

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of )  
Technology Transitions Policy Task Force Seeks ) GN Docket No. 13-5  
Comment on Potential Trials )  
)  
)  
)

To: The Commission

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

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CTIA–The Wireless Association® (“CTIA”) provides these comments in response to the Technology Transitions Policy Task Force (“TTPTF”) Public Notice seeking comment on potential trials regarding the transition to Internet protocol (“IP”) and wireless networks.<sup>1</sup>

**I. INTRODUCTION AND SUMMARY**

The Public Notice seeks comment on whether to conduct trials to evaluate the customer experience when transitioning from wireline to wireless networks. About 40 percent of the U.S. population, however, already has made this transition voluntarily. Technology and the market are driving this transition, as wireless carriers offer voice and broadband services with near ubiquitous coverage, low prices, ample broadband speeds, and strong reliability. There is, in short, every reason to expect that the consumer experience in the wireline-to-wireless transition will be positive.

Wireless services also offer significant communications opportunities for consumers with disabilities – another driver of the wireline-to-wireless transition, and a reason to include

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<sup>1</sup> *Technology Transitions Policy Task Force Seeks Comment on Potential Trials*, Public Notice, 28 FCC Rcd 6346 (2013) (“Public Notice”).

wireless services in any trial specific to the impact of the transition on consumers with disabilities.

Finally, in any trials of next-generation 911 (“NG911”) services, the Commission must account for the readiness and expectations of all stakeholders, including carriers, consumers, and public safety entities.

## **II. CONSUMERS AND TECHNOLOGY ARE DRIVING THE TRANSITION TO WIRELESS NETWORKS**

The Public Notice seeks comment on “conducting a trial that would evaluate the customer experience when customers are transitioned from wireline to wireless voice and broadband services.”<sup>2</sup> The TTPTF wishes to determine “whether consumers/businesses lose any capabilities previously available to them” and whether there are “potential benefits for consumers/businesses” from transitioning from wireline to wireless networks.<sup>3</sup>

In fact, an enormous test of the merits of transitioning customers and businesses from wireline to wireless technology already is underway. As of the end of last year, nearly 40 percent of American households have voluntarily entered the “trial,” transitioning themselves from wireline to wireless service only.<sup>4</sup>

Consumers’ voluntary decision to go wireless-only demonstrates the significant benefits of this transition. Indeed, consumers are cutting the cord in steadily increasing numbers. For

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<sup>2</sup> *Id.* at 6353.

<sup>3</sup> *Id.*

<sup>4</sup> Stephen J. Blumberg and Julian V. Luke, Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2012*, 7 (June 2013), available at <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201306.pdf>.

example, the percentage of wireless-only households has shot up by 10 percentage points in just two years.<sup>5</sup>

The data show that these consumers' decisions are well-founded. The evidence reflects that wireless networks provide:

- Nearly ubiquitous coverage;
- World-leading value for voice and broadband services;
- Broadband speeds ample to access the services consumers need;
- Reliability and resiliency in response to emergencies;
- Compelling opportunities for consumers with disabilities.

The increased consumer demand for mobile broadband services has been the direct result of aggressive competition, investment and innovation that comes from a light regulatory touch – not from onerous regulatory mandates. As a result, the Commission should rest assured that the transition from wireline to wireless networks will benefit consumers and businesses in a myriad of ways.

#### **A. Wireless Networks Provide High Quality Voice and Broadband Services**

Wireless carriers have invested hundreds of billions of dollars to ensure that consumers have reliable access to wireless service wherever they live, work, or travel. Today, wireless networks cover over 99 percent of the U.S. population and about 90 percent of U.S. road miles.<sup>6</sup>

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<sup>5</sup> Stephen J. Blumberg and Julian V. Luke, Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2010*, at 1, 2 and 6 (June 2011), available at <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201106.pdf> (showing wireless-only households at 29.7 percent).

<sup>6</sup> *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Sixteenth Report, 28 FCC Rcd 3700, 3832, Tbl. 29 (2013) (“*Sixteenth Report*”).

Wireless service is unquestionably more widely available than wireline service, and has the added advantage of being mobile, making it even more useful to consumers.

In addition, wireless carriers continue to upgrade and expand their networks with new facilities and technologies to increase the availability, speed, and capabilities of their services.<sup>7</sup>

According to GSMA, U.S. carriers were covering the following populations with LTE networks as of the fourth quarter of 2012.<sup>8</sup>

**U.S. LTE NETWORK COVERAGE  
AND SUBSCRIBERSHIP**  
AS OF Q4 2012

OPERATOR	LAUNCH DATE	COVERED POPS	POPULATION COVERAGE	LTE CONNECTIONS AS % OF TOTAL
<b>VERIZON WIRELESS</b>	December 2010	273 million	86%	18.9%
<b>AT&amp;T MOBILITY</b>	September 2011	>170 million	53%	7.5%
<b>METROPCS</b>	September 2010	-100 million	-31%	24.8%
<b>SPRINT</b> (SPRINT NEXTEL)	July 2012	88 cities	n/a	7.3%
<b>US CELLULAR (TDS)</b>	March 2012	57 million	18%	13.2%
<b>CRICKET COMMUNICATIONS</b> (LEAP WIRELESS)	December 2011	21 million	7%	1.1%

Source: GSMA Wireless Intelligence

Since year-end 2012, U.S. carriers have continued to deploy 4G LTE service. T-Mobile launched its own LTE network in seven cities in March (in Baltimore, Houston, Kansas City, Las Vegas, Phoenix, San Jose, and Washington, D.C.) and has announced plans to cover 100 million

<sup>7</sup> Although CTIA does not collect data regarding the number of connections broken down by mobile network technologies, such as EV-DO, HSPA, WiMAX, and LTE, Informa Telecoms & Media Group’s Word Cellular Information Service contains statistics on this information. See Informa Telecoms & Media Group, Word Cellular Information Service, <http://www.informatandm.com/about/wcis/> (last accessed June 12, 2013).

<sup>8</sup> Erik Bohlin, Kevin W. Caves, and Jeffrey A. Eisenach, *Mobile Wireless Performance in the EU & the US*, at 19 (GSMA /Navigant Economics May 2013) (“2013 GSMA Report”). Note that MetroPCS has merged with T-Mobile. See *id.*

people with its 4G LTE network by mid-year 2013 and 200 million people by the end of the year. Sprint has announced the turn-up of additional LTE markets, and as of June 17, 2013, offered 4G LTE service in 110 markets.<sup>9</sup> Likewise, Verizon and AT&T have announced the introduction of 4G LTE service to new markets. Verizon now covers 287 million people in 497 markets with its LTE network – more than 90 percent of the U.S. population.<sup>10</sup> AT&T now offers 4G service to more than 292 million people.<sup>11</sup> AT&T offers 4G LTE in more than 326 markets and expects to reach 300 million people by the end of 2014.<sup>12</sup> In the U.S., the world’s most advanced LTE deployments have produced more than 50 percent of the world’s 4G

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<sup>9</sup> See T-Mobile 4G Network Fact Sheet, available at [http://media.corporate-ir.net/media\\_files/IROL/25/251624/factSheets/T-Mobile's%204G%20Network%20Fact%20Sheet.pdf](http://media.corporate-ir.net/media_files/IROL/25/251624/factSheets/T-Mobile's%204G%20Network%20Fact%20Sheet.pdf) (last accessed June 12, 2013). See also Mark Sullivan, *Tested: T-Mobile's LTE is smokin' fast in seven cities*, TechHive (May 29, 2013), available at <http://www.techhive.com/article/2039793/tested-t-mobiles-lte-is-smokin-fast-in-seven-cities.html>; News Release, Sprint Nextel Corporation (“Sprint”), Sprint Announces Availability of 4G LTE in 21 New Markets (Apr. 18, 2013), available at [http://newsroom.sprint.com/article\\_display.cfm?article\\_id=2563](http://newsroom.sprint.com/article_display.cfm?article_id=2563); News Release, Sprint, 4G LTE Launched Markets as of June 17, 2013 (June 17, 2013), available at <http://newsroom.sprint.com/news-releases/4glte-launchedmarkets.htm?previousArticle=11038&nextArticle=11037&gotoArt=%2Fnews-releases%2F4glte-launchedmarkets.htm>.

<sup>10</sup> <http://www.att.com/gen/press-room?pid=2943>

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

<sup>12</sup> See e.g., Verizon Wireless, News Center: LTE Information Center, <http://news.verizonwireless.com/LTE/Overview.html> (last accessed June 17, 2013); AT&T: The Nation’s Fastest 4G LTE Network, [http://www.att.com/Common/about\\_us/pdf/4g\\_evolution\\_infographic.pdf](http://www.att.com/Common/about_us/pdf/4g_evolution_infographic.pdf) (last accessed June 17, 2013); AT&T, Inc., Archived News Releases, [http://www.att.com/gen/press-room?cdvn=news&pid=4800&ending\\_year=2013&newsfunction=searchresults&beginning\\_month=2&ending\\_month=4&beginning\\_year=2013](http://www.att.com/gen/press-room?cdvn=news&pid=4800&ending_year=2013&newsfunction=searchresults&beginning_month=2&ending_month=4&beginning_year=2013) (last accessed June 12, 2013); Verizon Wireless, Verizon Wireless News Center, <http://news.verizonwireless.com/news/?type=News+Releases> (last accessed June 12, 2013); Sprint, Sprint News Room, <http://newsroom.sprint.com/news/> (last accessed June 12, 2013).

subscribers – ten times the rate of LTE adoption that would otherwise be expected, taking into account that the U.S. market represents only 5 percent of total worldwide wireless subscribers.<sup>13</sup>

Consumers have access to the fastest wireless broadband networks from a variety of carriers, including in rural areas. Larger carriers are deploying advanced networks in rural areas,<sup>14</sup> but 4G LTE is hardly the exclusive province of the largest carriers. Regional and rural carriers have also launched LTE-based service and are publicizing the availability and the benefits of this technology. U.S. Cellular, for example, has announced that it will provide LTE to 87 percent of its customers by the end of 2013.<sup>15</sup> As the Commission noted in its last report on mobile competition, an impressive field of rural providers were launching or had launched LTE service.<sup>16</sup>

Carriers also continue to introduce network advancements, as they are in the process of rolling out the next generation in telephone call voice technology, HD Voice. HD Voice will allow telephone calls to more nearly approximate the full range of frequencies embodied in the human voice and bring the technology one step closer to replicating in-person presence.

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<sup>13</sup> As of March 2013, the U.S. was estimated to have 52.5% of the world’s LTE subscribers, according to the Informa Telecoms & Media Group’s World Cellular Information System (WCIS) database. *See* Testimony of Steve Largent, President and CEO, CTIA – The Wireless Association®, “The State of Wireless Communications,” U.S. Senate Commerce, Science, and Transportation Subcommittee on Communications, Technology, and the Internet, at 2 (June 4, 2013), , *available at* [http://www.commerce.senate.gov/public/?a=Files.Serve&File\\_id=73d6bd9a-bd35-49d8-9ff0-8dee4bf329a4](http://www.commerce.senate.gov/public/?a=Files.Serve&File_id=73d6bd9a-bd35-49d8-9ff0-8dee4bf329a4).

<sup>14</sup> *See, e.g.*, More North Carolina Rural Areas Covered by Verizon’s 4G LTE Network, Yahoo! Finance (Apr. 11, 2013), *available at* <http://finance.yahoo.com/news/more-north-carolina-rural-areas-151000483.html> (last accessed June 12, 2013).

<sup>15</sup> Press Release, U.S. Cellular, U.S. Cellular Announces Next Markets to Receive 4G LTE Service in 2013 (Feb. 14, 2013), *available at* <http://www.uscellular.com/about/press-room/2013/USCellular-Announces-Next-Markets-to-Receive-4GLTE-Service-in-2013.html>.

<sup>16</sup> *See Sixteenth Report*, 28 FCC Rcd at 3823-24, Tbl. 28 (explaining that several carriers had deployed LTE services pursuant to Verizon Wireless’s LTE in Rural America Partners program).

T-Mobile, for example announced earlier this year that it began offering HD Voice across its nationwide network,<sup>17</sup> and Sprint is in the process of rolling out the service.<sup>18</sup> Other carriers, including AT&T and Verizon, have announced plans to deploy HD Voice in the near future.<sup>19</sup>

**B. Wireless Carriers Offer Voice and Broadband Services at Attractive and Competitive Prices**

Consumers' mass migration to wireless-only service also is a testament to the attractiveness of wireless prices. According to the Bureau of Labor Statistics' Wireless Price Index, the effective monthly cost of wireless service to consumers has fallen more than 40% since December 1997.<sup>20</sup> Wireless carriers also offer consumers an incomparable array of pricing options. Voice plans offered by wireless carriers include: contract and no-contract plans; unlimited minute, anytime minute, night and weekend minute, rollover minute, and mobile-to-mobile minute plans; free long distance plans; national calling and local calling plans; and international plans. The array of broadband plan offerings is similarly vast, and includes limited and unlimited plans, individual and shared plans, rollover plans, and international data and messaging plans.

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<sup>17</sup> Daniel Howley, *T-Mobile Announces Nationwide HD Voice, 200M LTE Users by 2013*, LapTop (Jan. 8, 2013), available at <http://blog.laptopmag.com/t-mobile-announces-nationwide-hd-voice-200m-lte-users-by-2013>.

<sup>18</sup> Sarah Reedy, *Sprint Delays HD Voice Launch to Q2*, Light Reading (Apr. 24, 2013), available at <http://www.lightreading.com/sprint/sprint-delays-hd-voice-launch-to-q2/240153470>.

<sup>19</sup> Ina Fried, *HD Voice will Start Coming to AT&T Later This Year*, All Things D (Apr. 1, 2013), available at <http://allthingsd.com/20130401/hd-voice-coming-to-att-later-this-year/>; Phil Goldstein, *HD Voice: AT&T, Sprint Promise It This Year, but Verizon Targets Late 2013, Early 2014*, Fierce Wireless (Apr. 2, 2013), available at <http://www.fiercewireless.com/story/hd-voice-att-sprint-promise-it-year-verizon-targets-late-2013-early-2014/2013-04-02>.

<sup>20</sup> BLS Consumer Price Index Database (not seasonally adjusted), Series Id CUUR0000SEED03, Wireless Telephone Services.

### **C. Wireless Broadband Meets Consumers' Needs**

Wireless broadband provides speeds that are sufficient to meet consumers' and businesses' needs. As of June 2012, over 40 percent of the broadband connections at or above 3 Mbps download and 768 kbps upload were provided by mobile broadband providers.<sup>21</sup> This is consistent with other data showing that average connection speeds for mobile broadband in the U.S. already are over 2.6 Mbps.<sup>22</sup> With the current heavy investment by U.S. providers in high-speed network build-out, average connection speed is projected to increase to 14 Mbps by 2017.<sup>23</sup> Ericsson reports that 31 percent of wireless broadband connections already provide service at 10 Mbps more, which accommodates streaming video.<sup>24</sup> The speed and capacity of mobile broadband connections only will increase as U.S. carriers continue deploying super-fast 4G LTE networks at a rapid clip.<sup>25</sup>

### **D. Wireless Networks are Reliable and Resilient**

Wireless carriers take extraordinary steps to ensure that their networks are reliable and resilient, even in emergency and disaster situations. First, carriers promote reliability and network resiliency by building redundant networks where appropriate. Redundancy is a core design principle of mobile broadband networks. Wireless switches rapidly and dynamically

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<sup>21</sup> FCC WCB IATD, INTERNET ACCESS SERVICES: STATUS AS OF JUNE 30, 2012, at 17, Tbl. 2 (May 2013).

<sup>22</sup> See 2013 GSMA Report at 12-13 (citing *Cisco Visual Networking Index 2012-2017*).

<sup>23</sup> *Id.* at 13. As projected, by 2017, data rates in Central and Eastern Europe and in Asia-Pacific will trail even further behind, at 4.8 Mbps and 3 Mbps, respectively. *Id.*

<sup>24</sup> Ericsson, *Ericsson Mobility Report on the Pulse of the Networked Society*, at 17 & n.1 (June 2013), available at <http://www.ericsson.com/res/docs/2013/ericsson-mobility-report-june-2013.pdf>. Ericsson explains that Speedtest is an app that allows users to measure uplink and downlink throughput. Each time the app is run, the results are stored in a database, which is approaching 1 billion measurement records.

<sup>25</sup> See *supra* Section II.A.

reroute traffic based on needs and capacity constraints during times of potential overload.

Network redundancy enables networks to remain operational even in the event of individual cell site failure. Numerous carriers have improved network redundancy in disaster-prone areas by fortifying their networks and installing other tools and equipment to enhance the stability and, when necessary, the recovery of their wireless operations.

Second, during emergencies carriers may employ portable or temporary base stations to provide network continuity. Carriers may provision cellular base stations on wheels (“COWS”), cellular base stations on light trucks (“COLTS”), and other temporary base stations to act as temporary cell sites in the event of damage to permanent cell sites.

Third, wireless carriers commonly provision their cell sites and switches with back-up power sources to maintain electrical operations even when grids fail. Wireless carriers provide back-up power at facilities through permanent generators installed at facilities’ locations, with reserve batteries, by deploying portable generators during emergencies, and through other means. Carriers regularly rely on fixed and portable back-up generators to provide power to network assets when local power becomes unavailable.

Fourth, carriers tailor their network resiliency and continuity of service plans to the unique needs of individual localities. For example, in high-risk locations, carriers may install more back-up and permanent generators at critical cell sites and switching facilities, locate critical equipment in less vulnerable areas, upgrade electronics, or elevate switches critical to network operations above expected flood levels. When there is advance notice of a coming event, carriers will preposition assets, stockpile additional supplies, test equipment, re-check inventories, and ensure fuel tanks are at capacity. This site-specific planning stems from the individual assessments conducted by the carriers and depends upon continued flexibility to implement the necessary protections for the particular locality.

Fifth, carriers employ network management techniques to address spikes in traffic likely to occur during an emergency. In certain circumstances, wireless network operators may need to track and manage network loads in real time, shifting network resources to needed areas as demanded by the specific situation. Carriers also may take steps to temporarily boost capacity to the wireless network to accommodate increased call volume.

As a whole, these strategies have proven extremely successful in maintaining and restoring communications during disasters, emergencies, and other large-scale events. Disasters and emergencies challenge all types of infrastructure – power lines snap, and roads may be washed out, blocked by debris, or overwhelmed with unusual volumes of traffic. But wireless networks consistently perform in emergency situations.

**E. Wireless Networks and Devices Provide Improved Communications Opportunities for Consumers with Disabilities**

The wireless industry has led the evolution of an ever-growing range of wireless choices and opportunities for persons with disabilities. This is another reason why consumers will benefit from the wireline-to-wireless network transition. In addition, the Commission should bear these benefits in mind in any consideration of other trials designed specifically to study the network transitions' impact on people with disabilities.<sup>26</sup>

Today, the wireless industry is uniquely positioned to meet the needs of persons with disabilities. Through AccessWireless.org,<sup>27</sup> CTIA and its member companies collaborate closely with consumer organizations representing persons with disabilities and directly engage with consumers to continue progress towards even more accessible wireless products and solutions.

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<sup>26</sup> Public Notice, 28 FCC Rcd at 6356.

<sup>27</sup> See AccessWireless.org, <http://www.accesswireless.org/Home.aspx> (last accessed June 12, 2013).

Listed below are some recent examples of how wireless technology is being used to make life better for persons with disabilities:

- Purple Communications SmartVP Videophone<sup>28</sup>
- Odin Mobile service/devices for the blind<sup>29</sup>
- iPhone Tap to Talk app<sup>30</sup>
- Remote prosthesis adjustment<sup>31</sup>

The migration of networks from wireline to wireless unquestionably will benefit consumers with disabilities. This is a distinct benefit of wireless networks to measure in any wireline-to-wireless trial. For this reason, the benefits of wireless networks also should figure in any trial designed to study the network transition's impact on people with disabilities.

### **III. ANY NG911 TRIALS MUST ACCOUNT FOR THE READINESS AND EXPECTATIONS OF ALL STAKEHOLDERS, INCLUDING PUBLIC SAFETY AND CONSUMERS**

In considering trials of next-generation 911 systems, the Commission must carefully account for the readiness and expectations of all stakeholders, including public safety entities and consumers.

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<sup>28</sup> *Purple Communications Unveils SmartVP, Game-Changing Communications Platform for Deaf and Hard-of-Hearing Individuals*, Market Wired (Apr. 2, 2013), available at <http://www.marketwire.com/press-release/purple-communications-unveils-smartvp-game-changing-communications-platform-deaf-hard-nasdaq-cmcsa-1774184.htm>.

<sup>29</sup> T-Mobile MVNO, Odin Mobile, will launch in July 2013 with specialized handsets featuring voice readouts and voice-to-text. See Jessica Dolcourt, *Newly minted Odin Mobile sells phones for the blind*, CNET (June 5, 2013), available at [http://reviews.cnet.com/8301-6452\\_7-57587793/newly-minted-odin-mobile-sells-phones-for-the-blind/](http://reviews.cnet.com/8301-6452_7-57587793/newly-minted-odin-mobile-sells-phones-for-the-blind/).

<sup>30</sup> Tap to Talk is an app for children and adults who are unable to speak because of autism, cerebral palsy or other speech defects. See Twila B., *5 iPhone Apps for Students with Disabilities*, Edudemic (Dec. 16, 2012), available at <http://www.edudemic.com/2012/12/iphone-apps-for-students-with-disabilities/>.

<sup>31</sup> John Walls, *Wireless Prostheses*, CTIA Blog (May 28, 2013), available at <http://blog.ctia.org/2013/05/28/wireless-prostheses/>.

The Public Notice rightly suggests that any such trial would need to “take place in areas where public safety authorities are transitioning or have taken initial steps to prepare for transition of their legacy systems to NG911.”<sup>32</sup>

Carrier readiness is ineffective unless public safety entities are prepared to receive communications via IP, and unless consumers understand when and how they can use text messaging and other IP-based communications media to reach 911, including certain limitations that may exist (the current deployment of text-to-911 service is an informative example). As a result, these factors must figure prominently in any trial that the Commission may decide to conduct regarding NG911 services.

### **CONCLUSION**

The transition to wireless networks is occurring rapidly, driven by consumer preference and advancing technology. This transition is being “tested” today by millions of consumers and small businesses that leave wireline service behind in favor of wireless service. The sea change in consumer preference flows directly from the enormous benefits that wireless networks bring.

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<sup>32</sup> Public Notice, 28 FCC Rcd at 6352.

To the extent that the Commission conducts trials of NG911, it must account for the readiness of all stakeholders, including public safety and consumers.

Respectfully submitted,

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