

## **2ndNets Project Report**

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Millinocket Memorial Library has participated in both Beyond the Walls and 2ndNets to use TVWS technology to expand and leverage broadband in the Katahdin region. Most recently, MML's efforts to develop remote kiosks have been disrupted in significant ways that we did not anticipate but in ways that represent real challenges to similar projects.

### **Background**

Due to successful implementation of TVWS technology in two fixed locations in our rural town as part of the Beyond the Walls program, the MML team was eager to develop and deploy remote kiosks in the Katahdin Region, partnering with Millinocket Regional Hospital, Millinocket Airport, local health clinics, Baxter State Park, and local fire and rescue departments.

Expanding broadband access in the Katahdin region is one of three identified economic strategies in this post-paper mill town. In recent years there have been several different efforts to develop broadband infrastructure using different financing strategies and technology solutions by bringing in different local and national partners. Ultimately, as of November 2020, high speed broadband continues to be inaccessible to most people in the eight towns that make up our rural northern Maine region of 10,000 people. Although private and public dollars were pledged to building out a fiber network, the barrier we have observed is unsuccessful demand aggregation, driven by an aging population base and that does not recognize the opportunities that high-speed internet brings.

### **Beyond the Walls**

When MML reopened in 2017, its management team made a decision to closely align its rebuilding efforts with economic strategies of the region. To that end, investing in innovative broadband technology was an obvious strategy to pursue. The desired outcomes of the project were to use broadband to increase collaboration between community partners, enhance access for underserved individuals to healthcare, employment opportunities, business resources, and other social services. After reopening, installation of TVWS was one of the first investments in the newly reformed library since closing, and also one of the first investments by the library in the community's revitalization efforts. The library successfully installed two out of three TVWS hotspots in public parks in Millinocket.

The hotspots generated thousands of unique connections in the first several months and helped redefine the role of the library for local stakeholders. The library leveraged the investment in new technology and its new identity to stack several other grants together, developing programs around outdoor recreation (Katahdin Gear Library), local history (Katahdin Story Booth Project), and ultimately launched a capital campaign to update the library with a \$1.5M renovation to its 1963 building.

### **SecondNets**

When given the opportunity to continue our work and development with TVWS as part of the 2ndNets project, MML staff and volunteers were eager to participate. During this period of rapid growth for the library, we grew our volunteer team from 10 to over 30, but we were not successful in growing our paid staff, operating with only one FT paid employee. Our 2ndNets lead volunteer was a retired Department of Defense communications

contractor who led a team of volunteers to design, budget, and build the Beyond the Walls project, as well as the 2ndNets project.

Our project lead was able to build a prototype mobile unit that we used to support communication efforts for the Millinocket Marathon, a grassroots, fundraiser marathon in the middle of December in northern Maine. Media partners used the network to support their communication needs during coverage of the event, and we were pleased to see the prototype work.

Shortly after completing the prototype, our project lead moved out of the area and had to drop off of the project. After that, our other two IT volunteers became unavailable and the library did not have any technical expertise remaining on its team. This left the library in a tenuous position – we had a prototype unit but did not have adequate knowledge of how it worked or even how it could be used.

We reached out on multiple occasions to the Millinocket Fire and Rescue department, which is responsible for emergency planning in the region. Unfortunately, with a small, diminished staff themselves, we did not hear back and were unsuccessful in establishing communication or partnership around using the remote kiosk. We did not have the capacity to continue to pursue partnership.

The success portable prototype was shipped to the Information Technology Resource Center (ITDRC.org) in Texas for evaluation and further refinements. Although the original purpose was to be a new crisis readiness resource, it turned out to have considerable value in support of civic events and cultural activities in Millinocket.

During the majority of 2019 the library's efforts were focused on our capital campaign and renovation. In 2020 when COVID-19 hit Millinocket, our volunteer team was reduced from 30 active volunteers to 6 and we have cut our hours in half.

## **Lessons Learned**

It is challenging in rural communities that are lacking funds, staff, and skills, to try to innovate with similarly under-resourced partners. At one point, we had exactly the right combination of volunteers and funding, but once those volunteers left, we were left unable to continue to build off of their work. Further, being in a very isolated location, we were limited in partners and resources. Additionally, when COVID hit, work across the region was reprioritized and we struggled to focus on anything but immediate challenges.

When our resources and goals were aligned, the Beyond the Walls funding and resultant broadband services were a vital infusion to our program and the to our community's infrastructure. However, that program and infrastructure proved to be very vulnerable, given the tenuous financial position of our organization.