

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

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No 10-90
	)	
Universal Service Reform --Mobility Fund	)	WT Docket No. 10-208
	)	
ETC Annual Reports and Certifications	)	WC Docket No. 14-58
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	WC Docket No. 07-135
	)	
Developing an Unified Intercarrier Compensation Regime	)	CC Docket 01-92
	)	

**REPLY COMMENTS OF DEERE & COMPANY**

Deere & Company (“Deere”), by its undersigned attorneys, hereby submits these reply comments in response to the Further Notice of Proposed Rulemaking released on June 10, 2014, in the above captioned dockets.<sup>1</sup> As stated in its initial comments, Deere strongly supports the Commission’s efforts to provide targeted and effective funding to promote expanded broadband services in rural areas through the Connect America and Mobility funds. These efforts should aim to ensure that affordable, high speed broadband is made available to farmers and ranchers as well as the many rural communities that rely

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<sup>1</sup> *Connect America Fund; A National Broadband Plan for Our Future; ETC Annual Reports and Certifications; Establishing Just and Reasonable Rates for Local Exchange Carriers; Universal Service Reform – Mobility Fund; Developing a Unified Intercarrier Compensation Regime; WC Docket Nos. 10-90, 07-135, 14-58, WT Docket No. 10-208, CC Docket No. 01-92, Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 14-54 (rel. June 10, 2014) (“CAF FNPRM”).*

on those enterprises. With these goals in mind, Deere offers these reply comments on the proposals in this proceeding:

**I. The Commission Should Consider the Specific Needs of the Agricultural Sector In its Review of Connect America Fund and Mobility Fund Rules**

Deere joins in the statement of the American Farm Bureau, representing more than 6 million families who live and work in rural America, that today precision agriculture technology is critical to farmers and ranchers who increasingly rely on that technology to manage efficient, economical and environmentally conscious businesses.<sup>2</sup> Precision agriculture technology requires access to affordable mobile broadband services. Expediting the deployment of high speed broadband services, especially high speed wireless and backhaul facilities, to rural areas is a high priority for farming and other agricultural operations that currently have no access or inferior access to broadband and stand to benefit from the Commission's rural broadband efforts. Whether and to what extent access to affordable high speed broadband is made fully available to serve agricultural operations and the many related rural communities will affect the existing and future health of America's agricultural sector.<sup>3</sup> Accordingly, Deere urges the Commission to consider the specific needs of farmers and ranchers in implementing the proposed changes to the Connect America and the Mobility Funds.

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<sup>2</sup> See *Connect America Fund et al.*, WC Docket Nos. 10-90, 07-135, 14-58, WT Docket No. 10-208, CC Docket No. 01-92, Comments of The American Farm Bureau Federation (filed Aug. 8, 2014) ("*Farm Bureau Comments*"). Much of the future of enhanced farming efficiency and productivity turns on the grower's ability to gather, process, and transmit data using advanced information and communications technologies. Technology-equipped machine solutions enable agronomic decision-making to advance productivity, improve agriculture profitability and global competitiveness, and optimize inputs for continuous environmental improvement and sustainability. See *Connect America Fund et al.*, WC Docket Nos. 10-90, 07-135, 14-58, WT Docket No. 10-208, CC Docket No. 01-92, Comments of Deere & Company, at 3 (filed Aug. 8, 2014) ("*Deere Comments*").

<sup>3</sup> See *Farm Bureau Comments*.

## II. CAF and Mobility Fund Rules Should Promote Fixed and Mobile Services that Serve the Needs of Farmers

Deere urges the Commission to adopt rules that will promote the deployment of both fixed and mobile services to meet the needs of today's farmers. To that end, farm institutions should be considered anchor institutions.<sup>4</sup> Further, the comments showed strong agreement that support should be available for middle mile facilities and fiber backhaul, infrastructure that is key to the expanded deployment of both fixed and mobile services.<sup>5</sup>

With respect to mobile services, all proposals should be measured against the Commission's stated goal: to achieve universal availability of "mobile networks capable of delivering mobile broadband and voice service in areas where Americans live, work, or travel."<sup>6</sup> In the Commission's words, all Americans, including those in rural areas, should have "access to affordable technologies that will empower them to learn, work, create and innovate."<sup>7</sup> While Deere agrees that mobile service coverage has expanded in rural areas in the past several years, there remains large and important areas with no access to 3G or 4G services.<sup>8</sup>

The Commission should update how it determines whether an area is or is not being served for the purpose of determining eligibility for support whether it be from the

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<sup>4</sup> See *Deere Comments* at 2.

<sup>5</sup> See, e.g., *Connect America Fund et al.*, WC Docket Nos. 10-90, 07-135, 14-58, WT Docket No. 10-208, CC Docket No. 01-92, Comments of Alaska Rural Coalition at 24 (filed Aug. 8, 2014) ("*ARC Comments*").

<sup>6</sup> *CAF FNPRM* ¶ 235 (citing *Connect America Fund et al.*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17682, ¶ 53 (2011) ("*USF/ICC Transformation Order*").

<sup>7</sup> *Id.*

<sup>8</sup> The Commission recognizes that current coverage estimates are likely overstated. See *CAF FNPRM*, n. 436.

Connect America Fund or the Mobility Fund. Following recent rule revisions, the Mobility Fund focuses on road miles, not just residential locations.<sup>9</sup> This is a good first step which recognizes that there are some user segments with more of a geographic-based need for mobile broadband coverage rather than population-based. Other examples of these geographic-based users are:

- i. Public safety (local, state and FirstNet)
- ii. Transportation (smart cars and positive train control)
- iii. Utilities (oil, gas, electric and water)
- iv. Agriculture (JDLINK™ from John Deere)

While the road miles metric appropriately expands the Commission's consideration beyond residential user locations, it does not adequately cover significant areas of agricultural operations in which access to broadband services is increasingly important, including to support innovative machine-to-machine operations on the farm.<sup>10</sup>

For this reason, Deere has urged the Commission to examine "cropland" coverage in its determination of support.<sup>11</sup> Given that agricultural operations are an important -- and often the most important -- economic driver in many rural areas, the Commission

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<sup>9</sup> See, e.g., *Connect America Fund et al.*, WC Docket Nos. 10-90, 07-135, 14-58, WT Docket No. 10-208, CC Docket No. 01-92, Comments of CTIA - The Wireless Association® at 5-6 (citing 47 C.F.R. §§ 54.1002(b), 54.1006; *USF/ICC Transformation Order*, 26 FCC Rcd at 17792 ¶ 365) (filed Aug. 8, 2014) ("*CTIA Comments*").

<sup>10</sup> The Commission notes that it will use data submitted on FCC Form 477 to determine where mobile broadband services exist today. However, that information is based on customer locations and as a result does not account for the broadband usage that is critical to agricultural operations taking place on cropland.

<sup>11</sup> There are over 350 million acres of major cropland in the United States and as noted above, agriculture is driven more than ever by advanced farming technologies, of which broadband is a key enabler. The potential number of machines with modems working these 350 million acres of cropland should be counted when determining mobile coverage. Deere suggests that the Commission consider the USDA definition of cropland. USDA GIS data for cropland can be found at: <http://www.nass.usda.gov/research/Cropland/Release/index.htm>. See *Deere Comments* at 4.

cannot fully achieve its stated goal to promote broadband deployment where people work and to empower innovation if the Commission’s rules do not recognize the need for broadband on cropland.

This step would also be consistent with state government efforts to support broadband deployment that covers croplands. Iowa’s Governor Branstad, for example, has launched a “Connect Every Acre” initiative recognizing the importance of achieving mobile broadband coverage for Iowa’s major areas of cropland and not just to households, businesses and roadways. For an agricultural powerhouse like Iowa, with 26 million acres of cropland producing over \$10 billion per year in corn and over \$6 billion per year in soybeans, vital improvements in efficiency and productivity are a priority and can be achieved with the use of intelligent machine-to-machine data technology. This technology, however, depends on access to mobile broadband for communications and data flow. Accordingly, Governor Branstad recently announced proposed incentives to promote greater mobile broadband deployment on croplands.<sup>12</sup>

### **III. The Comments Show Support for Increasing Minimum Speeds with Reasonable Precautions and Flexibility**

The Comments showed support for increasing the benchmark speed for supported services provided that the rules incorporate reasonable precautions and flexibility.<sup>13</sup>

Rural communities, including farming and ranching enterprises, would benefit from

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<sup>12</sup> See <http://branstadreynolds.com/connecteveryacre/>. Among other steps, the Governor proposed Cropland/Broadband Development Zones to focus state and local support for broadband deployment. This could be in addition to measures in the Governor’s 2014 legislation providing for an accelerated depreciation deduction on income tax, a 7% tax credit, and a 100% property tax exemption for broadband infrastructure deployed in targeted areas.

<sup>13</sup> See *Connect America Fund et al.*, WC Docket Nos. 10-90, 07-135, 14-58, WT Docket No. 10-208, CC Docket No. 01-92, Comments of NTCA - The Rural Broadband Association et al. at 28 (filed Aug. 8, 2014) (“*NTCA Comments*”); Comments of ADTRAN, Inc. at 2-7 (filed Aug. 8, 2014); Comments of the Utilities Telecom Council at 8-13; Comments of Midwest Energy Cooperative at 5-7 (“*Midwest Comments*”); *Farm Bureau Comments* at 1.

access to high speed services meeting the proposed new benchmarks. However, the Commission should incorporate flexibility into its rules to reflect that in some areas it may not be realistic for a recipient to provide services meeting the new benchmarks but broadband services at reduced speeds could still offer significant improvements to rural users. Deere accordingly supports measures that would implement the new requirement only where a provider receives a “reasonable” request as well as measures that would enable appropriate transitions for providers such as implementing increased speed benchmarks over time.<sup>14</sup> As stated in Deere’s comments, rigid enforcement of the increased benchmark could deny some users from receiving substantially improved service even if not at speeds deemed comparable to that available in urban areas.<sup>15</sup> To that end, Deere supports the proposal that would permit ETCs awarded support in the competitive bidding process to offer an array of services including services that do not meet the revised benchmark speeds so long as one offering meets the necessary metrics.<sup>16</sup> Further, Deere agrees with the American Farm Bureau that the rules will need to be flexible to reflect the need to increase speeds over time.<sup>17</sup>

#### **IV. Commission Rules Should Encourage a Wide Range of Entities to Participate and Adopt a Flexible Technology Approach**

The comments also showed agreement that the Commission’s rules should encourage a broad range of entities to participate in the CAF, including rate-of-return carriers, utilities, and WISPs (Wireless Internet Service Providers).<sup>18</sup> Deere agrees with

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<sup>14</sup> *CAF FNPRM* ¶¶ 142-45.

<sup>15</sup> *Deere Comments* at 5.

<sup>16</sup> *CAF FNPRM* ¶ 151.

<sup>17</sup> *See Farm Bureau Comments* at 1.

<sup>18</sup> *See, e.g., Midwest Comments* at 8-11; *Farm Bureau Comments*.

the CTIA that mobile broadband providers should also be able to compete for CAF Phase II support.<sup>19</sup> Further, Deere agrees with other parties that all providers should be eligible for support to provide broadband services that are not tied to traditional telephone services (*i.e.*, stand-alone broadband services).<sup>20</sup>

Similarly, other parties echoed Deere's view that the Commission should not endeavor to dictate technology choices so long as recipients meet the required performance parameters regarding speed, latency, usage allowance and pricing.<sup>21</sup> The recipient providers, working together with local interests, are in the best position to assess the needs of the targeted communities and the best combination of technologies -- whether wireline, wireless, fixed, mobile, terrestrial or satellite -- that can meet cost and operational demands. Inflexible Commission rules that mandate technology choices may compel providers to use technologies that are inappropriate or less than optimal to serve users with little countervailing public interest benefit. As long as a recipient-provider can deliver service to end users that meets the performance requirements, there is no public interest need to mandate specific technology choices.

#### **V. The Comments Reflect the Need for Continued Support for Mobile Services in Rural Communities.**

As expressed in the initial comments, Deere supports expansion of wireline facilities -- including for middle mile facilities -- to support broadband services to rural communities.<sup>22</sup> However, it is also essential that the Commission take steps that will

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<sup>19</sup> See *CTIA Comments* at 2. Deere also shares CTIA's view that the Commission should be careful to set performance standards in a way that spectrum-based providers are not effectively excluded. *Id.* at 3-4.

<sup>20</sup> See, e.g., *NTCA Comments* at 6-27.

<sup>21</sup> See, e.g., *ADTRAN Comments* at 13-15, *CTIA Comments* at 2-4.

<sup>22</sup> See also *ARC Comments* at 24.

increase the amount of support available to facilitate deployment of wireless broadband services particularly in areas in which the market is not providing mobile services (3G or 4G) without government support.<sup>23</sup>

The CTIA and C Spire argue in their comments that the Commission should maintain the Mobility Fund Phase II and even increase the fund to ensure that mobile service providers will continue to have access to funds that can support expanded mobile services in areas in which wireless broadband services would not otherwise be available.<sup>24</sup> Deere agrees. Deere knows from its customers that there are large areas of rural America that continue to lack access to 4G or in some cases, any mobile service.<sup>25</sup> Deere submits that there continues to be a need in rural areas for government support of the deployment of 4G or other mobile services.<sup>26</sup> Accordingly, the Mobility Fund should not be reallocated to CAF Phase II where providers proposing mobile services will participate in only a fraction of the funds awarded.<sup>27</sup> Deere is similarly concerned about the possibility of reallocating Mobility funds to the Remote Areas Fund. In fact, wireless

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<sup>23</sup> See, *Connect America Fund et al.*, WC Docket Nos. 10-90, 07-135, 14-58, WT Docket No. 10-208, CC Docket No. 01-92, Comments of Cellular South Licenses, LLC d/b/a C Spire at 8 (filed Aug. 8, 2014) (“*C Spire Comments*”).

<sup>24</sup> See *CTIA Comments* at 5; *C Spire Comments* at 6.

<sup>25</sup> See, e.g., *C Spire Comments* at 5-9 (arguing that an accurate broadband map “would show that large portions of rural America lack access to mobile broadband service, and even larger portions lack access to 4G LTE service” and noting that the Commission admits that current data overstates overage).

<sup>26</sup> Attached at Exhibit A are maps illustrating existing and projected infrastructure gaps. Beginning in 2006, John Deere started equipping its construction fleet with telemetrically enabled systems. Beginning in 2011, Deere started equipping large agricultural self-propelled vehicles with it as well. These telematics systems are enabled through JDLINK™. Each colored dot on the U.S. maps represents a machine successfully calling and connecting through a cell phone tower to MyJohnDeere.com. The 2018 map projects that significant gaps will exist assuming the current trend of adding thousands of pieces of new equipment per month will continue. As machine populations continue to grow and farmers look to Deere’s solutions which require real time, high speed machine connections, the demand and reliance on rural broadband will increase.

<sup>27</sup> See *C Spire Comments* at 5.

services are rapidly becoming the technology of choice over fixed services for many consumers and innovative applications.<sup>28</sup> An increase -- not a reduction -- to the Mobility Fund may be warranted to address this growing demand.

Respectfully submitted,

DEERE & COMPANY

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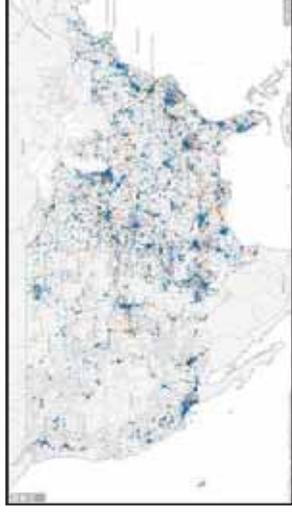
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<sup>28</sup> See *C Spire Comments* at 7. In addition to the innovative use of broadband for machine to machine communications on croplands, mobile wireless technology is also becoming an essential platform for telemedicine, telehealth, and public safety.

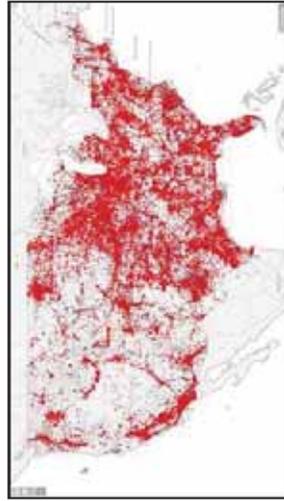
# Infrastructure gaps



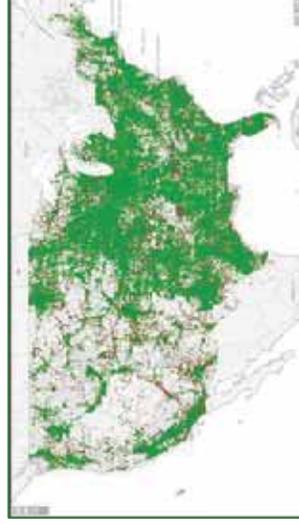
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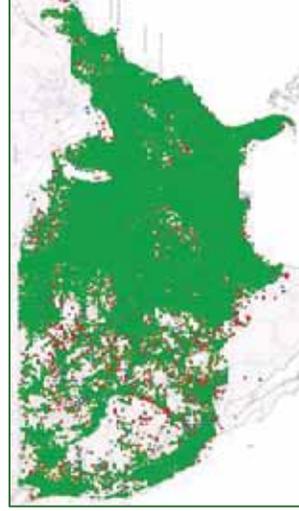
2010



2011



2012



2018  
(projected)