Solution for Northeastern Franklin and Northwestern Worcester Counties

The Warwick Broadband Committee, with the support of the Warwick Selectboard and the citizens of Warwick, is in the process of implementing a local broadband solution that could serve as a model for a regional solution and could offer resources for implementing a regional solution. While we would, ideally, like to offer fiber-to-the-home broadband, we recognize that this is not an economically viable approach because of terrain and the town's low population density. We have, therefore, opted for 900Mhz canopy radio technology from two existing towers in Warwick.

The first of these towers is the DCR tower on Mount Grace, which we are using in cooperation with the Massachusetts State Police, who are already using this tower for their radio communications. This tower will also host our backhaul, using microwave technology to communicate with Mount Tom. The Mount Grace tower also has the potential to receive microwave signals from Mt Wachusett in Princeton.

From the Mount Grace tower, we will hit much of Warwick with three 900Mhz access points, each connected to its own 120-degree antenna. We will also broadcast the signal to an otherwise unused American Towers cell phone tower, where we will have an additional 900 Mhz access point. This should be able to hit most of the rest of Warwick. We anticipate that this system will deliver speeds up to 3.3Meg to 85 – 90% of Warwick households.

Subscribers will receive the signal with a radio purchased for under $400, not including installation. There is also the possibility that less expensive radios will work where the signal is strongest, and for subscribers who do not require high-end bandwidth. After contacting three New England companies,Warwick has arranged to purchase radios in bulk to make them more affordable. We will also encourage people with some technological savvy and nearby neighbors to share radio receivers via wireless networks, and we will offer new subscribers the option of paying for their radios over time with higher monthly fees for the first year of their contracts.

When the system has been tested, we will contract with an ISP selected by RFP to manage subscriber billing, services such as email, and to provide 24-7 subscriber support. We expect to be able to offer this broadband service by the summer of 2009.

We see this system as having the potential to be expanded into a regional solution covering unserved and under-served communities in Franklin and Worcester Counties east of the Connecticut River. Massachusetts Broadband Initiative funding would be used for additional microwave dishes, antennae, and access points to expand the system and to provide a degree of redundancy to ensure continuity of service.

Local broadband committees and/or private providers would identify points within their towns which could receive their backhaul from Mount Grace. The Broadband Institute could assist in securing permits from Massachusetts governmental entities such as DCR and the State Police. Each town would be responsible for contracting with an ISP to provide support and services, or towns could band together. Bulk purchasing of radio receivers through the Commonwealth, FRCOG, or in cooperation with local businesses would lower installation costs for subscribers. Warwick would receive modest royalties for the use of our equipment on Mount Grace. This would allow us to maintain and update the equipment over time.

Additionally, Broadband Initiative funds would be used to install poles and repeaters strategically placed to reach areas not covered by the canopy signal. This "last mile" effort could be partially funded by private ISP's as a condition for being awarded the service and support contract in a given area.

Additional Considerations:

We feel strongly that The Broadband Institute should prioritize proposals that use local technology providers with a proven track record of good customer support and responsiveness to the needs of rural communities. By local, we mean that they are headquartered within a 100-mile radius of the service area in question and that at least 50% of their business is conducted in New England. Local businesses will circulate more money within the local economy and will be more responsive to local needs and conditions.

The move to digital TV has freed up bandwidth which could potentially be used for broadband in rural areas. As technology develops to use this "white space" for internet access, the Broadband Institute should advocate for rural Massachusetts communities in reserving some of this bandwidth through the FCC.