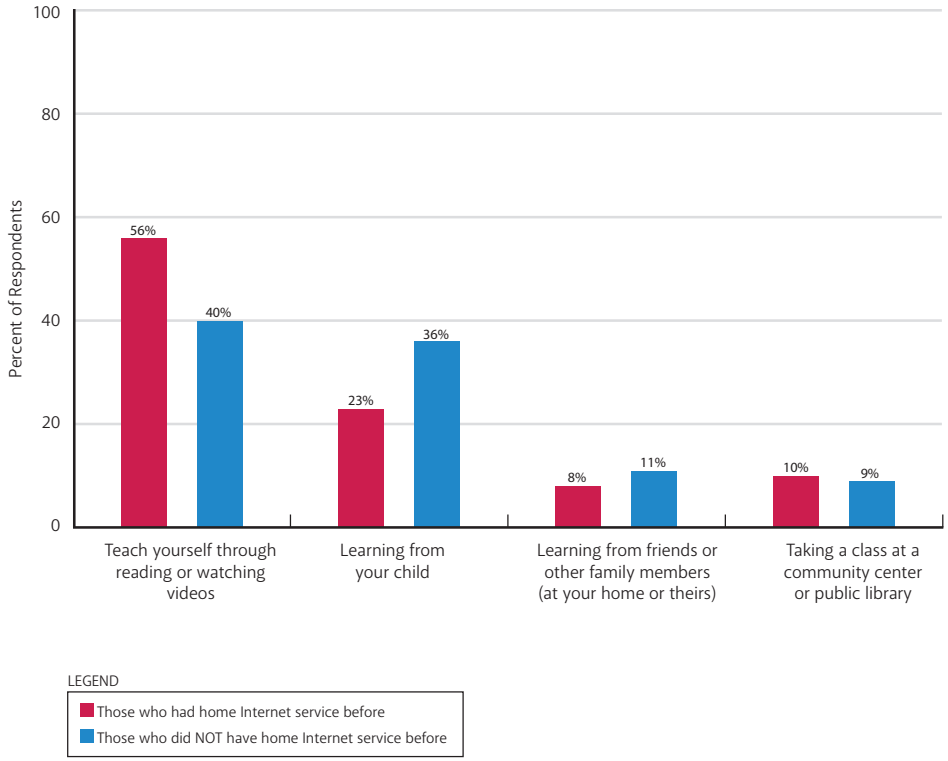
- 48% said it was teaching themselves by reading or watching videos online.
- 30% said they learned from their child.
- 9% said they learned from friends.
- 9% pointed to classes from a community center or public library.

There were sharp differences in responses to this question depending on whether respondents had online service at home in the past or not. A majority of those who have had Internet service at home in the past say they find learning on their own most helpful. Those who have not had Internet service at home in the past also say this, but at a significantly lower rate. But these respondents also rely on children a great deal; some 36% say they find it most helpful to find out about new things to do online from their child.

Finding Nine: Use of Internet from other places. Three-quarters of IE users have logged on from someplace other than home to use the Internet.

It is common for people who do not have Internet access at home to use the Internet elsewhere. As national surveys show, approximately 10% of Internet users do not have a home Internet subscription. They consider themselves Internet users in spite of not having home access because they use the Internet at a community center, library, work, or some other place. Use of the Internet from so-called "third places" such as libraries, community centers, or other public access points is frequent among the general population; some 26% of

Table 12: How users prefer to learn to do new things online
When learning to do new things online, which ONE of the following is the most helpful way for you to learn?



Americans say they have used the Internet from libraries, with low-income Americans and communities of color especially likely to do this. [22]

When asked whether, before they had IE, they had gone online to use the Internet at least occasionally from someplace other than their home, 72% of respondents said they had done this and 27% said they had not. This means that, before getting IE service, just more than one-quarter of all respondents were not using the Internet at least occasionally.

Finding Ten: Training on Internet and computers before having IE service. One-quarter had some prior training before having the IE service but its impact on users is not great.

The survey asked about past experience with Internet or computer training, not just whether they had taken advantage of training services offered through the IE program. When asked whether they had, before receiving the IE service, had ever had Internet or computer training:

- 23% said they had computer training.
- 16% said they had received Internet training.

Overall, 26% of respondents had past training, that is, either computer or Internet training. As noted earlier, analysis showed a positive and significant correlation between that Comcast training resources and greater reported levels of the Internet's positive impacts. The impact of past training on reported levels of impact, though positive, is not significant from a statistical perspective. This suggests that Comcast training, since it has occurred within the past six months for respondents in the survey, is helpful in part because people have had the training recently.

Giving Life to the Playbook

Since 2010, there has been steady progress in home broadband adoption rates. NTIA placed home broadband adoption at 68% in 2010, rising to 72.4% at the end of 2012. As this research shows, the persistence of this gap has to do with poverty among remaining non-adopters. Interventions, whether from IE, BTOP programs, or other initiatives can move the dial, but they too take sustained investment. That is what makes Comcast's announcement that it is continuing IE beyond the time specified in the 2011 voluntary commitment so important. Yet the scope of the non-adoption problem — over one-quarter of U.S. households at the end of 2012 — is greater than any single program.

This is why the "playbook" called for here is important. Next-generation Internet applications will impact more and more corners of our lives and many of them — such as education, job training, and government services — have inherently public purposes. The first step to giving life to the playbook is leadership. This must come not only from government — at all levels — but also the private and philanthropic sectors. As a nation, it is time to fully engage in increasing broadband adoption among our nation's poorest households. The research in this report shows the problem is solvable with the right resources directed at it.

Appendix I: Background on Internet Essentials

Context

As the nation's largest residential broadband service provider, Comcast is dedicated to bridging the digital divide by narrowing the broadband opportunity gap. We have wired over 99% of our service area for broadband, ensuring that families have access to the Internet no matter where they live. We have invested, and continue to invest, substantially in digital literacy training and increasing public access to broadband in the local communities we serve, including Boys & Girls Clubs of America, the League of United Latin American Citizens (LULAC) Tech Center, FIRST Robotics Competition, Easter Seals, and most recently, Khan Academy.

In the summer of 2011, Comcast launched its own broadband adoption program for low-income families in the United States. While Internet Essentials was one of our voluntary commitments in connection with the Comcast-NBCUniversal transaction, that commitment grew out of a multi-year internal project that had identified low-income broadband adoption as Comcast's most important community investment priority.

Internet Essentials is the largest and most comprehensive broadband adoption program anywhere in America, providing low-cost broadband service for $9.95 a month; the option to purchase a full-service, Internet-ready computer for under $150; and multiple options for digital literacy training in print, online, and in-person.

Research consistently has shown that the barriers to broadband adoption involve a complex mix of low digital literacy, perceived lack of relevance of online content, and the need for low-cost, good quality computers and Internet service. Internet Essentials was designed to address all of these critical hurdles to broadband adoption.

Core Program Enhancements

The implementation of Internet Essentials has gone far beyond our letter of voluntary commitment to the Federal Communications Commission (FCC). We have expanded and strengthened the program so many times, and in so many different ways, that it barely resembles our initial vision. In two and a half years since the launch, we have connected more than 300,000 families, or 1.2 million low-income Americans, to the Internet at home. We continue to make core enhancements to the program based on feedback from our customers and our school and community partners. These enhancements include:

- **Expanded Eligibility** — Expanded the eligibility criteria twice, first by extending eligibility to families with children eligible to receive free or reduced price school lunches (initial launch was free lunches only), and then by including parochial, private, cyberschool, and homeschooled students. As a result, nearly 2.6 million families in the Comcast footprint nationwide are eligible for Internet Essentials, which is 30% more than the initial estimated eligible population.
- **Increased Speed** — Increased the broadband speeds twice for Internet Essentials customers, from 1.5 Mbps to 3 Mbps in January 2012, and then again to 5 Mbps downstream in September 2013.
- **Streamlined Enrollment** — Implemented an instant approval process for families whose students attend any of the Provision 2 or NCES-validated schools with 70% or more NSLP participation across the Comcast footprint.
- **Created an Online Application** — Created a convenient online application on InternetEssentials.com and InternetBasico.com in English and Spanish that can be accessed through any Internet-enabled computer, tablet, or smartphone. Since the launch of our online application, we have found that 60 percent of visitors to InternetEssentials.com and InternetBasico.com are from a mobile device. In order to

accommodate the growing use of smartphones and other mobile devices, we will be optimizing the English and Spanish online application form so that families can complete the Internet Essentials online application form easily via a mobile device and upload eligibility documentation through the website, for a streamlined enrollment process.

- **Bulk and On-Site Registration** — Launched a program that gives third parties, such as schools and CBOs, the ability to purchase Internet Essentials service and equipment in bulk for families in their community. Comcast also held on-site registration during Internet Essentials events all over the country.
- **Introduced Internet Essentials Opportunity Cards** — Comcast's community partners are now able to help connect low-income families to the Internet by purchasing Opportunity Cards that can be used toward the cost of paying for Internet Essentials service. We have given away opportunity cards, in addition to notebooks, to hundreds of families across our footprint at nearly every public event in which we convene our school and community partners.
- **Enhanced e-Learning Tools** — Launched a revamped version of our online Learning Center to provide families with enhanced and dynamic content, including new interactive content in Spanish.
- **More Language Options** — Translated several Internet Essentials materials (e.g., one-page flyer, tri-fold flyer, poster, consumer brochure, and letter to parents) into 12 languages beyond English and Spanish, including: Arabic, Oromo, Somali, Tibetan, Mandarin Chinese, Haitian Creole, Portuguese, Hmong, Korean, Vietnamese, Polish, and Russian.
- **Easier Account Transfers** — Updated the "transfer of service" process for Internet Essentials customers to allow them to have their service transferred to a new home address in a Comcast service area without having to re-apply for Internet Essentials.

Internet Essentials-sponsored Digital Literacy Training

The third pillar of our broadband adoption program addresses the need to increase the set of digital and computer skills through in-person training at public computing centers and non-profits in the digital literacy, education and technology space. Since 2011, we have invested more than $165 million in cash and in-kind support to help close the digital divide, reaching more than 1.6 million people through our non-profit digital literacy partners.

Our training model has also dramatically changed since the launch of the Internet Essentials, which has been informed by experience, feedback from attendees, and subject matter expertise from our partners. In the first six months of the program, we developed a curriculum based on what we believed was best-in-class digital literacy training, and worked with our local community based organizations to deliver the modules. Attendance at these initial training sessions was limited, as most people didn't expect to receive digital literacy training from these partners.

In 2012, we moved to a sponsorship model and worked with local partners who were experts in the field in delivering their own digital literacy curricula. We sponsored partners in major markets where we provide service, and after six months of implementing the new model, attendance had increased by 65% compared to the previous six months. This is the model that continues today, and our 64 community-based organizations include numerous public libraries, Boys & Girls Clubs, city recreation centers, local affiliates of the Urban League, technology learning centers and many more.

Program Milestones

Internet Essentials has grown into a nationwide collaborative centered on connecting families to the Internet at home and supporting non-profit partners that build the digital literacy infrastructure of the communities we serve. Our more than 8,000 partners are the cornerstone of our success and include: non-profit organizations, community-based organizations, other technology companies, libraries, school districts, teachers and superintendents, members of faith-based organizations, mayors, congress people, governors, senators, and state and locally elected officials. Our other program milestones through the end of 2013 include:

- Comcast and its community partners have provided support for free digital literacy training and education for more than 1.6 million people.

- Broadcast more than 3.6 million PSA spots, valued at nearly $48 million.
- Sold more than 23,000 subsidized computers at less than $150 each.
- Distributed more than 33 million Internet Essentials brochures for free.
- Welcomed more than 1.8 million visitors to the Internet Essentials websites in English and Spanish and the Online Learning Center
- Fielded more than 1.9 million phone calls to our Internet Essentials call center.
- Offered the program in more than 30,000 schools and 4,000 school districts, in 39 states and the District of Columbia.

Appendix II: Methodology

The Comcast Internet Essentials Wave 1 Survey obtained telephone interviews with a representative sample of 1,969 recent subscribers to the Comcast Internet Essentials program, which provides low-cost home Internet to parents of school-age children who receive free or reduced price lunch. The survey was conducted by Princeton Survey Research Associates International (PSRAI). Interviews were done in English and Spanish by Princeton Data Source from January 8 to February 1, 2014. The margin of sampling error for the complete set of data is ±2.2 percentage points. Details on the design, execution and analysis of the survey are discussed below.

Sample and Contact Procedures

Sample was provided by Comcast and included 12,000 records. Four records were identified as duplicates and dropped by PSRAI. From the remaining records, PSRAI drew a simple random sample of 10,000.

Interviews were conducted from January 8 to February 1, 2014. As many as five attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each phone number received at least one daytime call when necessary.

Statistical Inference

The survey's margin of error is the largest 95% confidence interval for any estimated proportion based on the total sample — the one around 50%. For example, the margin of error for the entire sample is ±2.2 percentage points. This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 2.2 percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

Response Rate

Table A.1 reports the disposition of all sampled telephone numbers ever dialed from the original sample. The response rate estimates the fraction of all eligible sample that was ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:[25]

- Contact rate — the proportion of working numbers where a request for interview was made;
- Cooperation rate — the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused;
- Completion rate — the proportion of initially cooperating and eligible interviews that were completed.

Thus the response rate was 27 percent.

Table A.1: Sample Disposition

9997	Total Numbers Dialed
39	Non-residential
34	Computer/Fax
1142	Other not working
8782	Working numbers
87.8%	**Working Rate**
123	No Answer / Busy
2845	Voice Mail
13	Other Non-Contact
5801	Contacted numbers
66.1%	**Contact Rate**
1866	Callback
1496	Refusal
2439	Cooperating numbers
42.0%	**Cooperation Rate**
79	Language Barrier
354	Screen out/Not an IE customer
2006	Eligible numbers
82.2%	**Eligibility Rate**
37	Break-off
1969	Completes
98.2%	**Completion Rate**
27.3%	**Response Rate**

Endnotes

1. The 95% figure is an estimate developed by the National Broadband Plan, see "Connecting America: The National Broadband Plan," Federal Communications Commission 2010, at p. 20 for availability of terrestrial, fixed broadband infrastructure at speeds of at least 4 Megabits per second. The FCC's subsequently released "Eight Broadband Progress Report" (August 2012) finds that 94% of Americans have access to at least one wireline broadband provider at 4 Mbps. See: http://www.fcc.gov/reports/eighth-broadband-progress-report.
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About the Author

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Horrigan has served in senior positions at the Pew Research Center, the Joint Center for Political & Economic Studies, and TechNet. At the Federal Communications Commission in 2009-10, he led development of the broadband adoption and usage portion of the National Broadband Plan. Among his recent work is the report: "Broadband and Jobs: African Americans Rely Heavily on Mobile Access and Social Networking in Job Search" and "Adoption of Information and Communication Service in the United States: Narrowing Gaps, New Challenges." At TechNet, he authored "Preparing America's 21st Century Workforce" and the 2012 "State Broadband Index."

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