

Broadband Technology Opportunities Program - Infrastructure
EXECUTIVE SUMMARY
Submitted by TVC Albany, Inc dba Tech Valley Communications

“ALLbany Online” is an ongoing collaboration between municipal government, non-profit, and private entities in the City of Albany, NY, for the purpose of significantly increasing broadband affordability, usability and utility in the City. Tech Valley Communications (TVC) is requesting \$7.971 million of BTOP funding on behalf of this partnership to expand an existing broadband wireless (WiFi) access network in underserved inner city neighborhoods, and extend said network to Albany’s major residential and commercial corridors. The objectives of the proposed network expansion are to 1) increase the reach of both free high-speed wireless Internet, as well as related digital inclusion programming; 2) enhance public safety and other municipal services; 3) foster economic development with particular focus on workforce readiness; and 4) encourage lower overall pricing for high-speed Internet access throughout the City of Albany. Without the requested funds, these project objectives will go unmet.

TVC’s focus on regional economic development was a major driver for the initial deployment of the municipal wireless 802.11a/b/g (Wi-Fi) network and a free Internet access service named “Albany FreeNet” in downtown Albany business corridors, with some reach into surrounding inner city neighborhoods. The requested funding will be used to provide Albany FreeNet 24x7 throughout the single proposed funded service area that constitutes most of the City of Albany and which has the following characteristics:

- Service Area Name: Albany Wireless Expansion Area
- Location: City of Albany, NY
- # Communities: City of Albany, NY
- # Households: 44558
- # Businesses: 2515
- # Comm Anchors: 88

TVC will also offer paid premium Internet, dedicated high capacity Internet links for business and government, and special purpose wireless access loops (fixed and mobile) for public safety and municipal applications in the proposed funded service area. TVC has worked closely with partner organizations, most notably the Albany Police Department, Albany Department of Water and Water Supply, and the Albany Parking Authority to pilot wireless applications. These applications include high definition video surveillance, which is now a production service, automated meter reading and remote parking meter management.

[REDACTED]

[REDACTED]

Through its partnership with The City of Albany Department of Youth and Workforce Services, which is the lead organization for the BTOP Sustainable Adoption project (see partner project “ALLbany Online: Connect, Educate, Empower: Sustainable Adoption”), and the Albany Public Library, which is the lead organization for the BTOP Public Computer Centers project (see “ALLbany Online: Connect, Educate, Empower: Public Computer Centers”), TVC will provide an online resource hub via its Albany FreeNet free Internet service that includes access to no-cost online career development courses. Combined with other partner program elements, it is anticipated that 2,500 City residents will become employed.

The proposed last mile network itself deploys an architecture that is innovative, and leverages the existing TVC fiber optic network. The network architecture provides for connecting wireless access points to the internet in two ways: 1) by direct, fiber optic feed to the access points, and 2) by wireless, meshed feed to the access points.

[REDACTED]

[REDACTED] These packet service nodes are connected to the TVC internet and packet service distribution systems via gigabit speed, layer 2 fiber optic connections supporting 802.1q VLAN trunking. This provides for segregation of traffic, as well as monitoring of specific network segments, if required.

TVC is eminently qualified to implement and operate this broadband network, since it is a comprehensive telecommunications provider licensed as a public utility with a Certification of Public Convenience & Necessity (CPCN) issued by the New York State Public Service Commission to build & manage a telecommunications network. TVC also holds Federal Communications Commission (FCC) Section 214 Domestic and International Authorization.

TVC is the first and only facilities-based Competitive Local Exchange Carrier (CLEC) headquartered in upstate New York’s Tech Valley Region. TVC offers a full suite of telephony and data (wired/wireless) offerings

[REDACTED]. TVC’s flagship FirstLight® fiber-to-the-business service has been extremely successful since its launch, allowing for true local ownership of comprehensive, advanced telecommunications services. TVC also has expertise in highly sensitive government & enterprise services. Since the proposed broadband services network represents a larger deployment of an existing service that is already deployed and in use by customers, deployment and support becomes a matter of scale and does not involve creation of new operational support or billing systems. The existing technical group supports TVC’s current WiFi deployment, and the group is structured to scale readily to support a larger customer base. As a telecommunications common carrier, TVC is also very familiar with non-discrimination and interconnection obligations. The access network proposed is common standards-based, utilizing VLAN to SSID mapping with bridging and 802.x technologies supported by fiber optic transported backhaul. The only limitations placed on a customer’s network connectivity is a per user traffic rate limiting to within the subscribers selected level of service. Interconnection will be accommodated at any technically feasible location within the TVC network. Interconnection to the proposed wireless access network would generally be optical or electrical Ethernet Layer 2, subsequent to the TVC authentication and traffic shaping points in the network via a VLAN trunk supporting 802.1Q. This ensures equal treatment and control of all traffic to

benefit all interconnected parties.



The intent of the project scope proposed herein is to meet and exceed the BTOP statutory purposes by thoroughly addressing the digital divide in the City of Albany, increasing broadband adoption by public safety agencies, leveraging high-speed Internet for education and job development, and realizing the NOFA's sustainability requirement by enacting a business model that supports long term growth and viability.