

ROMA Resource Guides on Broadband Connectivity

Webinar for Municipal Councils & Staff

December 1, 2020

Thank you for Joining

- Everyone is muted, due to the large number of registrants
- However, you can participate in one of two ways through Zoom:
 - 1. Chat Window** – to everyone (public) or panelists only (private)
 - 2. Question & Answer Window** – will be asked by panelists
- The slides will be circulated to all participants, and this presentation will be recorded
- Questions will be asked in sections; will follow-up directly if we do not get to all of them

Today's Agenda

- Context & About ROMA
- ROMA's Involvement in Connectivity
 - Connectivity Primer 101
 - Municipal Connectivity Roadmap 101
- Quick Links to Funding Programs
 - Universal Broadband Fund (Federal)
 - Improving Connectivity in Ontario (Provincial)

Context

- Broadband and cellular connectivity is not a luxury – it is a necessity.
- Connectivity has become a major policy challenge at the municipal level
 - some elected officials feel pressure to bring improved connectivity to their communities
- Municipal governments do not have a mandated role in telecommunications
 - both regulatory and funding regimes are controlled at the federal and provincial levels
- That said, municipal governments across Ontario are recognizing they can be part of the connectivity solution

About ROMA & AMO

- ROMA is the rural municipal voice of the Province of Ontario
- It promotes, supports, and enhances strong and effective rural governments
- ROMA members work closely with the Association of Municipalities of Ontario (AMO)
- AMO is a non-partisan, non-profit association that advocates for Ontario's 444 municipal governments
- Together, these associations work together to achieve shared goals and meet common challenges, one of which is connectivity

ROMA's Involvement

- ROMA created the Connectivity Primer, and the Municipal Roadmap tailored specifically for Ontario's rural municipal governments
- These resources are designed to:
 - Provide consistent information around connectivity & key terms;
 - Create a framework to evaluate connectivity policy decisions;
 - Establish a better understanding of the possible municipal roles in connectivity; and
 - Identify actions that councils can start taking to prepare for conversations around connectivity

Engagement with Sector & Partners



Connectivity Resources

- ROMA created two resources to be read in tandem:

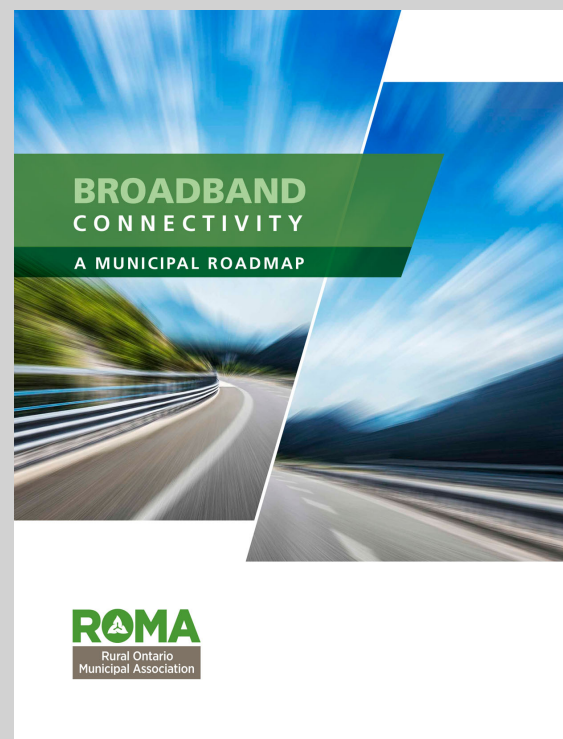


Connectivity Primer:

provides an overview of the regulatory and funding regimes for telecommunications in Canada, and provides some examples of the municipal models across Ontario

Includes:

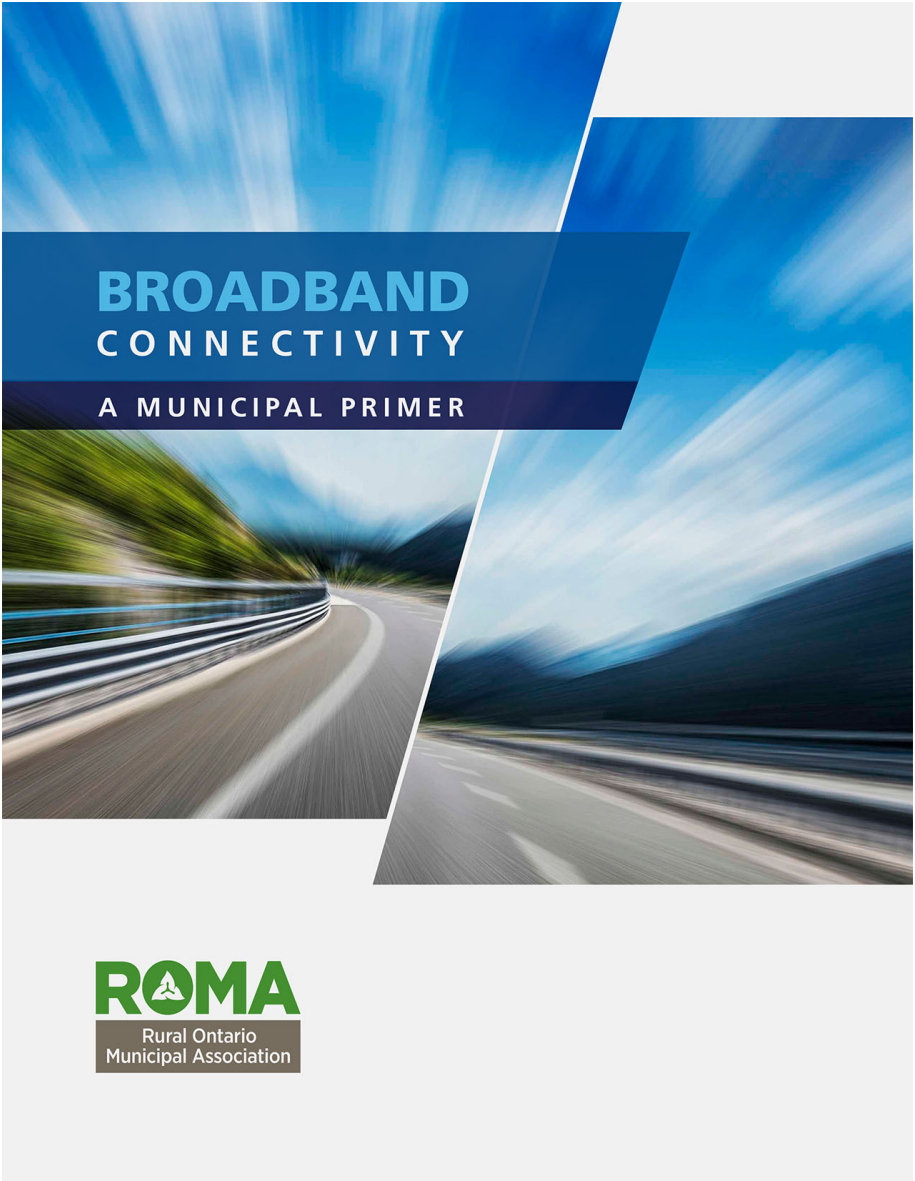
Recommendations for Action; Digital Divide Research



Municipal Roadmap:

lays out components of a municipal connectivity plan that municipal councils and staff can implement to create local solutions

Includes: Glossary of terms; Quick Tip Guide



Contents

The Purpose of the Connectivity Primer 3

About the Rural Ontario Municipal Association (ROMA) 3

Acknowledgements..... 3

Introduction..... 4

Municipal Leaders Can Be Agents of Change 5

Closing the Digital Divide Requires Both Public and Private Investment 6

Municipalities Building a Community-Business Case for Connectivity..... 7

Recommendations for Action 8

Conclusion 9

Appendix A: The Digital Divide 10

Appendix B: The Regulatory Landscape of Telecommunications in Canada 13

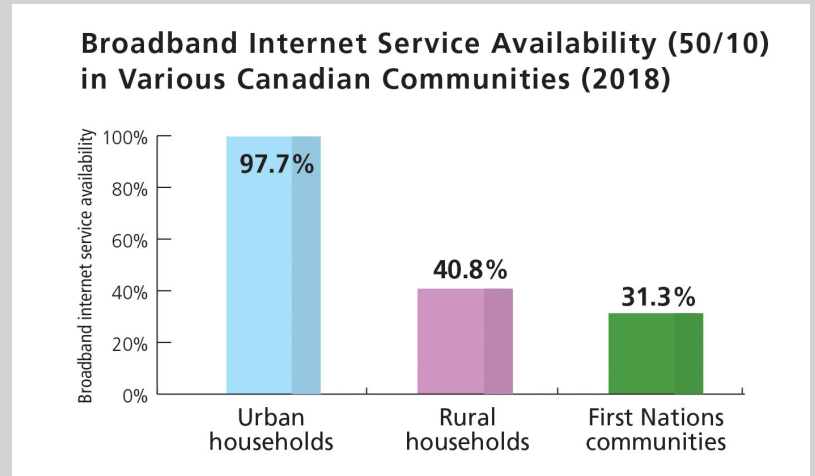
Appendix C: Types of Municipal Models..... 17

Connectivity Primer: Introduction

- Almost as vital to a community's economic prosperity and quality of life as traditional infrastructure, such as clean drinking water, electricity, and well-maintained roads
- Need for better connectivity has been building steadily for decades; COVID-19 has been only the latest (albeit major) catalyst for change
- Municipal governments are looking for short- and long-term solutions to help bridge the digital divide
- Digital divide can be described by gaps in:
 - Availability of broadband;
 - Service quality; and
 - Affordability of services.

Digital Divide: Availability

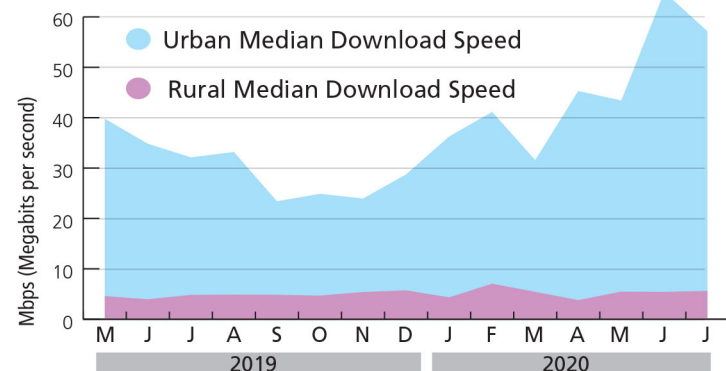
- Province estimates 12% of Ontarians live in communities with insufficient or not connectivity, and 9% of Ontario's roads are not covered by the latest mobile technology
- Approximately 30% of rural households rely on fixed wireless services
- The Canadian Radio-Television and Telecommunications Commission (CRTC) Basic Service Objective (2016) is:
 - Speeds of 50 megabits per second (Mbps) download / 10 Mbps upload for fixed broadband services with an unlimited data option; and,
 - The latest mobile wireless technology (cellular) available not only to all homes and businesses, but also along major Canadian roads.
- Goal is for 100% of Canadians to meet objective by 2030



Digital Divide: Service Quality

- Even if available, real-time communications services (i.e. videoconference-type services, telemedicine, etc) will not be possible if the connectivity is not sufficient or reliable.
- Service is often defined as sufficient/reliable if latency, jitter, and packet loss are low.
- The seismic shift towards working from-home and the necessity for e-commerce and e-learning, has led to quality issues across Ontario – urban generally have more choices

The Urban-Rural Digital Divide Across Canada, May 2019 to July 2020



The Canadian Internet Registration Authority (CIRA) found that:

- Rural internet users experienced a median download speed of 5.5 Mbps since the pandemic began; while
- Urban download speeds nearly doubled since the start of March 2020 (26.16 Mbps in March, to 51.54 Mbps in July)

Digital Divide: Affordability

- On average, households in rural communities increased spending per month for internet by 8.7% between 2016 and 2019, compared to urban centres that only increased by 4% over the same period
- One factor that affects affordability is the number of choices that communities can choose from
- Lack of competition coupled with the data caps, lead many rural residents to pay for more than one service to avoid going over their data. According to the CRTC Telecom Regulatory Policy (2016):
 - *“If consumers were notified of alternative broadband Internet access service plan options that may better suit their needs when they incur data overage charges, they would be empowered to better manage their bills and to avoid bill shock...”*
 - *The availability of usage monitoring tools and data overage notifications would provide consumers with cost certainty and would empower consumers to make better-informed choices.”*

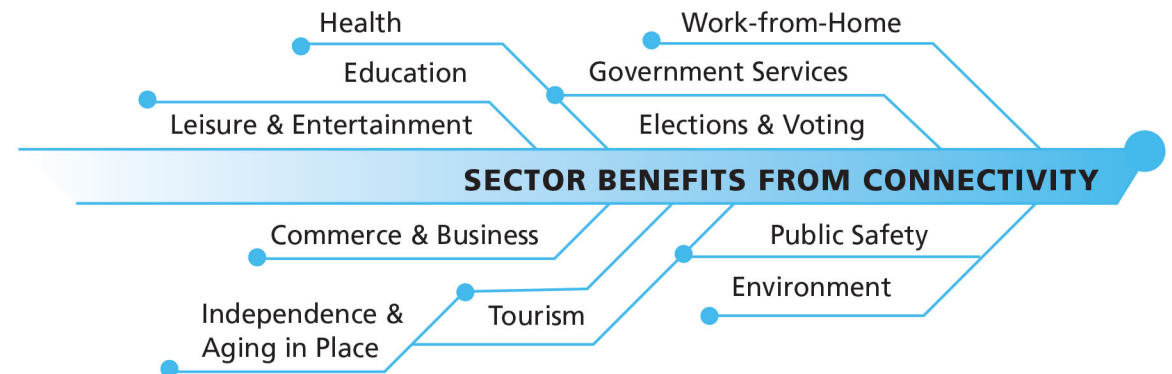
Closing the Digital Divide Requires Public & Private Investment

- Private telecommunications companies respond to market signals to provide value to their shareholders and seek to achieve the highest return on investment as possible
- Telecommunications Service Providers (TSPs) and Internet Service Providers (ISPs) will respond to public sector funding (i.e. subsidies) if there is a business case for them in doing so
- Implementation of public funding for connectivity infrastructure takes time, because of the accountability and transparency required to use taxpayers' dollars
- Public funding is only one part of the necessary solution. Governments and industry need to work together to leverage opportunities for better broadband
- Public investment needs to create conditions to allow private companies to use their capital to serve people longer term and invest to keep services current

Building a Community Business Case

- Unlike the private sector, the public sector (including municipal governments) can assign values on the direct and indirect economic, social, and environmental benefits that would help build the case for connectivity funding
- These benefits span across multiple provincial and federal Ministries. In some cases, investing in broadband could alleviate the pressure for funding from other Ministries
- Municipal councils should understand the unique opportunities that broadband connectivity can bring
- These considerations should also be discussed as councils consider whether to play a role in funding connectivity

Benefits from Greater Connectivity (ROMA, 2020)



Understanding the Larger Picture

- Telecommunications regulatory and oversight powers lie primarily with the federal government. The Government of Canada regulates the industry through the *Telecommunications Act*, *Broadcasting Act*, and the *Radiocommunications Act*
- While the provincial government does not directly regulate the telecommunications industry, it does have a vested interest in broadband infrastructure because of its responsibility for economic development, COVID-19 recovery, and building economic prosperity for all Ontarians.

Government of Canada:

Innovation, Science & Economic
Development (ISED) Canada

Canadian Radio-Television and
Telecommunications Commission (CRTC)

Province of Ontario:

Ministry of Energy, Northern Development
and Mines (MENDM) and the Ontario
Energy Board (OEB)

Ministry of Infrastructure

Connectivity Primer: Recommended Actions

	Recommended Actions on Telecommunications
Innovation, Science and Economic Development, Canada (ISED)	<ul style="list-style-type: none">• Leverage \$1.75 billion in announced broadband investment and expedite rollout (e.g. Universal Broadband Fund).• Continue to support the deployment of Low Earth Orbiting satellite technology to connect communities in which wired connections are challenging and impractical.• Match funding to policy goals and ensure sustainable improvements in services that can serve residents' needs as technologies evolve.• Undertake initiatives from the Broadcasting & Telecommunications Legislative Panel (Jan 2020).• Recognize the diverse and specific place-based contexts⁴, needs, and aspirations of different types of rural, remote, or other underserved communities when developing funding programs and policy initiatives (i.e. focus on digital agriculture vs. tourism).
Canadian Radio-television and Telecommunications Commission (CRTC)	<ul style="list-style-type: none">• Provide a consistent and fair environment to incent investment in connectivity services that meet consumer needs at an affordable rate.• Reflect the importance of equity in its positions on acceptable service levels so that rural, northern, and remote residents are not left behind in the growing digital divide.• Strengthen regulatory frameworks that emphasize broadband as a basic right, and that protect public interest objectives in service level determination.• Institute minimum levels of constant service for all packages offered by TSPs and ISPs, even during peak periods. Currently, paying for an "up to" plan is expensive, and has no guarantee that at peak times the service will be close to as fast.

Connectivity Primer: Recommended Actions

	Recommended Actions on Telecommunications
Province of Ontario (Ministry of Energy, OEB, and Ministry of Infrastructure)	<ul style="list-style-type: none">• Continue to advocate to the federal government to expedite rollout of broadband funding.• Continue to leverage the nearly \$1 billion provincial broadband investments, wherever possible.• Continue to work across Ministries and with AMO, ROMA, and local municipalities to identify solutions for increased connectivity as a mechanism for economic recovery and growth.• Identify additional supports for municipal governments to improve their digital literacy & capacity building in their communities (e.g. youth and experts).• Explore innovative partnerships to help bridge funding gaps and/or develop policy initiatives that are focused on capacity building and digital learning.• In accordance with Mandate Letter⁵, modernize the Ontario Energy Board (OEB) by improving organizational governance and consider how expanding broadband and cellular access can align with a modernized and efficient energy sector.• Review provincial assets such as towers, buildings, land and utility poles (and their attachment rates) to optimize connectivity and lower costs of deploying technology to encourage private sector investment.

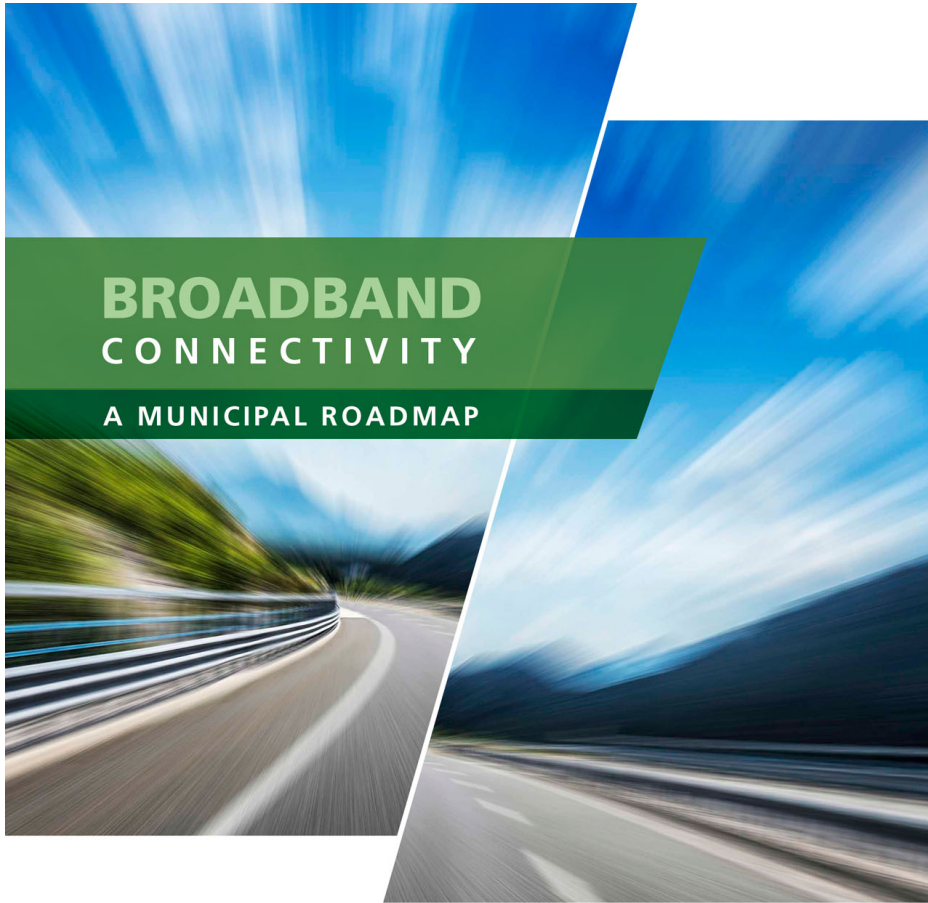
Connectivity Primer: Recommended Actions

	Recommended Actions on Telecommunications
Utility Companies	<ul style="list-style-type: none">• Build better relationships with municipal governments; share information more consistently and where possible, coordinate strategic plans on connectivity.• Educate and inform municipal councils early and often about the rationale for utility pole attachments rates. Share what the barriers are and discuss what municipal governments and utility companies could each do to improve the relationship (e.g. permitting, Rights-of-Way).
Telecommunications Service Providers (TSPs) & Internet Service Providers (ISPs) Companies	<ul style="list-style-type: none">• If too cost-prohibitive to build in areas of need, do not inhibit other companies or technologies from providing this service (e.g. smaller TSPs and ISPs operating in nearby municipalities)• Develop and sustain relationships with municipal governments in a meaningful and ongoing way• Continue to invest in and fund robust infrastructure that can be upgraded in the future and that can provide high-quality telecommunications services.

Connectivity Primer: Municipal Models

- Blue Sky Net: www.blueskynet.ca
- Eastern Ontario Regional Network (EORN): www.eorn.ca/en/index.aspx
- Rhysome Networks: www.rhizome.ca
- Southwestern Integrated Fibre Technology (SWIFT): www.swiftruralbroadband.ca
- Waterloo Region Education and Public Network (WREPNET): www.wrepnet.on.ca
- York Net: www.York.ca/wps/portal/yorkhome/yorkregion/yr/yorknet
- **Regional Technology Development Organizations:** [Knet](#) (Sioux Lookout), [NeoNet](#) (Timmins), [Parry Sound Muskoka Community Network](#) (Gravenhurst), [Northwestern Ontario Innovation Centre](#), and [The Sault Ste. Marie Innovation Centre](#)
- Broadband for Rural North (B4RN) - Lancashire, England: www.b4rn.org.uk

Questions?



Contents

The Purpose of the Municipal Connectivity Roadmap 3

About the Rural Ontario Municipal Association (ROMA) 3

Acknowledgements 3

Introduction..... 4

The Roadmap is Not Linear 4

The Connectivity Roadmap 5

- Identify state of connectivity and assets 5
- Understand connectivity drivers 6
- Determine municipal role..... 8
- Leverage existing tools..... 10
- Champion community needs 11
- Invest strategically..... 13
- Partner..... 13

Quick Tip Guide to Get Started..... 14

For More Information 14

Appendix A: Glossary of Terms 15

Municipal Roadmap: Summary

- The (non-linear) Roadmap recognizes that municipal work on connectivity is something that could be constant with some stages in need of repeating and/or greater time
- Each component is explained with examples and has next steps for councils to consider

Components of a Municipal Roadmap (ROMA, 2020)



Component 1

Identify the state of connectivity in the municipality and understand what assets exist within its municipal boundaries

NEXT STEPS: LEARN THE BASICS

- Read ROMA's primer and understand the terminology and terms.
- Establish a cross-department working group on broadband connectivity.
- Use mapping tools to understand existing service levels – both advertised and experienced
- Identify early on what stands in the way of better connectivity.

Component 2

Understand the true drivers and needs for connectivity and be open to creative solutions

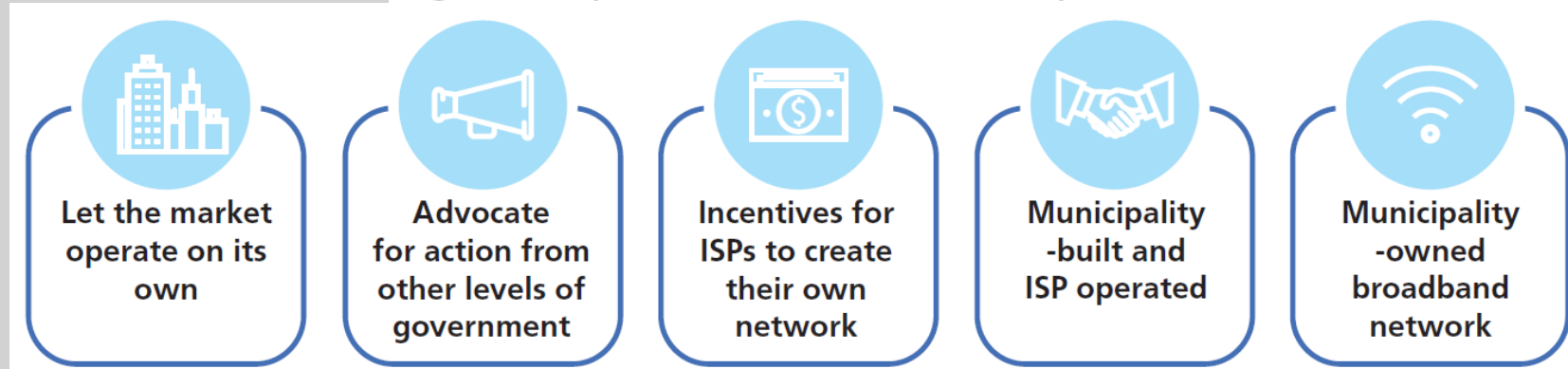
NEXT STEPS: ASSESS THE NEEDS

- Conduct a needs assessment and evaluation of local connectivity drivers.
- Identify what benefits broadband would bring if those needs were met.
- Determine what neighbourhoods or areas within your municipal boundaries are of greatest need for connectivity.
- Match solutions depending on what requirements those connections need.

Component 3

Determine what role, if any, your municipality wants to play in connectivity.

Figure 2: Spectrum of Broadband Options (Erin Britnell, 2020)



NEXT STEPS: EVALUATE POSSIBLE MUNICIPAL ROLES

- Be honest about the level of digital capacity and resources available to municipal governments as the different options are evaluated.
- Learn from other municipalities who have grappled with this question and leverage their expertise wherever possible.
- Once the role has been established, recognize the importance of sustaining that role.

Component 4

Use and leverage potential tools municipal governments already have to manage connectivity needs

NEXT STEPS: LEVERAGE EXISTING TOOLS:

- Consider implementing broadband levy or other financial tools to invest.
- Explore the use of Municipal Access Agreements, bylaws, and permits to protect municipal assets.
- Identify a staff person responsible for collecting current procedures and processes across departments for the purpose of simplifying, where possible.
- Create rules that make new builds mandatory to lay conduit/fibre at the time of construction.

Component 5

Champion the need for connectivity in your community as council to a variety of stakeholders

NEXT STEPS: CHAMPION NEED FOR CONNECTIVITY

- Use local data to identify the gaps in connectivity and connect them to the lost opportunities for your communities.
- Identify local champions that can tell your story.
- Leverage the advocacy power of your associations (ROMA, AMO) and other organizations locally.
- Meet with federal Members of Parliament (MPs) to discuss matters related to funding and CRTC and ISED. Meet with Members of Provincial Parliament (MPPs) to advocate for community needs and resources.
- Work to build digital capacity and advocate for systems that enhance digital inclusion and are viable and sustainable for end users.

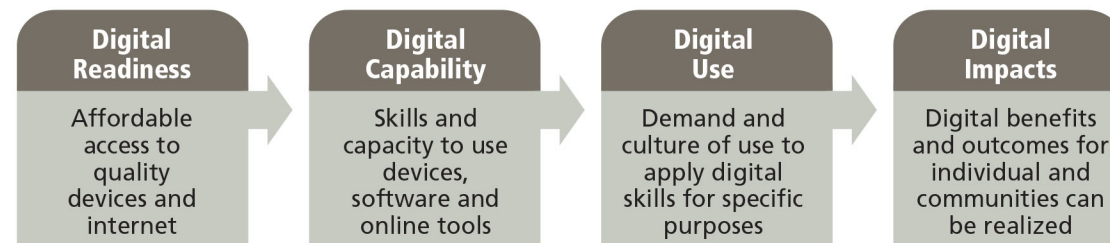
Component 6

Invest strategically in 'shovel-worthy' projects

NEXT STEPS: INVEST STRATEGICALLY IN 'SHOVEL WORTHY' PROJECTS

- Identify and invest in projects that are 'shovel-worthy' instead of 'shovel-ready' projects.
- Think strategically about building projects that are scalable and use future-proof technology, wherever possible.
- Advocate for MPs and MPPs to request the CRTC tie telecommunications companies to performance measurement targets.

Digital Readiness Roadmap (Kelly, 2020)



Component 7

Partner, partner, partner

NEXT STEPS: PARTNER, PARTNER, PARTNER

- Identify and gather information from neighbouring municipalities, local institutions and public sector organizations to leverage economies of scale.
- Build relationships with TSPs and ISPs in the community as the mapping and identification of existing assets is underway. That way, when the data is collected councils can move quickly to identifying service providers in the area.

Quick Tip Guide

For municipal councils who want to get involved, but who have limited resources to do so, here are three quick tips to get started:

QUICK TIP GUIDE:

- Build leadership from the inside. Someone already embedded in the community with networks and relationships is a great start. Finding local champions in the community is key to connectivity.
- Increase institutional awareness by developing staff expertise within the municipality.
- Understand the many initiatives that your community can undertake to be infrastructure ready.

Key Takeaways

- Material is intended to help, not overwhelm! If your Council hasn't started it is OK. This is just the start of the conversation...
- Tools like the Canadian Internet Registration Authority ([CIRA](#)) or Measurement Labs ([MLabs](#)) can help with mapping a community's connectivity speeds
- There are a range of models and options to choose from to fit a community's priorities & circumstances
- This is not a point-in-time exercise, but rather a longer-term effort to be led by a series of champions in your community
- ROMA is here and happy to help

Questions?

Federal & Provincial Broadband Funding Programs: Overview

Universal Broadband Fund (Federal)

- The Universal Broadband Fund (UBF) was launched in November 2020 as a key component of Canada's Connectivity Strategy, and consistent with their roadmap for Rural Canada
- Government of Canada committed \$1.75 billion over six years including:
 - Up to \$750 million available for large impact projects
 - Up to \$50 million available to support mobile projects that primarily benefit Indigenous peoples
 - Up to \$150 million available as part of the Rapid Response Stream
- This is in addition to \$600 million agreement with Telesat to secure advanced low Earth orbit (LEO) capacity

Universal Broadband Fund (2)

- [Applications](#) for the Rapid Response Stream are due January 15, 2021, and work must be completed by November 15, 2021. It is designed to address immediate connectivity needs for households exclusively
- [Applications](#) for rest of program due February 15, 2021, with projects to be completed by March 31, 2027. For details, including upcoming webinars & Frequently Asked Questions (FAQs), see their [website](#)
 - Uses a [National Broadband Internet Service Availability Map](#) (no more hexagons!), and an [Eligibility Mapping Tool](#) (watch this [video](#) for details)
- Program has pathfinder services where ISED staff can answer questions. Contact them at 1-800-328-6189 or by email at get-connected@canada.ca

ICON Program (Provincial)

- Since July 2019, the Province of Ontario has announced nearly \$1 billion in funding for broadband over six years building on the [Provincial Broadband and Cellular Action Plan](#)
- July 2019: committed \$315 million of investments, including \$150 million announced for the [Improving Connectivity in Ontario](#) (ICON) program
- November 2020: [committed](#) an additional \$680 million, including \$150 million to the ICON program (the remaining \$530 million has not been allocated yet)
- Intake for ICON remains open – consult the [application guide](#) for details

Next Steps & Links

- ROMA's Connectivity [Webpage](#) has the [Connectivity Primer](#) & the [Municipal Connectivity Roadmap](#)
- Follow ROMA on [Facebook](#)
- Connectivity will be a focal point of programming in the ROMA Conference 2021:
 - Getting Connected: Practical Steps Communities Can Take to Close the Digital Divide
 - How Communities and Industry Can Better Work Together to Build Connectivity
- Email [ROMA](#) to be added to ROMA's Broadband database

Thank you

Craig Reid – Senior Advisor

647-200-7189

creid@amo.on.ca

Amber Crawford – Policy Advisor

289-983-9232

acrawford@amo.on.ca