

Building a Solid Foundation:

Understanding and evaluating the infrastructure needs of workers and businesses in rural agricultural and agri-food sectors

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About the Canadian Agricultural Human Resource Council

The Canadian Agricultural Human Resource Council (CAHRC) is a national, non-profit organization focused on addressing human resource issues facing agricultural businesses across Canada.

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Introduction

Good infrastructure not only helps businesses expand and grow, but helps create stronger and more interconnected communities for the people who live and work there. The Canadian Agricultural Human Resource Council's *National Workforce Strategic Plan for Agriculture and Food & Beverage Manufacturing* recognizes that infrastructure is one of the five foundational themes that supports workers and businesses. These connections are essential for agricultural businesses in rural communities, who face particular challenges when it comes to recruiting workers, moving goods to and from market, and gaining access to essential services like the internet. This report seeks to better understand what specific categories of infrastructure workers within primary agriculture, food and beverage processing, food retailers and wholesalers, and foodservice providers as a whole integrated supply chain (referred to in this report as agriculture and agri-food industries) in rural areas need, whether the current state of infrastructure provides the services companies need, and what actions could be taken (or are being taken) to address those needs.¹

Infrastructure is critically important for the workers who operate agricultural businesses and who live in these rural areas. They need to have access to appropriate services and types of infrastructure to live, travel, and work in the communities where agricultural and agri-food businesses are located. Workers are not just another input to the production process, and we need to consider how infrastructure supports, as well as helps to attract and retain, workers for these businesses. While all businesses require some type of infrastructure to operate, there are unique challenges and requirements for agricultural and agri-food businesses and their workers, especially those located in rural areas. These businesses are often further away from their workforces and the markets for their goods, so they require more sophisticated supply chains for their products and supportive local communities for their workers.

The type of agriculture being done also affects the nature of the infrastructural challenges, as areas in the Prairies with more grain farming require the interlinked connection of grain elevators to railroads and to well; ports in other provinces for the transportation of goods to international markets.² Meat production and manufacturing requires greater refrigeration and care in transportation. Sectors that use more digital agriculture and automated machinery will require more reliable broadband and cellular connections as well as more resilient and better-connected utilities grids. Aquaculture on rural coastal communities needs systems of ports, boats, ferries, and sometimes air travel to quickly move their product to market. For all of these types of businesses, the infrastructure needs will not only be felt in the hard infrastructure of bridges, roads, and buildings, but in the soft infrastructure of people and skills needed to operate and maintain them.

¹ Agriculture and Agri-food Canada. (2023). *Overview of Canada's agriculture and agri-food sector*. <https://agriculture.canada.ca/en/sector/overview>

² Larsen, L. (2017). *Running the Rails: The Perennial Question of Prairie Grain Handling*. Network in Canadian History & Environment. <https://niche-canada.org/2017/02/06/running-the-rails-the-perennial-question-of-prairie-grain-handling/>

Report overview

This report will provide an overview of five key categories of infrastructure that rural agricultural communities need to support their workforces: housing, broadband and cellular access, energy and water utilities, and social infrastructure such as healthcare, childcare and eldercare. This report will note the role of each for agricultural and agri-food businesses, discuss the size of the gaps between needed and existing infrastructure across these categories as well as outline what is currently being done to address these gaps at all levels of government. While it is important to keep in mind that rural communities are not monoliths, and infrastructure needs will be different for every type of agricultural or agri-food business, there are some commonalities. For the major categories of rural infrastructure which support business and workers, it is important to establish a baseline of sufficient quality to be able to evaluate different needs:

- For housing, Statistics Canada estimates that an individual is housing insecure if they spend more than 30% of their income on rent or mortgages. Over 10% of all Canadian households and one in five renters are insecure under this metric.³
- For broadband and cellular, the CRTC has stated that they want all Canadians to have access to 50 Mbps download and 10 Mbps upload speed, but we know that many provinces still have 5-10% of their population, mostly rural, without access to those levels of connectivity.⁴
- Utility connections should be in line with costs for urban households and businesses with the same level of reliability and quality, but many communities struggle with unequal access. The Federation of Canadian Municipalities estimates it would cost \$50 billion alone to bring all municipal water and wastewater systems up to appropriate levels.⁵
- For transportation, all workers should be able to have access to transportation options that are affordable, well-connected, and reliable, as well as having the infrastructure to utilize private transportation if desired.
- For social care, all workers should have access to a primary care physician and affordable childcare within a reasonable distance. These are the base level of infrastructure assets needed for workers and businesses in rural areas to be able to fully work in the agriculture and agri-food sector.

While it is difficult to estimate the levels of each of these metrics for multiple different communities, we will endeavor to provide aggregated data and an overall picture of the state of these in rural towns and communities. To identify and assess the readiness of local infrastructure to support agricultural and agri-food businesses, including to attract a skilled workforce, several research methodologies were applied, combining insights from literature reviews, ecosystem scans and jurisdictional analysis.

³ Statistics Canada. (2020). *One in ten Canadian households living in core housing need in 2018*. <https://www150.statcan.gc.ca/n1/daily-quotidien/201002/dq201002a-eng.htm>

⁴ Canadian Radio-television and Telecommunications Commission. (2022.) *What you should know about Internet speeds*. <https://crtc.gc.ca/eng/internet/performance.htm>

⁵ Federation of Canadian Municipalities. (2023). *National Guide to Sustainable Municipal Infrastructure*. National Research Council of Canada.

<https://fcm.ca/sites/default/files/documents/resources/guide/infraguide-wastewater-treatment-plant-optimization-mamp.pdf>

Existing Infrastructure Trends

Outside of the five key categories of infrastructure that this report will discuss, there are broader trends and issues that cross-cut several different areas of infrastructure and economic development and can help us to understand how we have arrived in the current state of infrastructure.

Infrastructure Deficit

One important trend we need to consider is the national infrastructure “deficit”. Literature differs on how much exactly is the Canadian infrastructure deficit, but estimates tend to converge around \$2 billion per year that we are not spending to support our infrastructure (but should to maintain adequate levels of quality and accessibility).⁶ Part of this gap comes from historical trends in infrastructure spending, and how it declined significantly during the 80’s, 90’s, and early 2000’s.⁷ Due to this decline, estimates of the total infrastructure debt range significantly from \$50 billion to \$570 billion.⁸ There has been a large effort in the last several years to invest in infrastructure, first as a recovery from the 2008 recession, followed by the creation of the \$180 billion dollar *Invest in Canada Plan* and the \$35 billion dollar Canada Infrastructure Bank. Despite this funding, Canada still has not reached the level of infrastructure spending as a percentage of GDP that Canada saw during the 50’s and 60’s.⁹ The attempt to mitigate this gap also does not fully bridge the rural spending gap with less focus, attention, and funding from policy makers. Research from the Library of Parliament found that for the *Invest In Canada Plan* the federal government spends \$775 per capita on urban areas, and \$660 per capita on rural areas.¹⁰ This trend of a lack of investment has been mirrored by the significant depreciation in existing infrastructure stock, leading to a situation where our national stock of infrastructure was valued at 30% of GDP in the early 80’s, and only 22% of GDP in 2011.¹¹ Mitigating this gap will require focused attention from all levels of government and relevant stakeholders, but this response will need to be tailored to specific rural communities and their particular needs.¹²

⁶ Breen, S. (2015). *Uncertain Foundation: Infrastructure in Rural Canada*. <https://rplcarchive.ca/wp-content/uploads/2015/12/Infrastructure-in-Rural-Canada-Report.pdf>

⁷ Mackenzie, H. (2013). *Canada’s Infrastructure Gap* https://policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2013/01/Canada's%20Infrastructure%20Gap_0.pdf

⁸ Infrastructure Canada. (2018). *2018-2019 Departmental Plan*. <https://www.infrastructure.gc.ca/pub/dp-pm/2018-19/2018-conditions-eng.html?pedisable=true>

⁹ Mackenzie, H. (2013). *Canada’s Infrastructure Gap* https://policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2013/01/Canada's%20Infrastructure%20Gap_0.pdf

¹⁰ Gosselin, G. & Preville, E. (2019). *Overview of Canada’s Long-Term Infrastructure Plan*. Library of Parliament. https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/201938E

¹¹ Mackenzie, H. (2013). *Canada’s Infrastructure Gap* https://policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2013/01/Canada's%20Infrastructure%20Gap_0.pdf

¹² Infrastructure Canada. (2018). *2018-2019 Departmental Plan*. <https://www.infrastructure.gc.ca/pub/dp-pm/2018-19/2018-conditions-eng.html?pedisable=true>

Market Shifts Changing Infrastructure Needs

There are new and emerging technologies which are changing some of the work involved in agriculture and agri-food and their associated infrastructure needs. The use of automation technology on-farm and in agri-food manufacturing has increased in recent years, leading to increased need for both workers who can repair and operate automated machinery, but for the associated infrastructure in the form of transportation for workers, access to spare parts for vehicles and machinery, and reliable internet and power connections. The digital transformation of broadband and cellular technology has also transformed the workplace for businesses and workers alike.

Additionally, over the last several years there has been increased market and consumer demand for so-called “green” infrastructure to support natural ecosystems as they relate to people and communities.¹³ Infrastructure like solar panels, restored wetlands, wind turbines, transmission lines, replanted riparian stripes at the edges of the waterfront, and the use of green roofs all can count as green infrastructure that works to conserve, restore, and engineer the ecosystems we live in.¹⁴ While these principles are nothing new to agricultural businesses, the specific lens of sustainability has changed what sort of technologies are used and how we implement them.¹⁵ These market shifts towards more sustainable and green infrastructure will change what specific assets are in demand within these categories of infrastructure. Having sufficient infrastructure that will prevent flooding or generate local sustainable energy will evolve and change the specific infrastructure needs.

A final important market shift is the impact of farm consolidation. Over the last several decades, farms have grown in size, sales, and number of employees due to technological advancements and economies of scale.¹⁶ Smaller and mid-sized farms are decreasing in number, and the amount of farms in the highest earnings categories have increased, with 9.9% of all farms in 2020 reporting over \$1 million in sales as compared to 7.2% in 2015.¹⁷ During this time the overall number of farms dropped by 2%, but the number of farm operators dropped by 3.5%, representing a shift towards farms with a greater number of employees as well as greater and

¹³ International Institute for Sustainable Development. (2023). *The State of Play Report for Natural Infrastructure on the Canadian Prairies*. <https://www.iisd.org/system/files/2023-05/state-of-play-natural-infrastructure-canadian-prairies.pdf>

¹⁴ International Institute for Sustainable Development. (2023). *The State of Play Report for Natural Infrastructure on the Canadian Prairies*. <https://www.iisd.org/system/files/2023-05/state-of-play-natural-infrastructure-canadian-prairies.pdf>

¹⁵ International Institute for Sustainable Development. (2023). *The State of Play Report for Natural Infrastructure on the Canadian Prairies*. <https://www.iisd.org/system/files/2023-05/state-of-play-natural-infrastructure-canadian-prairies.pdf>

¹⁶ Statistics Canada. (2022). *Canada's 2021 Census of Agriculture: A story about the transformation of the agriculture industry and adaptiveness of Canadian farmers*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220511/dq220511a-eng.htm>

¹⁷ Statistics Canada. (2022). *Canada's 2021 Census of Agriculture: A story about the transformation of the agriculture industry and adaptiveness of Canadian farmers*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220511/dq220511a-eng.htm>

more concentrated infrastructure needs.¹⁸ When small and mid-size farms disappear, rural communities shrink as well, which affects the financial capacity of towns and municipalities to support and fund local rural infrastructure.

Changing Demographics

There are ongoing demographic shifts that affect not only rural communities but their infrastructure needs and the ability of local governments to fund and support that infrastructure. For the last several decades, there has been net migration towards urban centers and away from rural communities, with less than 1 in 5 Canadians now living in rural areas.¹⁹ The rate of growth in rural areas is also slower than in urban areas, with the rural population growth rate being fifteen times slower than in urban areas.²⁰ Rural populations are also older than the Canadian average, and are getting older as a percentage of their population more than urban areas, often due to migration patterns trending younger and into more urban areas.²¹ This can negatively impact the tax base of the municipalities who need to maintain critical infrastructure and can make it harder for businesses to find and attract workers. All of this changes what types of both hard and soft infrastructure will be needed to care for populations. For example, aging communities will require more health care and elder care facilities. For all of these trends, the infrastructure needs will not only be felt in the hard infrastructure of bridges, roads, and buildings, but in the soft infrastructure of people and skills needed to operate and maintain them.

(Begin Text Box)

Who Owns What: A Brief Jurisdictional Review

We must also consider who is responsible for different types of infrastructure, and which levels of government are able to act. One of the largest problems for rural communities is the imbalance between municipal ownership of infrastructure and municipal revenue capacity. Rural municipalities own almost half of all infrastructure assets (49%), but because their revenue tools generally come down to property taxes, land transfer taxes, utility surcharges, and occasionally provincial or federal transfers, municipalities often do not have the funding needed for upkeep of

¹⁸ Statistics Canada. (2022). *Canada's 2021 Census of Agriculture: A story about the transformation of the agriculture industry and adaptiveness of Canadian farmers*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220511/dq220511a-eng.htm>

¹⁹ Ministry of Infrastructure. (2019). *Overview of Rural Economic Development*. <https://www.infrastructure.gc.ca/pd-dp/transition/2019/red-der/3/book-cahier-3-eng.html>

²⁰ Statistics Canada. (2022). *Population growth in Canada's rural areas, 2016 to 2021*. <https://www12.statcan.gc.ca/census-recensement/2021/as-sa/98-200-x/2021002/98-200-x2021002-eng.cfm>

²¹ Statistics Canada. (2022). *Population growth in Canada's rural areas, 2016 to 2021*. <https://www12.statcan.gc.ca/census-recensement/2021/as-sa/98-200-x/2021002/98-200-x2021002-eng.cfm>

capital infrastructure.²² Rural municipalities also have less capacity to plan or develop infrastructure proposals or lack asset management plans, as the Federation of Canadian Municipalities has reported that more than 60% of municipalities have fewer than five employees.²³

Provincial governments are responsible for much of the maintenance and construction of infrastructure and own most of the infrastructure which is not privately or municipal-owned.²⁴ In Ontario, municipalities own 52% of public infrastructure, the province owns 38% of public infrastructure, and the federal government only owns 10%.²⁵ The federal government has massive powers to fund infrastructure construction and development, but very limited powers to actually direct and guide those projects outside of collaborations with relevant provincial or local governments. The split of responsibilities from different jurisdictions can make infrastructure maintenance or construction more difficult as outside of the smallest projects, cooperation between different levels of government is often required.²⁶

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Infrastructure Categories Which Support Workers

Transportation

What Activities Fall Under Transportation

Transportation comes in many different forms, and transportation infrastructure supports many components of agricultural businesses in rural communities. Trucks transport goods via highways and bridges to distribution centers or ports. Workers ride on buses, cars, or public transit to get to and from their workplaces and homes. Freight railways are essential connection links for bulk transit. There are many rural and remote communities which rely on air transportation as fly-in communities. All in all, this report categorizes transportation infrastructure as composed of road, freight, rail and aviation, as well as all associated infrastructure categories for each of these modes of transportation. While ferries and port connection are essential infrastructure for exporting of certain agricultural commodities, for

²² Mendelsohn, M. Van Ymeren, J. Zon, N. & Irwin, J. (2021). *Policies to support sustainable, inclusive, and digital economic development in rural and smaller communities in Canada*. Canada2020 [https://universe.net/wp-](https://universe.net/wp-content/uploads/2021/12/Policies_to_support_sustainable_inclusive_and_digital_economic_development_in_rural_and_smaller_communities_in_Canada.pdf)

[content/uploads/2021/12/Policies_to_support_sustainable_inclusive_and_digital_economic_development_in_rural_and_smaller_communities_in_Canada.pdf](https://universe.net/wp-content/uploads/2021/12/Policies_to_support_sustainable_inclusive_and_digital_economic_development_in_rural_and_smaller_communities_in_Canada.pdf)

²³ Federation of Canadian Municipalities. (2023). *Municipal Asset Plan Program*. <https://fcm.ca/en/programs/municipal-asset-management-program>

²⁴ Financial Accountability Office of Ontario (2020). *Provincial Infrastructure*. <https://www.fao-on.org/en/Blog/Publications/provincial-infrastructure-2020>

²⁵ Financial Accountability Office of Ontario (2020). *Provincial Infrastructure*. <https://www.fao-on.org/en/Blog/Publications/provincial-infrastructure-2020>

²⁶ OECD. (2002). *Best Practices for Green Procurement: Canada*. https://cdn.github.org/umbraco/media/2335/gih_procurement-report_case-study_canada_final_web.pdf

businesses engaged in aquaculture, and for specific regions like Atlantic Canada, we wanted to focus on core transportation infrastructure that would be relevant for all rural agricultural businesses.

What are the Impacts of Insufficient Transportation

Without appropriate infrastructure for transporting workers and goods, businesses cannot operate, workers may find it harder to move and work in rural communities, and costs rise for all members of the community. Transit also allows for the creation and maintenance of stronger social and informal ties within a community. Having an effective and efficient rural transportation system can increase the quality of life for residents, make it easier to attract new workers, and make stronger connections between businesses and their communities.²⁷

The specific nature of the agricultural product and the region changes what types of transportation is needed. Rural farms often require longer supply chains for both material inputs and for getting their produce to market, as their local communities may lack the specific suppliers for all inputs. Rural communities in the Prairies are often heavily reliant on highway transportation and rail connections for the movement of goods.²⁸ Specific rural communities in Ontario, Quebec, Manitoba, Alberta, and Saskatchewan also need to use more irregular forms of transportation, with ice roads in the winter.²⁹ Communities in Atlantic Canada are more heavily reliant on ports and ferry transportation to move produce and materials. For agri-food businesses, especially for food processing and manufacturing, their transportation needs to include reliable freight and highway linkages between farm communities, other businesses in food manufacturing, and retail businesses. Meat processing requires transportation with greater refrigeration technologies, greenhouse or orchard produce requires faster transportation networks combined with preservation techniques to ensure their goods do not spoil.

There are also important equity concerns for public transportation in rural areas to ensure that all people can fully participate in the local economy. Lower-income, racialized, and Indigenous people in rural areas often don't have access to affordable and accessible transportation options, which leads to lower employment rates, reduced social integration, and higher barriers to access services like healthcare or childcare.³⁰ Migrant workers who are living on farms may not have access to private vehicles at the same rate and may become increasingly isolated from

²⁷ Majkut, K. (2011). *Rural Transportation Issues and Strategies*. Queens School of Business. <https://www.ruralontarioinstitute.ca/uploads/userfiles/files/Rural%20Transportation%20Issues%20and%20Strategies%20Paper.pdf>

²⁸ Blair, D. (2010). *The New Normal: The Canadian Prairies in a Changing Climate. Chapter 9: Transportation*. University of Regina. https://www.researchgate.net/publication/269698676_The_New_Normal_The_Canadian_Prairies_in_a_Changing_Climate

²⁹ Blair, D. (2010). *The New Normal: The Canadian Prairies in a Changing Climate. Chapter 9: Transportation*. University of Regina. https://www.researchgate.net/publication/269698676_The_New_Normal_The_Canadian_Prairies_in_a_Changing_Climate

³⁰ Abid, R. (2022). *Recommendations for Municipalities Focus: Transportation for Rural Communities*. Canadian Environmental Law Association. https://cela.ca/wp-content/uploads/2022/11/1504_Rural_transportation_Report.pdf

the communities they live and work in.³¹ Specifically, in Niagara, migrant farm workers rely heavily on the use of bicycles, which are often donated and repaired from local charity organizations.³² Having a stronger transportation infrastructure system ensures that more people can become involved in agricultural businesses and those people are better able to interact with their communities.³³

Current State

Canada's transportation infrastructure has several major challenges which differ for the major types of transportation infrastructure: road, freight, rail, and aviation.

Roads and private vehicle travel is still the dominant form of transportation for both people and goods to and from rural communities, and they form an essential link between agricultural businesses and the rest of the supply chain. However, the poor state of roads in Canada has the potential to increase costs for businesses and reduce their ability to engage with local economies. According to the Canada Infrastructure Report Card 2019, 16% of all Canadian roads are in poor or very poor condition, 12% of bridges and tunnels are in poor or very poor condition, and 16% of roads and tracks for public transit are in poor or very poor condition.³⁴ Furthermore, only 20% of road assets were constructed in the last 20 years and yearly new construction of roads in the last few years has only accounted for repairing or increasing 4% of the road network.³⁵ While there has been some recent construction booms in rural areas for bridges, bridges located in urban areas are generally in better conditions than those in rural areas.³⁶ The quality of buses for public transit also fell in 2020 across the country, but by the most in Saskatchewan and British Columbia where the percentage of buses rated as poor or very poor rose to 21% and 13% respectively.³⁷

Freight transportation takes up around 90% of all rail use in Canada, and ever since the COVID-19 pandemic, agricultural goods have taken up an increasingly large proportion of the overall

³¹ Green, A. (2023). *Bikes needed for Niagara's migrant workers*. Niagara This Week. https://www.niagarathisweek.com/news/bikes-needed-for-niagara-s-migrant-workers/article_39b139d9-740d-5af2-8690-af322f6b901e.html

³² Green, A. (2023). *Bikes needed for Niagara's migrant workers*. Niagara This Week. https://www.niagarathisweek.com/news/bikes-needed-for-niagara-s-migrant-workers/article_39b139d9-740d-5af2-8690-af322f6b901e.html

³³ Breen, S. Gibson, R. Trueman, M. (2021). *Navigating Rural: Place Based Transit Solutions for Rural Canada*. Selkirk College. https://www.researchgate.net/publication/357252862_Navigating_Rural_Place_Based_Transit_Solutions_for_Rural_Canada

³⁴ Canadian Infrastructure Report Card. (2019). *Canadian Infrastructure Report Card: 2019*. <http://canadianinfrastructure.ca/downloads/canadian-infrastructure-report-card-2019.pdf>

³⁵ Statistics Canada. (2022). *Canada's Core Public Infrastructure Survey: Roads, bridges and tunnels, 2020*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220524/dq220524a-eng.htm>

³⁶ Statistics Canada. (2022). *Canada's Core Public Infrastructure Survey: Roads, bridges and tunnels, 2020*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220524/dq220524a-eng.htm>

³⁷ Statistics Canada. (2022). *Canada's Core Public Infrastructure Survey: Public transit assets, 2020*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220421/dq220421b-eng.htm>

freight loads.³⁸ The vast majority of freight rail transportation is owned by either the Canadian National and Canadian Pacific railways, with the companies collectively owning more than 95% of Canada's annual rail tonne-kilometers, more than 75% of the industry's tracks.³⁹ One particular issue for agricultural freight is the creation of bottlenecks and slowdowns in rail transportation through the need for repair and replacement of rail stock. A submission from Engineers Canada found that many grain farmers and distributors, especially in Alberta, regularly face late penalties for distribution delays due to problems with freight transportation.⁴⁰

While private vehicles and air travel are the main forms of personal transportation for Canadians, a large amount of travel does still take place via rail. However, much of the passenger rail focus from policymakers has been urban light rail and the dense Quebec City-Windsor high speed rail corridor.⁴¹ As a result of this lack of focus, railcar condition and quality have worsened in the last few years, with more than 35% of Quebec's and 30% of British Columbia's trains being rated as being in poor or very poor condition.⁴²

Aviation is not as core to the functioning of the average rural agricultural business, but does serve a crucial role in connecting remote and northern communities to agricultural centers and can serve as an important link for workers and high value products. While many common air transit options have rebounded slightly in terms of use and cost after the pandemic, there are still major issues for smaller flying routes to northern communities. The federal government was forced to step in and create the Remote Air Services Program (RASP) to provide critical transportation and travel services to over 140 remote communities when private aviation closed routes or service entirely due to the pandemic.⁴³

What Has Been Done

Given that transportation and transit cover so many different jurisdictions and categories, it is difficult to get a sense of the overall action undertaken to improve the state of transportation in rural Canada. This section will attempt to explore the recent provincial and federal action undertaken on these issues to close the infrastructure gap in rural Canada. This recent action has focused in through both smaller scale provincial programs and funding from the federal government in the form of the *Invest in Canada Plan*. This \$180 billion dollar program has two of

³⁸ The Conference Board of Canada. (2021). *The Outlook for Canada's Transportation Sector 2020-2040 (Post-COVID-19)*. https://publications.gc.ca/collections/collection_2021/tc/T22-250-2021-eng.pdf

³⁹ Transport Canada. (2022). *Transportation in Canada: 2021*. <https://tc.canada.ca/sites/default/files/2022-06/transportation-canada-2021.pdf>

⁴⁰ Engineers Canada. (2018). *Submission to the House of Commons Standing Committee on Transport, Infrastructure and Communities*. <https://www.ourcommons.ca/Content/Committee/421/TRAN/Brief/BR10008448/br-external/EngineersCanada-e.pdf>

⁴¹ The Conference Board of Canada. (2021). *The Outlook for Canada's Transportation Sector 2020-2040 (Post-COVID-19)*. https://publications.gc.ca/collections/collection_2021/tc/T22-250-2021-eng.pdf

⁴² Statistics Canada. (2022). *Canada's Core Public Infrastructure Survey: Public transit assets, 2020*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220421/dq220421b-eng.htm>

⁴³ Transport Canada. (2023). *Lessons Learned Review of the Remote Air Services Program*. <https://tc.canada.ca/en/corporate-services/transparency/corporate-management-reporting/evaluation-reports/lessons-learned-review-remote-air-services-program-rasp>

its five project areas specifically for transportation with the Public Transit stream and the Trade and Transportation stream. Another federal example is the Rural Transit Solutions Fund, which was launched in 2021 with \$250 million in funding and a mandate to support the development of locally-driven transit solutions. The program currently funds projects either in the initial planning stage when local municipalities are developing and designing improvements or expansions to the transit infrastructure or in the construction stage, where municipalities can apply for larger grants to help with the cost of new transit infrastructure.

Provincial programs on improving their transportation and transit infrastructure for rural communities have varied widely and depended on the specific provincial needs. One such example is the recent memorandum of understanding (MOU) signed by MB, SK, and AB to work together on shared transportation corridors.⁴⁴ This MOU aims to improve the efficiency of inter-provincial highway and rail linkages and to improve the speed and security of goods traveling through the prairies.⁴⁵ Prairie agriculture relies heavily on exporting goods to international markets, and this is one positive example of inter-provincial coordination on shared infrastructure needs.

Looking at some other recent provincial programs, Alberta has several initiatives including the Rural and Northern Communities Infrastructure Program, which has cost-sharing funding for infrastructure expenditures. They also have the Rural Transportation Pilot Program, which is currently looking at supporting new rural transportation programs around Medicine Hat, Red Deer, and Lethbridge.⁴⁶ Many rural communities in Western Canada were hit particularly hard by Greyhound pulling out of its routes there, and this is one of the attempts to fill that gap.⁴⁷ There are innovative programs for rural infrastructure in Saskatchewan, including the Rural Integrated Roads for Growth program. This program provides provincial funding for rural highways, bridges, and other road connections, but is jointly administered by the provincial ministry of highways and the Saskatchewan Association of Rural Municipalities. Another transportation-related program that Saskatchewan used to have available was a subsidized public bus program in the Saskatchewan Transportation Company, a crown corporation that delivered inter-city bus routes, but it was canceled in 2017 over budgetary constraints.⁴⁸

⁴⁴ Government of Saskatchewan. (2023). *Prairie Provinces Working Together on Transportation Corridors*. <https://www.saskatchewan.ca/government/news-and-media/2023/april/11/prairie-provinces-working-together-on-transportation-corridors>

⁴⁵ Government of Saskatchewan. (2023). *Prairie Provinces Working Together on Transportation Corridors*. <https://www.saskatchewan.ca/government/news-and-media/2023/april/11/prairie-provinces-working-together-on-transportation-corridors>

⁴⁶ Government of Alberta. (2023). *Rural Transportation Pilot Program*. <https://www.alberta.ca/public-transit-initiatives#jumplinks-5>

⁴⁷ Bellefontaine, M. (2023). *Alberta government urged to help sustain, restore rural bus service*. CBC News. <https://cbc.ca/news/canada/edmonton/alberta-government-urged-to-help-sustain-restore-rural-bus-service-1.6958849>

⁴⁸ Bains, C. (2017). *Saskatchewan rural bus service a must for vulnerable people: B.C. First Nation*. CBC News. <https://www.cbc.ca/news/canada/saskatchewan/stc-necessary-says-bc-first-nation-1.4041841>

Manitoba has recently rolled out their Multi-year Infrastructure Investment Strategy, which aims to spend \$4.1 billion dollars on improving infrastructure and connections within the province.⁴⁹ Much of the initial spending will be on the province's highways, but additional funding is earmarked for flood protection, bridges, airports, and interchanges.⁵⁰ Due to its geography, the Atlantic region relies heavily on a network of roads, railways, airports, bridges and ferries for transportation.⁵¹ Ontario has also recently funded several rural public transportation projects with \$44 million in total for the Community Transportation Grant Program.⁵² This grant will provide funds for municipalities to build up their stock of public transit and to expand access across smaller communities. There is a trend in these programs to move control over programs to local or municipal control as much as possible, reflecting their specific expertise and understanding of their specific transportation needs.

Housing

What Activities Fall Under Housing

One fundamentally important infrastructure metric for supporting workers and businesses in agriculture in rural areas is accessible and affordable housing. There is a major gap in the amount of rural housing as compared to urban and suburban areas. Data from Statistics Canada on the number of private housing shows that roughly for every six suitable private units of housing in urban areas, there is only one in rural areas despite rural areas having over 30% of the population.⁵³ Additionally, rural Canada only received about 21% of all building permits in 2021, but the preference for single family homes and away from density means that those building permits are only expected to construct 37,000 homes, as compared to 268,000 units in urban areas.⁵⁴ Not only are there less homes available per capita in rural areas than urban areas, but the housing that is being built is contributing to this gap by not adopting more dense and concentrated development patterns.⁵⁵ The federal government estimates that 24% of rural residents are unable to find affordable housing of sufficient quality, which is more than double the rate for urban and suburban Canadians.⁵⁶

⁴⁹ Government of Manitoba. (2023). *2023 Multi-Year Infrastructure Investment Strategy*. <https://www.gov.mb.ca/mti/myhis/index.html>

⁵⁰ Government of Manitoba. (2023). *2023 Multi-Year Infrastructure Investment Strategy*. <https://www.gov.mb.ca/mti/myhis/index.html>

⁵¹ Department of Transportation. (n.d.). *Charting the Course Atlantic Canada Transportation Strategy*. <https://novascotia.ca/tran/publications/chartingcourse.pdf>

⁵² Government of Ontario. (2022). *Ontario Extends Transportation Investments for Small and Rural Communities*. <https://news.ontario.ca/en/release/1000420/ontario-extends-transportation-investments-for-small-and-rural-communities>

⁵³ Statistics Canada. (2023). *Rural Canada Housing Profiles*. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4610007901>

⁵⁴ Statistics Canada. (2023). *Housing in rural Canada, 2018 to 2021*. <https://www150.statcan.gc.ca/n1/daily-quotidien/230523/dq230523d-eng.htm>

⁵⁵ Statistics Canada. (2023). *Housing in rural Canada, 2018 to 2021*. <https://www150.statcan.gc.ca/n1/daily-quotidien/230523/dq230523d-eng.htm>

⁵⁶ Innovation, Science, and Economic Development Canada. (2021). *Canada's Rural Economic Development Strategy: Progress Report August 2021*.

When thinking about housing, we also need to consider where it is located relative to businesses, how affordable is the housing, what state of quality is the housing in, and what types of housing are in these communities. For the types of housing, there are three general categories which housing can fall into: private housing for purchase, rental housing, and government owned social housing. These categories do not really interact with the physical characteristics of the type of housing, as a significant majority of all of these categories in rural areas are single detached family dwellings.

Private housing for purchase comprises the majority of housing available in rural communities. These are dwellings which are sold directly by developers to individuals or resold by private owners to new owners. Most housing in rural areas falls under this category. Rental housing are homes which are owned either by private individuals or by companies and rented out to individuals. Social housing is the smallest of these three categories for rural areas, and it encompasses housing owned directly by a government or agency and then provided to lower-income residents at below market subsidized rates. When we look at the categories of housing being built in rural areas, it trends towards private housing first, and then rental, and then social housing last. This preference for private house ownership can make entry harder into the labour market that agricultural businesses draw on. Community housing and purpose-built rental housing are particularly important for rural communities due to the relative lack of incentives for developers to invest in rural communities

One example which falls out of this dichotomy is the provision of housing for temporary foreign workers (TFWs). For workers who enter Canada through the Agricultural Stream of the TFWP, the employer must provide either on-farm or off-farm housing that is both suitable and accessible.⁵⁷ Businesses can either deduct pay from workers for on-farm housing or provide access to off-site housing at affordable rates (the threshold for affordable rent doesn't cost more than 30% of the TFW's gross monthly earnings).⁵⁸ This impacts the local housing market if workers need to find rental accommodations and it puts more strain and onus on the farm to provide appropriate, suitable, and affordable housing.

What are the Impacts of Insufficient Housing

Having a large and available stock of housing available in rural communities where agricultural businesses are located can help to attract and retain workers, especially when considering the relative rise in nationwide housing prices and the growing affordability crisis in cities and suburban communities. As we have mentioned already, the categories of housing available is

<https://ised-isde.canada.ca/site/rural/sites/default/files/documents/2022-03/rural-strat-august-2021-aout-eng.pdf>

⁵⁷ Employment and Social Development Canada. (2023). *Agricultural Worker Stream Requirements*. <https://www.canada.ca/en/employment-social-development/services/foreign-workers/agricultural/agricultural/requirements.html>

⁵⁸ Employment and Social Development Canada. (2023). *Agricultural Worker Stream Requirements*. <https://www.canada.ca/en/employment-social-development/services/foreign-workers/agricultural/agricultural/requirements.html>

an important consideration when we are examining how housing supports agricultural businesses.

Given the preference and prevalence of privately owned houses in rural areas, and the relatively less amount of rental housing, workers may find it harder to take new job opportunities if there is not locally available housing. The proximity of housing around farms, processing facilities, and factories is an important factor in the decision making of workers, and given the lack of density in rural areas, this means that workers for agricultural businesses will generally need to travel further to and from work.⁵⁹ This lack of rental housing makes it harder for agricultural businesses to attract workers to communities and makes it less likely for newcomers or students to take jobs in rural areas.

The availability and affordability of non-purpose-built housing for TFWs, generally in the form of on-site bunkhouses, can have major implications for the ability of TFWs to work and live in a community while they are in Canada. Additionally, from recent reporting, it is clear there are great variations in the quality of the housing provided to TFWs on farms.⁶⁰ Recently some worker advocacy organizations pointed out that workers often do not have the power to control their own housing, and several workers were repatriated during the farming season over complaints about housing quality.⁶¹

Current State

The Canadian Mortgage and Housing Corporation rates housing insecurity along three different metrics: adequate housing (must not need major repairs), suitable housing (must have enough bedrooms), and affordable housing (must cost less than 30% of before-tax household income).⁶² These are the metrics we must assess the current state of housing on, but of equal importance to these metrics is the pure availability of housing as a per capita measure. A recent report estimates that Canada only has only 424 units of housing per 1000 individuals, and that this lack of housing is not spread equally among all areas.⁶³ There is a gap both in the currently available housing and the rate of building new housing in rural communities, as compared to urban areas.

⁵⁹ Innovation, Science, and Economic Development Canada. (2022). *Rural housing*. <https://ised-isde.canada.ca/site/rural/en/housing>

⁶⁰ Alberga, H. (2023). *Jamaican migrant workers sent back from Ontario farm after exposing conditions*. CTV News. <https://toronto.ctvnews.ca/jamaican-migrant-workers-sent-back-from-ontario-farm-after-exposing-conditions-1.6528212>

⁶¹ Alberga, H. (2023). *Jamaican migrant workers sent back from Ontario farm after exposing conditions*. CTV News. <https://toronto.ctvnews.ca/jamaican-migrant-workers-sent-back-from-ontario-farm-after-exposing-conditions-1.6528212>

⁶² Canadian Mortgage and Housing Corporation. (2019). *Identifying core housing need: Recognizing households that are unaffordable and fall below housing standards*. <https://www.cmhcschl.gc.ca/en/professionals/housing-markets-data-and-research/housing-research/core-housing-need/identifying-corehousing-need>

⁶³ Bharti, B. (2023). *Ontario housing shortage is worst in the country and threatens to exacerbate affordability woes*. Financial Post. <https://financialpost.com/news/economy/ontario-alberta-and-manitoba-lead-the-provinces-in-canadas-chronic-housing-shortage-says-scotiabank>

In 2021, new building permits in rural areas are expected to create 37,000 new housing units, but in urban areas, the number of new building permits is expected to create 268,000 new housing units.⁶⁴ While there is an expected demand gap between urban and rural areas, this number of new constructions is disproportionate to the amount of people living in these communities. This is partially due to the composition of the housing being built, as rural communities trend towards building more single-family homes and fewer apartment buildings than urban areas.⁶⁵ Single-family homes can be more expensive and can be less accessible for recent graduates, newcomers to Canada, and workers starting out in their careers. Another complicating factor for rural communities is the aforementioned demographic changes, as the rural population ages, more workers will be needed to cover replacements and retirements in agriculture. However, the lack of affordable housing may lead workers to not move and work in these communities. It will likely become harder to attract permanent newcomers to these positions if there is not a sufficient level of housing available.

Additionally, what housing is built in rural areas tends to be older than urban areas (as Figure 1 shows). New construction dropped significantly in the 1980's and has not returned to those rates of building. In total, as of 2021 there were 2,485,825 units of housing in rural areas as compared to 12,493,115 in urban areas despite rural communities having over 30% of all residents.⁶⁶ Finally, much of the spending being undertaken in rural areas is on repair and maintenance of existing buildings rather than constructing or expanding the housing stock, with 53% of the investments in private and rental housing for rural communities directed towards alterations and improvements, as compared to 42% for new construction.⁶⁷ These ratios are inverted for urban areas, where the majority of spending goes towards new construction.

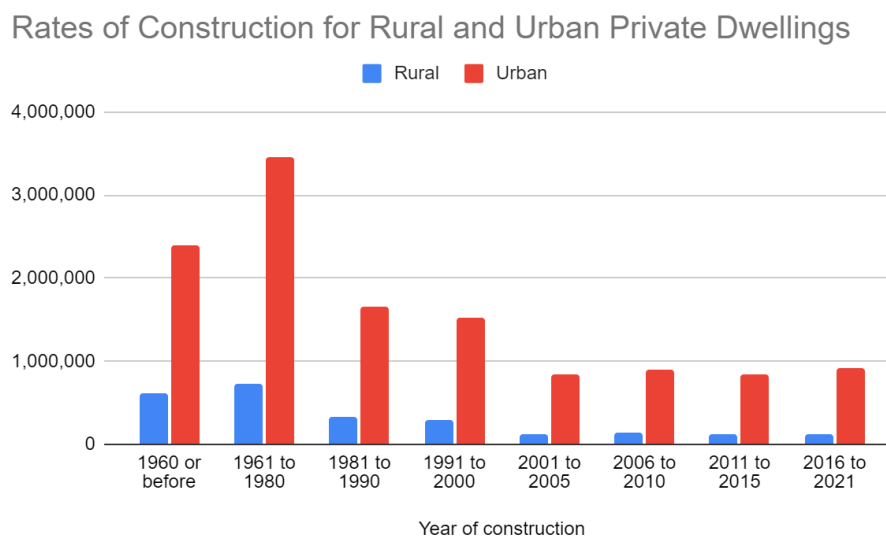
⁶⁴ Statistics Canada. (2023). *Housing in rural Canada, 2018 to 2021*.
<https://www150.statcan.gc.ca/n1/daily-quotidien/230523/dq230523d-eng.htm>

⁶⁵ Statistics Canada. (2023). *Housing in rural Canada, 2018 to 2021*.
<https://www150.statcan.gc.ca/n1/daily-quotidien/230523/dq230523d-eng.htm>

⁶⁶ Statistics Canada. (2023). *Rural Canada Housing Profiles*.
<https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=4610007801>

⁶⁷ Statistics Canada. (2023). *Housing in rural Canada, 2018 to 2021*.
<https://www150.statcan.gc.ca/n1/daily-quotidien/230523/dq230523d-eng.htm>.

Figure 1: Construction rates for private housing from 1960 to the present in millions of units.



Source: Statistics Canada. (2023). *Rural Canada Housing Profiles*.

What Has Been Done

Given the relative prominence of housing as an issue of major economic and political importance, there have been many recent initiatives and programs focused on increasing the availability and affordability of housing across the country. But they have not been generally specific to rural communities so this support will happen through non-rural specific programs. There has been some recent investment with Statistics Canada finding that in 2021, \$26 billion was invested in housing construction or repair for rural communities, which is equal to only around 16% of all housing spending in Canada for that year.⁶⁸ But even this smaller commitment represents a shift away from historic trends with the percentage rate of increase in funding levels being a 70% increase over previous years since 2018 as compared to a 30% increase in funding levels for urban areas.⁶⁹

One of the largest initiatives that is contributing to that commitment is the National Housing Strategy, which committed \$55 billion to create 125,000 new affordable housing units, reduce by 50% the number of chronically homeless shelter users, and massively increase the housing supply available in Canada.⁷⁰ There are not very clear estimates of how much of this will go specifically towards rural communities outside of the dedicated funding for rural, remote, and northern Indigenous communities. The only hard numbers that are explicitly for rural communities is the doubling of funding for the Rural and Remote Homelessness stream to a

⁶⁸ Statistics Canada. (2023). *Housing in rural Canada, 2018 to 2021*. <https://www150.statcan.gc.ca/n1/daily-quotidien/230523/dq230523d-eng.htm>.

⁶⁹ Statistics Canada. (2023). *Housing in rural Canada, 2018 to 2021*. <https://www150.statcan.gc.ca/n1/daily-quotidien/230523/dq230523d-eng.htm>.

⁷⁰ Innovation, Science, and Economic Development Canada. (2021). *Canada's Rural Economic Development Strategy: Progress Report August 2021*. <https://ised-isde.canada.ca/site/rural/sites/default/files/documents/2022-03/rural-strat-august-2021-aout-eng.pdf>

total of \$11.2 million per year.⁷¹ The federal government has announced in their 2023 Budget their desire to spend \$300 million Urban, Rural, and Northern Indigenous Housing Strategy, but some of the details of that spending are yet to be determined.⁷²

One program specifically for rural communities is the Housing Accelerator Fund, which has the Small/Rural/Northern/Indigenous Streams. These streams provide funding for local governments to remove barriers to housing and support the development of affordable, inclusive, and climate-resilient communities.⁷³ Under federal government programs like the Rural and Native Housing Program, Investing in Canada Plan, the National Housing Co-Investment Fund, Rental Construction Financing Initiative, and the Rapid Housing Initiative have built or renovated 14,000 units of housing in rural communities since 2015.

In terms of provincial programs, there is more explicit emphasis on rural housing provision. These are some of the higher profile and more impactful programs from several programs that will support housing infrastructure in rural areas. Saskatchewan does provide rental assistance for communities in select rural and northern communities through the Affordable Housing Program and local housing authorities.⁷⁴ Additionally, Saskatchewan does support the softer aspects of social housing by providing a financial incentive for healthcare workers to settle in rural and remote communities.⁷⁵ Manitoba currently helps individuals who want to buy houses from Manitoba Housing in rural areas with the Rural Homeownership Program that provides forgivable down payment assistance.⁷⁶

The province of Newfoundland and Labrador also announced a plan to increase affordable housing in the province, which includes removing the GST/HST on new purpose-built rental housing, creating a low-interest financing program for purpose-built rental construction, and using provincial land to build modular housing in rural areas.⁷⁷ Quebec has recently released its 2023-2033 Infrastructure Plan, which lays out its spending over the next 10 years but does have

⁷¹ Government of Canada. (2017). *National Housing Strategy*. <https://www.placetocallhome.ca/about-national-housing-strategy>

⁷² Office of the Parliamentary Budget Officer. (2023). *Federal Program Spending on Housing in 2022*. <https://distribution-a617274656661637473.pbo-dpb.ca/2bde3f9189ca47e9fa2aaaf0fd141a1561e77b5c5d724f8f0c4ee41e329be0c8>

⁷³ Innovation, Science, and Economic Development Canada. (2022). *Rural housing* <https://ised-isde.canada.ca/site/rural/en/housing>

⁷⁴ Government of Saskatchewan. (2023). *Rental Housing in Rural and Northern Communities*. <https://www.saskatchewan.ca/residents/housing-and-renting/renting-and-leasing/rental-housing-in-rural-and-northern-communities>

⁷⁵ Government of Saskatchewan. (2023). *Saskatchewan Rural and Remote Recruitment Incentive*. <https://www.saskatchewan.ca/residents/health/health-human-resources/incentives-for-healthcare-professionals/saskatchewan-rural-and-remote-recruitment-incentive>

⁷⁶ Government of Manitoba. (2023). *Manitoba Housing*. <https://www.gov.mb.ca/housing/progs/homeownership.html>

⁷⁷ Government of Newfoundland and Labrador. (2023). *Provincial Government Launches Five-Point Plan to Improve Availability of Housing That is Affordable*. <https://www.gov.nl.ca/releases/2023/exec/1016n04/>

a strong breakdown of its support for rural areas.⁷⁸ While they are beginning a modular housing pilot program in Nunavik and looking to create housing for rural medical personnel, there could be more clarity on how much of the plan will support rural communities.⁷⁹ Almost half of all the spending in the infrastructure plan however is going to be spent on repair and maintenance of existing infrastructure assets.⁸⁰

(Begin Textbox)

Hard versus Soft Infrastructure

One important consideration for rural infrastructure is the spectrum of infrastructure between so-called “hard” and “soft” infrastructure. Hard infrastructure traditionally consists of physical infrastructure like bridges, roads, utilities, ports, land, and processing and storage facilities.⁸¹ Soft infrastructure more often consists of intangible assets that support human capital and social institutions, such as financial systems, health care, education, regulatory structures, marketing, distribution, and logistics.⁸² These two groups may seem like they are separate categories but it would be more accurate to think of hard/soft infrastructure definitions instead as a spectrum along which individual assets can lie. Something like healthcare could be thought of as soft infrastructure when considering the skills needed in doctors, nurses, cleaners, and administrators, but also hard infrastructure when looking at the need for rural facilities, hospitals, and machinery.⁸³ In this report, we present the factors of infrastructure that support workers in rural agriculture and agri-food businesses. While more emphasis is given to the “hard” aspects of infrastructure, this reports also discusses the importance of soft infrastructure as it relates to supporting changing demographics, and attracting more workers into rural communities

(End Text Box)

Utilities

What activities fall under Utilities

Utilities refer to a variety of services that are required on a daily basis both for agricultural and agri-food businesses, as well as their employees and local communities, with water and energy

⁷⁸ Government of Quebec. (2023). *Quebec Infrastructure Plan: 2023-2033*. https://www.tresor.gouv.qc.ca/fileadmin/PDF/budget_depenses/23-24/6_Quebec_Infrastructure_Plan.pdf

⁷⁹ Government of Quebec. (2023). *Quebec Infrastructure Plan: 2023-2033*. https://www.tresor.gouv.qc.ca/fileadmin/PDF/budget_depenses/23-24/6_Quebec_Infrastructure_Plan.pdf

⁸⁰ Government of Quebec. (2023). *Quebec Infrastructure Plan: 2023-2033*. https://www.tresor.gouv.qc.ca/fileadmin/PDF/budget_depenses/23-24/6_Quebec_Infrastructure_Plan.pdf

⁸¹ International Institute for Sustainable Development. (2021). *Advancing the Climate Resilience of Canadian Infrastructure*. <https://www.iisd.org/system/files/2021-07/climate-resilience-canadian-infrastructure-en.pdf>

⁸² International Institute for Sustainable Development. (2021). *Advancing the Climate Resilience of Canadian Infrastructure*. <https://www.iisd.org/system/files/2021-07/climate-resilience-canadian-infrastructure-en.pdf>

⁸³ Breen, S. (2015). *Uncertain Foundation: Infrastructure in Rural Canada*. <https://rplcarchive.ca/wp-content/uploads/2015/12/Infrastructure-in-Rural-Canada-Report.pdf>

being some of the most crucial utilities. Energy is required for a variety of activities, including the operation of machinery as well as water management systems, including groundwater pumping and irrigation systems. Additionally, energy is required for activities such as space and water heating, cooling, lighting and transportation, which are essential activities for both businesses as well as employees and their families. Rural communities across Canada rely on a number of different energy sources, including hydro, natural gas, nuclear, wind, coal, biomass, solar and petroleum. Additionally, communities rely on water infrastructure, including the provision of clean drinking water, wastewater management as well as stormwater management. While most rural areas have access to energy and water infrastructure (although significant exceptions exist),⁸⁴ energy poverty is a key concern for many rural communities in particular.⁸⁵ Some important indicators for energy poverty are high energy costs, as well as lack of access to energy infrastructure and experiencing utility disconnections.⁸⁶ Additionally, climate change and changing precipitation patterns are increasingly affecting agricultural and agri-food businesses in the context of water.⁸⁷

What are impacts of Insufficient utilities networks

Currently, around 11% of Canada's farmland is irrigated, and agricultural producers typically rely on four different types of water sources: on-farm underground sources, such as wells, on-farm surface water sources, such as lakes, off-farm sources, typically provided by the province, as well as other water sources. In 2020, 87% of farmers indicated having no issues with sufficiently irrigating their crops.⁸⁸ However, climate change is increasing the likelihood of floods, droughts and water shortages, and collaborative planning for water management is crucial to ensure continued access to sufficient water for farmers irrigating their crops.⁸⁹ In addition, individuals rely on reliable access to safe drinking water and sanitation as a basic human right,⁹⁰ and effective stormwater management plays a crucial role in preventing the erosion of farmland as well as to prevent flooding.⁹¹ Both droughts and floods can be highly destructive to agricultural and agri-food businesses, such as by diminishing the crops yield or destroying infrastructure.

⁸⁴ Government of Canada. (2023). *Provincial and Territorial Energy Profiles – Canada*. Canada Energy Regulator. <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-canada.html>

⁸⁵ Canadian Urban Sustainability Practitioners. (2019). *Energy Poverty in Canada*. <https://energypoverty.ca/backgrounder.pdf>

⁸⁶ Canadian Urban Sustainability Practitioners. (2019). *Energy Poverty in Canada*. <https://energypoverty.ca/backgrounder.pdf>

⁸⁷ Agriculture and Agri-Food Canada. (2020). *Climate change impacts on agriculture*. <https://agriculture.canada.ca/en/environment/climate-change/climate-scenarios-agriculture>

⁸⁸ Statistics Canada. (2021). *Agricultural Water Survey, 2020*. <https://www150.statcan.gc.ca/n1/daily-quotidien/211213/dq211213d-eng.htm>

⁸⁹ International Institute for Sustainable Development. (2021). *Water use in Canadian agriculture*. <https://www.iisd.org/system/files/2021-12/sustainable-food-systems-water-use.pdf>

⁹⁰ United Nations Water. (2023). *Human Rights to Water and Sanitation*. United Nations. <https://www.unwater.org/water-facts/human-rights-water-and-sanitation#:~:text=Access%20to%20water%20and%20sanitation,safely%20managed%20water%20and%20sanitation.>

⁹¹ Sustainable Sanitation and Water Management. (2023). *Stormwater Management*. <https://sswm.info/pt/water-nutrient-cycle/wastewater-treatment/hardwares/semi-centralised-wastewater-treatments/stormwater-management>

The Southern Prairies and British Columbia's Interior are expected to see significant changes to precipitation patterns and increases in moisture deficits, which could increase the reliance of businesses on irrigation systems and lead to greater competition for groundwater.⁹² While impacts of climate change can already be felt, they are expected to become more prominent in the decades to come,⁹³ and it will be key to ensure resilience of the existing water-related infrastructure.

In addition to water infrastructure, agricultural and agri-food businesses across Canada rely on energy to run a multitude of aspects of their business, such as machinery, irrigation systems, heating and lighting. The energy use of agricultural businesses has been increasing significantly since the 1990s due to growth in farm size and increases in automation.⁹⁴ While smaller crop farms have a relative moderate average energy use,⁹⁵ dairy farms, for example, require high levels of energy for activities such as milk cooling and vacuum pumps.⁹⁶ Farmers require both reliable as well as affordable energy, additionally, the opportunity to produce renewable energy on farms through technologies such as solar panels offers an additional revenue stream when energy is sold back to the grid as well as energy cost savings.⁹⁷ Similarly, individuals rely on access to reliable and affordable energy for daily life as well as for commuting to and from work, amongst others. Without adequate access to energy, which can be caused by one or multiple reasons, including affordability, agricultural and agri-food businesses, their employees as well as communities at large face financial burdens that can negatively impact various aspects of their business operations as well as the day-to-day life of individuals.

Current State

Most Canadians have access to safe drinking water, but as of May 2023, 31 communities remain with long-term drinking water advisories.⁹⁸ In addition, other boil water advisories are issued across Canada each year, a majority of which typically affects small rural communities. While at this time, access to water, sanitation and stormwater infrastructure remains a relatively isolated issue for specific communities, there are concerns about aging and degrading

⁹² Agriculture and Agri-Food Canada. (2020). *Climate change impacts on agriculture*. <https://agriculture.canada.ca/en/environment/climate-change/climate-scenarios-agriculture>

⁹³ Agriculture and Agri-Food Canada. (2020). *Climate change impacts on agriculture*. <https://agriculture.canada.ca/en/environment/climate-change/climate-scenarios-agriculture>

⁹⁴ Healing, D. (2019). *Canadian agriculture is using more energy — but more efficiently, too*. CBC News. <https://www.cbc.ca/news/canada/calgary/agricultural-energy-productivity-gains-1.5186950>

⁹⁵ MacDonald, J. (2023). *Canadian farmers embrace renewable energy*. Farms.com <https://www.farms.com/ag-industry-news/canadian-farmers-embrace-renewable-energy-144.aspx>

⁹⁶ Government of Ontario. (2010). *Using less energy on dairy farms*. <https://www.ontario.ca/page/using-less-energy-dairy-farms#:~:text=and%20save%20money.,Energy%20benchmarking,1%2C400%20kWh%20%2Fcow%2Fyear>.

⁹⁷ Jia Chen, Z. & Jewitt, A. (2023). *Canada's farms integrate renewable energy production and technologies toward a future of sustainable and efficient agriculture*. Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/96-325-x/2021001/article/00016-eng.htm>

⁹⁸ Statistics Canada. (2023). *Drinking Water*. <https://www160.statcan.gc.ca/environment-environnement/drinking-water-eau-potable-eng.htm>

infrastructure and overall weaknesses in rural water systems in particular.⁹⁹ Between 2010 and 2021, boil water advisories due to the detection of bacteria decreased, but the percentage of advisories issued due to equipment and process-related issues increased. In 2021, 89% of boil water advisories were issued for small rural communities.¹⁰⁰ In addition to aging and degrading infrastructure, climate change is further expected to have growing impacts on agricultural landscapes across Canada, with both extended drought periods and severe flooding becoming an increasing concern,¹⁰¹ and it is unclear how prepared the current water infrastructure is to adapt to the impacts of climate change. However, as previously noted, 87% of farmers indicated having no issues with sufficiently irrigating their crops in 2020.¹⁰²

Similarly to water, most communities across Canada are generally able to access energy. Most residents and businesses also have access to electricity across Canada, including in rural areas.¹⁰³ However, 178 remote communities are currently not connected to either electricity grid and natural gas. These communities typically rely on diesel fuel and/or fossil fuels both for generating electricity and heating.¹⁰⁴ Energy poverty, however, is an issue that affects people across Canada, but rural households are more likely to experience some form of energy poverty. This can be caused by a multitude of factors: Homes are typically larger in rural areas, and farmers often have additional buildings that require energy, such as greenhouses and dairy barns. Additionally, transmission charges on utility bills tend to be greater in rural areas.¹⁰⁵ In 2019, around 29.3% of rural households experienced high energy costs, which were greater than 6% of the after-tax income.¹⁰⁶ Significant differences also exist between provinces and territories: energy poverty is currently the most prevalent in Atlantic Canada, and in Prince Edward Island specifically, around 41% of households struggle with high energy costs.¹⁰⁷ Heating oil accounts for around 40% of a household's energy bill in PEI, and around 65% of

⁹⁹ Yankey, I. (2022). *Improving water infrastructure in rural, remote, and Indigenous communities*. Water Canada. <https://www.watercanada.net/feature/improving-water-infrastructure-in-rural-remote-and-indigenous-communities/>

¹⁰⁰ Environment and Climate Change Canada. (2022). *Boil water advisories*. <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/boil-water-advisories.html>

¹⁰¹ Environment and Climate Change Canada. (2022). *Boil water advisories*. <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/boil-water-advisories.html>

¹⁰² Statistics Canada. (2021). *Agricultural Water Survey, 2020*. <https://www150.statcan.gc.ca/n1/daily-quotidien/211213/dq211213d-eng.htm>

¹⁰³ Trading Economics. (2023). *Canada - Access To Electricity, Rural*. <https://tradingeconomics.com/canada/access-to-electricity-rural-percent-of-rural-population-wb-data.html>

¹⁰⁴ Government of Canada. (2023). *Market Snapshot: Clean Energy Projects in Remote Indigenous and Northern Communities*. Canadian Energy Regulator. <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/market-snapshots/2023/market-snapshot-clean-energy-projects-remote-indigenous-northern-communities.html>

¹⁰⁵ Canadian Urban Sustainability Practitioners. (2019). *Energy Poverty in Canada*. <https://energypoverty.ca/backgrounder.pdf>

¹⁰⁶ Canadian Urban Sustainability Practitioners. (2019). *Energy Poverty in Canada*. <https://energypoverty.ca/backgrounder.pdf>

¹⁰⁷ Canadian Urban Sustainability Practitioners. (2019). *Energy Poverty in Canada*. <https://energypoverty.ca/backgrounder.pdf>

households rely on oil for heating.¹⁰⁸ The percentage of households experiencing energy poverty in the Prairies, Quebec, British Columbia and Nunavut, on the other hand, is below the national average.¹⁰⁹

An increasing number of farms are producing renewable energy, due to factors such as decreasing costs to set up renewable energy production as well as incentives, including the carbon tax.¹¹⁰ As of 2021, 11.9% farms in Canada reported at least one form of renewable energy production. The most common type of renewable energy production was solar (7.7%), 2.9% reported bioenergy production, 1.9% reported geothermal energy production, and 1% reported wind energy production.¹¹¹

What has been done

The Investing in Canada Infrastructure Program is investing \$33-billion through bilateral agreements with provincial and territorial governments.¹¹² The green Infrastructure stream is one of three sub-streams, and aims to support infrastructure investments related to both clean energy and water, including upgrading wastewater treatment and collection infrastructure as well as upgrading drinking water treatment and distribution infrastructure.¹¹³ The stream also supports disaster mitigation and adaptation projects.¹¹⁴ Previously, \$2-billion was administered through the Clean Water and Wastewater Fund between 2016 to 2019, which aimed to improve overall water treatment and distribution infrastructure.¹¹⁵

One of the key priorities of the federal government is transitioning to clean energy sources as well as to reduce the energy consumption of Canadian households, which also aims to reduce energy costs. In addition to working towards replacing fossil fuels as energy sources with clean alternatives such as solar, wind and hydrogen, this priority also creates changes for

¹⁰⁸ Canadians for Affordable Energy. (2019). *The Value of Energy – Prince Edward Island*. https://d3n8a8pro7vhmx.cloudfront.net/affordableenergy/pages/39/attachments/original/1561776377/CAE_08_PEI-report_JN2719_F2.pdf?1561776377

¹⁰⁹ Canadian Urban Sustainability Practitioners. (2019). *Energy Poverty in Canada*. <https://energypoverty.ca/background.pdf>

¹¹⁰ Farm Credit Canada. (2023). *Why more farmers are choosing renewable energy*. <https://www.fcc-fac.ca/en/knowledge/farmers-renewable-energy.html>

¹¹¹ Jia Chen, Z. & Jewitt, A. (2023). *Canada's farms integrate renewable energy production and technologies toward a future of sustainable and efficient agriculture*. Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/96-325-x/2021001/article/00016-eng.htm>

¹¹² Infrastructure Canada. (2023). *Investing in Canada Infrastructure Program*. <https://www.infrastructure.gc.ca/plan/icp-pic-INFC-eng.html>

¹¹³ Infrastructure Canada. (2023). *Investing in Canada Infrastructure Program*. <https://www.infrastructure.gc.ca/plan/icp-pic-INFC-eng.html>

¹¹⁴ Infrastructure Canada. (2023). *Investing in Canada Infrastructure Program*. <https://www.infrastructure.gc.ca/plan/icp-pic-INFC-eng.html>

¹¹⁵ Infrastructure Canada. (2017). *Clean Water and Wastewater Fund Program Overview*. <https://www.infrastructure.gc.ca/plan/cwwf/cwwf-program-programme-eng.html>

infrastructure discussed previously, including the electrification of transportation and machinery, and improving the energy efficiency of housing.¹¹⁶

There are various programs that support rural and remote communities as well as agricultural businesses across Canada to achieve this transition. Additionally, one of the current main strategies to improve energy affordability is improving the energy efficiency of buildings, for which various funding programs exist at the federal and provincial level. The federal government provides funding for renewable energy and capacity-building projects as well as energy efficiency measures in rural and remote areas of Canada through the Clean Energy for Rural and Remote Communities program.¹¹⁷ As part of the 2030 Emissions Reduction Plan, the federal government also runs the Agricultural Clean Technology program, which supports the development and adoption of clean technology or equipment upgrades for agricultural businesses.¹¹⁸ More broadly, the Canada Greener Homes Grant provides grants to homeowners for eligible retrofits across Canada.¹¹⁹ Both homeowners and renters with a limited income as well as landlords are eligible for free energy efficiency upgrades in Manitoba.¹²⁰ Similarly, the Energy Affordability Program in Ontario provides free energy efficiency updates for eligible households.¹²¹

While there is widespread support towards clean energy and energy efficiency, there are also examples of political push-back. Alberta, for example, paused the approval of large new renewable energy projects in Fall 2023.¹²² This is significant, given that in 2022, Alberta accounted for three-quarters of all new wind and solar installations built in Canada.¹²³

Broadband and Cellular

What activities fall under broadband and cellular

¹¹⁶ Employment and Social Development Canada. (2023.) *Sustainable Development Goals*. <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/affordable-clean-energy.html>

¹¹⁷ Natural Resources Canada. (2023). *Clean Energy for Rural and Remote Communities Program*. <https://natural-resources.canada.ca/reducingdiesel>

¹¹⁸ Agriculture and Agri-Food Canada. (2023). *Agricultural Clean Technology Program*. <https://agriculture.canada.ca/en/programs/agricultural-clean-technology-adoption-stream>

¹¹⁹ Natural Resources Canada. (2023). *Canada Greener Homes Grant*. <https://natural-resources.canada.ca/energy-efficiency/homes/canada-greener-homes-initiative/canada-greener-homes-grant/canada-greener-homes-grant/23441>

¹²⁰ Efficiency Manitoba. (n.d.) Energy Efficiency Assistance Program. Retrieved November 6th, 2023. <https://efficiencymb.ca/my-home/energy-efficiency-assistance-program/>

¹²¹ Government of Ontario. (2023). *Ontario Helping Families Save Money with Energy-Efficiency Program*. <https://news.ontario.ca/en/release/1002903/ontario-helping-families-save-money-with-energy-efficiency-program>

¹²² Sheehan, D., Sadikman, J., Olexiuk, P., Baines, S. & Kustra, B. (2023). *Alberta presses 'pause' on renewable energy projects*. <https://www.osler.com/en/blogs/energy/september-2023/alberta-presses-pause-on-renewable-energy-projects>

¹²³ Environment and Climate Change Canada. (2023). *Alberta: Clean electricity snapshot*. <https://www.canada.ca/en/services/environment/weather/climatechange/climate-action/powering-future-clean-energy/overview-alberta.html>

Broadband internet refers to a high-speed internet connection, and cellular networks enable the connectivity of different kinds of phones and mobile devices. Access to high-speed internet as well as mobile connectivity is a necessity for people and businesses to access digital services and to participate in the digital economy. Access to these services is delivered through a variety of technologies, such as cellular towers, cables and fiber, as well as increasingly through new channels such as satellites.

What are impacts of Insufficient broadband and cellular networks

Access to reliable and affordable high-speed internet, as well as to cellular networks, is crucial for modern agriculture and agri-food businesses. It allows farmers to make informed business decisions, operate farm technology and manage farm operations, facilitates communication with the community, and gives both farmers and workers access to continuing education opportunities.¹²⁴ In addition, it is a basic necessity for farmers, workers and their families to enjoy the same quality of life as people in more urban areas.¹²⁵ Having reliable internet and phone connection is associated with better business outcomes for agricultural businesses, and the importance of high-speed internet is only expected to increase further.

The rise of precision agriculture and the associated increase in the use of various technologies, software and equipment, including sensors, robotics, drones and the Internet of Things (IoT) requires a reliable internet connection at all times in order to avoid significant business disruptions, and is of particular importance during seeding and harvesting season.^{126 127} Precision agriculture allows for the tracking of soil conditions, for example, and is associated with higher crop production.¹²⁸ Without reliable high-speed internet, agricultural and agri-food businesses have limited access to up-to-date information, such as cattle or grain prices, which can negatively impact the decision-making process. It also hampers simple business processes, ranging from activities such as paying bills and submitting orders to marketing their business. The use of modern technologies, such as for precision agriculture as well as for manufacturing processes, requires reliable high-speed internet, or becomes unusable.

Current State

Across Canada, there are various issues associated with access to high-speed internet and cellular technology, notably the coverage and the reliability of these services, as well as affordability. Recognizing the importance of high-speed internet in the daily life for everyone, the

¹²⁴ Ontario Federation of Agriculture. (2023). *Broadband Internet*. <https://ofa.on.ca/issues/broadband-internet/#:~:text=Farmers%20rely%20on%20internet%20for,and%20communicate%20with%20the%20community>.

¹²⁵ Hebert, K. (2022). *Lack of rural internet and cellular connectivity jeopardizing growth of agriculture industry*. Real Agriculture. <https://www.realagriculture.com/2022/11/lack-of-rural-internet-and-cellular-connectivity-jeopardizing-growth-of-agriculture-industry/>

¹²⁶ Ridge (2022). *How IoT Precision Agriculture and Smart Farming Works*. <https://www.ridge.co/blog/how-iot-precision-agriculture-and-smart-farming-works/>

¹²⁷ Hebert, K. (2022). *Lack of rural internet and cellular connectivity jeopardizing growth of agriculture industry*. Real Agriculture. <https://www.realagriculture.com/2022/11/lack-of-rural-internet-and-cellular-connectivity-jeopardizing-growth-of-agriculture-industry/>

¹²⁸ Government of Ontario. (2019). *Up to Speed: Ontario's Broadband and Cellular Action Plan*. <https://www.ontario.ca/page/speed-ontarios-broadband-and-cellular-action-plan>

federal government set a target speed of 50/10 Mbps (50 megabits per second for downloads and 10 megabits per second for uploads) for all Canadians, but as of 2021, only 59.5% of households in rural and remote areas had access to the target speed, compared to 90.9% across Canada.¹²⁹ As of 2021, 99.2% of Canadian households had access to mobile coverage. Urban areas had a 100% coverage rate, in contrast to rural and remote areas, which had a coverage rate of 96.3%.¹³⁰ As of June 2023, high-speed internet coverage was lowest in the Territories as well as In Newfoundland and Labrador (77.8%), Saskatchewan (81.5%) and Manitoba (83.1%), and Quebec was the only province that achieved full coverage thus far.¹³¹ Rural communities tend to have significantly lower coverage. While in Alberta, 89.4% of people have access to reliable high-speed internet, 67% of rural Albertans do not.¹³² Similarly, most rural communities in Saskatchewan do not have access to reliable broadband internet and cell service, which negatively affects the growth of the local agriculture industry.¹³³ In addition to reliable coverage, affordability is a key concern for agricultural businesses accessing broadband and cellular services.

Generally, prices for both high-speed internet and cellular services in Canada are some of the highest globally.¹³⁴ In rural areas, satellite options such as Starlink have gained popularity, since they provide a valuable alternative in underserved communities. However, they can be higher cost options for individuals or businesses, as they need to pay hardware costs and monthly fees that are more expensive than many alternatives available in urban and suburban areas.¹³⁵

What has been done

In 2019, the federal government released the Connectivity Strategy, which aims to connect 98% of underserved Canadians to high-speed internet (set at a target speed of 50/10 Mbps) by 2026, and to achieve full coverage for all Canadians by 2030.¹³⁶ While the Connectivity Strategy did

¹²⁹ Office of the Auditor General. (2023). *Connectivity in Rural and Remote Areas*. https://www.oag-bvg.gc.ca/internet/English/parl_oag_202303_02_e_44205.html

¹³⁰ Office of the Auditor General. (2023). *Connectivity in Rural and Remote Areas*. https://www.oag-bvg.gc.ca/internet/English/att__e_44225.html

¹³¹ Innovation, Science, and Economic Development Canada. (2023). *High-Speed Internet Access Dashboard*. <https://www.ic.gc.ca/app/scr/stsidcr/web/high-speed-internet-canada/en/universal-access/broadband-dashboard.html>

¹³² Government of Alberta. (2023). *Alberta Broadband Strategy*. <https://www.alberta.ca/alberta-broadband-strategy#:~:text=67%25%20of%20rural%20Albertans%20and,Governments%20of%20Alberta%20and%20Canada>.

¹³³ Hebert, K. (2022). *Lack of rural internet and cellular connectivity jeopardizing growth of agriculture industry*. Real Agriculture. <https://www.realagriculture.com/2022/11/lack-of-rural-internet-and-cellular-connectivity-jeopardizing-growth-of-agriculture-industry/>

¹³⁴ Zafar, N. (2022). *Canada takes 103rd place in study examining worldwide broadband cost*. <https://mobilesyryp.com/2022/05/25/canada-lands-at-103-in-study-examining-worldwide-broadband-cost/>

¹³⁵ Lewandowski, J. (2023, November 1). Starlink Makes Satellite Internet More Accessible in Canada with Lower Hardware Costs. *TS2 SPACE*. <https://ts2.space/en/starlink-makes-satellite-internet-more-accessible-in-canada-with-lower-hardware-costs/>

¹³⁶ Innovation, Science, and Economic Development Canada. (2021). *Canada's Rural Economic Development Strategy: Progress Report August 2021*. <https://ised-isde.canada.ca/site/rural/sites/default/files/documents/2022-03/rural-strat-august-2021-aout-eng.pdf>

not include any targets related to improving cellular services, the Canadian Radio-television and Telecommunications Commission (CRTC) established a 100% coverage target for 2026.¹³⁷ The CRTC also launched a review of the Internet services market in Canada in Spring 2023, recognizing the current low levels of competition in the market. Additionally, the CRTC lowered certain wholesale rates by 10% effective immediately.¹³⁸

The Connectivity strategy is also supported by provincial governments. The British Columbia government, for example, aims to connect all communities to high-speed internet by 2027 through the 'Connecting British Columbia' program,¹³⁹ and the Alberta government seeks to ensure access for all Albertans by the end of fiscal year 2026/2027 as part of the Alberta Broadband Strategy and its associated Alberta Broadband Fund.¹⁴⁰ In Nova Scotia, 96.2% of residents have already been connected as of September 2023, and unserved residents and business owners can benefit from an interim solution through the Satellite Internet Service Rebate program, administered through Build Nova Scotia,¹⁴¹ which provides one-time funding to set-up satellite internet.¹⁴² Quebec has led the country in providing broadband internet access to a vast majority and has essentially achieved full coverage as of March of 2023.¹⁴³ This expansion required funding to the tune of hundreds of millions of dollars to northern communities and required the choice to subsidize satellite internet like Starlink for several other communities instead of building wire connections, but it remains as a major accomplishment of rural connectivity.¹⁴⁴ Similarly, Ontario has committed \$4 billion to bring full coverage to the province by the end of 2025.¹⁴⁵ They, like Quebec and Nova Scotia, have also utilized private

¹³⁷ Office of the Auditor General. (2023). *Connectivity in Rural and Remote Areas* https://www.oag-bvg.gc.ca/internet/English/att__e_44225.html

¹³⁸ CRTC. (2023). *CRTC launches review of approach to Internet services competition and lowers some wholesale rates effectively immediately*. <https://www.canada.ca/en/radio-television-telecommunications/news/2023/03/crtc-launches-review-of-approach-to-internet-services-competition-and-lowers-some-wholesale-rates-effectively-immediately.html>

¹³⁹ Government of Ontario. (2019, July 23). *Up to Speed: Ontario's Broadband and Cellular Action Plan*. <http://www.ontario.ca/page/speed-ontarios-broadband-and-cellular-action-plan>

¹⁴⁰ Government of Alberta. (2022). *Connecting Albertans, growing the economy. Alberta Broadband Strategy*. <https://open.alberta.ca/dataset/7c985469-fb6c-4a46-8bfb-5531ccb8f5aa/resource/ff3382ee-29fc-484b-9378-245baa521e08/download/sa-alberta-broadband-strategy-2022.pdf>

¹⁴¹ Government of Nova Scotia, C. N. (2018, May 11). *New Crown Corporations Launched to Drive Economic Growth*. News Releases. <https://novascotia.ca/news/release/?id=20221201004>

¹⁴² Government of Nova Scotia. (2022). *Satellite Internet Service Rebate Program*. <https://internet.buildns.ca/satellite/>

¹⁴³ Zafar, N. (2022). *Quebec says it reached its goal to connect all residents to high-speed internet*. Mobile Syrup. <https://mobilesyrup.com/2022/08/26/quebec-says-it-has-reached-its-goal-to-provide-high-speed-internet-access-to-all-residents/>

¹⁴⁴ Government of Quebec. (2022). *Investments totalling nearly \$124 million to enhance Internet service in the Nord-du-Québec region*. <https://www.quebec.ca/en/news/actualites/detail/investments-totalling-nearly-124-million-to-enhance-internet-service-in-the-nord-du-quebec-region-41737>

¹⁴⁵ Government of Ontario. (2023). *Ontario connects: making high-speed internet accessible in every community*. <https://www.ontario.ca/page/ontario-connects-making-high-speed-internet-accessible-in-every-community>

satellite service to increase coverage to more disparate communities.¹⁴⁶ Projects like the Brighton Pilot, the Northern Broadband and Cellular Expansion Initiative, the Next Generation Network Program, and the Improving Connectivity for Ontario are all working as a part of this initiative to expand coverage in many different ways.

Social Infrastructure (Childcare, Healthcare, Eldercare, Social Services)

What activities fall under social infrastructure

Social infrastructure encompasses a variety of formalized care and supports services provided to people, such as childcare, eldercare, and healthcare, amongst others. These services play an essential role in supporting the everyday lives of people, their families and society at large. In addition to or in lieu of formalized care services, families and friends often play a crucial role in providing childcare and eldercare in an informal manner and on an unpaid basis.

What are impacts of insufficient social infrastructure networks

Social infrastructure plays a crucial role in supporting the agriculture and agri-food workforce and businesses by addressing safety and health concerns, as well as by removing barriers to workforce participation. Rural areas typically have a low population density often scattered over vast areas, leading to relatively few users for all types of social services,¹⁴⁷ which is one of the most significant challenges in delivering services to rural populations.¹⁴⁸ It also leads to associated challenges, such as accessibility issues due to long distances and limited transportation options, as well as challenges in the recruitment and retention of professionals working in various types of social supports and services, including family physicians and childcare professionals.¹⁴⁹

The agriculture and agri-food sector is characterized by seasonal variations as well as long hours as predominant work patterns, which greatly impacts the need for many care services, in particular child care services, and as a result, rural families typically require a higher degree of flexible care services than their urban counterparts.¹⁵⁰ In addition to variable work patterns for on-farm work, most farms in Canada also rely on off-farm income, with 80% of farms reporting

¹⁴⁶ Government of Ontario. (2023). *Ontario connects: making high-speed internet accessible in every community*. <https://www.ontario.ca/page/ontario-connects-making-high-speed-internet-accessible-in-every-community>

¹⁴⁷ Friendly, M. Ferns, C. Grady, B. & Rothman, L. (2016). *Childcare can't wait till the cows come home: Rural childcare in the Canadian Context*. Childcare Resource and Research Unit. <https://childcarecanada.org/sites/default/files/Occasional%20paper%20No.30.pdf>

¹⁴⁸ Reschke, K. L. (2012). Child Care Needs of Farm Families. *Journal of Agromedicine*, 17(2), 208–213. <https://doi.org/10.1080/1059924X.2012.658292>

¹⁴⁹ Bobiak, J, Morris J, Nur F, & F Asad. (2021). *Rural Health Infrastructure in Ontario: A Rapid Review*. Spatial Determinants of Health Lab. <https://carleton.ca/determinants/wp-content/uploads/RapidReview-HealthInfrastructure.pdf>

¹⁵⁰ Friendly, M. Ferns, C. Grady, B. & Rothman, L. (2016). *Childcare can't wait till the cows come home: Rural childcare in the Canadian Context*. Childcare Resource and Research Unit. <https://childcarecanada.org/sites/default/files/Occasional%20paper%20No.30.pdf>

off-farm employment income.¹⁵¹ As a result, it is often difficult for parents to provide the necessary supervision to their children alone, and they rely on alternative support. The availability of adequate child care is crucial not only to provide general care for children while their parents are working, but also ensures the safety of children on farms, as farms are one of the only workplaces where children are regularly present.¹⁵² While family and friends can provide an important informal network of childcare, this is difficult to manage for most families, and can be a particular challenge in rural areas with a low population density.¹⁵³ The availability of flexible, high-quality childcare ensures the safety of children on farms, provides farmers and other workers with the needed flexibility to effectively participate in the labour force, both on or off-farm, without having to solely rely on informal networks.¹⁵⁴ Additionally, rural families desire to provide their children with equivalent socialization experiences as more urban families.¹⁵⁵

Access to healthcare is essential for the health and safety of all workers, both to prevent injuries and illnesses, as well as to treat injuries or illnesses associated with farm work, which also reduces health-related absences from work. Across Canada, as we have covered in trends, rural populations tend to be older than their urban counterparts and tend to face more health issues.¹⁵⁶ Many occupations within agriculture are physically demanding and hazardous due to the widespread use of large machinery and equipment as well as the exposure to chemicals. In Saskatchewan, for example, agriculture is one of the most hazardous industries, and incidents cause both suffering to affected workers, but also significantly reduce farm revenue.¹⁵⁷ In addition to often strenuous and difficult working conditions, farmers in particular tend to be older. The median age of a farm operator in Canada in 2021 was 58 years, compared to the median age of the general population, which was 41.6 years.¹⁵⁸ In addition, access to eldercare can be essential both for workers providing care to family members, especially in the context of family farms, as well as to aging farmers directly, especially given the rising median age of farmers and high rates of expected retirements in the years to come. Similar to child care, family, friends and neighbours often provide informal and unpaid care services to elderly community members,

¹⁵¹ FCC. (2020, July 14). *Why off-farm income remains vital to the farm economy*. <https://www.fcc-fac.ca/en/knowledge/economics/why-off-farm-income-remains-vital-to-the-farm-economy.html>

¹⁵² Prentice, S. (2017). *The Challenge of Rural Childcare in Canada*. University of Manitoba. <https://www.scielo.br/j/ccedes/a/MBHrBgGGgVm8t8b6PvgPVhS/?format=pdf&lang=en>

¹⁵³ Reschke, K. L. (2012). Child Care Needs of Farm Families. *Journal of Agromedicine*, 17(2), 208–213. <https://doi.org/10.1080/1059924X.2012.658292>

¹⁵⁴ Friendly, M. Ferns, C. Grady, B. & Rothman, L. (2016). *Childcare can't wait till the cows come home: Rural childcare in the Canadian Context*. Childcare Resource and Research Unit. <https://childcarecanada.org/sites/default/files/Occasional%20paper%20No.30.pdf>

¹⁵⁵ Friendly, M. Ferns, C. Grady, B. & Rothman, L. (2016). *Childcare can't wait till the cows come home: Rural childcare in the Canadian Context*. Childcare Resource and Research Unit. <https://childcarecanada.org/sites/default/files/Occasional%20paper%20No.30.pdf>

¹⁵⁶ Bobiak, J, Morris J, Nur F, & F Asad. (2021). *Rural Health Infrastructure in Ontario: A Rapid Review*. Spatial Determinants of Health Lab.

¹⁵⁷ Government of Saskatchewan. (n.d.). *Farm Safety*. Government of Saskatchewan. Retrieved November 10, 2023, from <https://www.saskatchewan.ca/business/safety-in-the-workplace/hazards-and-prevention/safety-in-professions-and-industry/farm-safety>

¹⁵⁸ Statistics Canada. (2022). *Canada's 2021 Census of Agriculture: A story about the transformation of the agriculture industry and adaptiveness of Canadian farmers*. <https://www150.statcan.gc.ca/n1/daily-quotidien/220511/dq220511a-eng.htm>

especially in the absence of alternatives. However, many unpaid caregivers struggle to balance caregiving duties with their regular employment and are at risk of burning out.¹⁵⁹

Current State

Childcare

Affordability, availability and quality are some of the key issues related to child care in Canada. Through the federal \$10 per day child care program, Canada has made great strides towards improving the affordability of childcare services across all provinces and territories, and as of 2022, fees for child care had already been reduced by at least 50% on average.¹⁶⁰ The availability of child care spaces, however, remains a concern, with almost half of Canadian children below kindergarten age living in so-called 'child care deserts. A childcare desert is defined as an area with more than three children for each licensed childcare space. The issue of childcare deserts is particularly pronounced for families and children in rural areas and small towns.¹⁶¹ Access to childcare is limited for many rural communities, but there are significant provincial differences. In the Prairies, most rural families have extremely limited access to formalized childcare: in Saskatchewan, around 92% of children live in childcare deserts across the province, compared to rural areas, where it essentially is 100% of all children.¹⁶² In Manitoba, the provincial number is 76%, compared to 97% in rural areas, and in Alberta 61%, compared to 99% in rural areas.¹⁶³ Most of Atlantic Canada also has major issues in providing access to child care, with Prince Edward Island as an exception and with the lowest rate of child care deserts across Canada at 4%. New Brunswick overall (29%) is below the national average as well; however, the number is significantly higher for rural areas (52%). In Newfoundland and Labrador, the provincial number is 79%, compared to 100% in rural areas, and in Nova Scotia, the provincial number is at 47%, compared to 61% in rural Nova Scotia.¹⁶⁴

A significant factor in providing childcare space is the availability of staff, and there is a significant shortage of qualified childcare workers across Canada. In addition to impacting the simple availability of spaces, it also directly impacts the quality of care. The quality of child care is influenced by a variety of factors, including group sizes, staff-to-child ratios, staff qualifications

¹⁵⁹ National Institute on Ageing. (2019). *Enabling the Future Provision of Long-Term Care in Canada*. https://cnpea.ca/images/futureoflong-termcare_v7_final-09-09-2019.pdf

¹⁶⁰ Employment and Social Development Canada. (2023). *Toward \$10-a-day: Early Learning and Child Care*. <https://www.canada.ca/en/employment-social-development/campaigns/child-care.html>

¹⁶¹ MacDonald, D. & Friendly, M. (2023). *Not done yet \$10-a-day child care requires addressing Canada's child care deserts*. *The Monitor*. <https://monitormag.ca/reports/not-done-yet/>

¹⁶² Mirza, N. & Hulko, M. (2022). *The complex nature of transportation as a key determinant of health in primary and community care restructuring initiatives in rural Canada*. *Journal of Aging Studies*. <https://www-sciencedirect-com.proxy.bib.uottawa.ca/science/article/pii/S0890406522000056>

¹⁶³ Mirza, N. & Hulko, M. (2022). *The complex nature of transportation as a key determinant of health in primary and community care restructuring initiatives in rural Canada*. *Journal of Aging Studies*. <https://www-sciencedirect-com.proxy.bib.uottawa.ca/science/article/pii/S0890406522000056>

¹⁶⁴ MacDonald, D. & Friendly, M. (2023). *Not done yet \$10-a-day child care requires addressing Canada's child care deserts*. *The Monitor*. <https://monitormag.ca/reports/not-done-yet/>

as well as the working conditions of staff.¹⁶⁵ Issues with both recruiting and retaining childcare staff have been a long documented issue, with low wages being a particular concern.¹⁶⁶ As of 2019, hourly earnings for childcare workers were 28% lower than for all other occupations across Canada.¹⁶⁷ While this is a general concern across Canada, gaps and shortages are significantly more pronounced in rural areas, and the flexibility required by agricultural businesses in particular adds an additional challenge in delivering meaningful childcare services to rural agriculture and agri-food businesses.¹⁶⁸

Health Care and Elder Care

Access as well as quality of care and health care outcomes are some of the key concerns related to health care in Canada. Rural Canadians face more challenges in accessing health care compared to urban populations, and they have poorer health outcomes when accessing health care.¹⁶⁹ Rural areas tend to have few health care facilities that require many people to travel long distances,¹⁷⁰ simultaneously, many rural areas tend to have few transportation options, which acts as a major barrier to accessing health care. This is a particularly common issue for older residents, who are more negatively affected by transportation barriers than other vulnerable groups.¹⁷¹ The lack of transportation options for elderly community members is also associated with social isolation and loneliness, which further impacts the wellbeing of individuals. The recruitment and retention of healthcare professionals have been an issue across Canada, but the issue is significantly more pronounced in rural and remote areas. While around 18% of Canadians live in rural areas, they are served by only 8% of physicians practicing in Canada,¹⁷² as well as by 11.8% of regulated nurses in Canada as of 2015.¹⁷³ There

¹⁶⁵ Employment and Social Development Canada. (2018). *Defining and measuring the quality of Early Learning and Child Care: A literature review*. <https://www.canada.ca/en/employment-social-development/programs/early-learning-child-care/reports/2019-defining-measuring-quality.html>

¹⁶⁶ Crawley, M. (2023). *Why a shortage of workers threatens \$10/day child care*. <https://www.cbc.ca/news/canada/toronto/child-care-worker-shortage-early-childhood-educators-1.6774940>

¹⁶⁷ Uppal, S. & Savage, K. (2021.) *Child care workers in Canada*. Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/75-006-x/2021001/article/00005-eng.htm>

¹⁶⁸ Friendly, M. Ferns, C. Grady, B. & Rothman, L. (2016). *Childcare can't wait till the cows come home: Rural childcare in the Canadian Context*. Childcare Resource and Research Unit. <https://childcarecanada.org/sites/default/files/Occasional%20paper%20No.30.pdf>

¹⁶⁹ Wilson, R. Rourke, J. Oandasan, I. & Bosco, C. (2020). *Progress made on access to rural health care in Canada*. Can Fam Physician. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7012120/>

¹⁷⁰ Browne, A. (n.d). *Issues Affecting Access to Health Services in Northern, Rural and Remote Regions of Canada*. <https://www2.unbc.ca/sites/default/files/sections/northern-studies/issuesaffectingaccesstohealthservicesinnorthern.pdf>

¹⁷¹ Mirza, N. & Hulko, M. (2022). *The complex nature of transportation as a key determinant of health in primary and community care restructuring initiatives in rural Canada*. Journal of Aging Studies. <https://www-sciencedirect-com.proxy.bib.uottawa.ca/science/article/pii/S0890406522000056>

¹⁷² Wilson, R. Rourke, J. Oandasan, I. & Bosco, C. (2020). *Progress made on access to rural health care in Canada*. Can Fam Physician. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7012120/>

¹⁷³ MacLeod, M. et al. (2017). *Nurses who work in rural and remote communities in Canada: a national survey*. *Human Resources for Health*. <https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-017-0209-0>

is currently no comprehensive rural health care strategy in place and significant gaps exist relating to what it would take to improve rural health care.¹⁷⁴

While the issue is even more pronounced in rural and remote areas, most of Canada is facing severe pressures on its health care system. Atlantic Canada, for example, faces challenges in its health care system related to recruiting physicians, access to health care as well as an overall aging population, however, some issues are particularly pronounced in the region.¹⁷⁵ The shortage of family doctors, for example, is significant. A recent survey found that 61% of people in New Brunswick, 67% of people in Nova Scotia and 58% of people in Newfoundland and Labrador either did not have a family doctor or had difficulties getting an appointment with their current family doctor.¹⁷⁶

Eldercare, including home care, is a crucial health care service supporting aging Canadians, the demand for which is expected to increase: Canada's population is aging rapidly, and by 2036, around 25% of Canadians will be 65 years or older,¹⁷⁷ and the demand for elder care is expected to double over the next decade.¹⁷⁸ The rural population is aging even more rapidly, and they tend to have a higher ratio of working-age people.¹⁷⁹ Similar to general health care services, in-home care services and long-term care services also tend to be limited in rural Canada, leading to situations where family members are required to provide care to family members without adequate support and without pay, or individuals being moved to facilities far away from home and being separated from their social support system.¹⁸⁰

What has been done

The Federal Government allocated \$30 billion as part of its 2021 budget over a five-year period, with the goal of lowering childcare fees to an average of \$10 a day until 2026.¹⁸¹ Agreements have been reached with all provincial and territorial governments, and as of 2022, fees for child care had already been reduced by at least 50% on average.¹⁸² Under the Canada-Ontario Early

¹⁷⁴ Wilson, R. Rourke, J. Oandasan, I. & Bosco, C. (2020). *Progress made on access to rural health care in Canada*. Can Fam Physician. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7012120/>

¹⁷⁵ Research Nova Scotia. (2020, September 30). *Healthy People & Health Care Systems*. <https://researchns.ca/healthy-people-health-care-systems/>

¹⁷⁶ Dangerfield, K. (2023, August 17). *Half of Canadians do not have a doctor, or battle for appointments: Survey—National*. <https://globalnews.ca/news/9901922/canadians-family-doctor-shortage-cma-survey/>

¹⁷⁷ Statistics Canada. (2015). *Population Projections*. <https://www150.statcan.gc.ca/n1/pub/91-520-x/2010001/aftertoc-aprestdm1-eng.htm>

¹⁷⁸ Canadian Medical Association. (n.d). *Aging with Dignity in the Community*. <https://www.cma.ca/our-focus/aging-dignity-community>

¹⁷⁹ Channer, N. Biglieri, S. Hartt, M. (2021). *Aging in rural Canada*. Cambridge University Press. <https://www.cambridge.org/core/books/abs/aging-people-aging-places/aging-in-rural-canada/EF4A9E31A3DFF1828F106BB65151D570>

¹⁸⁰ Browne, A. (n.d). *Issues Affecting Access to Health Services in Northern, Rural and Remote Regions of Canada*. <https://www2.unbc.ca/sites/default/files/sections/northern-studies/issuesaffectingaccesstohealthservicesinnorthern.pdf>

¹⁸¹ Uppal, S. & Savage, K. (2021.) *Child care workers in Canada*. Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/75-006-x/2021001/article/00005-eng.htm>

¹⁸² Employment and Social Development Canada. (2023). *Toward \$10-a-day: Early Learning and Child Care*. <https://www.canada.ca/en/employment-social-development/campaigns/child-care.html>

Learning and Child Care Agreement, Ontario is expanding the number of childcare providers, reducing the number of childcare deserts in the province, and increasing the number of childcare providers through training programs.¹⁸³ Newfoundland and Labrador recently launched the Child Care Demand Portal, with the purpose to improve the understanding of the current demand for child care services across the province and to guide future plans to create child care spaces.¹⁸⁴ Additionally, Manitoba has created the Ready-to-Move (RTM) Child Care Project, which aims to create 1,970 new childcare spaces in over two dozen rural and Indigenous communities.¹⁸⁵

Recognizing significant gaps in the delivery of rural health care, the Rural Road Map Implementation Committee (RRMIC) was formed in 2018 by the College of Family Physicians of Canada and the Society of Rural Physicians of Canada, in an effort to support the implementation of the Rural Road Map for Action.¹⁸⁶ The main purpose of the RRMIC was to raise awareness regarding the various issues that rural health care in Canada faces, and while progress has been made, many challenges remain inadequately addressed.¹⁸⁷

Various provinces, including Alberta, Manitoba, Saskatchewan, British Columbia and Ontario, have explored self-directed care, a funding model under which individuals are given the resources to directly manage and pay for home care support services, which is an alternative to traditional elderly care services as well as other care services.¹⁸⁸ In Nova Scotia, caregivers of low-income adults with high levels of care needs can apply for the Caregiver Benefit, which provides \$400 per month to the caregiver.¹⁸⁹ Additionally, federal non-refundable tax credits exist for older individuals and their caregivers to help with certain expenses, however, their impacts have been limited and only around 4.6% of unpaid caregivers have received funding.¹⁹⁰

¹⁸³ Government of Ontario. (2022). *Ontario's Early Years and Child Care Annual Report 2022*. <https://www.ontario.ca/page/ontarios-early-years-and-child-care-annual-report-2022>

¹⁸⁴ Government of Newfoundland and Labrador. (2023, October). *Child Care Demand Portal*. https://apps.gov.nl.ca/edu-childcare/Form/Form/edit/?template_id=2706303

¹⁸⁵ Government of Manitoba. (2023). *Ready-to-Move (RTM) Child Care Project*. <https://gov.mb.ca/education/childcare/resources/rtm.html>

¹⁸⁶ Rural Road Map Implementation Committee. (2021). *Rural Road Map: Report Card on Access to Health Care in Rural Canada*. College of Family Physicians of Canada and the Society of Rural Physicians of Canada. <https://www.cfpc.ca/CFPC/media/PDF/Rural-Road-Map-Report-Card-EN-final.pdf>

¹⁸⁷ Rural Road Map Implementation Committee. (2021). *Rural Road Map: Report Card on Access to Health Care in Rural Canada*. College of Family Physicians of Canada and the Society of Rural Physicians of Canada. <https://www.cfpc.ca/CFPC/media/PDF/Rural-Road-Map-Report-Card-EN-final.pdf>

¹⁸⁸ CTV News. (2018, March 15). *What is self-directed care?* <https://www.ctvnews.ca/health/what-is-self-directed-care-1.3845184?cache=yes%3FautoPlay%3Dtrue%3FautoPlay%3Dtrue>

¹⁸⁹ Government of Nova Scotia. (n.d.). *Caregiver Benefit*. Retrieved November 10, 2023, from <https://novascotia.ca/dhw/ccs/caregiver-benefit.asp>

¹⁹⁰ National Institute on Ageing. (2019). *Enabling the Future Provision of Long-Term Care in Canada*. https://cnpea.ca/images/futureoflong-termcare_v7_final-09-09-2019.pdf

Recommendations

This report makes several recommendations aimed at alleviating these problems and at meeting some of the above benchmarks for the level of infrastructure needed.

- 1. Municipal governments, which currently do not already have asset management plans, should implement them to improve their infrastructure stock. Municipalities should also be given greater control over planning and design of infrastructure projects with provincial financing.** Rural municipalities own almost half of all infrastructure assets (49%), but often struggle to maintain these assets due to their lack of financial and administrative capacity. Additionally, many municipalities have no asset management plans in place, with currently under half of all Canadian municipalities having an asset management plan.¹⁹¹ Asset management is a series of practices which helps organize the maintenance and repair of infrastructure assets by a community and improve their investment decisions. The federal government has already invested \$110 million through the Federation of Canadian Municipalities to support local governments utilizing this methodology, but especially rural municipalities need additional support. Provinces should do more to create infrastructure plans which allow for more municipal control of where and how infrastructure should be built using the larger provincial capacity for funding
- 2. Provincial governments should invest in building social and dedicated affordable housing, specifically for renters, in rural areas.** The rural gap in affordable and social housing makes it harder for agricultural workers to start off their careers or for new graduates to move into rural areas. This lack of rental housing also makes it harder for the needed social infrastructure workers to settle. Private developers tend to focus on rental construction in urban areas, and there is a lack of purpose-built rental and social housing in more rural areas. Provincial governments are well-positioned to help incentivize private development or construct public social housing and purpose-built rental.
- 3. Provincial and federal governments should continue to collaborate on the Connecting Families Initiative to reach universal coverage and CRTC speed standards for all rural Canadians.** One example of a strong plan to expand universal access is the Alberta Broadband Plan, which has set timelines, a phased construction approach, and incorporates new technological enhancements in its process. For areas where construction will take several years, provinces should consider increasing subsidies for satellite internet services to fill coverage gaps.
- 4. Provinces should implement construction-ready childcare and eldercare projects to reduce service deserts in rural areas.** Projects like the Ready-To-Build program in Manitoba aim to cut down on the ancillary and planning costs associated with new infrastructure by creating a pre-approved design for childcare facilities and then supporting municipalities in their construction. This process could help to mitigate the

¹⁹¹ Statistics Canada. (2023). *Asset management practices for municipally owned core infrastructure assets*. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3410027101>

capacity concerns of smaller governments and help to create more of the hard infrastructure needed for social services.

5. **Provinces should explore or build upon existing efforts to provide affordable social services in a flexible manner, such as through virtual care and in-home care services, and improve their understanding of specific rural needs through innovative data collection.** While not a substitute for physical clinics and care homes, virtual elder and medical care can help to bridge certain gaps in more rural areas. The provision of affordable and flexible in-home services can further improve equitable access to key care services, including health care, elder care and childcare, that address some of the unique needs and barriers of rural areas. To better understand the specific demand for such services in rural areas, provinces should also emphasize data gathering on specific needs, like the Newfoundland and Labrador Child Care Demand Portal. This is an effort to better understand the current state of childcare in the province, where deserts exist, and how best to build the next generation of social infrastructure.
6. **Provincial governments should incentivize workers in social infrastructure to work and live in rural areas.** Programs like the Saskatchewan Rural and Remote Incentive can help bring doctors, nurses, childcare workers, and other social infrastructure workers to more rural communities. Creating more of these incentives could help to strengthen the local economy and improve the soft and social infrastructure that agricultural businesses need to attract new workers and support their existing workforces.
7. **Businesses should explore offering transit options either privately or with local municipal governments.** Ensuring that workers are able to easily and affordably get to and from their workplaces is especially important in rural areas. Where possible, larger farms or agri-food businesses should explore offering centralized shuttle services for off-farm workers to get to their operations. They also can collaborate with municipal or regional transit authorities to see if existing lines could be adjusted to provide better coverage to more rural areas or workplaces. In 2018 the BC Government created the BC Bus North Program to provide inter-city bus linkage, and works by allowing stakeholders like local governments, First Nations, non-profit groups and small to medium-sized businesses to apply for funding to introduce, expand, or sustain local shuttle transportation for rural communities.¹⁹²

¹⁹² Government of British Columbia. (2021). *Province provides new funding for community shuttle buses in northern B.C.* <https://news.gov.bc.ca/releases/2021TRAN0165-002248>

Conclusion

The challenges that we have covered here pose a risk to the long and short run economic wellbeing of agricultural businesses. While recent action in the form of federal and provincial investment is helping to reduce the infrastructure gap, there is a lack of specificity and appropriate funding towards rural priorities. Rural municipalities need more control over their infrastructure programs and access to greater financial and administrative capacities. Agricultural businesses may be spread out across the country and their operations may greatly differ, but there are common infrastructure needs to support themselves and their workers. The needs of a greenhouse in Ontario may seem very different to a dairy farm in Quebec or an oilseed farm in Saskatchewan, or even a salmon processing facility in British Columbia, but what they all need are skilled workers who have their infrastructure needs met.

Meeting the infrastructure needs of workers for these businesses will not only support the current workforce but will build stronger communities and will help to attract future workers. Building more affordable housing makes it easier for workers to settle in a community and makes it more likely they will take job opportunities located there. More available transportation options cut down on the time and monetary costs for workers and businesses alike. Better utilities and energy connections make it easier for businesses to grow. Having faster and more reliable internet, cellular, and broadband connections improve workers' ability to train, find new opportunities, and upskill, as well as provide businesses with critically needed data and technological capacity. Stronger and more readily accessible social infrastructure makes it easier for workers to have families in communities and supports their well-being. All of these infrastructural components help to grow more connected communities and a stronger agricultural economy.

Appendix A: Methodology

The research for this project used mostly qualitative methods with assessment of existing quantitative data to assess the infrastructure needs of workers and businesses in rural areas working in agriculture and agri-food.

We conducted a literature review of the existing data and research on the state of rural infrastructure. We identified materials from industry groups, academics, governments, and private sources and synthesized key information and general trends of the agricultural industries infrastructure needs. From this review, researchers developed an understanding of the five key categories of infrastructure that are needed to support workers in rural agricultural businesses. This work was also supplemented and informed by previous analysis of the supply chain of on-farm and off-farm labour needed in oilseed and grain farming.

Researchers then conducted an ecosystem scan of all provinces to understand both the current state of each of these categories in rural communities and what sort of action has been undertaken to support infrastructure maintenance and construction in each province. This scan pulled in relevant provincial, municipal, and federal data sources, as well as information from private sources on the state of infrastructure assets. This ecosystem scan was also supplemented by a jurisdictional analysis of the different classes of infrastructure and the relevant areas of responsibility for the maintenance, upkeep, and construction of relevant infrastructure. This ecosystem scan also helped to assemble key trends in overall infrastructure quality for rural areas, and to parse out regional differences and challenges. Researchers reached out to a few identified experts for their perspectives, but we did not receive sufficient responses in the project timetable for inclusion.

Appendix B: Limitations

As with any work, there are limitations and challenges to our own work that we must consider and recognize. This report, by its very design, reviewed, synthesized, analyzed, and compared existing data and research on the issue of what infrastructure is needed to support workers and businesses engaged in agriculture and agri-food. We are limited by what work has already been done in the space, and what sources are available. Given the structure and design of the project, this focus on information synthesis meant that we could not really delve into issues of primary data gathering.

One challenge that we faced in this analysis was the lack of specific data from smaller communities on their current infrastructure stock. While there is generally provincial data available on many of the key categories and there are national sources like the Infrastructure Report Card and Canada's Core Public Infrastructure Survey for similar types of infrastructure, there is often a lack of shared municipal-level data. While some towns and municipalities publish individual reports on their current situation, there is no aggregate source of combined

data that we could find or use as a point of comparison and analysis. This lack of data leads us to rely on national and provincial data where possible combined with specific examples from relevant rural municipalities.

Finally, it is important to recognize that not all rural communities or agricultural businesses are the same and face the same challenges. A single-family farm outside of Brandon, MB does not have the same challenges as a large industrial dairy farm outside Sherbrooke, QC. Different agricultural sectors and businesses will face different challenges, but our recommendations and analysis cannot fully capture the diversity of every agricultural business in a rural community. This report is meant to provide an overview of the shared and common challenges that all such businesses face while addressing some of the regional-specific challenges. Additionally, several of these infrastructural challenges are not unique to agriculture and agri-food, but are more broadly endemic to rural, remote, and northern communities. A lack of investment, lack of connectivity, and a need for better housing and transit for workers are common issues for many rural communities.