COMMUNITY AREA NETWORKS

A FRAMEWORK FOR DISCUSSION

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What is a Community Area Network?

People get together around lots of things – hobbies, professional interests, social causes or the latest home brew. What makes Community Area Networks (CANs) unique from the local PTA or Homeowner's Association is the reason people are gathering – technology. CANs are all about technology. Specifically, they help Community Anchor Institutions (schools, libraries, government, and heath care) to meet their technology needs in an affordable, budget conscience manner.

CANs are high-speed communication networks that are collectively designed and managed to promote innovation, competition, and economic viability in local communities. CANs in Wisconsin most commonly serve local units of government, state government, educational institutions, libraries, health care and nonprofits. These networks expand educational opportunities and improve the availability and efficiency of government and nonprofit services which impact the overall quality of life and economy.

Since the Chief Information Officers and IT Directors of these organizations are most concerned about these matters, they are the members of a community who are most likely to start a CAN. But they can't be the only ones involved. Really successful CANs take the participation of a variety of people.

Successful CANs are like cooperative food markets or farmer's cooperatives. The members of these coops pool their resources to acquire jointly what none could individually. The same is true of CANs. Member organizations pool what they have – existing infrastructure, technical expertise, cash for capital investment – manage it jointly and gain what they can't achieve individually – networks and applications that better meet the needs of those they serve. CANs require a high level of collaboration and consensus among the stakeholders and leaders within the community.

The Chippewa Valley Inter-networking Consortium CAN (CINC) has been at this for over a decade and serves as a model for other CANs in Wisconsin. To learn more of the CINC story, watch this video (http://bity.ly/CINC_broadband). For more information on the definition and benefits of a CAN, check out the "Build a CAN" section of the BCCB website (https://broadband.uwex.edu/resources/build-a-can/).

A Framework

CANs are more than technology projects. Engaging people throughout the community is critical to the long-term success of the effort. We created a "Community Assessment Framework" to assist with gauging both your community's technology capability and civic engagement as you embark on these important efforts. The framework defines a spectrum of assets and deficiencies, from which communities begin exploring to determine whether they are ready to pursue a CAN, learn how to start a CAN, or improve/extend their CAN. The framework (depicted below) identifies five technology capacity indicators and seven civic engagement indicators that impact a community's ability to start or grow a CAN. Communities interested in improving the level of their connectivity, developing networks that encourage sharing applications and reducing costs fall on a continuum depending on their specific strengths and challenges.

Framework for Assessing Can Development

Technology Capability • Existing Infrastructure • Geography • Technical Expertise • Diversity of Participants • Financial Resources	**Technically Capable**	**Established**
	Interested	**Civically Engaged**

Civic Engagement	
• Awareness	• Institutional Relationships
• Understanding	• History of Collaboration
• Leadership	• Public-Private Partnerships
• Economic Situation	

This framework is designed as an action guide for a community to assess its capacity and assets. In pursuit of this end an explanation of how to make best use of the framework is essential. Beginning on the next page are steps to follow to engage leaders throughout your community in an assessment discussion. At the end of the discussion you will have a common understanding of where your community lies within the framework. Then the following pages provide suggested next steps arranged by community type (Interested, Technically Capable, Civically Engaged, Established). Regardless of where your community is or what strategy you choose to pursue, the most important things is to keep people involved and discussion going.
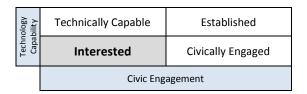
How to Use the Framework

This framework and guide will help you assess your community and will direct you to helpful resources; but, the most beneficial pieces will come from the conversations you and others in your community have as you move through the process of developing a CAN. We suggest you work through these steps to get the most out of this first conversation. For additional tips on having a productive conversation see the "Making Conversations Work" (http://bit.ly/Making_Conversations_Work) and the "Conversation Checklist" (http://bit.ly/Conversation_Checklist) resources.

1. Gather a group of community leaders (use the "Leadership Team Member Identification Worksheet" (http://bit.ly/CCG_leadership_id) from the Connected Communities curriculum for help identifying who to include.)

2. Identify a facilitator. Using the names on your Leadership Team Worksheet consider who has strong skills moderating and facilitating groups and would be a good choice to lead your conversation.

3. When your group is together, read the detailed definition of each of the framework indicators and discuss your community. Decide on a score for each indicator using the scale 1-5, whole numbers only, where 1 is low and 5 is high. Record your scores on the Framework Worksheet, found at the end of this guide. Average your scores for each axis, and plot your location on the graph.

4. Check your assessment with the broad descriptions below then find a few practical suggestions and resources for how next to proceed. As you move forward remember to have regular conversations with your community partners.

Community Descriptions and Resources

An Interested Community

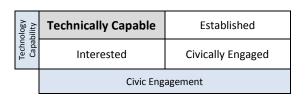| Technology Capability	Technically Capable	Established
	Interested	Civically Engaged
Civic Engagement		

An Interested Community has little-to-no existing infrastructure and geography such that it's difficult to bring middle mile infrastructure to and/or through the community. The community lacks a diverse set of Community Anchor Institutions (CAIs)[1]. The CAIs that are in the community may not have strong technical expertise or access to the financial resources needed for an initial build/expansion and maintenance. Community leaders have little to no understanding of what broadband is or how it affects quality of life in a community; they may be resistant to engage the topic of broadband. The community may lack the capacity or experience to attract outside resources (i.e., grants, partnerships). No formal, and few informal, relationships exist between public organizations with no history of collaboration, and little-to-no history of partnership between public and private entities in the community; relationships may even be contentious or openly hostile.

Your community will benefit from some focused work on both community engagement and technical capability components before tackling the complexities of a CAN.

- Strengthen the leadership team within your community and explore alternate ways of improving your connectivity using the National e-Commerce Extension Connecting Communities Guide (http://bit.ly/Connecting_Communities_Guide). It is designed to help community leaders to improve the availability of access to broadband connectivity across the community; the ability of organizations in the community to use digital technology to achieve their mission and goals; and the ability of individuals in the community to use digital technology to improve their social and economic well-being.
  - Begin with the "Getting Started" lesson where you'll be introduced to a process for completing any size of connectivity project (http://bit.ly/CCG_getting_started).
  - Start to gather a team to work on improving your community's connectivity; use the "Find a Team" lesson (http://bit.ly/CCG_find_a_team).
  - Work through the "Learn About Broadband" lesson and subsequent lessons to increase your broadband knowledge (http://bit.ly/CCG_broadband_lesson).
- Become familiar with examples from other communities
  - See the story of how one community started a CAN and grew it into a model for others over the last decade; watch the CINC CAN video (http://bity.ly/CINC_broadband).
  - Learn how another Wisconsin community increased connectivity without developing a CAN; watch the Town of Three Lakes video (http://bit.ly/ThreeLakes_broadband).
- Learn what broadband services already exist in your area and who provides them
  - Review the Link Wisconsin map to determine which private providers serve your area (http://wi.linkamericadata.org).
  - Connect with a private provider to discuss how you might work together to meet the broadband connectivity needs of your community. Check out these state associations for list of providers: Wisconsin State Telecommunications Association (http://www.wsta.info/), Wisconsin Cable Communications Association (http://www.wicable.tv), Wisconsin State Telephone Cooperative Association (http://www.wstca.coop/), Wisconsin Wireless Association (http://www.wisconsinwireless.org/)
- Work with a specialist and receive individualized coaching and support -- contact the Center for Community Technology Solutions at 855-306-8050 or wibroadband@uwex.edu.

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[1] Community Anchor Institutions are the schools, libraries, government entities and health care providers within a community.

A Technically Capable Community

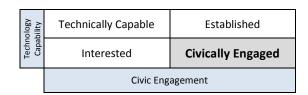|	Technically Capable	Established
Technology Capability	Interested	Civically Engaged
	Civic Engagement	

In *A Technically Capable Community,* CAIs have strong technical expertise and have made significant investments in infrastructure. Their technology leaders may be exploring how to share infrastructure, share applications or other ways to cooperatively meet their technology needs. However, few community leaders outside the technology sphere have an understanding of what broadband is or how it affects quality of life in the community. Meeting technology needs is not a priority of community leaders or the community at large. There may be pressure to divert any cost savings from cooperative technology use away from infrastructure maintenance and/or expansion. The community may lack the capacity to attract outside resources (i.e., grants, partnerships). The community may have no formal, and few informal, relationships between public organizations, no history of collaboration, and little to no history of partnership between public and private entities in the community; relationships may be contentious or openly hostile.

What could a technically capable community do next?

- Strengthen the broadband leadership team within your community using the National e-Commerce Extension Connecting Communities Guide (http://bit.ly/Connecting_Communities_Guide). It is designed to help community leaders to improve the availability of access to broadband connectivity across the community; the ability of organizations in the community to use digital technology to achieve their mission and goals; and the ability of individuals in the community to use digital technology to improve their social and economic well-being.
  - Beginning with the "Learn About Broadband" lesson, an overview of broadband is provided for community leaders and residents wanting to learn more about broadband (http://bit.ly/CCG_broadband_lesson).
  - Use the set of 11 PowerPoint presentations as you speak with community groups about the vision and benefits for your community (http://bit.ly/CCG_ppall).
  - Gauge the level at which community leaders and organizations will collaborate to identify, develop and implement connectivity related projects, like a CAN, using the Community Readiness Assessment (http://bit.ly/CCG_readiness_asmt).

- Build awareness and understanding of broadband issues.
  - Begin by forming an education committee; see the Connecting Communities lesson "Form an Education Committee" for more information (http://bit.ly/CCG_education_committee).
  - Explore resources for building digital literacy in your community on the Digital Literacy Portal (http://www.digitalliteracy.gov/) developed by the National Telecommunications and Information Administration (NTIA) in partnership with nine other federal agencies.

- Find webinars and exercises on organizing, financing and maintaining your CAN in the "Build a CAN" section of the BCCB website (https://broadband.uwex.edu/resources/build-a-can/).

- Work with a specialist and receive individualized coaching and support -- contact the Center for Community Technology Solutions at 855-306-8050 or wibroadband@uwex.edu.

A Civically Engaged Community

	Technically Capable	Established
Technology Capability	Interested	**Civically Engaged**
	Civic Engagement	

A Civically Engaged Community has little-to-no existing infrastructure and geography such that it's difficult to bring middle mile infrastructure to and/or through the community. The community lacks a diverse set of CAIs. The CAIs that are in the community may not have strong technical expertise or access to the financial resources needed for an initial build/expansion and maintenance. However community leaders have an understanding of broadband and how individuals, business, and institutions could use/are using it. There is broad understanding of the needs of public and civic organizations accompanied by a formal inventory of needs and services. The community has strong, engaged leaders actively committed to improving broadband connectivity. The community has adequate resources for investment in an initial build/expansion as well as adequate resources to maintain a network once built. There is a history of attracting outside resources. Institutionalized relationships are plentiful. Collaboration occurs regularly with mostly favorable outcomes. Public/private partnerships occur regularly and are a significant component of any large undertaking.

What could a civically engaged community do next?

- Increase your technical knowledge
  - Find answers to frequently asked questions about the technology of CANs (http://bit.ly/CAN-FAQ).
  - Peruse a glossary of terms developed by the Northern Regional Broadband Networks Forum (http://bit.ly/broadband_glossary).

- Consider other, non-CAN models and options for increasing broadband connectivity in your community
  - The Town of Three Lakes used a simple technology fair to increase the privately provided options in its area (http://bit.ly/ThreeLakes_broadband).
  - The Town of Troy worked with a private provider to obtain funding and ease permitting to build additional infrastructure and provide services in the town (http://bit.ly/troy_ftth).
  - Sauk County leveraged investment in public communication systems to attract private investments (http://bit.ly/Egov_broadband, skip to the 7:20 mark).
  - Explore the use of "dig once" policies that require the installation of conduit during road construction projects thereby reducing the cost for private providers to expand their networks (http://bit.ly/dig_once).

- Start connecting the public and civic institutions in your community as it makes sense. You may not need a formalized organizational structure but can use intergovernmental agreements instead. (See the "Build a CAN" section of the BCCB website for samples https://broadband.uwex.edu/resources/build-a-can/.)

- Work with a specialist and receive individualized coaching and support -- contact the Center for Community Technology Solutions at 855-306-8050 or wibroadband@uwex.edu.

An Established Community

	Technically Capable	**Established**
Technology Capability	Interested	Civically Engaged
	Civic Engagement	

In **An Established Community,** CAIs have strong technical expertise and have made significant investments in infrastructure. Their technology leaders may be exploring how to share infrastructure, share applications or other ways to cooperatively meet their technology needs. Community leaders have an understanding of broadband and how individuals, business, and institutions could use/are using it. There is broad understanding of the needs of public and civic organizations accompanied by a formal inventory of needs and services. The community has strong, engaged leaders actively committed to improving broadband connectivity. The community has adequate resources for investment in an initial build/expansion as well as adequate resources to maintain a network once built. There is a history of attracting outside resources. Institutionalized relationships are plentiful. Collaboration occurs regularly with mostly favorable outcomes. Public/private partnerships occur regularly and are a significant component of any large undertaking.

What could an established community do next?

- Reach out to anchor institutions or community non-profits that aren't part of your network
  - Healthcare is an often forgotten segment of CAIs. Consider the benefits of including non-profit healthcare providers in your CAN. Read about how the hospital systems in one Wisconsin community used participation in the local CAN to provide better care (http://www.internet2.edu/health/#).
  - To find non-profits within your community the Wisconsin Department of Financial Institutions maintains a searchable database of all registered corporations (http://www.wdfi.org/) and the United Way provides information on partner organizations (http://apps.unitedway.org/myuw/).

- Think regionally
  - Find information about regional broadband planning efforts on the Link Wisconsin website (http://www.linkwisconsin.org).

- Add a new technology or look for a new way to leverage the technology you have
  - Learn about how CINC is expanding their network using WiMax: listen to a podcast (http://bit.ly/CINC_podcast).
  - Explore opportunities to work with the private sector. For more discussion on this topic read about how to use public-private partnerships in a CAN (http://bit.ly/Public-Private).

- Consider partnerships to support digital literacy education in your community
  - Begin by forming an education committee; see the Connecting Communities lesson "Form an Education Committee" for more information (http://bit.ly/CCG_education_committee).
  - Explore resources for building digital literacy in your community on the Digital Literacy Portal (http://www.digitalliteracy.gov/) developed by the National Telecommunications and Information Administration (NTIA) in partnership with nine other federal agencies.
  - Read this story of how one established CAN is working with community partners to provide education opportunities in their community (http://bit.ly/CINC_Seniors).

- Work with a specialist and receive individualized coaching and support -- contact the Center for Community Technology Solutions at 855-306-8050 or wibroadband@uwex.edu.

Framework Worksheet

To place your community within the Framework for Assessing Community Area Network Development, complete the following worksheet.

FRAMEWORK INDICATORS
Read the definitions below for each framework indicator and give your community a score from 1 (low) to 5 (high), whole numbers only. Record your reasons and any other thoughts to have for your community discussion. Average the scores for each section.

Technology Capability	
Existing Infrastructure	
A measure of the amount of telecommunications and network infrastructure, such as fiber, that the community currently owns and has in service. The more infrastructure the higher the score.	
Score	**Reason/Notes**
Geography	
A measure of how the geography of the community will facilitate (high) or impede (low) deployment of physical infrastructure. Consider aspects such as how close anchor institutions are to each other, how close the community is to a backbone connection point, and how easy it is to dig in the ground. The easier the geography the higher the score.	
Score	**Reason/Notes**
Technical Expertise	
A measure of the breadth and depth of technical expertise in or readily available to CAIs. Consider experience, skills and expertise of technical staff related to telecommunications and computer networks. (How expert are your experts?) Consider also the number of technical staff with expertise in these areas. (How deep is your bench?) The greater the expertise the higher the score.	
Score	**Reason/Notes**
Diversity of Participants	
A measure of how varied the CAIs are. Consider local government, schools (K-12 and higher education), libraries, healthcare (hospital and clinics) and community non-profits (senior center, community center, food bank, etc.). Consider potential as well as actual participation in the CAN. The more variety in potential CAN participants, the higher the score; the more variety in actual participants, actual engagement, the higher the score.	
Score	**Reason/Notes**
Financial Resources	
A measure of how much money is available to invest in building and maintaining a CAN. These resources can be provided by member organizations or come from outside sources such as grants or partnerships. Consider the communities history in attracting and releasing financial resources to address other challenges. The greater the resources the higher the score.	
Score	**Reason/Notes**

Average Score	Technology Capability

Civic Engagement

Awareness
A measure of community leaders interest in broadband and if broadband is a community priority. Be broad in your thinking about who are community leaders. The broader the awareness, the higher the score.

Score	Reason/Notes

Understanding
A measure of how well leaders can articulate the community's needs in the area of broadband. Communities with established CANs may expand this factor to consider community members in general. The deeper the understanding the higher the score.

Score	Reason/Notes

Leadership
A measure of how effective, engaged community leaders are and where they rank broadband with respect to other community priorities. A community with strong, engaged leaders actively committed to improving broadband connectivity will score high on this factor. A community with ineffective leaders or leaders who are resistant to engage the topic of broadband will score low.

Score	Reason/Notes

Economic Situation
A measure of the overall economic situation of the community. Consider aspects such as employment, income, and population growth. The stronger the economic situation the higher the score.

Score	Reason/Notes

Institutional Relationships
A measure of the relationships between public institutions in a community, with the emphasis on the number of relationships and formality (assuming more formal relationships are more likely to survive personnel changes). The greater the number and formality of relationships, the higher the score.

Score	Reason/Notes

History of Collaboration
A measure of how often and how well individuals and organizations with in a community work together in a collaborative fashion. Consider collaboration on projects or efforts not related to broadband or CANs. The more regular the collaboration and favorable the outcome, the higher the score.

Score	Reason/Notes

Public-Private Partnerships
A measure of frequency and success of public-private partnerships. Low scoring communities will have little or no history of this type of partnership and/or relationships between public and private entities maybe contentious or openly hostile. In high-scoring communities public-private partnerships occur regularly and are a significant component of any large undertaking.

Score	Reason/Notes

Average Score	Civic Engagement

FRAMEWORK CHART

Using the averages from Step 2, plot your community on the chart below. Make note of which quadrant your community is in.

5	**Technically Capable**	**Established**
3	**Interested**	**Civically Engaged**
1		

Technology Capability

Civic Engagement

1   3   5