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October 14, 2009

Lawrence E. Strickling, Assistant Secretary for Communications and Information National Telecommunications and Information Administration U.S. Department of Commerce 1401 Constitution Ave., NW Washington, DC 20230

Re: Vermont State Priorities for the Broadband Technology Opportunities Program (BTOP)

Dear Assistant Secretary Strickling:

I was appointed by Governor Douglas to be Chief Recovery Officer and head of the Vermont Office of Economic Stimulus and Recovery (VoESR). Our role is to coordinate the use of ARRA funding in Vermont, assure compliance with ARRA provisions, and achieve maximum benefits for the state, its businesses, and residents from ARRA as well as to advance ARRA recovery and stimulus goals. Since March of this year, my office has been actively involved in coordinating applications for broadband stimulus funding. We have actively promoted geographic coordination among applicants. We have used Vermont's ongoing broadband mapping effort to publicize those areas of Vermont without broadband service, encourage applicants to focus on these areas, and assure that these areas were accurately targeted. We have pursued Vermont's statutorily-established goal of universal access to broadband, and have gone further, promoting a new goal of universal adoption of broadband.

Vermont is a small state, and we believe it can be a national showcase of successful broadband deployment and use, especially with the help of the NTIA and the Rural Utilities Service. By some measures, Vermont is the most rural state in the nation. The stimulus broadband programs are intended to provide substantial assistance to rural communities in need of broadband, and we believe that success in a state like Vermont can help point the way to success in other parts of the country. We are pleased to have this opportunity to make recommendations to you regarding the applications currently before you in the BTOP program which propose to serve Vermont.

Vermont Coordinated Proposals – Highest Recommendation

Four proposals, two infrastructure proposals, one sustainable broadband adoption proposal, and one public computing center proposal, are elements of a coordinated effort to fill broadband gaps in Vermont; we give these our highest recommendation. Each project stands on its own but there is important synergy between them and also some of the applications which were submitted only to the Broadband Initiatives Program (BIP).



Our most highly recommended applications are the proposals of Vermont Telephone and FairPoint Communications in the Infrastructure category, the Vermont Council on Rural Development in the Sustainable Broadband Adoption category, and the Vermont Department of Libraries in the Public Computing Centers category.

Vermont has engaged in significant efforts to improve access to broadband service. In 2007, Governor Douglas sought and received overwhelming support from the Vermont Legislature for the passage of Act 79, which established the goal of universal access to broadband and mobile wireless services in Vermont. Vermont has sought and received binding regulatory commitments from major telecommunications companies, including FairPoint Communications, Inc. (FairPoint) to expand broadband service in Vermont. FairPoint has done an excellent job of meeting these commitments.

The new service area proposed by FairPoint in Vermont would make additional expansions to households without broadband service in one of the most remote regions of Vermont, the Northeast Kingdom. Because the service area proposed by FairPoint would qualify as a "remote" area under the Broadband Initiatives Program (BIP), Vermont supports FairPoint's request for grant funding under that program. However, if not funded by BIP, we would also recommend FairPoint's proposal to you under BTOP.¹

Significant portions of mid-Vermont and southern Vermont also lack broadband service today. Vermont Telephone Company, Inc. (VTel) was an early leader in the deployment of broadband service in Vermont, and one of the first to make limited deployments of Fiber-to-the Home (FTTH) technology in the state. VTel has also invested significantly in Vermont spectrum licenses.

VTel's proposal would make available wireless broadband access in areas in southern and mid-Vermont that contain some of the largest geographic holes in Vermont's current broadband coverage. It would also expand super-high-speed FTTH service across VTel's incumbent telephone company footprint. VTel's proposal has additional merit because it has agreed in its proposal to provide connections between community anchor institutions and the Vermont Traffic Exchange (VTX). The VTX concept builds on and enhances a number of Recovery and other governmental programs, and state public policy priorities. (Please see the description of this effort below.) VTel is also proposing to provide discounted broadband service to households receiving Lifeline telephone service subsidies, which provides important assistance in meeting not only broadband availability goals, but sustainable broadband adoption goals as well.²

The Vermont Council on Rural Development (VCRD) has provided early and sustained leadership in Vermont to organize and engage rural communities around achieving improvements in broadband service. VCRD's "e-Vermont" project represents an innovative, broad-spectrum approach to widening and deepening broadband adoption in Vermont. This proposal is a significant partnership between a range of Vermont-based organizations. It will reach members of communities across Vermont in education, small business, civic and municipal organizations, and through community discussion. Unlike many other proposals made in the Sustainable Broadband Adoption category, the proposal by VCRD represents a proposal that will be deeply rooted in communities in Vermont. The benefit of each broadband rollout will be increased as more Vermonters are helped by this program to take advantage of broadband in their daily lives.

¹ FairPoint Communications did not provide to my office financial statements and financial projections application that it considered to be "forward looking statements", which need to be kept confidential. Therefore, this recommendation is made with the limitation that it is not informed by these parts of the application.

 $^{^2}$ In response to an inquiry from this office for information about its proposal, VTel clarified that its commitment, stated at page 9 of its application, was to provide a 50% discount off of its broadband prices for these customers.

Through its activities in communities in which broadband has been recently expanded or will be expanded through BIP, BTOP, or other infrastructure projects, the VCRD e-Vermont proposal will help support and sustain the business case for broadband access in Vermont through expansion of broadband adoption. The greater the take rate, the better the business case for rural expansion. We believe that this project, if funded, will permanently improve the economics of broadband builds in Vermont and set an important example nationwide.

The proposal by the Vermont Department of Libraries (VDoL) will expand access to broadband and useful online databases at libraries throughout Vermont. The mobile computing center units will be deployed to those communities where broadband is not yet widely available both to assure some means of access and to pave the way for eventual deployment. This plan not only helps those who don't have service today; it also provides a ready market of broadband users when service does reach a community for the first time. This proposal represents a true state-wide approach to the provision of public computing center access, and it will involve both state and local institutions.

Although none of these four proposals depend on the others, they do complement and reinforce each other. Together they will expand access to broadband service in places with real needs in Vermont and encourage wider use of the technology.

Apparently Overlapping Proposals

The infrastructure proposals by VTel and FairPoint, together with two other proposals made only to the BIP program, those of ECF LLC (ECFiber) and Northern Communities Investment Corporation (NCIC) of Vermont, would together substantially close the gap in broadband availability in Vermont, and provide a demonstration of how broadband can be universal in the most rural state in the nation. In some areas these applications appear to overlap geographically, although upon further inspection, the overlap is either nonexistent or possible to eliminate. Our office has reviewed the proposed service territory of all four of these applications, and we believe geographic overlap should not be a barrier to funding any of them.

The first apparent overlap concerns the BIP/BTOP application of FairPoint Communications and the BIP application of NCIC. On the broadbandusa.gov mapping site, it appears that these two applicants do overlap. However, both applicants represented to our office prior to the application that they had made extensive joint efforts to submit service territories comprised of groups of census blocks which were neighboring but non-overlapping. As you may also have heard, numerous applicants communicated to us in the days and weeks leading up to the application submission deadline on the difficulty they had using the on-line mapping tool in drawing service territory boundaries that matched the list of census blocks that they had included in their application. Prior to the submission of this recommendation, my office requested census block lists from FairPoint and NCIC and has been able to confirm that these lists do not overlap.

The second apparent overlap concerns the BIP/BTOP application of VTel and the BIP-only application of ECFiber. The northeast portion of VTel's proposed service territory overlaps with the service territory proposed by ECFiber. The State of Vermont supports both of these projects and believes that both projects address themselves to large remaining holes in the broadband coverage map for Vermont. In addition, both projects would provide very high-speed FTTH service, which is very limited in Vermont today. VTel's proposal would also include an early deployment of 700 MHz wireless service in Vermont. As we understand the process, RUS will make a separate determination about whether the proposals of VTel and ECFiber will be funded in this round under BIP. If the RUS does decide to fund the application of ECFiber (which we would

support), but not VTel, then NTIA must decide whether it will fund the VTel application. The NoFA for the BIP and BTOP programs contains the statement, "Upon completion of the step two review, NTIA reserves the right to discuss with the applicant specific modifications to the application to resolve any differences that may exist between the applicant's original request and what NTIA is willing to fund."³ To the extent that geographic overlap with a funded BIP project creates a barrier to NTIA's funding of the VTel application, this office would encourage NTIA to discuss with VTel modifications to the proposed service area. This office has engaged in discussions with VTel and has been provided with the lists of census blocks used by VTel in its proposed service area. Analyzing this list against the most recent state broadband data and VTel's own data about its broadband penetration, we believe it would be possible to eliminate the census blocks in VTel's proposed service territory which overlap with the ECFiber proposed service territory, and still have a remaining service territory which would still qualify as "underserved."⁴ The remaining VTel proposed service territory would expand broadband service to significant areas in southern Vermont which do not have broadband service today.

Other Vermont Recommended Proposals

Two additional proposals stand out from the remainder of applications which seek to serve Vermont, one Infrastructure proposal and one Sustainable Adoption proposal. These proposals are made by Vermont-based institutions which are working today to deliver important services in the state.

In the Infrastructure category, the proposal of Teljet Longhaul, LLC, (TelJet) would provide additional middlemile connectivity into Vermont and out to Boston, increasing redundancy, available bandwidth, and competitive options. TelJet is a Vermont-based company that has delivered new options for connectivity to major Internet backbone markets and local on-net connections to community anchor institutions and last mile service providers. Teljet's proposed project would connect to and add value to other federally-funded projects, including the North-Link fiber network of the Economic Development Council of Northern Vermont, the Wireless LINC project of NCIC, and the ConnectVermont project of the Vermont Agency of Transportation.

In the Sustainable Broadband Adoption category, the proposal of Health Care and Rehabilitation Services of Southeastern Vermont, Inc., (HCRS) would apply broadband to the mitigation of chronic shortage of mental

³ Federal Register, Vol. 74, No. 130, July 9, 2009, p. 33107.

⁴ Our office performed a preliminary analysis using state broadband availability data and the data contained in VTel's filed application to support this statement. Removing the census blocks in the VTel application that overlap with the ECFiber proposed service area would leave one larger contiguous service territory which includes the VTel Incumbent LEC footprint, as well as significant areas to the south and northwest of it and at least five small service territories which are not contiguous with the larger territory. (Some de minimis overlap with ECFiber would be required to link all parts of the VTel ILEC footprint, which are near each other but not wholly contiguous, in one service territory.) Each of the five small service territories contained less than 50% residential broadband availability, and thus would be unserved or underserved. Since VTel used the penetration test, not availability, to qualify its proposed service territory as underserved, we attempted to replicate this method for the larger "trimmed" service territory which included the VTel ILEC footprint. We assumed the penetration rates for the VTel ILEC footprint cited by VTel in its application and in the areas outside that footprint we inferred plausible penetration rates from state broadband availability data. We inferred that census blocks with zero availability had zero penetration. For the blocks with greater than zero availability, we assumed that the penetration was equal to the number of residential points times 81.7%. (This figure is based on data from the "Vermonter Poll 2009," conducted by the Center for Rural Studies at the University of Vermont, which found that 81.7% of Vermont households surveyed in February 2009 subscribed to the Internet. As this includes some dial-up subscribers, it is likely an over-estimate of the rate of broadband penetration in this area. See http://crs.uvm.edu/vtrpoll/2009/it_report_09.pdf.) Overall, this produced an estimated broadband penetration rate across the larger "trimmed" service territory of less than 42%, close to the 40% broadband penetration threshold for an underserved area. However, this trimmed service territory contains many individual census blocks with 100% broadband availability, providing opportunities for VTel to respond to an NTIA request and produce a trimmed service territory meeting the NTIA's threshold for "underserved."

health care resources in southern Vermont. HCRS and its project partners are important elements of the mental health care system in this part of the state. HCRS's proposal provides a good demonstration of the potential for broadband to assist rural communities in addressing chronic problems in new ways.

Other Proposals Not Recommended

There are numerous multi-state proposals which propose to serve Vermont; this recommendation will provide additional comment on only a limited number of these that are not favorably recommended. There are some, however, which are examples of projects which we do not regard as well-suited to meeting Vermont's needs.

In the Infrastructure category, there are a number of proposals which propose to serve Vermont but would do little to actually expand broadband infrastructure serving Vermont. These include proposals from Hughes Network Systems, LLC, EchoStar XI Operating L.L.C., and Aircell LLC. Vermont knows from long experience that satellite access with its long latency time is not suitable for most broadband use although it is better than dialup. There would not be such an extensive rural broadband problem if satellite were a suitable substitute for terrestrial broadband services. Under the BIP/BTOP NoFA's definition of unserved and underserved areas, satellite service does not create "served" locations. Other applicants claim to provide service to Vermont, but there is a lack of evidence that they would do so. Aircell, LLC proposes to provide inflight broadband access, which would not provide services to homes and businesses in Vermont. The summary of the last-mile proposal of Megapath, Inc. provides no evidence that the service will benefit Vermont as claimed; and Megapath did not respond to a request for more information from this office. Other Infrastructure projects appear to be focused on other states, such as ART Leasing, Inc. d/b/a FiberTower Broadband Corp. (Massachusetts) and Upper Shore Regional Council (Maryland). This office does not oppose these projects, except to the extent to which they might be considered incorrectly as Vermont projects.

The Sustainable Broadband Adoption category contains many examples of proposals which are not locally targeted in Vermont, inappropriately propose to fund research and development, or have very high cost relative to likely benefits in local communities. This includes: RADGOV INC (too expensive); Logiclink Inc. (too expensive; not well-targeted; local programs are preferable); Wi-Zee, LLC (funds R&D; not locally targeted); Federation of American Scientists (an implementation group doesn't exist; local programs are preferable); XW, LLC (does not address the root causes for lack of adoption; if effective as claimed, private funding should be readily available); Ikanos Communications, Inc. (funds R&D; not locally targeted); Acorn Technologies (funds R&D; not locally targeted); INNOVENTUM, INC. (costs are out of line with scope of project); SeniorNet (not locally targeted; costs are too high); CHC-TV, LLC (cost are out-of-line; not clear where or how or why money would be spent); Rural Community Assistance Partnership (not locally coordinated or targeted, redundant with local efforts).

In summary, the State of Vermont recommends that the NTIA look to proposals for Vermont whose efforts are well-rooted in local communities and will provide service to homes, businesses, community anchor institutions, and last-mile service providers on the ground in Vermont.

Vermont State Broadband Mapping Data

Vermont has worked to collect and refine broadband availability data for a number of years. Vermont conducted its first broadband mapping exercise in 2000. Vermont's current broadband mapping data allows the state to have a reasonable estimate of the extent of broadband service in Vermont, and its state-wide geodatabase of E-9-1-1 locations has allowed the state to estimate the extent of broadband availability in local

areas. Before BTOP applications were due this summer, VoESR published on its web site updated map data which could be used by stimulus applicants. This month, Vermont was one of the first four states to receive awards under the NTIA's State Broadband Data and Development Grant Program, which we believe indicates the quality of the work we have been able to do thus far. While we look forward to substantial improvements to the broadband data available for Vermont which funding this grant will provide, we believe that the current data held by Vermont is the most accurate overall estimate of the extent of broadband service today. Please find the attached map of Vermont by census block detailing our estimate of the extent of broadband service, as well as a table of data by census block number.

Previous estimates published by the State of Vermont provided a visual representation of the approximate extent of broadband services. Some areas were shaded to reflect parts of the state having mixed or partial access to broadband service. Percentage estimates of the residential availability of broadband service were provided at the county level. Once the release of the BTOP/BIP NoFA made clear that data at the census block level would be important in the preparation and review of applications, and made clear the definition of "broadband" that would be used, an effort was undertaken to update and refine the last available estimate of broadband service availability to make it more useful for BIP and BTOP purposes.

The map provided here reflects information collected by the Vermont Department of Public Service and Vermont Telecommunications Authority as part of ongoing cooperative efforts to map the availability of broadband services. Additional review and analysis has been performed by the VoESR. The analysis was based on broadband availability information used to produce the last published statewide map of broadband availability, first made available in 2008, reflecting coverage at the beginning of 2008, with available updates that have been provided to the State of Vermont. Known service expansions of broadband service were added to the map, when estimates were provided such that they could be mapped at a granular level, for example as addressable locations or road segments. These updates are: (i) cable availability map data by street segments provided by cable operators across the state on or around April 15, 2009, reflecting end-of-year 2008 cable modem availability and (ii) information about required DSL expansions by FairPoint through January 2009, provided in April 2009.

The available data was critically analyzed against definitions of "broadband" service and other requirements of the BIP/BTOP NoFA as well as the NoFA released by NTIA for the State Broadband Data and Development Program. Coverage by service providers which did not appear to advertise (such as on a company website) data transfer rates consistent with the NoFAs' definition of "broadband" were eliminated.⁵ The Technical Appendix for the State Broadband Data and Development Grant Program as originally released included requirements for state broadband data programs regarding the accuracy of collected data from awardees. These included identifying availability to the address for fixed services associated with a particular address and, for nomadic or mobile services, providing polygons within which service with the described speed is provided 95% of the time to within 50 feet of the polygon's boundary. Available data which did not appear to closely approximate this standard was eliminated. Where such data was not available but it was possible to systematically produce a conservative estimate of service availability (such as areas in the immediate vicinity of telephone central offices

⁵ At the time that this estimate was developed, it was not known to our office that some DSL customers of VTel in its incumbent LEC service territory could only be served by earlier-generation DSL which did not meet the 200 kbps threshold for upstream broadband data transfer contained in the BIP/BTOP NoFA. This situation, described in the filed VTel application, would have the effect of further reducing broadband availability over what is shown on the map provided with this recommendation. However, it is our understanding from a review of the VTel application, that its analysis uses an estimate of broadband penetration to establish its claim that its proposed service territory is underserved. Furthermore, we understand that this estimate does not depend on state broadband availability data in its incumbent LEC territory.

in which DSL service is provisioned), such an estimate was substituted. To calculate a proxy of the percentage of households served for each census block, we used the number of non-seasonal residential E911 addresses per block located within a served area.

If the NTIA has additional questions regarding the development of broadband availability data for Vermont, please do not hesitate to contact our office.

Vermont Traffic Exchange and Coordination with Other Recovery Programs

As part of our mission to coordinate Vermont's Recovery efforts, VoESR has sought to identify ways in which different types of ARRA investments in Vermont can reinforce other ARRA investments. The Vermont Traffic Exchange (VTX), sponsored by the State of Vermont, is not an effort for which ARRA funding is being sought at this time, but it does leverage a number of ARRA and other governmental and private programs. One Vermont BTOP Infrastructure applicant, VTel, has agreed in its application to support this effort by providing connections between community anchor institutions in its proposed service territory and VTX gateway locations. VTX will provide peering between Vermont ISPs and institutions over a backbone network. This peering will assure that local traffic stays local even when it is between customers of different ISPs. The advantages are lower costs of transit and much faster web service than we receive currently when traffic must go through hubs like New York or Boston to travel between Vermont locations. It will also be a catalyst to efforts by the Vermont Department of Education, the Vermont Office Health Access and the New England Telehealth Consortium to enhance educational and health care services by facilitating connections between community anchor institution locations. This will create greater efficiencies by encouraging use of common infrastructure instead of siloed networks serving different classes of users. It will leverage or be leveraged by the following Recovery or other federal Programs.

Title IID Enhancing Education Through Technology (CFDA # 84.318). The Vermont Department of Education (VDoEd), using \$100,000 Title IID federal funds, has solicited for an entity within the state to aggregate schools around Vermont in anticipation of connectivity for a statewide managed network that serves K-12 schools. Superintendents were asked to send a commitment letter to indicate their willingness to participate in this effort and explore the options for both connectivity and the managed network. At least 188 schools from around the state are represented by this commitment letter. The VDoEd will receive allocations of \$3 million in ARRA Title IID funding (out of a national total of \$650 million) and \$1.2 million in FY2010 Title IID funding, and plans to make additional investments of more than \$1.5 million from this pool in educational technology equipment, distance learning and virtual classroom opportunities, technology-related professional development, and electronic educational content, which its connectivity investments will support.

Health Care Information Technology and Rural Health Care Universal Service Programs. Vermont's health reform vision, as articulated by the Office of Health Access and Health Care Reform, includes a plan for ubiquitous health information exchange (HIE) across the full continuum of health care providers. The Office of the National Coordinator (ONC) and the Center for Medicaid Services (CMS) will be providing funds to states to support HIE infrastructure development that will complement broadband infrastructure development. This project will also provide greater leverage to the \$24.6 million award from the FCC's Rural Health Care Universal Service program to the New England Telehealth Consortium.

Smart Grid Investment Grant Program (CFDA #81.122). This project will offer to provide links between community anchor institutions and a fiber optic facilities being developed to serve Vermont's electric utility needs. While the fiber in this network is not being deployed using ARRA funding, it is an infrastructure that

can be leveraged for the Vermont Traffic Exchange, eEducation, eHealth, and eEnergy. It is an essential piece of infrastructure leveraged in a coordinated proposal for \$66 Million in Smart Grid Investment Grant funding from Vermont's electric utilities, through Vermont Transco, LLC (VELCO).

Conclusion

While I can and do recommend for your consideration a number of specific projects from Vermont for BTOP funding, I also want to take this opportunity to recommend Vermont itself as suitable state for a significant investment of BTOP funding. Vermont has committed itself to the goal of universal broadband availability and taken significant steps to reach that goal. It is a goal that is challenging in a state with a small and overwhelmingly rural population. (Only one community in Vermont, Burlington, which has a population of less than 40,000 people, qualifies as "non-rural" under the BIP and BTOP definitions.) However, it is a goal that is within our reach with BTOP assistance. We view this investment as a foundation for numerous other investments that together will transform Vermont into an "e-state."

Very truly yours,

Tom Evslin Chief Recovery Officer Office of Economic Stimulus and Recovery State of Vermont