

**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of	)	
	)	
Schools and Libraries Universal Service Support Mechanism	)	CC Docket No. 02-6
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
To: The Commission		

**COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®**

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July 9, 2010

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**COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®**

**I. INTRODUCTION**

CTIA – The Wireless Association® (“CTIA”)<sup>1</sup> respectfully submits these comments in response to the Commission’s Notice of Proposed Rulemaking (“NPRM”) in the above captioned proceeding<sup>2</sup> and applauds the Commission for seeking comment on ways to modernize the universal service support mechanism for schools and libraries (“E-Rate”). CTIA fully supports the Commission’s goal of providing schools and libraries with greater flexibility to choose the broadband services that best meet their educational goals through the E-Rate program. As discussed in these comments, CTIA urges the Commission to recognize the enormous and increasing value of mobile wireless broadband-enabled services for students and educators, and to provide educators with greater flexibility to obtain support for these

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<sup>1</sup> CTIA – The Wireless Association® ([www.ctia.org](http://www.ctia.org)) is an international organization representing the wireless communications industry. Membership in the association includes wireless carriers and their suppliers, as well as providers and manufacturers of wireless data services and products.

<sup>2</sup> *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Notice of Proposed Rulemaking, FCC 10-83 (rel. May 20, 2010) (“NPRM”).

transformational services for educational purposes both on and off school premises. CTIA also urges the Commission take this opportunity to streamline the E-Rate application process by clarifying the application of its competitive bidding rules, specifically the “lowest corresponding price” rule, in a manner that comports with the reality of today’s marketplace for wireless services.

In the more than twelve (12) years since its inception, the E-Rate program has achieved remarkable success in getting schools and libraries connected to the Internet ecosystem, and the program will play a critical role in further expanding the reach of broadband and enhancing the digital literacy of all Americans. Through this NPRM, the FCC has sought comment on how to ensure that the E-Rate program continues to be an effective tool for schools and libraries, allowing them to choose the most effective and efficient technologies, and promoting participation by eliminating unnecessarily burdensome administrative requirements. As described in these comments, the FCC can achieve these goals by taking two targeted steps: first, allow schools and libraries greater access to mobile wireless Internet access for educational purposes, including off premises and after hours use, and, second, clarify the “lowest corresponding price” rule of the competitive bidding framework.

Through the National Broadband Plan and through the E-Rate NPRM, the FCC has aptly observed the rapidly-growing importance of mobile broadband services in education and sought comment on ways to permit schools to make greater use of E-Rate funding for mobile wireless Internet access. In particular, CTIA agrees with the National Broadband Plan’s finding that: “E-Rate should support online learning by providing wireless connectivity to portable learning

devices so students can engage in learning while not at school.”<sup>3</sup> As found in the National Broadband Plan, and as further demonstrated in these comments, wireless broadband services can substantially boost the learning potential and educational performance of students through both mobile Internet connectivity and the growing array of applications that are available. Wireless services provide flexible and personalized educational tools to students and teachers, maximizing their ability to learn, teach, and complete schoolwork from any location. Thus, CTIA fully supports the FCC’s proposal to permit E-Rate funding to be used to support mobile wireless broadband for educational purposes, whether educators seek to harness these tools inside or outside of the school classroom.

CTIA also applauds the Commission’s efforts to streamline the E-Rate application process to ensure that applicants and service providers are able to participate in the program free of unnecessary regulatory burdens. CTIA, together with its members, shares the Commission’s goal of enhancing E-Rate to make the program more workable for all participants. This inquiry into improving the E-Rate application process provides an excellent opportunity for the Commission to clarify its competitive bidding rules, as requested in the joint petition (“Petition”) filed earlier this year by CTIA and U.S. Telecom–The Broadband Association (“U.S. Telecom”).<sup>4</sup> Granting the Petition would ensure that the FCC’s competitive bidding rules are applied in a manner that fits the reality of how schools and libraries purchase services in today’s

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<sup>3</sup> Federal Communications Commission, *Connecting America: The National Broadband Plan* at 3 (2010) (“National Broadband Plan”), *available at* [www.broadband.gov/plan/](http://www.broadband.gov/plan/).

<sup>4</sup> Petition of U.S. Telecom–The Broadband Association and CTIA – The Wireless Association® for Declaratory Ruling Clarifying Certain Aspects of the “Lowest Corresponding Price” Obligation of the Schools and Libraries Universal Service Program, Petition for Declaratory Ruling, CC Docket No. 02-6 (filed Mar. 19, 2010) (“Petition”).

marketplace and would make sure that all participants share a common understanding of the requirements of the applications process.

## **II. DISCUSSION**

### **A. Wireless Internet Access and Mobile Devices Can Substantially Boost Educational Performance**

In this section, CTIA describes some of the many ways that schools and libraries are embracing mobile wireless Internet access as a tool for learning and education. These many examples demonstrate that educators are tapping into mobile broadband Internet access services to enhance learning through a wide-range of devices – from laptops to netbooks, cell phones, e-readers, and many other mobile wireless devices. As detailed below, educators are increasingly harnessing the explosion of applications and content for schools and libraries, which is in turn leading to new and innovative teaching methods. The E-Rate program is already playing a key role in funding wireless Internet access for many of these services – to the extent that educators are content to confine these learning experiences to the classroom.

At the same time, educators are also increasingly taking advantage of the flexibility that mobile wireless Internet offers by empowering students to continue their learning off-premise and after hours. As described in the following section, the FCC will need to update its rules to ensure that E-Rate rules continue to evolve as educational tools evolve, to permit the sort of flexible and personalized learning experiences that mobile broadband affords.

## 1. mLearning Tools Offer Significant Educational Benefits

### a. Mobile Devices

Through the use of mobile devices, mobile learning (“mLearning”) tools offer significant educational opportunities that students can use to enhance their learning.<sup>5</sup> As described below, these devices include laptops, netbooks, e-readers, and even cellphones. Schools and libraries are using these tools for a wide variety of educational purposes within their facilities. But, educators are also increasingly realizing that allowing schools to provide mobile Internet access may be the only means that many students have to access the Internet from home, especially for students from low-income homes, where home broadband adoption is much lower than for upper and upper-middle income homes.<sup>6</sup> For these students, educational possibilities increase exponentially when they can study and learn more easily with access to the Internet in their home.

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<sup>5</sup> See, e.g., 101 Uses, *K12 Handhelds*, at <http://k12handhelds.com/101list.php> (last accessed July 2, 2010). In addition, the Center for Innovative Learning Technologies, sponsored by the National Science Foundation, tracks handheld learning devices. CILT, *Ubiquitous Computing*, <http://cilt.org/themes/ubiquitous.html> (last accessed July 2, 2010). Another group, the Concord Consortium, is a nonprofit educational research and development organization based in Concord, Massachusetts. Concord.org, *The Concord Consortium*, <http://www.concord.org/> (last accessed July 2, 2010).

<sup>6</sup> See Home Broadband Adoption 2009, *Pew Internet & American Life Project* at 17 (June 2009), available at <http://www.pewinternet.org/~media/Files/Reports/2009/Home-Broadband-Adoption-2009.pdf> (last accessed July 2, 2010) (“2009 Home Broadband Report”) (reporting that only 35% of households with incomes below \$20,000 had broadband, compared to 85% for households with income over \$75,000). Similarly, students from homes where the parents have less education are less likely to have broadband access at home. See Daily Media Use Among Children and Teens Up Dramatically from Five Years Ago at 23, *Kaiser Family Foundation* (January 20, 2010), available at <http://www.kff.org/entmedia/entmedia012010nr.cfm> (also noting that children whose parents have no more than a high school education are less likely to go online from home in a typical day, compared to children whose parents completed college) (last accessed July 2, 2010).

As an example, an entire segment of the mobile device market dedicated entirely to promoting wireless reading – e-readers and downloadable books – has developed recently. The Sony PRS, the Barnes & Noble Nook, the Amazon Kindle and the iPad are among the numerous different and innovative e-readers that have come to market within the past few years.<sup>7</sup> The booming popularity of e-readers and their potential impact on education became clear this past holiday season, when Amazon.com announced that its Kindle device had become the most “gifted” item in the website’s history.<sup>8</sup> These mobile devices offer seamless wireless connectivity to e-books, which are available more quickly, and often for lower costs, than traditional bound books. So, it is not surprising that Amazon.com reported that on Christmas Day 2009, for the first time ever, customers purchased more Kindle books than physical books.

For many schools, the flexibility and affordability of wireless devices is an important attribute. Some school districts may not have the resources to provide computers for every student, and may turn instead to mobile devices, which are widely available at all price points.<sup>9</sup> Today, there are over 630 devices available from at least 32 manufacturers, and the most cutting edge wireless devices are being launched in the U.S. first, including: Apple iPhone, iPhone 3G

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<sup>7</sup> See, e.g., eReaders- Best Buy, [http://www.bestbuy.com/site/E-Readers/E-Readers/pcmcat193100050014.c?id=pcmcat193100050014&ref=30&loc=KW-2481&s\\_kwcid=TC/8066/ebook%20reader/S/b/5302271109](http://www.bestbuy.com/site/E-Readers/E-Readers/pcmcat193100050014.c?id=pcmcat193100050014&ref=30&loc=KW-2481&s_kwcid=TC/8066/ebook%20reader/S/b/5302271109) (last visited July 6, 2010)(sells Barnes & Noble Nook and Sony wireless reading devices); Amazon.com: Kindle Wireless Reading Device, [http://www.amazon.com/Kindle-Wireless-Reading-Display-Globally/dp/B0015T963C/ref=amb\\_link\\_353392262\\_2/177-3818590-8479169?pf\\_rd\\_m=ATVPDKIKX0DER&pf\\_rd\\_s=center-1&pf\\_rd\\_r=1K0NVB08HQA9W708W2ZY&pf\\_rd\\_t=101&pf\\_rd\\_p=1268705102&pf\\_rd\\_i=507846](http://www.amazon.com/Kindle-Wireless-Reading-Display-Globally/dp/B0015T963C/ref=amb_link_353392262_2/177-3818590-8479169?pf_rd_m=ATVPDKIKX0DER&pf_rd_s=center-1&pf_rd_r=1K0NVB08HQA9W708W2ZY&pf_rd_t=101&pf_rd_p=1268705102&pf_rd_i=507846) (last visited July 6, 2010).

<sup>8</sup> *Amazon Kindle is the Most Gifted Item Ever on Amazon.com*, Amazon.com Press Release (Dec. 26, 2009), available at <http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=1369429&highlight=> (last accessed July 2, 2010). *Id.*

<sup>9</sup> See n.5, *supra*.

and 3GS; iPhone 4; Apple iPad; Google G1, MyTouch and Nexus One; Blackberry Storm, Bold, Pearl, Tour and Curve 8900; Samsung Instinct; Palm Pre and Pixi; Amazon Kindle; Barnes & Noble Nook, and more.<sup>10</sup> Even at the lowest price points, mobile devices can offer access to the Internet and educational content for learning, research, and skills development at the user's fingertips.<sup>11</sup> With this remarkable diversity and growing capability in the mobile device market, it is not surprising that Education Week recently reported that, "more educators are concluding that cellphones may be the only realistic way their schools can offer the 1-to-1 computing experiences that better-funded schools provide with laptops."<sup>12</sup> CTIA urges the Commission to consider this wide range of e-Learning tools as it updates the E-Rate program and to ensure that educators are allowed to take advantage of the mobile devices that best suit their educational purposes and respective budgets.

#### **b. Applications and App Stores**

Over the past two years, the wireless ecosystem has produced at least seven platform-specific mobile application stores which together offer close to 300,000 applications. The application stores include thousands of applications with an educational or reference focus. For example, the iTunes App Store alone has more than 10,000 education apps and more than

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<sup>10</sup> See, e.g., Written *Ex Parte* Communication of CTIA – The Wireless Association®, WT Docket No. 09-66, GN Docket No. 09-157, GN Docket No. 09-51 (filed on April 29, 2010)

<sup>11</sup> *Id.*

<sup>12</sup> *Students Turn Their Cellphones On for Classroom Lessons; New Academic Uses Challenge Restrictions*, Education Week (Jan. 7, 2009), available at <http://www.edweek.org/ew/articles/2009/01/07/16cellphone.h28.html> (last accessed July 2, 2010) ("Education Week"). See *Teens and Mobile Phones, Pew Research Center's Internet & American Life Project* at 15, <http://www.pewinternet.org/Reports/2010/Teens-and-Mobile-Phones.aspx> (last accessed July 2, 2010).

5,600 reference apps available for download.<sup>13</sup> Another example is the Android Market, for which Google specifically selected the best mobile apps in the education and reference category for the Android operating system in 2009. Winning educational applications included a diverse set of tools such as: “Plink Art,” an app for identifying, discovering and sharing art; “The Word Puzzle,” a fun way to learn basic English words for preschool children; and “Celeste,” an educational augmented reality app that displays the sun, moon, planets and their paths through the sky onto your camera view.<sup>14</sup>

### c. Other Mobile Content

In addition to the myriad apps available from these app stores, independent developers also make available language and literacy programs, news and public affairs titles, and educational games providing further learning content for children.<sup>15</sup> Moreover, as described above, the rapidly expanding area of e-readers provides schools and libraries new tools for making educational content available. For this reason, the library opportunities in schools are

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<sup>13</sup> See Comments of CTIA – The Wireless Association®, Empowering Parents and Protecting Children in an Evolving Media Landscape, MB Docket No. 09-194 at 8 (Feb. 24, 2010)(“Empowering Parents Comments”)(*citing* Apple iTunes Store and product descriptions as of Feb. 12, 2010). CTIA’s discussion of all of the products described in these comments is based solely on the description and claims made by these companies in public fora, including company websites; CTIA does not endorse any particular product or service.

<sup>14</sup> *Google Names 30 Best Mobile Apps for Android*, ReadWriteWeb (Nov. 30, 2009), *available at* [http://www.readwriteweb.com/archives/google\\_announces\\_winning\\_mobile\\_apps\\_for\\_android.php](http://www.readwriteweb.com/archives/google_announces_winning_mobile_apps_for_android.php) (last accessed July 2, 2010).

<sup>15</sup> See, e.g., Apple-iPhone, Apps for Students, <http://www.apple.com/iphone/apps-for-everything/students.html> (last accessed July 6, 2010)(the store provides a section for students that includes language and literacy programs, games, news and current events options, and much more); Palm USA, Palm Pre, <http://www.palm.com/us/products/software/mobile-applications.html> (last accessed July 6, 2010)( the applications listed under “Books and Reference” provide a number of language and literacy options, the applications listed under “News and Weather” provide a number of news and public affairs options, and the “games” applications provide a number of educational games). See also Empowering Parents Comments at 10.

virtually endless when these devices become available because new books and programs can be downloaded for a very low cost and very quickly when compared to traditional methods, such as interlibrary loans or purchasing new books.

#### **d. Innovative Teaching Methods**

All of these mobile devices and applications are offering new opportunities for innovative teaching methods. Some teachers, for example, are now using text messages to deliver assignments and deadline reminders.<sup>16</sup> In addition, mobile devices can be used to organize schedules, record a lecture, take pictures of a classroom demonstration, or make a podcast, and to transmit recordings and photos to other students (*e.g.*, facilitating coordination for group assignments).<sup>17</sup> They also can be used to facilitate language learning.<sup>18</sup> Furthermore, class blogs and mobile blog postings can be used to encourage learning by promoting interactivity and writing skills development, and by allowing teachers to continue a lesson after the school bell rings.

Another teaching technique facilitated by mobile wireless is real-time polling. With real-time polling, teachers can make lessons more interactive and fun for students, while at the same time letting teachers know right away whether students understood the lesson.<sup>19</sup> Through real-time polling, teachers can ask for responses from the entire class by texting or through Internet-based materials and get immediate feedback. One Australian case study found that “the

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<sup>16</sup> *Teachers Begin Using Cell Phones to Text Class Lessons*, Charleston Gazette & Daily Mail (Nov. 29, 2009).

<sup>17</sup> *See generally* Education Week, *supra* note 12. Similarly, the camera feature of many mobile devices can be incorporated into educational scavenger hunts or photojournalism assignments, which can also utilize the various “geo-tagging” and time-stamp functions available on many devices.

<sup>18</sup> *Id.*

<sup>19</sup> *See* Education Week, *supra* note 12.

SMS function allowed for almost immediate affirmation of success or for a call for help from a supportive peer.”<sup>20</sup> In another example, AT&T announced the certification of a mobile learning application in August 2008 that uses an AT&T smartphone to create an interactive student response system. The web-based application allows educators to go beyond traditional teaching methods by offering real-time student polling and in-depth analysis of responses, including tracking demographic information and ranking against criteria.<sup>21</sup> Using text messages or Internet polling can offer teachers a quick and efficient method of assessing student understanding and offers students anonymity with their answers so that those who may be less likely to participate in class may be more likely to respond using their mobile device.

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<sup>20</sup> Ferry, B., *Using Mobile Phones to Augment Teacher Learning In Environmental Education, Hello! Where Are You in the Landscape of Educational Technology?* Proceedings ascilite Melbourne (2008), available at <http://www.ascilite.org.au/conferences/melbourne08/procs/ferry-poster.pdf> (last accessed July 2, 2010).

<sup>21</sup> See Press Release, AT&T, *AT&T to Deliver Mobile Student Response Solution, Enhancing Higher Education Classroom Experience Web-Based Application Certified by AT&T, Enabling Real-Time Polling and Distance-Learning Interaction Using Mobile Devices* (Aug. 26, 2008), available at <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26035&mapcode=> (last accessed July 2, 2010) (“AT&T Press Release”). The application operates over AT&T’s 3G and EDGE networks and can work within a traditional classroom environment or remotely for distance learning. *Id.*

**e. New Opportunities for Learning Outside the Classroom**

Mobile devices allow teachers to expand the scope of education outside of the walls of the school, to museums or other activities, and be able to bring lessons back to the classroom. For example, Qualcomm worked with San Diego Museum of Art, School in the Park, Price Charities, and Dr. Patrick O’Shea to develop a unique Augmented Reality Experience (ARE) using 3G connected smartphones to help young students learn the history of Asian art.<sup>22</sup> The ARE is an interactive, project-based, educational experience blended with engaging classroom art activities.<sup>23</sup> This project has provided low-income students from two San Diego schools an opportunity to build digital literacy while learning rich cultural and educational content using the resources in their own community: the San Diego Museum of Art.<sup>24</sup> While at the museum, students can use smartphones to click on information tags superimposed on physical surroundings or scan codes that have been placed within the art exhibit, and they will be taken to videos and information on the Internet, which increase the learning experience by offering students more information about the exhibit. Through this mobile access, the ARE allows the students to interact with the items in the museum to enhance learning and enable for further educational opportunities later in the classroom.<sup>25</sup>

eLearning is also providing educators and students with new opportunities for scientific research outside of the classroom.<sup>26</sup> For example, Verizon Wireless supports the Chesapeake

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<sup>22</sup> Qualcomm Global Citizenship, Education, [http://www.qualcomm.com/citizenship/wireless\\_reach/projects/education.html](http://www.qualcomm.com/citizenship/wireless_reach/projects/education.html) (United States: Augmented Reality Enables Students to Explore New Worlds) (last accessed July 2, 2010).

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *See generally* Education Week, *supra* note 12.

Bay FieldScope, which allows students to upload their own field data regarding the Chesapeake Bay, including water quality measurements, field notes, and photos or other media. Students can then examine their data and see it in relation to data from peers and professional scientists.<sup>27</sup> This allows students to learn how to conduct scientific research and enables further learning opportunities using the data later in the classroom.

**f. Distance and Remote Learning**

Importantly, mobile wireless devices facilitate distance and remote learning that can be essential for rural and isolated communities. In 2005, Verizon Wireless supported the efforts of Kent State University's *Digital Videoconferencing Project* that was investigating the use of video cell phones to bring community resources into the classroom.<sup>28</sup> In addition, real-time text/chat programs (including those with image capabilities), blogging activities and data messaging, as well as the polling and response programs discussed above, can be used to teach across large distances. Techniques such as podcasts and streamed videoconferencing through mobile broadband bring the benefits of the classroom to students who are unable to be in the classroom due to weather or illness.

**g. mLearning for Persons with Limited Mobility or Communication Abilities**

CTIA member companies have taken steps to develop new innovative applications designed to encourage mLearning, which will directly benefit persons with limited mobility or communication abilities. For example, Verizon Wireless offers Mobile-Mind's ASL (American

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<sup>27</sup> See Chesapeake Bay FieldScope, National Geographic, <http://www.nationalgeographic.com/field/projects/cbfieldscope.html> (July 2, 2010).

<sup>28</sup> See Thomas McNeal and Mark van't Hooft, *Anywhere, anytime: Using mobile phones for learning* (Winter 2006), available at <http://www.rcetj.org/index.php/rcetj/article/view/91> (last accessed July 2, 2010).

Sign Language) Fingerspelling application on Verizon Wireless Get It Now<sup>SM</sup>-enabled phones.<sup>29</sup> The Fingerspelling application presents the 26 letters of the ASL alphabet and allows customers to study and quiz themselves using high-contrast, easy-to-see images right on their phone. This program allows people to learn Fingerspelling so that they may communicate with millions of deaf Americans. Tools such as these have great potential to assist persons with disabilities.

Additionally, as the FCC described in its recent White Paper, manufacturers are incorporating features into their requirements which are encouraging more and more third party applications to utilize built-in accessibility features, often yielding more efficient and affordable solutions to disabled users than dedicated Assistive Technologies (“AT”) devices.<sup>30</sup> A recent article in PCWorld highlighted how Apple’s iPad has built-in accessibility features and available third party accessibility applications which can help employers efficiently comply with requirements under the Americans with Disabilities Act (“ADA”).<sup>31</sup> For example, as the FCC recently noted, a dedicated Alternative and Augmented Communication (“AAC”) device may cost \$8,000 or more, while a \$300 smartphone can run \$200 text-to-speech software and work more effectively than the AAC device.<sup>32</sup> Through use of mobile devices powered by the

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<sup>29</sup> See Press Release, Verizon Wireless, *Verizon Wireless Customers Can Learn the American Sign Language Alphabet With Mobile-Mind’s ASL Fingerspelling on Get It Now* (June 12, 2003), available at <http://news.vzw.com/news/2003/06/pr2003-06-12.html>.

<sup>30</sup> Elizabeth Lyle, FCC, *A Giant Leap & A Big Deal: Delivering on the Promise of Equal Access to Broadband for People with Disabilities* at 13 (April 2010) (“*FCC Accessibility White Paper*”).

<sup>31</sup> Tony Bradley, *Apple iPad Helps Businesses Meet Needs of Disabled Employees*, PCWorld (March 29, 2010) available at [http://www.pcworld.com/businesscenter/article/192800/apple\\_ipad\\_helps\\_businesses\\_meet\\_needs\\_of\\_disabled\\_employees.html](http://www.pcworld.com/businesscenter/article/192800/apple_ipad_helps_businesses_meet_needs_of_disabled_employees.html) (last accessed July 2, 2010). See also The Americans with Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 327 (1990) (codified at 47 U.S.C. §225) (“ADA Title IV”); Comments of CTIA – The Wireless Association®, *National Broadband Plan Public Notice #3-Telework*, FCC GN Docket Nos. 09-47, 09-51, 09-137 (filed Sept. 22, 2009).

<sup>32</sup> *FCC Accessibility White Paper* at 24.

Internet, students with limited mobility or communications abilities will be able to communicate more easily with their fellow classmates and teachers through affordable options, which will in turn increase the learning potential for all students in the classroom.

## **2. E-Rate Is Already Helping to Bring These Enormous Benefits to Students and Educators in the Classroom**

Like mobile adoption generally, E-Rate usage of mobile broadband is growing rapidly. Since 2000, demand for mobile Internet access services among Sprint's E-Rate customers has increased almost six-fold, as measured by funding request numbers (FRNs).<sup>33</sup> Accordingly, with many schools and libraries already integrating this technology into their learning methods and classroom activities, it is important that its use be permitted to evolve, as educators find ways to increase learning opportunities outside the classroom and after school hours. Expanding the availability of E-Rate funding for wireless broadband services will enable schools across the country to harness the sort of tools and learning opportunities, explained above, and to develop new creative applications to further their educational goals.

### **B. E-Rate Should Support Wireless Broadband for Portable Learning Devices Used Outside of the Classroom**

As described in great detail in the preceding section, mobile broadband promises to bring, and is bringing, enormous educational benefits both inside and outside the classroom. Indeed, the potential of mobile broadband to serve as an educational tool outside the classroom is only beginning to be felt. As a result, the Commission should adopt the NBP's recommendation to

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<sup>33</sup> Comments of Sprint, *National Broadband Plan Public Notice #15*, FCC GN Docket 09-51 (filed November 20, 2009).

provide full E-Rate support for wireless Internet access services used with portable learning devices off of school or library premises.<sup>34</sup>

**1. Supporting Wireless Internet Access Off of School Premises And Outside of School Hours Can Provide Substantial Educational Benefits**

CTIA commends Chairman Genachowski for recognizing the challenges that schools face in extending the learning process outside of normal classroom walls and hours. As Chairman Genachowski observed, “Tens of millions of kids who need to study online at home simply can’t, and their parents are shut off from the ability to participate with their kids and teachers in the educational effort.”<sup>35</sup> These children without Internet access at home cannot access online school resources outside of school or ask their parents for help with online school work, and parents cannot communicate with teachers over email or online school resources.

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<sup>34</sup> NPRM at ¶ 45, citing National Broadband Plan at 239, Rec. 11.23.

<sup>35</sup> Prepared Remarks of Chairman Julius Genachowski, Federal Communications Commission, “Broadband: Our Enduring Engine for Prosperity and Opportunity,” NARUC Conference, Washington, DC at 5 (Feb. 16, 2010) *available at* <http://www.narucmeetings.org/Presentations/Genachowski%20NARUC%20Winter%20Speech.pdf>.

In the preceding section, CTIA described the many ways that mobile Internet access can help bridge this gap. As described above, the myriad mobile devices available at wide range of price points in the U.S. facilitate a remarkable degree of personalization, bringing broadband not just to the classroom or the home but to the individual student. These devices put learning tools in the hands of students, facilitating learning inside schools walls, on field trips, and when students continue their educations outside of school. Similarly, the ever-increasing abilities of wireless networks and smartphones have combined to foster staggering innovation and competition in the application space. The results are innovative applications that educate, improve health and public safety, are easy to download and use, and continue to revolutionize the wireless industry.

Examples abound of schools and educators harnessing mobile wireless technology to improve the educational experience of their students. Initiatives conducted in partnership with a number of CTIA member companies provide excellent examples of the many possibilities mobile broadband can bring to the classroom and beyond.<sup>36</sup>

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<sup>36</sup> For example, the Verizon Foundation created Thinkfinity, which provides a free, comprehensive digital learning platform, with the goal of improving student achievement in traditional classroom settings and beyond by providing high-quality content and extensive professional development training. Thinkfinity uses emerging technologies and communication tools to provide universal access to expanded learning opportunities, including to disadvantaged, homeless and at risk children. Verizon also has partnered with the Coalition to Improve Education to provide direct reading instruction to economically disadvantaged K-12 students in Lake Elsinore, California. Using a variety of tools over a 10-week program, teachers helped 85 percent of the 54 students participating in the third quarter of 2009 achieve a 70 percent increase in English Language Arts scores on the California Standards Test. Verizon Wireless, *Thinkfinity is the Verizon Foundation's digital learning platform, available at* <http://thinkfinity.org/about.aspx> (last accessed July 2, 2010). *See also*, Comments of Verizon Wireless, *National Broadband Plan Public Notice #15*, FCC GN Docket No. 09-51 at 2-5 (filed Nov. 20, 2009).

For example, both Sprint and Verizon partnered with GoKnow Mobile Learning Solutions (“GoKnow”), an educational application developer, to expand the use of mobile learning software outside the classroom. Sprint teamed with GoKnow to implement a trial program in which Sprint mobile devices were loaded with GoKnow software so that students could download and complete tasks on their phone in the classroom or on field trips and then upload and send completed assignments back to their teacher. Data showed improved student attendance and engagement in the classroom and an average improvement of 25% on achievement scores.<sup>37</sup> Similarly, St. Mary’s City Schools in Ohio partnered with Verizon Wireless to provide a class of third-graders with HTC XV6800 smartphones and GoKnow mobile learning software. For one assignment, the students took the devices on a museum field trip, took pictures, and then wrote about those photos. Administrators expanded the program to other classes (including other grade levels) and found that students using the mobile devices had higher test scores and greater improvement than their peers, while behavior incidents and late homework notices decreased “substantially.”<sup>38</sup>

Additionally, numerous wireless providers and developers have teamed together for Project K-Nect, including Qualcomm<sup>39</sup> and The Wireless Foundation.<sup>40</sup> Project K-Nect used

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<sup>37</sup> Comments of Sprint, *National Broadband Plan Public Notice #15*, FCC GN Docket 09-51 (filed November 20, 2009).

<sup>38</sup> *St. Mary’s City Schools: Improved Test Scores, Engaged Students, Inspired Teachers and Saved Money for the District, GoKnow! Case Study* (2009) available at [http://www.goknow.com/MediaExposure/vzw\\_case\\_study\\_stmarys08-09.pdf](http://www.goknow.com/MediaExposure/vzw_case_study_stmarys08-09.pdf) (last accessed July 2, 2010).

<sup>39</sup> Project K-Nect, *Sponsor*, <http://www.projectknect.org/Project%20K-Nect/Sponsor.html> (last accessed July 2, 2010).

<sup>40</sup> Project K-Nect, *Other Sponsors*, <http://www.projectknect.org/Project%20K-Nect/Other%20Sponsors.html> (last accessed July 2, 2010). CTIA is on the Board of Directors of  
(continued on next page)

mobile smartphones and an EV-DO mobile broadband connection to provide students who had limited or no access to a home computer or home Internet access a repository of supplemental content ("digital snippets"). The program also allowed them to engage in peer-to-peer collaboration to assist in completing math assignments assigned by a teacher through the mobile device. In the 2008-2009 school year, participating classes outscored similar non-participating classes in almost every case and reported increased student engagement, greater parental involvement and increased communication between students and teachers.<sup>41</sup>

## **2. Such Support is Consistent With the “Educational Purposes” Standard in Section 254(h)(1)(B)**

Given the desire of educators to expand the learning experience beyond the classroom walls and the substantial educational benefits of mobile wireless broadband, as described in great detail above, there is no question that educational use of mobile wireless broadband Internet access off of school property can be used to satisfy the “educational purposes” standard in the statute.<sup>42</sup> As the NPRM correctly notes, the Commission has previously determined that off-campus use of mobile broadband services can meet the educational use standard under appropriate circumstances.<sup>43</sup>

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The Wireless Foundation. The Wireless Foundation, <http://www.wirelessfoundation.org/bod/index.cfm> (last accessed July 6, 2010).

<sup>41</sup> Project K-Nect, *K-Nect Summary*, <http://www.projectknect.org/Project%20K-Nect/K-Nect%20Summary%20.html> (last accessed July 2, 2010). *See also*, Qualcomm, *Global Citizenship-Education*, [http://www.qualcomm.com/citizenship/wireless\\_reach/projects/education.html](http://www.qualcomm.com/citizenship/wireless_reach/projects/education.html) (United States: Project K-Nect, Wireless Social Networking and Teaching Enhances Student Achievement) (last accessed July 2, 2010).

<sup>42</sup> 47 U.S.C. § 254(h)(1)(B).

<sup>43</sup> NPRM at ¶ 42, citing *Schools and Libraries Universal Service Support Mechanisms*, CC Docket No. 02-6, Second Report and Order and Further Notice of Proposed Rulemaking, 18 FC Rcd 9202, 9208 ¶ 17 (2003).

CTIA has no objection to a requirement that schools and libraries have reasonable policies and procedures in place to ensure that supported wireless broadband services are used only for educational purposes. The Commission’s recent *Community Use Order* demonstrates that the Commission is capable of crafting reasonable use restrictions to ensure the standard is met.<sup>44</sup> Although not all of the standards set in the *Community Use Order* are relevant to the E-Rate context, the NPRM correctly observes that certain elements – such as the prohibitions on purchase of more services than are necessary for educational purposes, and on sale or transfer of services – would also be good elements for ensuring appropriate use of funded wireless broadband access.<sup>45</sup>

### **3. The Commission Should Not Impose Artificial Limits on Educators’ Ability to Use Wireless Broadband**

While CTIA has no objection to a requirement that schools and libraries have reasonable policies and procedures in place to ensure that supported services are used only for educational purposes, CTIA encourages the Commission not to impose artificial limits on educators’ ability to select mobile wireless broadband for those purposes.

Educators – not regulators – should decide what kind of broadband Internet access will best meet their educational goals. Mobile broadband and fixed broadband have specific advantages and disadvantages. Wireless broadband offers the substantial benefit of mobility and personalization, while fixed offerings sometimes provide higher speeds. Educators must balance the technologies’ advantages and disadvantages as they tailor their technology plans to advance

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<sup>44</sup> See NPRM at ¶ 50, citing *Schools and Libraries Universal Service Mechanis*, CC Docket No. 02-6, Order and Notice of Proposed Rulemaking, 25 FCC Rcd 1740 (2010) (“*Community User Order*”).

<sup>45</sup> *Id.*

educational programs. Business and residential consumers are increasingly demanding mobile broadband services to meet their goals, and there is no reason to prevent educators from making similar choices.

Moreover, wireless broadband is an economical service with significant potential “bang for the buck” within the E-Rate program, and the program rules should encourage its use. Mobile broadband services are offered at prices that are highly competitive with fixed broadband prices. If schools and libraries are able to use mobile broadband more effectively, it will increase competition for broadband services, particularly within the E-Rate program, potentially lowering mobile broadband prices overall.

**C. The Commission Should Streamline the E-Rate Application Process and Update Its Rules to Reflect How Schools and Libraries Purchase Services in Today’s Marketplace**

CTIA applauds the Commission’s efforts to ensure that universal service is administered in a manner free of arbitrary, unnecessary regulatory burdens. Modifications to the E-Rate application process can help simplify the administrative process, reduce ministerial errors, and increase efficiency.

For example, CTIA has consistently encouraged the Commission to adopt a streamlined process for smaller schools and libraries.<sup>46</sup> CTIA also has observed that the complexity of the universal service support application is a deterrent for small and other schools and libraries that lack administrative resources. Ultimately, this complexity detracts from the program’s statutory goals.<sup>47</sup>

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<sup>46</sup> Comments of CTIA, CC Docket Nos. 02-6 *et al.* (filed Oct. 18, 2005) at 11-12.

<sup>47</sup> *Id.*

In addition, CTIA strongly encourages the FCC to use this opportunity to grant the petition for declaratory ruling of the competitive bidding rules filed jointly by CTIA and U.S. Telecom.<sup>48</sup> CTIA, U.S. Telecom and the numerous commenters who filed in support of the Petition have sought clarification regarding the application of the “lowest corresponding price” requirement.<sup>49</sup>

As CTIA and U.S. Telecom have explained, the E-Rate program has evolved significantly since the lowest corresponding price rule was originally implemented more than twelve years ago, and there are now a number of ways in which schools and libraries purchase telecommunications service. As such, the Commission’s rules must be interpreted in light of the multi-dimensional environment in which schools and libraries purchase services in today. As explained in the Petition and as many of the supporting commenters affirmed, in order for the E-Rate program to continue to operate effectively and efficiently, everyone-the Commission, USAC, state commissions, applicants, and each of the thousands of E-Rate service providers-must have the same understanding of the application of the Commission’s competitive

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<sup>48</sup> Petition; WCB Seeks Comment on Petition of United States Telecom Association and CTIA – The Wireless Association for Declaratory Ruling Clarifying Certain Aspects of the “Lowest Corresponding Price” Obligation of the Schools and Libraries Universal Service Program, CC Docket No. 02-6, Public Notice, 25 FCC Rcd 3662 (2010).

<sup>49</sup> *Id.* Specifically, the Petition ask the Commission to clarify that: (1) the lowest corresponding price obligation applies only to competitive bids submitted by a provider in response to a Form 470, and not to other circumstances in which eligible entities purchase services; (2) the lowest corresponding price obligation is not a continuing obligation that entitles a school or library to a constantly recalculated lowest corresponding price during the term of a contract; (3) there are no specific procedures that a service provider must use to ensure compliance with the lowest corresponding price obligation; (4) in determining whether a service bundle complies with the lowest corresponding price obligation, discrete elements in such bundles need not be individually compared and priced; and (5) in a challenge regarding whether a provider’s bid satisfies the lowest corresponding price obligation, the initial burden falls on the challenger (i.e., a school or library) to demonstrate a prima facie case that the bid is not the lowest corresponding price.

bidding rules. It is in the interest of all stakeholders to know and understand the operative legal framework of the program. So, as the Commission now considers changes to the E-Rate competitive bidding rules, it should clarify the application of the “lowest corresponding price” rule, as requested by CTIA, to ensure that it appropriately reflects the changed nature of the telecommunications marketplace and the reality of how schools and libraries purchase services (including wireless services) today.

### CONCLUSION

CTIA urges the Commission to reform the E-Rate program consistent with these comments.

Respectfully submitted,

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July 9, 2010