

Leyden Broadband Committee

Meeting with Greenfield's Dan Kelley

August 3, 2016 at 8:30 am
278 Main Street in Greenfield, MA

Committee members present: Bob Ryan, Bob Anson, David Curtis

Others present: Dan Kelley, president of the Kelley Management Group,
John Furey, MBI Construction Manager and Program Manager for Readiness

Members of Leyden's Broadband Committee met in Greenfield in the offices of Dan Kelley for the purpose of discussing the possibility of connecting our prospective broadband network to the network being built in Greenfield.

Dan Kelley anticipates that Greenfield's network should be online by the spring of 2017. Greenfield is taking the position that there is municipal space on each pole that can accommodate the fiber and other equipment chosen to construct the network. It believes that it doesn't need to be licensed since that space has been used by the City for 60 years. Furthermore Greenfield's network will be a not-for-profit community development endeavour.

Greenfield expects a conflict with Verizon about the make ready process, not over any fees to be collected. According to Dan, "we'll pay the fees, we just want to expedite the build-out process." Greenfield wants to avoid the make ready work usually required of any entity desiring to utilize the telephone poles. That make-ready work takes huge amounts of time. "Having to go through that process will put an undue burden of time upon the Greenfield process," said Kelley.

In Greenfield there are 2,800 poles. When Dan Kelly has talked to Verizon and Eversource both companies assure him that they do not have the people to do the pole surveys. When you add in the rest of Franklin County, that makes the demand for pole surveys even more unmanageable. 291 poles are to be attached with the wireless transponders to be used throughout the city.

Dan Kelley says, "We're counting on the spirit of cooperation." We are happy to pay the companies for access to the poles, but we want to be able to move the process quickly by using the municipal space that has been set aside for last 60 years for municipal use.

Not all towns have set this precedent and not many towns have the fire alarm wires strung on the poles in municipal space.

There was a discussion of GPON and AE between John Furey and Dan Kelley. John made the point that a certain standardization of equipment would be to the town's advantage when it comes to maintenance and repairs.

Dan Kelley was able to get large discounts on the equipment that has been purchased for Greenfield. The town was able to purchase \$7,000,000 worth of equipment for \$2,000,000. The system has been designed to be able to bring fiber to everyone, but the intent is to bring wireless to most customers.

The data that Greenfield has amassed shows that 70% of all internet traffic is video and pictures. Much of the traffic also needs to be mobile. Clients don't sit in one place and access the internet any more. Greenfield plans to provide gigabit capable equipment even though many customers will not subscribe to that level of service.

We then had a discussion of various types of equipment that will be deployed.

Dan has been doing limited installations of transceivers for downtown businesses. When the real build-out happens for all residences it will be guided by engineering studies that have already taken place. The placement of the transceivers is a quick process and fairly easy to adjust for failures of signal once commissioning takes place.

Greenfield has decided to go with Ruckus transceivers rather than Capway products. *(Secretary's note: No one on the Committee has heard of Capway products so this will have to be clarified the next time the Committee meets with Dan Kelley).* All of the equipment is outdoor-rated and Dan plans on many residents doing a self installation. Greenfield is planning on wireless cell reception being a part of their system. The wireless range for Capway products is 2,000 feet. The range for Ruckus products is 1,000 feet. Greenfield has planned on a range of 400 feet in order to improve the throughput of the signal.

"The customer experience trumps all other considerations. We need to be redundant and resilient," said Kelley.

One reason that wireless capabilities are of interest to us in Leyden is that in some areas of town there is very poor reception for emergency workers. If we were to incorporate

some wireless capability in those specific areas, it could be of help to our first responders.

Greenfield's network will have a 10GB backbone that can be boosted to a 100GB backbone. AE is scalable to maximize the fiber line. Greenfield's system is very much more complex than Leyden needs.

Greenfield is connected to the MBI line from Springfield to the Town Hall. Springfield is hooked up at level three, the international-class internet standard. Greenfield plans an additional connection to Lightwave in the future. That is to Leyden's advantage because if we connect through Greenfield we will have MBI's line on one side ~~and MBI~~ and Lightwave/Neon on the other end of the loop to have dual feed. The system would have solid reliability.

We looked at maps showing the current path of MBI's fiber and considered how and where Leyden would connect.

GPON equipment has the capability to accommodate AE connections for high capacity requirements/applications for internet customers. Active Ethernet is more maintenance intense. GPON on the other hand is not powered and easier to maintain.

Dan pointed out that Broadband Networks report *financially* to the Department of Public Utilities, but report *operationally* to the Department of Telecommunications. At this time there still must be an MLP set up in each town with a network. John Furey mentioned that there is some movement afoot in the legislature to change regulations or laws governing the need for the MLPs.

John Furey expressed an opinion that Leyden would be best served with a GPON system that could be modified, where needed, to add an AE card for high bandwidth users or a potential commercial area in town. Leyden should connect to MBI's spur that will connect Leyden with Greenfield. We can plan to later offer a loop to Colrain when and if that town is ready.