

INFRASTRUCTURE IMPACTS ON RURAL AND ECONOMIC DEVELOPMENT

Presentation to the
Senate Committee on National Finance

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This submission was presented to Senate Committee on National Finance by Ryan Gibson (University of Guelph, CRRF, RPLC) on behalf of the Canadian Rural Revitalization Foundation, the Rural Development Institute, and the Rural Policy Learning Commons. The following people contributed to the submission: Bill Ashton (Rural Development Institute, Brandon University, CRRF, RPLC); Sarah Breen (Selkirk College, CRRF, RPLC); Laurie Brinklow (University of Prince Edward Island, CRRF); Chloe Boyle (Simon Fraser University); Valencia Gaspard (University of Guelph, CRRF), Al Lauzon (University of Guelph, CRRF), Sean Markey (Simon Fraser University, CRRF, RPLC), Ruth Mealy (Government of Manitoba, CRRF), Sarah Minnes (Memorial University of Newfoundland, CRRF, RPLC), Angela Pollak (University of Alberta CRRF), and Craig Pollett (Municipalities of Newfoundland and Labrador, CRRF).

A copy of this submission can be found on www.crrf.ca, www.brandonu.ca/rdi, and www.rplc-capr.ca.

Canadian Rural Revitalization Foundation

The Canadian Rural Revitalization Foundation (www.crrf.ca) is a national charity that contributes to the revitalization and sustainability of rural Canada through collaborative research for rural leaders in the community, private sector, and in all levels of government. CRRF works to create credible insights and to improve our understanding of issues and opportunities that are of common interest to rural residents across Canada. Knowledge and better understanding are the fundamental pillars for the welfare of rural communities and environments.

Rural Development Institute, Brandon University

The Rural Development Institute (RDI), Brandon University (www.brandonu.ca/rdi) is a not-for-profit research and development organization designed to promote, facilitate, coordinate, initiate, and conduct multi-disciplinary academic and applied research on rural issues. The RDI fosters community development and resiliency through research and information sharing on issues and opportunities unique to rural, remote and northern communities. The RDI provides an interface between academic research efforts and the community by acting as a conduit of rural research information and by facilitating community involvement in rural development. Projects are characterized by cooperative and collaborative efforts of multi-stakeholders.

Rural Policy Learning Commons

The Rural Policy Learning Commons (www.rplc-capr.ca) is a project that learns by doing. The RPLC aims to build on what is already out there, not to reinvent the wheel. Through collaboration and networking, the RPLC hopes to add to the research of rural policy as it applies to governance, infrastructure and services, human capital and migration, and natural resource development. The RPLC is a seven-year initiative funded by the Social Sciences and Humanities Research Council of Canada.

Introduction

Good evening. It is a wonderful opportunity to provide testimony to the Senate Finance Committee as you study the federal government's multi-billion dollar infrastructure funding program. This presentation pulls primarily from research being conducted by three organizations: the Canadian Rural Revitalization Foundation, the Rural Development Institute, and the Rural Policy Learning Commons and leverages a deep knowledge and understanding of rural development research more broadly. Each organization is actively engaged with rural, remote, and northern communities throughout Canada and are actively engaged with international scholars and policy experts. Researchers, policy makers, and practitioners from these networks are actively seeking solutions to the infrastructure challenges that confront rural communities and understanding of the impacts of infrastructure investments, or lack of investment.

This evening I would like to share with the Finance Committee, rural considerations for infrastructure policy and programs. I will also discuss the inter-relationship between infrastructure with both rural development and economic development. To conclude, I will provide 8 key messages for you to consider as the Government of Canada examines new infrastructure funding programs for Canadian communities, specifically rural and northern areas.

The Rural Context

*“If you have seen one rural community,
you have seen one rural community”*

Two fundamental contextual components to understanding rural in Canada are distance and density (Bollman & Reimer, 2010; CRRF 2015). More specifically, rural is characterized by low population and low density, and high distance to density. The concepts of distance and density are critical as government consider how any policy or program will work in rural Canada. For example, relative to infrastructure the implications of density and distance include:

- Rural areas with lower population density can not support all of the types of infrastructure that a higher population density can (e.g. a general hospital but not a heart transplant clinic).
- For rural areas with a long distance to density, “access” to services is a key policy issue for infrastructure (e.g. air ambulance to the specialty hospital or tele-medicine for a diagnosis at a distance by an expert)

It is important to recognize that rural and northern places in Canada have distinct infrastructure needs, including:

- Rural infrastructure planning has different drivers and demands

- Understanding gradients of rurality is important - one size does not fit all
- Designing infrastructure that works in small places
- Reducing the price of distance

Impact of Infrastructure on Rural and Economic Development

“Furthermore, the report uncovered that reinvestment rates in Canada's municipal infrastructure are not meeting target rates, despite continued efforts on the part of municipal governments. If this trend continues, the overall cost for infrastructure repair will increase substantially from where they stand today.”
FCM, 2016a

In Canada, the vast stock of infrastructure was built in the 1950's through to the 1970's, and was followed by a period of low investment from the 1980's to 1990's (CCC, 2013). As a result, infrastructure in Canada is now close to the end of its service life (Federation of Canadian Municipalities [FCM], 2016a). In the early 2000's the federal, provincial, and territorial governments began reinvesting through various governmental transfer programs. However, the investment remains lower than required to support the current and projected Canadian population (FCM, 2016a). The difference between the current investment, and what is needed to meet the required maintenance of existing infrastructure is known as the Infrastructure Gap (Breen, 2015). The estimated deficit in Canada ranges from \$50 billion to \$570 billion, depending on the source (CCC, 2013).

Infrastructure is fundamental to the future viability, sustainability, and resilience of rural and northern communities in this country. I would like to discuss four key elements of the inter-relationships between infrastructure, rural development, and economic development.

1. Facilitate Participation in the National Economy

The natural resources (i.e. energy, agricultural products, and raw materials) extracted from rural, remote and northern areas make up approximately 50 per cent of Canada's exports. These industries drive corporate profits, pay billions of dollars in taxes every year, and create spin-off jobs and new growth in Canada's rural and urban regions. New and updated infrastructure is critical, including infrastructure systems that are directly (e.g., roads, ports, and airports) indirectly (e.g., water, waste) related. The lack of infrastructure investment compromises the future of these economic development agents to continue operations in rural and northern communities to the benefit of all Canadians.

2. Impact of Place as an Emergent Consideration for Rural and Economic Development

The role of place and place-based development has become a dominant discourse in rural areas. These strategies utilize natural, physical, and human capacities that are unique to a place. In building place-based strategies, infrastructure is fundamental to allow rural and northern communities to attract and retain both people and capital. There is an expectation that all communities provide a robust suite of services, clean water, sewer, roads, waste collection, etc. The current infrastructure deficit in rural communities hinders the ability to develop strategies to retain existing and attract new human and financial capital (Mirza & Haider, 2003; Mirza, 2007).

It should be noted that economic development cannot be separate from comprehensive and holistic development, including social, cultural, and environmental. We need to move beyond solely an economic approach to viewing rural infrastructure (Vanegas, 2003; Roseland, 2012; Otte et al, 2012; Breen & Markey, 2015).

3. Moving Beyond Subsidization to Investment

In the Organisation for Economic Cooperation and Development's New Rural Paradigm (2006) governments were encouraged to move from subsidization to strategic investments designed to increase productivity and competitiveness. The New Rural Paradigm encourages the identification of local/regional assets that can be utilized to generate competitive advantages and emphasizes new forms of collaboration and partnership between government and communities/regions for policy construction, implementation, and evaluation.

Sustainable rural development requires a new investment approach when considering infrastructure (Mirza & Haider, 2003; Stiff & Smetanin, 2010). This new investment approach needs to be long-term, sustainable, and grounded in rural realities. Infrastructure investments need to be considered as part of a larger dialogue focused on rural development.

4. Building New Rural Economic Development Opportunities

*"The future of our economy, our prosperity and our society —
indeed, the future of every citizen — requires us to
set ambitious goals, and to get on with connecting
all Canadians for the 21st century"*

Kupfer, 2016

New infrastructural developments are critical for new economic development opportunities. As previously mentioned, solid core/basic infrastructure is required to retain and attract capital (e.g. water, health care). Beyond core infrastructure, new infrastructural developments, particularly related to technology are vital to sustain existing and build new economic development opportunities. Broadband, which was recently declared a basic telecommunication service by the CRTC, connectivity represents opportunity for rural and northern communities to create employment, to increase revenues, and to provide access to a greater market. Broadband

connectivity, however, is not consistently available in rural and northern communities (McNally, McMahon, & Rathi, 2016). The concepts and approaches to supporting innovation apply equally well in the rural setting.

Recommendations for Moving Forward

Long-Term Stable Funding

The Infrastructure Gap (difference between what infrastructure we do not have) and infrastructure deficit (the difference between funds needed and funds held for infrastructure) in Canadian rural communities is more pronounced, due to the particular challenges inherent in rural areas (Breen, 2015; Canadian Council of Ministers of the Environment [CCME], 2006). Additionally, in Canada rural communities are situated in geographic locations with more extreme terrain and climactic conditions. These factors contribute to a higher per capita cost of infrastructure provision, and a lower tax base (CCME, 2006; FCM, 2016; Kitchen & Slack, 2003). Rural communities are often resource dependent, and more vulnerable to economic ‘boom and bust’ cycles (AMO, 2015; Stedman, Parkins, & Beckley, 2004). Taxes, user fees, and borrowing capacity are not perceived to be enough to cover infrastructure costs, creating a reliance of rural communities on grants from higher levels of government (AMO, 2015; Infrastructure Funding Council, 2011).

Long Term Planning, Asset Management, Full Cost Accounting

Long-term funding policies and programs go hand in hand with long-term planning and asset management (AMO, 2015; FCM, 2016a; Kitchen, 2004). Asset management plans provide an infrastructure inventory, along with information on their condition, performance, and valuation (Kitchen, 2004). Within long-term planning is the need for full cost accounting, where the costs over the entire life-cycle of the infrastructure are considered, from planning and feasibility, to operations, maintenance and decommissioning (CCME, 2006; European Court of Auditors, 2015; Infrastructure Funding Council, 2011; Kitchen, 2004). Through asset management plans and full-cost accounting, municipalities plan for fair user fees and taxes for the maintenance of services over their life span (Indian and Northern Affairs Canada, 2010; Kitchen, 2004). Asset management can also improve the lifespan of infrastructure, making it a fiscally prudent activity (Minnes & Vodden, 2017).

While asset management of infrastructure is required and would make investment in rural infrastructure more effective, few rural communities have the capacity to undertake. Capacity building is required to empower rural communities to undertake infrastructure asset management. The recent funding partnership with the Federation of Canadian Municipalities area step in the right direction (FCM 2017), further work is still required however.

Local Decision Making

Local decision-making bodies are best able to incorporate local information into planning service delivery (Fox & Porca, 2001; OECD, 2006). By focusing on what assets are already available, and what is missing, local expertise will guide where funding should be spent (CRRF, 2015; EC, 2006). Local expertise should be used to identify and target funding towards existing infrastructure gaps (IC, 2011; OECD, 2006). As opposed to top-down imposed conditions, programs that allow local government to invest in their own priorities are well received by rural communities (IC, 2011, 2014). Authentic local engagement means that community members are involved in any decision that will affect them (CRRF, 2015). Not only must local actors be active in the selection of infrastructure projects, but also in the development of funding policies themselves (CRRF, 2015; Infrastructure Funding Council, 2011; Ministry of Forests Lands and Natural Resource Operations, 2016).

Flexible Programs to Respond to Rural Diversity

To allow for local decision-making, programs should be flexible to respond to and accommodate the diversity of rural communities (CRRF, 2015). There is no one-size fits all funding scheme. Different municipalities will need mix of different resources depending on their local situation (Kitchen & Slack, 2003). Flexibility can be worked into budget timing, project type, funding type, and eligible recipient. Flexible budgeting should allow for funds to roll-over multiple years, and allow money to be allocated based on construction schedules (Indian and Northern Affairs Canada, 2010). Flexible project type could allow for studies and plans, and operations and maintenance to be financed in addition to capital projects (AMO, 2015; Gouvernement du Québec, 2016; Ministry of Forests Lands and Natural Resource Operations, 2016). Flexible funding could combine of grants and loans, delivered over time periods that match the specific project (Northern Development Initiative Trust Board, 2016). Flexibility in eligible recipients could include local business, not-for-profits, and educational institutions (CRRF, 2015; IC, 2014).

Resources Directed towards Capacity Building

Infrastructure is not simply a question of engineering or dollars for physical structures, but is also a question of capacity (Breen & Markey, 2016). Funding for capacity development supports local communities with bottom-up local development (CRRF, 2015). Funding can be provided for communities to undertake their own capacity building, such as funding for workforce training and hiring new personnel (Ministry of Forests Lands and Natural Resource Operations, 2016). Separate entities, such as the formation of regional governments or regional not-for-profits, can also be set-up and funded to provide resources to communities (Community Futures Network of Canada, 2006; IC, 2011; Quebec Affaires municipales et Occupation du Territoire, 2015). Resources can include coordinating workshops, producing best practices documents, providing courses in technical training and project management, and providing networking opportunities (Community Futures Network of Canada, 2006; Indian and Northern Affairs Canada, 2010). Assistance can also be provided by the agencies that allocate funds, through formal or informal arrangements, to help eligible recipients apply for and implement infrastructure projects

(Manitoba Water Services Board, 2010; Northern Development Initiative Trust Board, 2016). Positive evaluations of capacity building programs highlight the importance of communities trained to help themselves (IC, 2011, 2014).

Horizontal and Vertical Synergy in Infrastructure Priorities

Infrastructure across Canada should function as a network, and the most efficient use of funding would minimize overlaps and ensure complementarity in funding. To accomplish this, all levels of government should develop long-term plans for rural infrastructure, at the local, regional, provincial and national level (Brodhead et al., 2014; CRRF, 2015; EC, 2006; FCM, 2006). With regional, provincial, and national rural development plans, the funding can be harmonized to ensure vertical synergy between programs. At the local level, horizontal synergy would involve local government, business, not-for-profits and institutions in decision-making, working collaboratively to address issues (IC, 2011; OECD, 2006). Project level synergy could be enabled through successive infrastructure projects that build on each other, or parallel projects that occur simultaneously and complement each other (EC, 2014a). Coordinating between stakeholders should not be limited to the planning stage; implementation, monitoring and reporting would benefit from communication between all levels of government, departments, and local actors.

Long-Term Monitoring of Projects and Programs

Infrastructure projects and the funding programs should be monitored over the long-term to support much needed data collection in rural areas (European Court of Auditors, 2015; OECD, 2006). Without performance measurement, policy will continue to be ad-hoc and irrelevant to rural challenges (OECD, 2006). Infrastructure supports social, cultural, and natural capital development which are often not reflected in monitoring requirements (CRRF, 2015; OECD, 2006). Monitoring through short-term economic indicators are not enough to encompass successful infrastructure implementation. (IC, 2011; INFC, 2015c). Pertinent monitoring indicators should be determined and used to monitor projects over the long-term (European Court of Auditors, 2015). More research may be needed into identifying relevant indicators that are reliable and affordable to collect, which reflect the quality of life improvements from infrastructure.

Make Use of Best Available Technology

With advances in available technology, infrastructure projects can now be catalogued in online systems (Alberta Transportation, 2005; Gouvernement du Québec, 2016). An online database of infrastructure projects would permit asset management plans, accounting, and monitoring in one central system. If multiple funding programs share the same database, the system promotes horizontal and vertical synergy, while eliminating burdensome duplication of monitoring or reporting requirements. Existing and planned infrastructure could be updated over regular time periods, and if properly designed, would promote long-term effective operation and maintenance of infrastructure. Online systems could be used in funding decision-making, and if

communicated correctly, ensure transparency, promoting successful infrastructure practices (European Court of Auditors, 2015; Kitchen, 2004).

Sometimes, however, the latest technology is not always the best option, contextually appropriate and easy to maintain options are generally more appropriate due to limited human resources (Minnes & Vodden, 2017). The human, financial, and environmental capacities of a rural area need to be taken into consider.

Summary

The pronounced Infrastructure Deficit and Gap in rural communities affects the whole of Canada, and will require changing current infrastructure funding policy (Breen, 2015; FCM, 2016b). Rural communities will continue to rely on external sources of funding, but current funding program policies do not respond to the challenges or the diversity of rural communities. The structure of infrastructure funding primarily through conditional grants is overly burdensome for small communities with limited human and financial capital, and does not enhance accountability and local autonomy. Long-term flexible infrastructure funding is required to respond to the diversity of communities, created with authentic local engagement and allowing for local decision-making. Shifting the focus of infrastructure funding from capital projects to providing for operations and maintenance, capacity building, and long-term monitoring can fill the funding gaps that have resulted in the infrastructure gap observed today. There is no easy fix to the infrastructure gap in rural communities; however, through policy adjustments progress can be made in the right direction.

Thank you for the opportunity to share research from the Canadian Rural Revitalization Foundation, the Rural Development Institute, and the Rural Policy Learning Commons tonight.

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