



target funding toward new deployment of broadband networks in unserved areas” while the Commission considers final rules regarding the implementation of a new funding mechanism that “effectively ensures universal access to broadband and voice services.”<sup>4</sup> The NRPM sought comment on “specific common-sense reforms to cap growth and cut inefficient funding in the legacy high-cost support mechanisms” and to shift the resulting savings to broadband support.<sup>5</sup> Specifically, the NPRM sought comment on methods of controlling the size of the high-cost support mechanism,<sup>6</sup> methods of reducing the funding in the existing high-cost support mechanism, and utilizing the savings to further the goal of universal broadband service.<sup>7</sup>

The MPUC appreciates the opportunity to respond to filings by other participants in this proceeding, and respectfully submits the following reply comments.

**1. THE COMMISSION SHOULD RETAIN THE EXISTING SUPPORT MECHANISMS THAT ARE USED TO SUPPORT FACILITIES THAT ARE CURRENTLY PROVIDING BROADBAND SERVICE UNTIL THE TRANSITION TO THE NEW BROADBAND SUPPORT MECHANISM IS COMPLETE**

The MPUC believes the proposal by the Commission to phase out the existing support mechanisms has the potential to undermine the availability, quality, and reliability of both the voice and the existing broadband service that is provided in much of rural America, including rural Maine.<sup>8</sup> Of particular concern is the Commission’s proposal to phase out or eliminate existing high cost support in those areas where existing broadband services are currently being

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<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.* ¶¶ 51-52.

<sup>7</sup> *Id.* ¶¶ 53-62.

<sup>8</sup> NOI/NPRM ¶ 53.

provided by legacy rural carriers and to use those funds to build broadband infrastructure for those areas having no broadband service.<sup>9</sup>

The retention of funding to legacy rural carriers and, thus, the retention of the existing support mechanism is critical to ensure the continued viability of rural carriers. Indeed, the existing mechanism has resulted in many of Maine's rural incumbent local exchange carriers (ILECs) having the ability to aggressively build out their networks to include broadband capabilities. Maine's rural ILECs are well on their way to providing broadband throughout their service territories, but in order to achieve universal addressability they must continue to receive high-cost support.

Further, the MPUC is concerned that the Commission and several states filing initial comments in this proceeding do not recognize the pivotal role that the obligations of Carriers of Last Resort (COLR) play in ensuring the continued viability of the "public good" that is the wholly integrated voice and broadband network. COLRs are necessary to serve consumers in areas where no other providers exist. To this end, the MPUC agrees with the Comments of the Telephone Association of Maine, the South Dakota Public Utilities Commission, the Pennsylvania Public Utility Commission, and the Nebraska and North Dakota Public Service Commissions.<sup>10</sup> The need for COLRs has always existed for rural voice communications and, going forward, will be equally necessary for rural broadband. However, COLRs must be

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<sup>9</sup> Even though rural ILECs have not received funding specifically designated for broadband service, nevertheless the high-cost funding currently received by rural ILECs is used by those ILECs to build and support their broadband infrastructure. Thus, the net effect of phasing out high cost support would be to phase out broadband support to rural ILECs.

<sup>10</sup> See Comments of the South Dakota Public Utilities Commission, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 7 (filed July 12, 2010) (SDPUC Comments); Initial Comments of the Pennsylvania Public Utility Commission, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 37-37 (filed July 12, 2010) (PaPUC Comments); Joint Comments of the Nebraska Public Service Commission and the North Dakota Public Service Commission, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 12-13 (filed July 12, 2010) (NE/ND PSC Comments).

afforded a realistic opportunity to obtain the financial return necessary to enable them to carry out their responsibilities and build out the next generation of telecommunications technology.<sup>11</sup>

The Pennsylvania Public Utility Commission (PaPUC) recognized the existence of an evolving COLR responsibility vis a vis broadband when it stated:

[P]roposed reforms that limit support to broadband deployment, as opposed to ongoing voice and broadband support are self defeating. First, if support for the provision of service is eliminated, then the carriers that currently provide service will no longer be able to do so. Thus, the nation will have upgraded facilities and no users of the facilities. Second, because carriers typically use one network to provide voice and broadband service, removing support for the provision of voice service removes support of the provision of broadband service.<sup>12</sup>

The MPUC fears that the situation may be even worse than that envisioned by the PaPUC. If the current support mechanism which enables rural ILECs to provide broadband service is eliminated, and, as a result, those carriers cannot survive, the nation may be faced with building a replacement broadband network for those carriers' service areas. Such an occurrence would not only be disruptive, but could ultimately prove much more costly than continuing to provide the existing level of support. Further, if the Commission's proposed minimum 4 megabit per second (mbps) download/1 mbps upload bit rate is established as a fixed benchmark for such replacement infrastructure, rural consumers will likely end up with broadband speeds that are inferior to those offered elsewhere.<sup>13</sup> Other rural telephone companies and trade

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<sup>11</sup> Historically, generations of telecommunications technology have evolved by modernizing existing network infrastructure and not by replacing the existing infrastructure with a patchwork of providers. The MPUC believes that this inefficient patchwork approach could likely be the result of the Commission's "reverse auction" proposal to build out broadband to unserved areas. *See* NOI/NPRM ¶ 45.

<sup>12</sup> PaPUC Comments at 3.

<sup>13</sup> For example, Union River Telephone Company, a rural ILEC in Maine, is currently using existing high-cost support in conjunction with other government funding sources to deploy a state-of-the-art fiber to the home (FTTH) network in rural Maine. The removal of the existing support mechanism could jeopardize future such efforts by other rural ILECs.

associations have expressed their opposition to the NBP in its current form for this reason, among others.<sup>14</sup>

At some point in the future, voice telecommunications will be only one of many other broadband applications. Once broadband is ubiquitously available in rural areas at rates and speeds that are comparable to those in urban areas it may cease to be necessary for the Commission to continue to support a COLR voice network. However, during the transition period until a nationwide broadband network is built and operational, the existing networks provided by voice providers such as rural ILECs must be maintained in order to ensure the continuation of an integrated network to which all persons, regardless of whether they reside in urban or rural areas, have a realistic opportunity to access.

## **2. THE COMMISSION'S PROPOSED BROADBAND SPEED BENCHMARKS ARE INSUFFICIENT**

The MPUC believes that the proposed national broadband speed benchmark of 4 mbps for download and 1 mbps for upload are insufficient to achieve the goals of the NBP.<sup>15</sup> The MPUC believes that any benchmark adopted must be in the form of an evolving standard; as broadband speeds increase in urban areas, there should be a corresponding increase in speeds for rural areas. Indeed, the Commission's own analysis shows that the 4/1 mbps goal is already too low as compared to currently available broadband speeds.<sup>16</sup>

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<sup>14</sup> *See, e.g.*, Comments of the Nebraska Rural Independent Companies, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 66-67 (filed July 12, 2010) (Nebraska RIC Comments).

<sup>15</sup> On this point, the MPUC agrees with the comments of the North Dakota and Nebraska PSCs. *See* ND/NE PSC Comments at 3.

<sup>16</sup> According to the Commission's analysis, over 94% of the households in the United States currently have access to broadband that exceeds the 4 mbps/1 mbps goal. NBP, OBI Technical Paper No.1, The Broadband Availability Gap at 17.

Broadband service has become an important part of almost every aspect of our economy. Many aspects of the production and delivery of goods and services take place over broadband communications networks. The increased availability of broadband service will result in increased productivity, and, likely, increased job creation. This in turn will hopefully generate even more economic activity and increased use of broadband service, with a corresponding increase in the demand for greater bandwidth. It is false economy to set the broadband standard at 4 mbps per second when that broadband standard will likely have to be increased in the near future, particularly if the broadband technology employed can not be upgraded as the need for higher speeds develops over time. We recommend the initial benchmark be set at a download speed and an upload speed comparable to the average download and upload speed available in urban areas. That would be a download speed between 6 mbts and 10 mbts and an upload speed of 1 mbts.<sup>17</sup> At the very least, any broadband system facilities that are funded and constructed to provide broadband service in unserved areas must be capable of being easily and affordably upgraded to deliver higher bit rate throughput without the wholesale replacement of current infrastructure. Such a “no barriers to upgrade” approach would allow the broadband network to easily and economically evolve as broadband applications increase and as the economic activity that uses broadband services increases.

**3. THE COMMISSION SHOULD NOT INSTITUTE A CAP ON THE TOTAL AMOUNT OF HIGH-COST FUNDING WITHOUT FURTHER STUDY**

In the NOI/NPRM, the Commission has proposed capping legacy high-cost support at 2010 levels.<sup>18</sup> Commissions from primarily urban states have filed comments supporting this

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<sup>17</sup> *Id.*

<sup>18</sup> NOI/NRPM ¶ 51.

proposal.<sup>19</sup> The Commission has recommended capping legacy high-cost support despite the fact that the NBP also recommends supporting the extension of broadband service to unserved areas and the establishment of a mobility fund.<sup>20</sup> We believe the proposal to cap legacy high-cost support ignores the sufficiency requirements of 47 U.S.C. § 254 and the decisions of the 10th Circuit Court of Appeals in *Qwest I* and *Qwest II*.<sup>21</sup> The MPUC believes that more study and analysis is needed to determine if support at 2010 levels will be sufficient to fund the Commission's proposed new broadband fund, the Connect America Fund (CAF). Further, the MPUC's review of the filed comments to the NOI/NPRM does not reveal any concrete findings that a CAF funded at current Universal Service Fund (USF) levels would be sufficient under *Qwest I* and *Qwest II*.

Further, adoption of a proposal such as that advanced by Verizon – that USF support be capped by study area without the necessity of a showing that the existing level of study area support is sufficient to carry out the objectives of § 254(b)(2)<sup>22</sup> – would certainly not comport with requirements of the Telecommunications Act of 1996 (the Act).<sup>23</sup> Indeed, this Commission has recently recognized that where a state can demonstrate that the level of support is not sufficient to bring rural rates within a range of comparability to rates in urban areas, adjustments

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<sup>19</sup> See, e.g., Comments of the New Jersey Board of Public Utilities, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 5-6 (filed July 12, 2010) (NJBP Comments); Comments of the Massachusetts Department of Telecommunications and Cable, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 3-5 (filed July 12, 2010) (MADTC Comments); Comments of Five MACRUC States, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 13 (filed July 12, 2010) (supporting capping high-cost support at 2008 or 2010 levels with some conditions) (MACRUC Comments).

<sup>20</sup> NBP at 141, 144-46.

<sup>21</sup> *Qwest Corp. v. FCC*, 258 F.3d 1191 (10th Cir. 2001) (*Qwest I*) and *Qwest Communications Int'l, Inc. v. FCC*, 398 F.3d 1222 (10th Cir. 2005) (*Qwest II*).

<sup>22</sup> Comments of Verizon and Verizon Wireless, Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 7-11 (filed July 12, 2010) (Verizon Comments).

<sup>23</sup> P.L. 104-104, 110 Stat. 56 (1996).

in support will be allowed.<sup>24</sup> It would be arbitrary to impose a cap in circumstances where the need for additional funds due to changes circumstances is needed to establish “sufficiency” under the Act.

To be clear, the MPUC does not oppose the principle of a cap, but we believe that the initial CAF fund budget must be supported by a sound and thorough analysis showing that it will be sufficient to fund a broadband system that will provide broadband service in rural areas that is comparable, both in speed and price, to that available in urban areas. The MPUC also urges the Commission to establish a legacy fund that meets the sufficiency requirements of § 254 with respect to reasonable comparability of service between rural and urban areas.

#### **4. THE COMMISSION’S NATIONWIDE COST MODELS REQUIRE VERIFICATION**

The MPUC does not believe the cost models used to determine the cost of providing broadband service are sufficiently accurate so that they can be used to determine the cost of providing ubiquitous broadband service. Of particular concern is the Commission’s apparent use of “typical” nationwide costs that are statistically averaged to determine the locality specific costs of providing broadband service.<sup>25</sup> The Comments filed by CoBank, ACB (CoBank) regarding the Commission’s proposed nationwide cost models support this concern when they state that “broadband service in rural America is too diverse to be modeled due to the geographic, population and socioeconomic factors of a rural community and the financial

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<sup>24</sup> *In the Matter of High-Cost Universal Service Support*, WC Docket No. 05-337, CC Docket No. 96-45, Order on Remand and Memorandum Opinion and Order (released April 16, 2010).

<sup>25</sup> NOI/NPRM ¶ 12 (“Because the Commission does not presently have access to a comprehensive data set, at the required level of geographic granularity, regarding availability . . . and infrastructure . . . , Commission staff combined several data sets and supplemented nationwide data with the output of a large multivariate regression model”).

strength of the communications company.”<sup>26</sup> Therefore CoBank, which currently makes many of the loans for the construction of broadband service nationally, suggests that the Commission’s models will not provide a sound basis for financing future rural broadband deployment.<sup>27</sup>

Accordingly, the MPUC is concerned that the availability of funds from CoBank will dry up if the models upon which such support is based “do not provide the assurance a lender needs to make a loan” as CoBank suggests.<sup>28</sup>

The Commission’s Broadband Assessment Model (BAM) indicates that it is a “spatial” model in that it estimates where customers are located and “lays” cable and/or positions tower sites along the roads of an augmentation area.<sup>29</sup> The BAM’s spatial model may use a better methodology than the hybrid proxy model, but it is still not as accurate as a model that is site specific enough to recognize that plant must be built along the shortest feasible route where rights-of-way actually exist using an actual engineering study that recognizes specific local conditions.

Additionally, the MPUC shares the concern of commenters such as the Nebraska Rural Independent Companies (Nebraska RIC) that parties, outside the Commission, are unable to fully evaluate the accuracy of the broadband cost model due to a lack of available documentation.<sup>30</sup> The MPUC agrees with the Nebraska RIC that the full broadband cost model be made public as soon as possible in order to allow for intensive evaluation and testing by outside parties. Despite

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<sup>26</sup> Comments of CoBank, ACB, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 at 5 (filed July 12, 2010) (CoBank Comments).

<sup>27</sup> CoBank Comments at 4-5. CoBank also makes many of the loans that finance the construction of broadband facilities in Maine.

<sup>28</sup> *Id.* at 4.

<sup>29</sup> FCC Broadband Assessment Model (March 2010) (available at [http://download.broadband.gov/plan/fcc-omnibus-broadband-initiative-\(obi\)-working-reports-series-technical-paper-broadband-assessment-model.pdf](http://download.broadband.gov/plan/fcc-omnibus-broadband-initiative-(obi)-working-reports-series-technical-paper-broadband-assessment-model.pdf)) (BAM).

<sup>30</sup> Nebraska RIC Comments at 36-37.

the lack of documentation, the Nebraska RIC was able to perform a limited analysis of the broadband cost model based upon what information is currently publicly available. The number and scope of technical deficiencies discovered, as is delineated in the Vantage Point Study attached to the to the Nebraska RIC's Comments, demonstrate the critical need for a more detailed and independent analysis.<sup>31</sup>

In addition to the deficiencies highlighted by the Nebraska RIC, the MPUC believes that the Commission's wireless broadband cost model underestimates the level of cost support necessary to provide wireless broadband service in rural areas. The costs are understated because the wireless cost model does not adequately account for line of sight obstructions.<sup>32</sup> This is true even though the wireless cost model adjusts the size of cell sites based on, among other factors, topology. However, our staff believes the smaller cell sites may still not be able to overcome line-of-sight obstructions without incurring significant additional costs. The Commission in its notice concedes, "[I]t is possible that the parameters of an actual network deployment are different from those we have estimated."<sup>33</sup> This flaw in the Commission's analysis causes us to question whether the wireless model accurately models cost in states such as Maine, Vermont and West Virginia. Furthermore, the wireless cost model does not appear to model the performance of wireless broadband systems in adverse weather conditions. These deficiencies cannot be overcome without developing a "finely calibrated propagation model."<sup>34</sup> A more robust model needs to be developed if the Commission intends to use "modeled costs" as

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<sup>31</sup> See Nebraska RIC Comments, Attachment A: Vantage Point Study. We are particularly concerned that the Vantage Point Study demonstrates that the model determined costs do not appear to match reality as demonstrated the by exchange specific engineering designs and costs.

<sup>32</sup> See BAM Attachment 6, Wireless Economic Model.

<sup>33</sup> NOI/NPRM ¶ 30

<sup>34</sup> NOI/NPRM ¶ 29

a basis for broadband support. Also, the wireless cost model does not consider the increased cost of constructing wireless towers in remote and roadless areas. The Nebraska RIC's analysis also shows that the assumed level of traffic in the wireless cost model is quite possibly understated, and that the available frequency spectrum for provision of wireless broadband in rural areas is quite possibly overstated. We agree with the Nebraska RIC's that changing these assumptions may significantly change the model results.

**5. A PLAN FOR CONTINUED LEGACY CARRIER SUPPORT SHOULD BE USED AS A STARTING POINT FOR ACHIEVING UBIQUITOUS BROADBAND**

The MPUC proposes that the legacy funding mechanisms be altered to conform to the goals of the NBP.<sup>35</sup> We suggest that the Commission allow ILECs to retain their current support, but only if those carriers meet certain specific criteria to make broadband service available throughout their service territory.<sup>36</sup> The MPUC believes that this incentive based approach, which is similar to the one proposed by the PaPUC, is worth considering as a starting point for reform of the legacy funding mechanisms. However, the MPUC also suggests that the PaPUC approach should be coupled with a plan that provides sufficient USF funding.

The MPUC proposes that the legacy support mechanism be continued as long as the applicable legacy carrier meets service criteria, throughput standards, and "no barrier to upgrade" standards set by the Commission. Once the nationwide broadband build-out is complete, the legacy mechanism could be replaced by a broadband USF mechanism that covers the high-cost

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<sup>35</sup> On this point, the MPUC agrees with the Comments of the PaPUC. *See* PaPUC Comments at 15.

<sup>36</sup> *Id.* at 16. For example, under the PaPUC proposal, an ILEC would lose all support if it refuses to meet minimum service standards, and would lose a portion of its support if it provides service greater than a minimum standard, but less than a maximum standard. *Id.*

broadband loop, switching, and transport costs. In effect, the legacy USF mechanism would evolve into a new broadband-based USF.

In areas where it is cost prohibitive to build broadband infrastructure and provide broadband service, loans from entities such as the Rural Utilities Service and CoBank and grants could be used to finance operations provided that such financing is targeted to existing COLRs and not used to fund duplicative networks. Applicants for loans or grants would submit comprehensive planning documents similar to the “area coverage designs” currently used by the Rural Utilities Service to ensure that the proposed broadband networks are adequate, sufficient, cost-effective, and financially feasible. The primary advantage of such an approach is that it would allow companies that are currently providing broadband, and are intimately familiar with the areas they serve, to continue to expand their networks and continue as broadband providers. This approach would also allow for existing broadband “first-adopter” carriers to integrate their networks into the new national broadband network. Legacy carriers who do not upgrade their facilities to enable them to provide broadband throughout their service territories could be replaced with another carrier.<sup>37</sup> Those choosing the replacement carrier, presumably state utility commissions, would require prospective replacement carriers to provide the same type of comprehensive planning documents required by legacy carriers seeking loans or grants.

In certain extraordinary situations, and only after extensive market and cost analysis, waivers could be granted from the requirement to provide 100% service area coverage. Such waivers, while rare, would address the concerns of rural state commissions such as the Regulatory Commission of Alaska by allowing for a certain degree of flexibility to address local

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<sup>37</sup> State Utility regulators would be a good choice to carry out this task as well as numerous other tasks that require a detailed knowledge of local conditions.

conditions, and would be much more responsive to local needs than a one-size-fits-all national approach.<sup>38</sup>

In order to implement this plan, the study area for a non-rural carrier whose service territory currently contains both urban and rural areas would be split into an urban and a rural study area. The rural study area would receive support for providing broadband service under a mechanism similar to the current rural carrier voice loop support USF mechanism. The high transport costs necessary to provide service in remote areas currently covered by payments from the National Exchange Carrier Association (NECA) pool would be converted and made part of the universal service mechanism covering loop costs. The switching high cost mechanism would need to be modified and made more cost-based before it is merged with the other broadband universal service support mechanisms for high-cost loop and transport costs. Support for broadband service in the rural study area would be based on rate-of-return in order to provide the incentive for investment and maintenance of the broadband system. Only one wireline carrier would receive support in the rural study area.

Savings could be created by eliminating wireline CLEC support and the “identical support rule.” Such savings could be used to provide funding to allow broadband service in the rural study area that is comparable to the service available in the urban study area. Further, an expansion of the USF assessment base to include broadband and information services would provide additional funding support for the national broadband network.

The MPUC believes that its proposal represents a common sense approach to the legacy support mechanism issue. By drawing on the current rural company USF support mechanisms, the MPUC’s proposal utilizes proven methodology; indeed, the proposal is similar to the

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<sup>38</sup> See Comments of the Regulatory Commission of Alaska, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 (filed July 12, 2010).

approach that brought ubiquitous voice and electricity service to the nation through the Rural Electrification Administration over sixty years ago.

Respectfully submitted this 11th day of August, 2010,

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