CASE STUDY – BROADBAND AS AN ENABLING TECHNOLOGY FOR ECONOMIC DEVELOPMENT

Initiatives to Expand Broadband Across Rural Wisconsin

Preparing Rural Students for their Future

Wisconsin Rural Schools Alliance
November 12, 2014 / Stevens Point, WI
Someone had to step up and be the early adopter role model for the region

Three Lakes added technology as an additional element to its 20-year plan and committed to becoming “The Anchor for Technology in the Northwoods” a bold plan to do what few unserved or underserved rural communities had ever accomplished.

Today, about 90% of Three Lakes (Oneida County) residents have access to at least one provider, and some can choose from among as many as four providers. The town is closing in on the time when 100% have at least one choice, regardless of how remotely located their property may be in the 100 sq. mi. which comprises the township. In this small, rural Northwoods community the highest speed currently available is 20 Mbps down with 5 Mbps up, rivaling cities such as Wausau (Marathon County) which has twenty times the population (40,000) of Three Lakes (2,000).
THE THREE LAKES MODEL

STEP ONE: change and commit
- the mindset of the town, village, city or county board must change
- local taxpayer dollars must be committed to the effort

STEP TWO: assess and decide
- take an inventory of what you have and make a list of what you want / create a coverage map
- choose what broadband options you want to pursue

STEP THREE: collaborate and contact
- arrange meetings with your local service providers
- go to the technology – you’ll be waiting forever for it to come to you

During my travels some local elected officials actually said, “Why should we chase the technology? It can come to us”. Well, good luck with that. You’ll be waiting the rest of your life. Without the support of the local government a broadband implementation plan has no chance. As hard as it is to budget funds in these difficult times, that’s precisely what must be done.
The job never ends. It’s an ongoing cycle of continuous evaluation and improvement. The collaborations you will form will constantly expose you to groups with great ideas you can use and assimilate.

THE THREE LAKES MODEL

**STEP FOUR: implement and execute**
- as service options come online, educate your residents on the choices
- enter into agreements with providers to build/create infrastructure

**STEP FIVE: evaluate and refine**
- how are we doing, where are we strong, where do we need improvement
- find/fill the gaps in your local coverage area / upgrade service offerings
This white paper is based on what has become known as the “Three Lakes Model”, a roadmap of proactive steps communities can take to create a local broadband structure.
Building is about far more than merely providing access to the technology. Engaging people in the community throughout the process is critical to the long-term success of the effort.
TEN BROADBAND BEST PRACTICES FOR RURAL COMMUNITIES IN WISCONSIN

- Focus on broadband/HSI and cell phone
- Creative patchwork quilt of solutions
- Don’t wait for infrastructure to come to you
- Providers as partners, not the enemy
- Proactively identify local opportunities/options
- Create your own coverage map
- Educate your local residents/business owners
- Communicate to the world what you have
- Strategic Doing: forming collaborations at the local, county, regional, super-regional and state levels to solve complex problems quickly
- Public/Private Partnerships (P³) are essential

IMBY: *in my back yard!*
WHEREAS, improved broadband access is essential to Oneida County citizens in the areas of job creation, medical care, education, communication, entertainment, and other future uses, and WHEREAS, significant portions of Oneida County are below average in speed, adoption, and capacity compared to the rest of Wisconsin, America, and our worldwide competitors, and WHEREAS, Oneida County is prohibited by state law from being a broadband provider but can be a catalyst for improvement, and WHEREAS, the cooperation among county, town, and city government with providers will be necessary for success, and, WHEREAS, public and private involvement in the development of a broadband improvement plan is essential,

NOW, THEREFORE, BE IT RESOLVED, the Oneida County Board upon the advice of its Technology Committee, hereby endorses the conclusions of the committee and establishes as a goal that Oneida County will be home to the best broadband opportunities of any rural county in Wisconsin as measured by speed, adoption rate of its citizens, and data capacity. The Board further resolves that the best vehicle to carry on this work is the Oneida County Economic Development Corporation (OCEDC) which has agreed to accept this responsibility. The Board further resolves that the County Board’s Administration Committee act as the conduit between the County Board and OCEDC for matters related to technology improvement in Oneida County.

8/20/13 county board adopts resolution supporting county-wide broadband
11/12/13 county board approves $24K in funding (follow the money)
Nov 2014 this match funding helped to secure a PSC grant
RESOLUTION 2013-XX

Introduced by Ald. Alex YOUNG (6th District)

RESOLVED by the Common Council of the City of Rhinelander, Wisconsin:

WHEREAS, improved broadband access is essential to the City of Rhinelander and Oneida County and its citizens in the areas of economic development, job creation, healthcare, education, communication, entertainment, and other future uses, and

WHEREAS, significant portions of the City of Rhinelander and of Oneida County are below average in speed, adoption, and capacity compared to the rest of the state, the rest of nation, and to our international competitors, and

WHEREAS, the City of Rhinelander does not desire to be (and in fact is prohibited by state law from being) a broadband provider itself, but can be a catalyst for improvement, in partnership with the private sector, in this area, and

WHEREAS, the cooperation among county, town, and city governments together with providers will be necessary for success, and,

WHEREAS, public and private involvement in the development of a broadband improvement plan is essential,

NOW, THEREFORE, BE IT RESOLVED that the Common Council of the City of Rhinelander hereby adopts as a goal that the City of Rhinelander and Oneida County, through the Oneida County Economic Development Corporation, pursue the best possible broadband availability in terms of speed, adoption rate by citizens, and data capacity, and

BE IT FURTHER RESOLVED that the Common Council of the City of Rhinelander believes that the best organization to pursue these mutual goals is the Oneida County Economic Development Corporation (OCEDC), which has agreed to accept this responsibility, and

BE IT FURTHER RESOLVED that the City of Rhinelander’s Finance Committee act as the conduit between the Common Council and OCEDC for matters related to technology improvement in the City of Rhinelander and Oneida County.

RESOLUTION ADOPTED AT THE AUGUST 20, 2013 SPECIAL MEETING OF THE COMMON COUNCIL ON MOTION BY ALD. ________, SECOND BY ________, AYE: __, NAY: __, ABSENT: __
Creating the Wisconsin Broadband Superhighway

- Broadband is a critical and mandatory tool, but only a tool
- Broadband is merely a means to an end, not an end in itself
- Expansion and adoption of broadband are not ends
- Economic development, job creation, job growth, job retention.. these are some of the ends
- Sooner than later, you have to start showing economic results for what you are doing with broadband to make life better
Initiatives to Expand Broadband Across Rural Wisconsin
THREE CURRENT INITIATIVES UNDERWAY

- Public Service Commission (PSC) Administered Broadband Expansion Grants
- UW-Extension Broadband & E-Commerce Education Center Rural Pilot Project
- Northwoods Broadband & Economic Development Coalition (NWB/EDC) FAB Lab Project
In his address to the PSC Broadband Summit in April of 2013 in Madison, Governor Walker cited specific plays from the book. He announced his biennial budget would include $4.3M in grants for the expansion and adoption of broadband, citing specifically how public-private partnerships or P³s should lead the way.
PSC has been charged with administering the grant funds

Broadband Expansion Grant Program

Program Summary
The Broadband Expansion Grant Program is a new grant program created by Act 26. This program provides reimbursement for equipment and construction expenses incurred to extend or improve broadband telecommunications service in underserved areas of the state.

Grant funds can only be used to reimburse the construction of broadband facilities. Grant funds cannot be used to reimburse the operating expenses of a telecommunications provider or the monthly bill of a telecommunications service customer.

An application for a grant may be submitted by any of the following entities:

1. An organization operated for profit or not for profit, including a cooperative.
2. A telecommunications utility.
3. A city, village, town, or county that has established a legal partnership or joint venture arrangement with an otherwise qualified organization or telecommunications utility.

Broadband Grant Application for FY 2014
The Commission may award one or more grants that, in aggregate, do not exceed an annual total of $500,000 during Fiscal Year 2014 to public and private entities that meet the eligibility requirements.

Grant applications must be uploaded to the Commission’s Electronic Regulatory Filing (ERF) System, found at the following link: http://psc.wi.gov/appc45/ERF_public/default.aspx. Applications are due no later than 4 p.m. on March 21, 2014.

<table>
<thead>
<tr>
<th>DATE</th>
<th>EVENT</th>
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<tbody>
<tr>
<td>January 21, 2014</td>
<td>Date of issue of the application</td>
</tr>
<tr>
<td>February 27, 2014</td>
<td>Last day for submitting questions and requests for clarification</td>
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<tr>
<td>March 21, 2014</td>
<td>Applications due from applicants</td>
</tr>
<tr>
<td>May 21, 2014</td>
<td>Notification of award(s) sent to applicant(s)</td>
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<tr>
<td>May 30, 2014</td>
<td>Start date for grant award(s)</td>
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Application Instructions
The instructions for completing an application for a Broadband Expansion Grant are available at the following link:
I. Executive Summary
This project will place WiMAX technology on three (3) existing towers in the Towns of Minocqua, Hazelhurst and Lynne in Oneida County, WI. This part of Wisconsin is geographically isolated, and full of natural barriers like lakes and forests that cause the cost of broadband provision to be extremely high. As such, traditional infrastructure (cable and fiber) has never been made available to many of the residents and businesses of the region. WiMAX presents an opportunity to provide high-speed Internet service with a much lower initial investment. One WiMAX installation on a single tower can provide service to an extremely large geographic area. We believe that WiMAX presents an unparalleled opportunity to overcome geographic obstacles and make high-speed Internet service available to hundreds of underserved residents, not to mention the thousands of visitors who come every year.

The below application for the Wisconsin Public Service Broadband Expansion Grant S-GT-100 represents a public-private partnership between the following co-applicants:

Oneida County Economic Development Corporation and Northwoods synKro LLC.

*Matching funds will be provided by our project partners and co-applicants; the County of Oneida, the Town of Minocqua, Town of Hazelhurst, Ministry Health Care, Marshfield Clinic, MHLT (Minocqua J1 School District), Lakeland Union High School (LUHS), Grow North, and Northwoods synKro LLC.

II. Applicant identification and contact information (3.2.1.1)

a. Name and contact of entity applying for grant
Oneida County Economic Development Corporation (501 c (3) non-profit corporation)
3375 Airport Road
P.O. Box 682
Rhineland, WI 54501
Roger Luce, Executive Director
Phone: 715-369-9110
Email: r.luce@ccedc.org
Patient Advocacy Comes Full-Circle from Announcement of the Broadband Grant Program to Actual Awards

Walker: Reform of state bureaucracy isn't finished

Richard Moore
Investigative Reporter

Gov. Scott Walker said last week there's no magic bullet for a Northwoods economy still reeling from the recession, but the governor vowed to pursue an array of strategies to stoke northern prosperity if he's re-elected, from increasing tourism promotion to building the infrastructure he says the region needs for diversified economic growth.

The Northern economy

The economy of the Northwoods has yet to recover from the Great Recession - a large swath of the region lost 10 percent of its population during the past decade, while the number of jobs has yet to return to prerecession levels - and Walker said infrastructure development would play a key role in turning things around.

"In this case, I'd say the next layer of infrastructure investments like that are, in particular, in broadband Internet access," he said. "We just issued five grants earlier this year - four of the five were in north-central Wisconsin - because we know there is ripe potential, particularly for small and mid-sized companies."

"And so broadband access is a key part of that," Walker said. "We put money in the last budget - like I said, four of the five grants are in north-central Wisconsin. We want to do more of that in the future."

"In this case I think broadband Internet access, high-speed access, is a key part," he said. "I think that would go a long way not only for helping individuals but particularly employers."
Direct Economic Impact

- As a result, using our numbers from the previous slides, we conclude that in Forest, Langlade, Lincoln, Oneida, and Vilas part-time residents would directly contribute with $41,047,845.77 (31,180 x 52.9 % x $2,488.62 ) dollars in the local economy if they had better access to internet

- 31,180 (seasonal houses)
- 52.9% (percentage of households with internet access issues)
- $2,488.62 (additional spending a year per seasonal home)
<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment</th>
<th>Labor Income</th>
<th>Output</th>
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</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>1,454</td>
<td>$23,528,923</td>
<td>$55,778,505</td>
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<tr>
<td>Indirect Effect</td>
<td>109</td>
<td>$4,294,936</td>
<td>$12,867,676</td>
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<tr>
<td>Induced Effect</td>
<td>188</td>
<td>$7,281,161</td>
<td>$22,466,186</td>
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<tr>
<td>Total Effect</td>
<td>1,751</td>
<td>$35,105,021</td>
<td>$91,112,368</td>
</tr>
</tbody>
</table>
Conclusions

- Broadband internet connectivity in vacationing homes would generate additional spending in the local economy, causing regional economic prosperity.
- The yearly impact in Forest, Langlade, Lincoln, Oneida, and Vilas Counties in Wisconsin would be between $41,047,845.77 and $55,778,505.
- Benefits: job creation, higher tax revenues, and better infrastructure in the county.
UW-Extension Broadband & E-Commerce Education Center Rural Pilot Project

### PSC-W E-Commerce Rural Pilot Project

**Online Training / Assessment of Core Economy Businesses in Rural Wisconsin**

<table>
<thead>
<tr>
<th>County</th>
<th>Core Businesses</th>
<th>Core Businesses Invited</th>
<th>General Training Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHLAND</td>
<td>554</td>
<td>28</td>
<td>7 Businesses (25% filter)</td>
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<tr>
<td></td>
<td></td>
<td>1. Web / Social Media 101</td>
<td>(DAT) Training</td>
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<td></td>
<td>2. SEO &amp; SEM 101</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. E-Commerce Basics</td>
<td></td>
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<tr>
<td>BAYFIELD</td>
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<td>26</td>
<td>6 Businesses (25% filter)</td>
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<tr>
<td></td>
<td></td>
<td>1. Web / Social Media 101</td>
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<td></td>
<td>2. SEO &amp; SEM 101</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. E-Commerce Basics</td>
<td></td>
</tr>
<tr>
<td>ONEIDA</td>
<td>1,101</td>
<td>76</td>
<td>13 Businesses (25% filter)</td>
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<td></td>
<td>2. SEO &amp; SEM 101</td>
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</tr>
<tr>
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<td></td>
<td>3. E-Commerce Basics</td>
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<td>VILAS</td>
<td>925</td>
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<td>14 Businesses (25% filter)</td>
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<td></td>
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<td>3. E-Commerce Basics</td>
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</tbody>
</table>

**Additional Customized Training & Assessment**

- **Growth Potential Subsets**
  - 4: Website Assessment
  - 3: SEMRush Trainings
  - 3: Additional Training / Support

**Formula:**
Core Business in County / Total Number of Core Businesses in 10 counties × 50 (goal for number of companies to receive in-depth training)
Northwoods Broadband & Economic Development Coalition FAB Lab Project

- One MIT-Chartered FAB Lab in each of the eight NE Wisconsin counties within the next three years

- First K-12 FAB Lab in Wisconsin opened in September in the Three Lakes School District

- Wisconsin now tied with other states having six (6) FAB Labs, the most of any state in the country

- After the next seven Labs go into Florence, Marinette, Oconto, Forest, Langland, Lincoln and Vilas this will give Wisconsin at least thirteen (13) Labs, more than any other state
FAB LAB  Fact Sheet

- STEAM – Science / Technology / Engineering / Art / Math

- Fab Lab is a digital design and fabrication laboratory which plays a vital role in the education of students in the fields of Science, Technology, Engineering and Math (STEM)

- Originally designed by the Massachusetts Institute of Technology Center for Bits and Atoms, the Fab Labs located worldwide are part of a global network engaged in supportive, collaborative initiatives

- Fab Labs reflect new directions in creativity, innovation, design and applications in STEM

- Computational-based design and application through individual fabrication fosters innovative and sustainable solutions by combining research, development and technology applications

- Fab Labs give students hands-on learning experiences which reinforce and validate the principles learned in their science, engineering and math classes

- Students create a wide variety of parts, devices and systems applying a wide variety of digital design tools (software) with the dedicated digital machines located in the lab including:
  * Laser Cutters  * Vinyl Cutting Machines  * 3D Printers  * 3-Axis Mills  
  * CNC Mills  * 3D Scanners  * Laser Engravers  * Video Teleconferencing  * Industrial Tools

- Fab Labs create new program models, collaborative partnerships, and educational/learning communities which help address the technological shortcomings of traditional educational environments. Fab Labs support multi-channeled solutions, while the traditional model for a laboratory was designed to support a single or central technical theme
FAB Labs will provide graduating high school students with many of the middle skills qualifications they need to be immediately employable.

Students can go on to obtain two more years of education as full time students or on the job.

54%, the largest share of job openings in the next decade will require middle skills – more than high school but less than a four year university degree.

FAB Labs will provide graduating high school students with many of the middle skills qualifications they need to be immediately employable.

Must be open to the public a minimum of three days a week, allowing entrepreneurs and inventors access to the tools and technology in the Lab.
The Big Picture for Upper NE Wisconsin

- Facilitate the best possible expansion and adoption of high speed internet/broadband by means of existing grants, new grants and expanded legislation

- Educate business owners on how to leverage broadband and the internet to expand their operations

- Install FAB Labs in each county to train the workers of tomorrow, to spur cottage industry and to attract location neutral companies

- Open the labs to area business owners and entrepreneurs, collaborate with them on needed skills, and have jobs ready for the workers when they graduate

The overarching goal is to create an entirely new economic enterprise zone in upper NE Wisconsin, an additional leg for the economic stool, one based on the application of technology by means of broadband expansion and adoption as the means of doing economic development in rural communities traditionally dependent on tourism or a limited number of traditional bricks and mortar employers
ABOUT THE PRESENTER

Don Sidlowski – Civic/Government Strategist

is Founder of the Northwoods Broadband Development Coalition, a super-regional entity committed to the transformation of Wisconsin north of Highway 29 into a nationally-recognized high speed internet economic zone, attracting businesses and resident workers from around the country. He formerly served as the Executive Director for Grow North Regional Economic Development Corporation. Don is past Chairman in the Town of Three Lakes in Oneida County where he also served as chairman of the Economic Development Committee and as a Commissioner on the Three Lakes Plan Commission. He formerly served on the Board of Directors of the Oneida County Economic Development Corporation, is a current board member for the Wisconsin Rural Partners, is the Management Team Leader for the Public Service Commission’s LinkWISCONSIN Region 2, and serves as a broadband development adviser to a wide range of public and private organizations at the local, county, regional, super-regional and state levels including the UW-Extension Center for Community Technology Solutions and the Oneida County Board of Supervisors Technology Committee. Don is Co-Founder and Managing Director of Oneida Marketing Enterprises, a virtual company providing integrated internet marketing systems.
CASE STUDY – BROADBAND AS AN ENABLING TECHNOLOGY FOR ECONOMIC DEVELOPMENT

Resources

www. broadband.uwex.edu

wisconsindashboard.org/node/238

wisconsindashboard.org/node/405

psc.wi.gov/utilityInfo/tele/broadband/grants/bbGrantJan2014.htm

www.nwbdc.org