February 20, 2014

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Technology Transitions
GN Docket No. 13-5

AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition
GN Docket No. 12-353

Dear Ms. Dortch:

NTCA–The Rural Broadband Association (NTCA) herewith comments on the above-captioned proceedings and proposes recommendations regarding certain of the Commission's conclusions articulated therein regarding "service-based experiments" and workshops.

I. INTRODUCTION

Less than one month ago, the Commission took an historic step and outlined a process by which the already-occurring industry technology transitions might at once be accelerated and yet carefully managed through the use of "service-based experiments."[1] The Commission defined these "service-based experiments" as opportunities for providers to "substitute new communications technologies for the TDM-based services over copper lines that they currently are providing to customers, with an eye toward discontinuing those legacy services . . . while preserving the enduring values of our nation's communications networks."[2] Although the Commission stated that it was "not act[ing] on the petition filed by NTCA,"[3] the Commission's explicit directive that all trials must preserve public

[1] *Technology Transitions; AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition; Connect America Fund; Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; Numbering Policies for Modern Communications: Order, Report and Order and Further Notice of Proposed Rulemaking, Report and Order, Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative,* Docket Nos. 13-5, 12-353, 10-90, 10-51, 03-123, 13-97, FCC 14-5 (rel. Jan. 31, 2014) (Order).

[2] Order at para. 22.

[3] Order at fn. 33.

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safety and national security, universal access, competition, and consumer protection is wholly consistent with the admonitions offered by NTCA in its 2012 Petition.[4]

In the Petition, NTCA explained the already-ongoing IP evolution can be promoted and sustained through targeted regulatory relief and tailored near-term economic incentives. NTCA proposed that, working with state counterparts, the Commission could inspect each "brick" of regulatory and policy foundations to determine which may warrant replacement, repair, or removal; an analogous perspective was echoed to some degree by the Commission in the Order through its reference to the Ship of Theseus and the process of rebuilding a ship "plank by plank" while keeping the vessel afloat.[5] Overall, NTCA proposed the Commission focus its regulatory sextant on certainty and core statutory objectives, signaling to providers and operators that the lodestar of evolution would be the promotion of more affordable access to higher-quality, reliable, and seamlessly interconnected communications services for all Americans.

In this letter, NTCA will describe examples of the already-ongoing evolution, describing rural success stories in which providers have incorporated innovative IP services while adhering strictly to the core principles articulated by the Commission and NTCA. In addition, NTCA proposes an approach for a subsequent Commission workshop that would focus attention on lessons learned from those carriers which innovated under existing statutory and regulatory frameworks.[6] In a sense, NTCA by this letter attempts to outline the kinds of "service-based experiments" that have *already* been conducted – even under and within existing regulatory and statutory frameworks – and suggests the Commission take stock of the "lessons learned" from these technological migrations as part of its examination in these dockets.

II. THE EXPERIENCES OF RURAL CARRIERS ILLUSTRATE THE POTENTIAL SUCCESSES TO BE ACHIEVED BY SERVICE-BASED EXPERIMENTS.

As part of its effort to "speed market-driven technological transitions and innovations by preserving the core statutory values as codified by Congress,"[7] the Commission has created opportunities for providers to propose service offerings that may rely upon modified regulatory oversight. The Commission explains that within certain parameters that ensure adherence to stated policy principles, incumbent providers may propose to substitute new communications technologies for TDM-based services, and that these "service-based" experiments may guide eventual discontinuance of certain so-called "legacy services."[8] The Commission has been clear that in any trial, core policy principles – public safety, universal service, competition, and consumer protection – must be maintained.[9]

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[4] *Petition of the National Telecommunications Cooperative Association for a Rulemaking to Promote and Sustain the Ongoing TDM-to-IP Evolution,* Docket No. 12-353 (filed Nov. 19, 2012) (NTCA Petition).

[5] Order at para. 14 and accompanying note.

[6] As described herein, such a workshop would be separate and distinct from that contemplated in March 2014 to review the "rural broadband experiments" also adopted in the Order. *See,* Order at para. 91.

[7] Order at para. 1.

[8] Order at para. 22.

[9] Order at para. 23; *accord* NTCA Petition at 12 (suggesting that core principles must be maintained as part of any regulatory modifications intended to address technology changes, shifts in consumer preferences, or marketplace developments).

NTCA agrees with the Commission's general proposition that innovation can progress more freely "if applicants are freed, to the extent possible, from the necessity of calculating the rippling legal and policy ramifications of each new action."[10] Nevertheless, NTCA submits that successful innovation has occurred even as providers conform to existing regulatory standards. The service-based trials, then, could perhaps be less about contemplating *how* innovation within the evolution will proceed, but rather how innovation and the evolution can proceed *better*.

As noted in the NTCA Petition, many rural providers have already transitioned from TDM to IP networks, continuing to serve their communities while adhering steadfastly to the core policy and regulatory principles demanded of them. These commitments are expanded by the rural carriers' responsibilities as eligible telecommunications carriers (ETCs) and often local requirements as carriers of last resort. These are not *per se* the sort of experiments the Commission seeks to develop, since all transitions and innovations were undertaken within the boundaries of existing statutory and regulatory obligations. And, NTCA clarifies that it does not describe those transitions here as part of any effort to dissuade either the Commission or the industry from exploring regulatory reform that will attend technology transition. Rather, NTCA submits that the accomplishments and achievements of these carriers may be viewed from two perspectives. First, wholesale or even partial repudiation of regulations that have ensured public safety, universal service, competition, and consumer protection need not occur in order to deliver the benefits of IP or other technological innovation to commercial and residential end-users. Second, it can be reasonably expected that modest, carefully crafted regulatory modifications could only improve results, particularly when the providers such as RLECs already have an innate commitment to the enduring values enunciated by the Commission.[11] These commitments are evident in the achievements of many RLECs.

NTCA is further encouraging innovative and collaborative endeavors in its Smart Rural Community[SM] initiative,[12] which promotes the innovative use of broadband-enabled intelligent networks to support applications for education, health care, public safety, agriculture, and economic

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[10] Order at para. 25.

[11] One necessary systematic modification would be the extension of high-cost support for data-only broadband service, which would reflect and accommodate market conditions in which consumers select to purchase broadband service but decline to purchase voice telephone service offered by the RLEC. NTCA and other industry representatives have met with Commission staff to discuss the legal and policy considerations implicated by this recommendation to establish what should be considered as a tailored Connect America Fund for consumers and businesses located in areas served by RLECs. *See, Connect America Fund; High-Cost Universal Service Support; AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition; Petition of the National Telecommunications Cooperative Association for a Rulemaking to Promote and Sustain the Ongoing TDM-to-IP Evolution; Technology Transitions Task Force:* Ex Parte *of NTCA, et al.*, Docket Nos. 10-90, 05-337, 12-353, 13-5 (filed Nov. 26, 2013).

[12] The NTCA Smart Rural Community program is an educational, certification and award granting initiative of NTCA. Smart Rural Community comprises programming relating to and promoting rural broadband networks and their broadband-enabled applications that communities can leverage to foster innovative economic development and commerce, blue-ribbon education, first-rate health care, cutting-edge government services, robust security and more efficient energy distribution and use. Smart Rural Community hosts educational events for communications and non-communications professionals, including government policy-makers; administers an award program that invites and reviews applications of rural broadband providers for certification and recognition; and provides resources to rural broadband providers to assist their achievement of goals promoted by Smart Rural Community. Smart Rural Community also publishes original research and white papers that investigate issues relating to rural broadband deployment, adoption and use. Additional information can be found at www.ntca.org/smart.

development. These will make communities smarter, more efficient, and better able to prepare citizens to participate in a global economy.

For the purposes of this letter, NTCA will focus on the achievements of carriers whose accomplishments under existing regulations beg the question of whether and to what degree *more* could be achieved in a more flexible environment. Indeed, even as one could evaluate each scenario to ascertain whether certain rules might be changed to accelerate or enhance even better outcomes, one could also draw the conclusion that each success story has hinged, at least in part, upon collaborative partnerships and a sound regulatory foundation that requires, for example, seamless interconnection of networks and completion of calls to and from rural areas. The carriers profiled below serve NTCA-recognized Smart Rural Communities.

Park Region Companies/Otter Tail Telcom

Otter Tail Telcom of Fergus Falls, Minnesota, serves a population of just over 14,000. The company has leveraged a network of FTTH, copper, and fixed wireless to serve health care, education, smart grid, and an innovative community-supported telework initiative. The region's Lake Region Healthcare (LRHC) employs more than 850 people at various locations including the main Fergus Falls hospital and clinic, clinics in Ashby and Battle Lake, Minnesota, and a new walk-in clinic in Fergus Falls. In order to connect LRHC's outlying clinics, Park Region Telephone and Otter Tail Telcom were able to provide multi-Gbps metro-Ethernet connections to each facility, enabling LRHC staff and physicians to access all facilities virtually.

The RLEC companies deployed high-capacity networks to serve education, as well: Fergus Falls Public Schools required a single network to connect multiple school and administration buildings. Park Region Telephone and Otter Tail Telcom began testing and deployment of a rudimentary application in the late 1990s. Now, Otter Tail Telcom provides the public schools with a high-capacity connection between the various school buildings located throughout the city of Fergus Falls. The school also uses this network to support iQ Academy Minnesota, which is an accredited public school program offering Minnesota students in grades K-12 an innovative, high-quality alternative to the traditional learning experience. The companies have demonstrated their commitment to education by hiring and training students in broadcast filming and editing, including technical training relating to use and care of the equipment.

Notably, the Park Region Telephone and Otter Tail Telcom have been involved in the Forward Fergus Falls Telework Initiative. Park Region Telephone and Otter Tail Telcom were approached initially by Forward Fergus Falls to discuss the broadband needs of the community; these conversations evolved to promote telework in the area. Forward Fergus Falls, Park Region Telephone and Otter Tail Telcom set out to create awareness in the Fergus Falls area of the potential benefits and economic development opportunities that telework could provide. This effort culminated in the first Telework Summit held in Fergus Falls on March 16, 2011, with more than 80 registered attendees. This initial event featured presentations by representatives from Microsoft and Blue Cross/Blue Shield of North Dakota, as well as other online companies offering telework positions. A follow up Telework Summit was held in 2012 and featured the launch of a new Telework Hotel and Business Incubator in Fergus Falls, which offers a range of targeted solutions to meet the growing needs of businesses in the area. Businesses can choose from private office space to community workstations in order to support temporary workers or additional full-time telework staff.

Customers have access to basic business systems such as phone, Internet and copying facilities, as well as meeting and training rooms.

Finally, Park Region Telephone is collaborating with Lake Region Electric Cooperative, a local rural electric cooperative, on smart grid and smart home opportunities. This evolving collaboration utilizes joint technical expertise to develop new offerings that allow the consumer to control his or her real-time electrical consumption from anywhere with a broadband connection. Smart grid infrastructure can communicate real time pricing, network maintenance, storm damage and repair progress. These efforts are an attempt to lower operating costs while also providing the most robust offerings from both industries.

ITS Telecommunications Systems

ITS Telecommunications Systems of Indiantown, Florida, serves a population of 5,880 with a mix of dedicated Ethernet FTTP, DSL, T-1, and dedicated circuits for businesses where fiber is not available. ITS operates as both an ILEC and a CLEC.

ITS' service territory encompasses all unincorporated areas of Martin County, Florida, where the county has become the *de facto* governing body for schools, tax collection and other essential functions. The county government offices were previously connected by a national telecommunications carrier that sought a 10-fold rate increase at the end of a contract term. Aware of the need for a fiber network that would link all branch government offices, schools, fire stations and police locations, county leadership and ITS worked together to ensure a mutually beneficial solution: a "fiber swap." The county provided ITS with a new fiber network outside of the ITS ILEC service area, and, in return, ITS saved the county approximately $2 million on its contract for telecom services when compared with the rate proposed by the national telecom provider.

ITS also worked closely with the local Indiantown Chamber of Commerce, which along with other commercial associations branded Indiantown "iTown," invoking ITS' fiber build to promote the community as "high-tech ready." The local Business Development Board (BDB) and Enterprise Zone Agency continue to highlight ITS' fiber capabilities in their promotional materials. The BDB has produced joint workshops with ITS at business and industrial complexes to inform and educate area organizations about how they can increase productivity by using broadband. In 2012 and 2013, ITS was featured at the Indiantown Chamber Business Expo to showcase its network capabilities. This outreach is paying dividends: several businesses investigating moving to the area have mentioned the attractiveness of ITS' network in their conversations with the BDB.

ITS' broadband service enabled Indiantown Community Outreach to continue a partnership with the Susan B. Komen Breast Cancer Awareness Program for low-income residents. The partnership relies upon significant and reliable capacity to support web portal functions.

Employment opportunities in the community increased when an area call center was able to hire bi-lingual residents, thanks in part to the ITS fiber network that provides the underlying connectivity necessary to support telecommuting. Individual workers also have noted an enhanced ability to telecommute when using ITS high-capacity networks.

In addition, local home owner associations and property management companies have leveraged ITS' network connectivity to benefit home sales activity.

The examples cited above demonstrate that innovative RLECs are *already* engaging in service-based-type experiments by exploring the depth and distance to which their innovation can be deployed. NTCA submits that the benefits of these and other real-world "explorations" should inform the extent to which regulatory flexibility is necessary and warranted to help promote and sustain investment and technological evolution. To be clear, as the NTCA Petition highlighted, this is not to say that the existing regulatory framework should be maintained *in toto* simply because it has enabled such success stories. But, it is just as important as any "service-based experiment" that might be conducted to examine the real-world efforts that have already been undertaken and to understand the extent to which existing rules are either an impediment to – or a critical component of – any such already-occurring success story.

As just one example of a rule change that might facilitate technological evolution and better, more affordable services of all kinds to the benefit of consumers, a regulatory modification to support middle mile transport networks could improve connectivity prospects for both major industrial and individual end-users. As networks evolve, the long-haul transport that was previously the province (and financial and operational responsibility) of interexchange carriers to carry quality voice traffic has been turned into a source of great costs and potential capacity constraints for even the most efficient rural broadband provider. The very nature of universal service in a broadband era must consider how the costs of such long-haul facilities can be recovered without foisting unreasonable costs and, in turn, unreasonably incomparable prices on rural consumers and enterprises.

Middle mile facilities thus represent a critical link between rural and urban areas in an IP-enabled world, and even the most robust last-mile facilities and innovative applications or services offered atop them (whether by the RLEC itself or an unaffiliated application or service provider) can be undermined if sufficient middle mile facilities are not available to handle increasing bandwidth demands. Middle mile enhancements could be used to increase the use of high-bandwidth telehealth applications or HD distance learning. This greater increased ability of local commercial or other larger end-users would have spillover benefits that accrue to the greater community since peak business hours generally end before peak residential end-user usage begins. In many instances, residential usage rates rocket during traditional "prime time," *e.g.*, 8:00 – 10:00 p.m. as video, gaming, and other home-based high-capacity usage begins. Enhanced middle mile availability that would benefit commercial usage during business hours and residential end-user usage during evening hours would be entirely distinct from providing high-capacity links to anchor institutions. In the former example, the entire community benefits from connectivity, while in the latter example, only the single institution enjoys increased capacity. Promoting and sustaining these critical "middle mile" links between rural areas and the urban locations in which Internet gateways reside should therefore be a key component of any regulatory review or trials that are looking to enhance services through potential rule changes.

III. THE COMMISSION'S RURAL WORKSHOPS SHOULD FOCUS ON OBSERVING LESSONS LEARNED FROM ACTUAL DEPLOYMENTS.

In addition to the service-based experiments, the Commission has proposed a series of "Next Generation Network Experiments in Rural America."[13] The Commission states that it intends to hold a workshop to explore rural issues in March 2014; [14] this workshop is to explore, among other issues,

[13] Order at para. 86, *et seq.*

[14] Order at para. 91.

the conditions within which consumers might prefer "next generation wireless services" to wireline alternatives.[15]NTCA proposes that this workshop be supplemented with an additional meeting or meetings that explore "lessons learned from actual experience."

In these workshops, consumer needs and market demands would be investigated in the reflective context of carrier actions such as those described above. Rural providers like the NTCA members described above who have embarked on the TDM-to-IP transition under the existing rules can share their experience navigating technical, operational and legal issues. The observations of these providers who identified opportunities and overcame challenges can illuminate the particular areas to which Commission attention should be paid in a broader IP transition environment. In short, these workshops would draw on "boots on the ground" perspective earned from "trials" already undertaken in the field. These would explore, drawing upon actual experience, how technology transitions occurred within existing regulatory constructs, without departure from core values and while ensuring that all public safety and public interest principles were maintained. Toward this end, NTCA submits that these "lessons learned from rural experience" workshops would use a close examination of the success stories to determine how challenges were overcome and how benefits may have increased even further if flexible regulatory relief had been available. These workshops could also incorporate the perspective of non-telecom interests, including education, health care, public safety, who collaborated with local broadband providers to develop innovative solutions.

IV. CONCLUSION

As described in the NTCA Petition and above, the transition from TDM to IP must adhere to core values in order to assure the public interest. The experience of many rural providers who have already commenced, and are well along in, this technological transition under existing regulations demonstrates that innovation can move forward without abdicating commitment to public safety, universal service, competition, and consumer protection. Recognizing, however, the need to ensure that regulations keep pace with technological development, NTCA supports the Commission's interest in offering opportunities for carefully managed "service-based" experiments that will explore how regulatory modifications can improve conditions. In these regards, and with specific recognition of the Commission's interest in convening a rural workshop, NTCA submits that the experience of rural providers who have undertaken these transitions under the current regulatory regime be explored in a separate workshop series in order to illuminate more precisely particular regulations or processes that warrant review.

Submitted respectfully,

s/*Joshua Seidemann*
Joshua Seidemann
Director of Policy

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[15] Order at para. 90.