Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
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Modernizing the E-rate Program for Schools and Libraries	)	WC Docket No. 13-184
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To: The Commission

REPLY COMMENTS OF T-MOBILE USA, INC.

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T-Mobile USA, Inc. ("T-Mobile")[1] hereby files its reply to initial comments on the Commission's proposals to reform the schools and libraries universal service ("E-rate") program,[2] focusing on a key component for the effective transformation of this important program – the need for meaningful inclusion of mobile broadband services and anywhere/anytime educational access and campus safety and security.

INTRODUCTION AND SUMMARY

As the Commission embarks on the important transformation of the E-rate program to support exciting new learning technologies, it is important that it recognize that mobile services– particularly mobile broadband – will be integral to enabling our children to learn anytime, anywhere and for the program's continued success. As the Commission and many stakeholders have noted, our ability to educate the next generation of students for today's world depends on schools and libraries having access to the same kind of connectivity and technology that have

[1] T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly-traded company.

[2] *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Notice of Proposed Rulemaking, 28 FCC Rcd 11304 (2013) ("NPRM").

transformed our workplaces and social interactions. This transformation and the rapid advance across the country of one-to-one digital learning efforts is as much about mobility as it is about high bandwidth, and E-rate 2.0 must mirror this shift to succeed. Also, while focusing on mobile broadband services going forward, the FCC should recognize the continuing importance of voice services and maintain a low, fixed support level for them.

DISCUSSION

Mobile services are a vital part of 21st century learning technology, and schools and libraries need access to the technology that best suits their educational goals. To help schools and libraries meet their goals, the Commission is correct that the E-rate program should be re-focused to ensure that schools and libraries have access to the broadband services they need to bring students the benefits of the ongoing revolution in learning technology.[3] As in other contexts, this revolution is fueled by two fundamental shifts − the transition of networks from delivering voice to delivering data, and the transition of networks from fixed to mobile.[4] These transitions are driven by technological changes and by consumer use, which includes educational users. Our students will miss out on opportunities to dramatically improve their education if the E-rate program focuses shortsightedly on any single network characteristic such as bandwidth capacity or technology such as fiber. As many commenters point out, this kind of single-minded approach would neglect some educational needs and leave certain students behind.

[3] *See, e.g.*, NPRM, 28 FCC Rcd at 11306 ¶ 3.

[4] *See, e.g., FCC Provides Additional Details Regarding the First Technology Transitions Policy Task Force Workshop*, GN Docket No. 13-5, Public Notice, 28 FCC Rcd 2319, 2319 (2013) ("This event is the first in a planned series of workshops to analyze technology transitions – from narrowband to broadband; from time-division multiplexing (TDM) to Internet Protocol (IP); from copper to fiber; from only wireline services to greater use of wireless – and their implications for modernizing Commission policy.").

First, schools and school districts observe that mobile broadband sometimes is the only option for obtaining reliable, high-speed broadband service, especially in rural and remote areas where fixed broadband networks are not available.[5] The California Department of Education observes, "At this time, fiber connectivity is not an option for many small or rural schools and libraries in California due to the lack of infrastructure in remote locations. So there is not a 'one-size-fits-all' solution that can be branded as the most effective technology architecture."[6]

In addition, as educators stress, the new digital learning environment requires always-on, anytime, anywhere access for students and teachers.[7] Many schools already are taking advantage of mobile learning initiatives to improve the way teachers teach and student learn by enabling one-to-one ratios of learning devices to students. For example, students in the Los Angeles Unified School District will receive 31,000 free mobile tablets this school year under a new $30 million program launched by the district.[8] Likewise, Miami is implementing a $63 million plan to lease as many as 150,000 digital computing devices for students.[9] In fact nearly

[5] *See, e.g.*, Alaska Dept. of Ed. comments at 5-6; California Dept. of Ed. comments at 8; Illinois Fiber Resources Group comments at 7.

[6] California Dept. of Ed. comments at 8.

[7] *See, e.g.*, City of Boston comments at 7-9; Connected Nation comments at 14-15; Harvard research comments at 1; Houston Independent School District comments at 3; Los Angeles Unified School District comments at 10; NACEPF comments at 4-9; San Diego County Office of Education comments at 6-8.

[8] Todd R. Weiss, *Los Angeles Plans to Give 640,000 Students Free iPads*, CiteWorld (July 25, 2013), *available at* http://www.citeworld.com/tablets/22178/ipad-los-angeles-unified-school-district.

[9] Benjamin Herald, *Miami-Dade Approves $63 Million Plan to Give All Students Digital Devices*, Education Week Digital Education Blog (June 20, 2013), http://blogs.edweek.org/edweek/DigitalEducation/2013/06/miami-dade_schools_pass_63_mil.html.

60 percent of school districts already report that at least a quarter of the schools in their districts have adopted mobile technologies.[10]

While 84% of school districts say they would be interested in launching a one-to-one mobile program in their districts within the next two years, only 12% of schools have been able to access the benefits of one-to-one mobile initiatives.[11] Other schools are aggressively implementing digital textbooks, which present many advantages[12] including cost savings, more up-to-date content, mobility, and physical benefits to students of not having to carry heavy textbooks.[13]

Recognizing that learning does not stop at the schoolhouse door, many of these initiatives include allowing students to take devices off of school property.[14] Many children in rural areas have especially long bus rides making it impossible for them to stay after school to access the school or public library Internet, and they may also lack broadband at home.[15] These students

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[10] Joshua Bolkan, *Report: Most District Tech Leaders Want 1:1 Deployment or Expansio*n, The Journal (July 18, 2013), http://thejournal.com/articles/2013/07/18/report-most-district-tech-leaders-want-11-deployment-or-expansion.aspx.

[11] *Id*.

[12] *See, e.g., FCC Chairman Genachowski Joins Secretary of Education Duncan to Unveil New "Digital Textbook Playbook,* News Release (Feb. 1, 2012), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0201/DOC-312244A1.pdf.

[13] Carrying heavy textbooks was a concern that led the California legislature to mandate weight limits for primary and secondary school textbooks. Textbook Weight Standards, 5 Cal. Code Regs. tit. 5, § 9517.2, *available at* http://weblinks.westlaw.com/result/default.aspx?cite=5CAADCS9517%2E2&db=1000937&findtype=L&fn=%5Ftop&pbc=DA010192&rlt=CLID%5FFQRLT4998514122110&rp=%2FSearch%2Fdefault%2Ewl&rs=WEBL13%2E10&service=Find&spa=CCR%2D1000&sr=TC&vr=2%2E0 .

[14] *See, e.g.*, Houston Indep. School Dist. comments at 3.

[15] Iowa Dept. of Ed. comments at 6-7.

need to be able to do their homework on the bus, which mobile broadband can enable. Students also are routinely learning outside the classroom, and mobile broadband connectivity allows them to meet individually and in online study groups anywhere or anytime to complete required assignments. In addition, educational institutions are rapidly adopting cloud-based solutions that enable faculty, students, and parents alike to access tools for educational purposes from anywhere and anytime on mobile devices. For example, an E-rate customer in Indiana has implemented a cloud solution on the T-Mobile network allowing students to create and complete projects outside of the classroom that can easily be accessed by their peer group and teachers for review and grading. Such needs for broadband access on the go cannot be filled with Wi-Fi connectivity due to its limited geographical reach.

According to international market research firm Ambient Insight, the market for mobile learning products is steadily increasing at an annual growth rate of approximately 13.7%, estimated to reach $1.82 billion by 2015.[16] The E-rate program needs to account for this growing market and recognize the vital importance of mobile learning and off-campus connectivity to the future of connected education which is why mobile broadband is a critical part of the E-rate equation.

T-Mobile has witnessed the power of mobile broadband to enable digital learning:

- A T-Mobile customer in Indiana is using E-rate funding in part to implement a program designed to help students at risk of dropping out by offering them an always-on learning experience. This customer distributed over 400 devices to middle and high school students and offered both training and devices to their teachers. Just two years after initiating the program, the school is reporting a 7% decline in the overall

[16] Sam S. Adkins, *The US Market for Mobile Learning Products and Services: 2010-2015 Forecast and Analysis*, Ambient Insight Comprehensive Report, at 5 (May 2011), *available at* http://www.ambientinsight.com/Resources/Documents/AmbientInsight_2008-2013_US_MobileLearning_Forecast_ExecutiveOverview.pdf.

drop-out rate, among other positive benefits including the implementation of more interactive curriculum and improved student-teacher-parent communication

- A charter school in Philadelphia, Pennsylvania implemented a program to replace paper textbooks with electronic textbooks loaded on mobile devices using T-Mobile's broadband network. Factoring in the cost of the devices, total near-term savings are estimated at approximately $126,000 for 300 students, with future savings to be realized by replacing expensive hard-copy textbook updates with less expensive electronic updates.

- At Harambee Institute of Science and Technology Charter School in Philadelphia, students used devices on T-Mobile's mobile broadband network to learn algebraic concepts using the programming language "Bootstrap." Although the language is usually taught to students between the ages of 12 and 16, seven-year-old Zora Ball used Bootstrap to become the youngest person ever to develop a mobile gaming application.[17]

Schools know their educational technology needs best, and the E-rate rules should permit them to select the broadband service that best meets those needs.[18] Commenters wisely surmise that competitive neutrality must remain a central tenet of the universal service program, and E-rate applicants should be permitted to select eligible services on a technology-neutral basis.[19]

In keeping with this goal of technological neutrality, the Commission should avoid imposing arbitrary bandwidth or capacity requirements on services sought and used by E-rate applicants – especially requirements tied to a particular technology.[20] As shown above, no single

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[17] *See, e.g., Zora Ball, First Grader, Becomes Youngest Person To Develop Mobile Game App*, Huffington Post (Feb. 4, 2013), *available at* http://www.huffingtonpost.com/2013/02/04/zora-ball_n_2586140.html.

[18] *See, e.g.,* Alaska Dept. of Ed. comments at 6; California Dept. of Ed. comments at 8; Clark County School District comments at 7; CTIA comments at 7-8; Leadership Conf. on Civil and Human Rights comments at 2; PCIA comments at 7; Sprint comments at 3-5; Telecommunications Industry Ass'n ("TIA") comments at 3-4.

[19] *See, e.g.,* AT&T comments at 4; CTIA comments at 7-8; Competitive Carriers Ass'n ("CCA") comments at 1-2, 3-7; NCTA comments at 9; PCIA comments at 7; Sprint comments at 2-3; TIA comments at 3-4; Verizon comments at 9-10.

[20] *See, e.g.,* Alaska Dept. of Ed. comments at 2-4; CCA comments at 1-2, 3-7; Cox comments at 3-5; Funds for Learning comments at 53-54; Imperial County Office of Ed. comments at 15-16.

technology platform will be adequate to meet all 21st Century learning needs. And because the only certainty in technology today is change, any specific connectivity speed, bandwidth requirement, or technology target that appears appropriate now will likely be out of date in a few short years. Commenters also generally agree that participants themselves are best equipped to determine the bandwidth or capacity targets appropriate for the population they serve.[21]

Moreover, as suggested by CTIA, the Commission should codify a rule proven effective in the EDU 2011 pilot program to allow E-Rate funding to be used for off-campus mobile broadband for educational purposes.[22] As Connected Nation points out:

> To meet the technology needs of schools and libraries over the coming decades, the Commission should reform the E-rate program to prioritize … mobile wireless data connectivity for teacher and student devices, which are increasingly used to present and access educational content.… To the maximum extent possible, E-rate should support ubiquitous access to educational content and applications offered by these key community institutions, regardless of time of day or location. [23]

As a result, E-rate support should be available for mobile broadband service used for educational purposes both on and off of school property.

In addition, mobile voice services remain vitally important to ensuring campus safety and security. The initial comments question the wisdom of the NPRM's proposal to phase out support for traditional voice services.[24] T-Mobile agrees with those who say that in examining this issue the FCC should consider that competition has significantly reduced prices for voice services and that it should retain support for voice service at a low, fixed support level.

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[21] *See, e.g.,* Ala. Dep't of Ed. comments at 11-12; Imperial County Office of Ed. comments at 15-16; Ky. Dep't for Libraries and Archives comments at 3.

[22] *See, e.g.,* CTIA comments at 8-10.

[23] Connected Nation comments at 12.

[24] NPRM, 28 FCC Rcd at11335-36 ¶¶ 105-110.

Many educators and others stress the continued need for voice and texting services in the classroom,[25] especially to ensure teacher and student security and safety in the event of an emergency.[26] Be it the school shootings at Columbine or Virginia Tech, cell phones have often played prominent roles in the search for help in a school emergency.[27] Educators observe that because schools need voice service in the classroom, removing E-rate funding would force schools to spend more of their own scarce technology dollars on voice services, leaving less for broadband and learning devices.[28] In addition, the Independent Telephone and Telecommunications Alliance ("ITTA") points out that the Commission would be on questionable statutory ground to eliminate funding for telecommunications services such as voice service.[29] Because technology changes and competition have significantly reduced the cost of providing voice services, the Commission can reduce the burden on the E-rate fund and

[25] *See, e.g.*, State of Arkansas comments at 15-16; Clark County School District comments at 1, 6, 10; Cox comments at 10; Education Networks of America comments at 1-2; E-rate & Educational Services comments at 2; E-rate Provider Services comments at 7; Funds for Learning comments at 29-32; ITTA comments at 20-21; Iowa Dept. of Ed. comments at 7; Kansas Dept. of Ed. comments at 4-5; Kentucky Dept. for Libraries comments at 6; Pennsylvania Association of Intermediate Units ("AIU") comments at 3, 8; School District of Philadelphia comments at 9; City of Philadelphia comments at 3; South Dakota Dept. of Ed. comments at 10-12; U.S. Cellular comments at 12-13; West Virginia Dept. of Ed. comments at 33, 40, 42; Windstream comments at 6. *See also* American Library Assn. comments at 14-15; Council of the Great City Schools comments at 10-11; E-rate Central comments at 5; NTCA/WTA comments at 24; Wisconsin Dept. of Ed. comments at 7.

[26] *See, e.g.*, School District of Philadelphia comments at 8; West Virginia Dept. of Ed. comments at 42; State of Arkansas comments at 15.

[27] Kay Jones , AC360° Coordinating Editorial Producer, *Covering Columbine – 10 Years Ago Today*, CNN's Anderson Cooper 360° Blog (Apr. 20, 2009, 7:30 AM) (stating that cell phones were critical at the Columbine and Virginia Tech shootings), *available at* http://ac360.blogs.cnn.com/2009/04/20/covering-columbine-10-years-ago-today/.

[28] *See, e.g.*, West Virginia Dept. of Ed. comments at 42-43; South Dakota Dept. of Ed. comments at 10-11.

[29] ITTA comments at 20.

free up more support for broadband by providing a fixed monthly subsidy per voice connection and a limit on the number of supported connections such as one connection per 25 students, based on the average American class size.[30]

CONCLUSION

T-Mobile urges the Commission to reform the E-rate program with a recognition of the important role mobile broadband has to play in enabling America's students to learn in safe and secure environments when on campus and anytime, anywhere when off campus.

Respectfully submitted,

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[30] *See, e.g.*, Organisation for Economic Co-Operation and Development, *Education at a Glance 2009: OECD Indicators* (Sept. 2009), *available at* http://www.oecd.org/edu/skills-beyond-school/43636332.pdf.