# Expression of Interest – Rural Broadband Experiments
# Connect America Fund, WC Docket No. 10-90

The State of New York Broadband Program Office is pleased to submit an expression of interest regarding Rural Broadband Experiments to the Federal Communications Commission on behalf of the unserved population of the state.

## Background

It is essential that all New York's regions have wide-spread broadband availability to reap the economic and social benefits that it brings. Approximately 1 million New Yorkers (504,000 households) do not have access to broadband at minimum speed thresholds established by the State. Although the percentage of New Yorkers with broadband access is above 90%, the total number of New York citizens without high-speed access to the Internet is more than the entire population of Vermont (and nine other states and U.S. territories). In fact, many rural communities lack any type of broadband service, and others are severely limited by low speeds, as even basic applications require increasingly high speeds and more bandwidth.

Each region in New York State faces unique challenges when it comes to universal broadband access. Rural areas of the New York fare the worst; access is sporadic, slower, less reliable, and often just not available, - *especially when it comes to wireline (and in some cases wireless) broadband*, which can have disastrous results when it comes to access to healthcare and public safety service. Due to the high costs of building networks in areas where population is sparse, New York rural communities continue to fall behind. The inherent challenge in providing broadband access in rural communities is overcoming the high cost of wireline deployment in areas which are sparsely populated. Simply put, providers generally have a presence in many New York unserved areas, but are unable to provide service to many New York residents due to the prohibitive costs of extending fiber to the home or business.

The availability, affordability and utilization of broadband technologies is a high priority for New York Governor Andrew M. Cuomo. During Governor Cuomo's administration more than $68 million in funding was awarded for broadband projects, the largest statewide broadband commitment funding in the nation. This has strengthened our capacity to bring broadband services to unserved and underserved communities across the State. However, while New York State has advanced steadily, there is still much more work to do to regain and sustain a leadership position in the national and global economy.

As we continue to explore ways to use broadband to promote economic development and build strong communities, the principles for meeting these goals will remain the same:

- Universal broadband service for all New Yorkers
- Fast and ubiquitous broadband networks for economic development
- An economic structure which support broadband innovation
- Investment in emerging broadband technologies
- Increased adoption and utilization of broadband, with a focus on disadvantaged populations

## State and/or Local Participation

The New York State Broadband Program Office (BPO) is submitting a state sponsored proposal to the FCC to expand broadband services to some of New York's most remote communities. Providing funding for the most costly component of many broadband networks – last-mile access, will enable broadband providers to extend existing networks to the most hard to reach residences and businesses in the areas they serve.

There is a genuine spirit of strong cooperation and collaboration among our partners, including the following New York counties, municipalities, and providers partnering on this proposal:

- **Columbia County** – With a population of 63,096, there is a strong need to bring high-speed Internet services to all the businesses and residents in eastern Columbia County who are currently unserved. With the support of municipal leaders across the county, and working with incumbent providers, this project will increase existing broadband speeds, expand service to unserved communities, and leverage existing infrastructure to deploy broadband to one of the most underserved counties in the State.

- **Ion Networks** – ION is an Albany, New York based, statewide, redundant SONET fiber network connecting over 60 rural New York State communities and their surrounding areas to the Information Superhighway, and the many opportunities it provides. The increased bandwidth for transfer of information that ION will make available to rural and urban areas is a necessary component in order to compete in today's world. ION will provide redundant access to telecommunications services, as well as advanced telecommunication services for businesses, educational institutions, health care providers, libraries, and governmental agencies.

- **Rural Broadband Company-** Rural Broadband Company, Inc. (RBC), an independent organizing company for rural broadband projects, and its Alliance member, take pride in this opportunity to partner with the New York State Broadband Program Office in applying for benefits to be provided by the FCC Rural Broadband Experiment Program. As a partner with New York State on this Expression of Interest, RBC and its partners, and in particular the broadband architecture and engineering firm, Design Nine, Inc., would design and construct a carrier-neutral infrastructure that would include necessary current technology considerations that include providing access to New York's dark fiber network as well as implementing progressive technologies, with FCC-certified white space technology companies, to reach areas long forgotten or written off as not accessible by outdated copper technology infrastructure.

- **Southern Tier East Regional Planning Board -** STE is currently preparing an open access business plan, to utilize the organization's established nonprofit corporation to potentially construct an open-access middle-mile fiber ring throughout the region. Building such infrastructure, would allow last-mile service providers to expand at a feasible cost and provide telephone, internet, data and television services in our unserved & underserved residential, as well as commercial areas.

- **Southern Tier Network -** STN is a highly successful example of a public/private collaboration to expand broadband into these rural communities servicing Public Safety, Healthcare, Education, Commercial and Residential Broadband needs. The partnership includes private funding of $9.7 million by Corning Incorporated and public funding of $2.2 million from Steuben, Schuyler and Chemung counties.

- **Time Warner Cable** – Time Warner Cable (TWC) is the largest cable provider in New York State and the 2nd largest cable service provider in the country. In New York State, TWC provides over 5 million homes with access to cutting edge digital technology, a vast array of home entertainment and high-speed or broadband offerings.

## New York State Broadband Program Office

The NYS Broadband Program Office (BPO) established in 2008, is charged with executing Governor Andrew Cuomo's broadband strategy for the State of New York. Serving as the state's single point of contact for broadband issues, the BPO has been identifying broadband needs and developing unique solutions, to help to close the digital divide that exist in adoption and availability rates. As a division of the NYS Department of Economic Development (ESD), the BPO is well positioned to manage and execute the State's broadband strategy.

The New York State BPO develops and administers all statewide broadband grant funding programs including Governor Cuomo's $25 million Connect NY Broadband grant program. Connect NY was designed to expand high-speed Internet access in unserved and underserved areas of New York State. In March 2013 eighteen broadband projects were selected for funding based on careful analysis of how well projects met the criteria developed by the BPO.

The NYS BPO is proposing to administer funding awarded under the FCC Experimental Project Grant Program as modeled by the guidelines developed for Connect NY. This would enable a streamlined approach and would relieve the FCC of the resources necessary to administer and monitor several mini-projects throughout New York State.

Together, the Connect NY broadband projects will high-speed Internet service to 153,000 New York households, 8,000 businesses, and 400 community anchor institutions – many without any means to access the Internet. In addition to the vast economic benefits derived from broadband access, the projects being funded by Connect NY will create 1400 new jobs. By leveraging existing infrastructure and networks being deployed as a result of the Connect NY program, service areas can be expanded to maximize public funds. It should be noted, that the total state funding to provide high-speed broadband to those being served by Connect NY project sponsors was less than $175 per household.

### Connect NY guidelines include:

- **Avoiding duplicative networks and overlapping service areas.** The intent of the Connect NY Broadband Grant Program was to leverage existing broadband networks, where practical, to extend service areas to unserved homes and businesses. One of the first steps toward achieving this goal is to clearly understand the existing broadband landscape. New York State's extensive mapping effort, established in 2009, enables the BPO to clearly understand the existing broadband availability landscape, identify unserved and underserved areas of the State and depict availability of high-speed Internet service.

  Additionally, when feasible, NYS will utilize the existing State fiber and network infrastructure assets, including over 500 miles of fiber along the NYS Thruway, which is a state managed "digital backbone" of high-capacity fiber optic cables with network access points (NAP) across New York State.

- **Delivering speeds of at least 6 Mbps download/1.5 Mbps upload.** With applications needing higher speed to drive economic growth, the BPO set new standards for measuring

broadband availability in New York by raising statewide minimum speed thresholds to 6 Mbps download/1.5 Mbps upload. These guidelines also established the speed threshold for both the Connect NY eligibility criteria and the minimum speed threshold for defining broadband in NYS.

New York State will require our provider partners to deliver speeds meeting or exceeding New York thresholds of 6 Mbps download/1.5 Mbps upload and encourage even higher speeds for schools and community anchor institutions. Our funding programs are technologically neutral, as long as providers are able to meet or exceed our established speed thresholds. However, the BPO understands that wireline networks (primarily fiber and cable) offer higher speeds, therefore enabling economic growth across multiple levels of the community and when feasible will look to providers who can deploy Fiber to the Home (FTTH) technology to deliver fast Internet access to end users.

- **Serving Community Anchor Institutions.** The BPO will require provider partners to offer new or substantially upgraded service to community anchor institutions within the region served. Community anchor institutions include, but are not limited to libraries, public safety facilities, community centers, educational institutions, and healthcare facilities. This will help facilitate the use of Telemedicine and Electronic Health Records in rural healthcare clinics and hospitals.

- **Public investment in broadband technology** is a part of New York's comprehensive strategy to transform communities and enhance the lives of our residents. To date, more than $68 million in New York State funding has been allocated to expand services into our unserved communities. New York State is looking into the possibility of allocating additional discretionary funding to supplement and/or expand project area footprints further into partner communities.

A critical success factor for broadband deployment projects is strong community support. The communities and broadband providers listed below represent strong partnerships which are vested in the successful outcome of broadband deployment and expansion in New York State.

## New York State Partners

### The Southern Tier Network (STN)

The Southern Tier Network (STN) is a not-for-profit local development corporation based in Corning, New York which has built and operates a 235 mile open access dark fiber backbone installed throughout the three counties of New York States Southern Tier including , Steuben, Chemung and Schuyler counties. The leadership of the STN board is made up of an amalgamation of public and private representation from the region including government, public safety, education, healthcare and manufacturing. STN is a highly successful example of a public/private collaboration to expand broadband into New York's rural communities and has partnered with private entities such as Corning Inc.; carriers such as, Axcess Ontario, Empire Telephone and Finger Lakes Technology Group; hospitals, public safety entities; and Boces.

As a partner with New York State on this Expression of Interest, STN will construct a 149.5 mile open-access dark fiber network, along with up to 7 towers to support WiMax broadband deployment to reach more than 25, 299 households, four schools and one library in unserved and underserved areas of rural Steuben County. The STN's business model is to lease dark fiber optic capacity to enterprise, carrier, and other entities that desire to manage and control their own telecommunications networks. STN will work in partnership with private sector providers with footprints in the 899 square mile area. This unserved area has a population of 64,943, and a population density of 72.28 people per square mile.

The Geographic Territory includes the following census tracts:

| Census Tract | | Size (Households) | Density (sq mi) | Number of Customers Served | Size (sq mi) |
|---|---|---|---|---|---|
| NY101 | 960300 | 1,238 | 35.25 | 286 | 33.14 |
| NY101 | 960400 | 2,009 | 104.28 | 464 | 38.74 |
| NY101 | 960500 | 1,380 | 35.35 | 319 | 80.4 |
| NY101 | 960600 | 1,992 | 94.8 | 460 | 43.58 |
| NY101 | 961000 | 1,857 | 38.44 | 429 | 96.79 |
| NY101 | 961100 | 2,209 | 108.72 | 510 | 42.39 |
| NY101 | 961300 | 1,737 | 80.56 | 401 | 50.38 |
| NY101 | 961700 | 1,460 | 83.52 | 337 | 40.68 |
| NY101 | 961800 | 1,619 | 28.65 | 374 | 119.07 |
| NY101 | 961900 | 1,702 | 62.38 | 393 | 54.35 |
| NY101 | 962000 | 2,402 | 19.08 | 555 | 232.27 |
| NY101 | 962100 | 1,466 | 34.27 | 339 | 93.02 |
| NY101 | 962200 | 1,159 | 101.02 | 268 | 25.55 |
| NY101 | 962300 | 3,523 | 205.25 | 822 | 38.66 |
| | | | | | |
| **Total** | | **25,753** | | **5,957** | |

## Southern Tier East Regional Planning Development Board (STE)

Southern Tier East Regional Planning Development Board (STE) is a regional planning organization representing New York's upstate counties of Broome, Chenango, Cortland, Delaware, Otsego, Schoharie, Tioga and Tompkins as a local development district and economic development district.

As a partner with New York State on this Expression of Interest, STE would construct an open-access middle-mile fiber ring throughout the region using the same business model as the Southern Tier Network, to bring fiber to the remaining unserved and underserved rural communities in the region. STE would utilize middle-mile broadband infrastructure, which was constructed and owned by Independent Optical Network (I-O-N) with BTOP funding, to increase accessibility for service providers to expand their business in the experimental areas. Building such infrastructure, would allow last-mile service providers to expand at a feasible cost and provide telephone, internet, data and television services in our unserved & underserved residential, as well as commercial areas.

STE represents a population of 340,062 in the FCC eligible experiment area. Experimental census tracts in STE's region encompass 15 colleges and universities, 167 schools, 49 libraries, 8 hospital and 55 healthcare centers and also includes 230 local government properties.

## ASA Networks

ASA Networks delivers high-speed, broadband quality, internet access to the most unserved communities across Columbia County, New York. Their service leverages TV White Space (TVWS) as the primary

connection mode with hybrid deployments of Wi-Fi strategically integrated for the toughest of geographical and topographical challenges. As a partner with New York State on this Expression of Interest, ASA Networks will expand their current network in the towns of Gallatin Ancram, Claverack and Copake in Columbia County to connect 1,000 subscribers.

## Rural Broadband Company, Inc.

Rural Broadband Company, Inc. (RBC) is an independent organizing company for rural broadband projects. As a partner with New York State on this Expression of Interest, RBC and its partners, and in particular the broadband architecture and engineering firm, Design Nine, Inc., would design and construct a carrier-neutral infrastructure that include necessary current technology considerations to provide access to New York's dark fiber network as well as implementing progressive technologies like FCC-certified white space technology. When factoring in for these two key technology advances, dark fiber, provided by New Yorks' existing infrastructure, and FCC- certified white space technology companies, we will achieve a quantum leap in unserved and underserved areas. These advances will allow providers to cut their costs of transmission of signal, thus reducing pricing to customers, increase their signal offerings because of a fiber-to-fiber, and provide for service with white space technology in places where service either does not exist. RBC's infrastructure would reach unserved areas as defined by the FCC in the counties of Broome, Cortland, Seneca, Sullivan and Ulster.

RBC's combined project areas represent a population of 541, 423 in the FCC experimental area. The total number of community anchor institutions in these project areas, combined, is approximately 200, distributed among schools, libraries and government entities.

## Columbia County

While the counties in the Albany metropolitan area are primarily served by high-speed Internet, availability issues are prevalent in the region's most southern county – Columbia County. With a population of 63,096, there is a strong need to bring high-speed Internet services to all the businesses and residents in eastern Columbia County who are currently unserved. Columbia County in support and cooperation of the Towns of Chatham, New Lebanon, Canaan, Austerlitz, Ghent, Hillsdale, Copake, Taghkanic, Ancram and Gallatin are partnering with New York State on this Expression of Interest. This opportunity could jump start Columbia Counties Ability to address broadband challenges and fulfill the needs of the residents.

## Ion Networks

ION is an Albany, New York based, statewide, redundant SONET fiber network connecting over 60 rural New York State communities and their surrounding areas to the Information Superhighway, and the many opportunities it provides. The increased bandwidth for transfer of information that ION will make available to rural and urban areas is a necessary component in order to compete in today's world. ION will provide redundant access to telecommunications services, as well as advanced telecommunication services for businesses, educational institutions, health care providers, libraries, and governmental agencies.

## Time Warner Cable

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## NYS Broadband Goals Aligned With FCC

A primary goal of our proposal would be to leverage available broadband funding from multiple state, federal, and private sources to deploy broadband in priority areas of New York State. With resources dedicated to identifying areas which would derive the most significant benefits from robust broadband networks, strong partnerships with NYS broadband providers, and the continued support of Governor Cuomo to ensure every New Yorker has access to broadband, a collaborative effort between the FCC and NYS would achieve the goals set by the FCC for the program, and advance NYS goals for universal broadband.

We have identified multiple broadband funding programs which are active but underutilized by potential applicants. Although the reasons the programs remain underutilized vary, many potential applicants cite the complexity of the application process, extensive reporting requirements, and insufficient levels of reimbursement for eligible service areas. It is our intent to leverage these underutilized programs in NYS by coordinating application submissions, managing the application process, and partnering with multiple providers through a consistent and transparent process of identifying priority areas, validating availability data, investigating challenge claims from incumbent providers, and managing projects.

In addition, we propose to identify potential state funding sources to supplement federal funding to extend service areas, achieve higher speed goals, and facilitate expeditious completion of projects. These goals will be achieved through initiatives that are already well underway – including streamlining access to rights-of-way and establishing best practices for pole attachments, access to state property, tower siting, and using state-owned fiber.