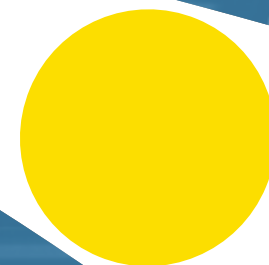


# BC First Nations Community Internet Connectivity



First Nations  
Technology Council



August 2024



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# Executive Summary

Digital equity for First Nations communities is the right to affordable access to connectivity, digital technologies, and digital skills. Ensuring connectivity is the first step in addressing digital inequity and enabling First Nations People to participate fully in modern society.

Despite progress, significant disparities in internet access persist, particularly in rural and remote First Nations communities. According to the most recent figures, 96.1% of all households in BC have access to high-speed internet, while just 80.3% of First Nations households on reserve and Modern Treaty Nation lands have access.<sup>1</sup> These gaps exacerbate the challenges for economic development, employment opportunities, educational and health outcomes, governance, and cultural preservation. Digital inequity, particularly in connectivity and broadband infrastructure, is a critical barrier to advancing the prospects of Indigenous People in British Columbia.

This report documents the current state and impacts of connectivity for BC First Nations communities and the ongoing efforts to **achieve universal high-speed internet access by 2027.**



96.1%


of all households in BC have high-speed internet access



80.3%

of First Nations households on reserve and Modern Treaty Nation lands have high-speed internet access





Participants in the Technology Council's groundbreaking labour market study shared the following sentiments about connectivity with us.<sup>2</sup>

“ Really, infrastructure is the biggest hurdle. It doesn't even have to be that remote, right? There are plenty of areas across BC where the connectivity infrastructure is simply not there.”

“ I see limited opportunities for technology due to the remote location of where we live. I have been working to get connectivity to my community for about a year.”



# Digital Equity

## What is Digital Equity?

Digital equity for First Nations means having the access, skills, and autonomy to engage with digital technologies according to self-determined needs, preferences, and aspirations aligned with inherent rights and values. Digital equity entails ensuring full and affordable access to high-quality connectivity and the tools and skills to use digital technologies effectively.

Digital equity is crucial for First Nations as it ensures the ability to engage with digital technologies on terms that respect diverse cultures, values, and rights. First Nations can fully participate in the interconnected world by accessing digital resources and acquiring the skills necessary to utilize them. This participation includes accessing economic development initiatives, educational opportunities, emergency services, healthcare services, and social connections. Moreover, digital equity empowers First Nations communities to digitally preserve and share traditional knowledge, languages, and cultural practices, fostering cultural resilience and intergenerational knowledge sharing. It also supports Indigenous-led innovation and entrepreneurship, allowing communities to leverage technology for self-determination and sustainable development.

## Digital Equity and DRIPA

Self-government and self-determination are inherent and protected rights outlined in the Declaration on the Rights of Indigenous Peoples Act (DRIPA). Access to fast, reliable, and affordable internet allows First Nations People to exercise their inherent rights to engage with technology in ways that reflect Indigenous Peoples' unique needs and aspirations. It is paramount to ensure that First Nations Peoples have the agency and autonomy to determine how to engage with digital technologies, thereby supporting sovereignty, self-governance, and holistic well-being.

Governments in BC and Canada have committed to upholding these rights, recognizing that digital connectivity plays a central role in fulfilling their commitments. In BC, Action 4.36 of the Declaration on the Rights of Indigenous Peoples Act Action Plan outlines the province's commitment to ensuring access to high-speed internet for all First Nations communities.<sup>3</sup>

<sup>3</sup>Government of British Columbia. (2022). Declaration on the Rights of Indigenous Peoples Act Action Plan. [www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration\\_act\\_action\\_plan.pdf](https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration_act_action_plan.pdf) p.27





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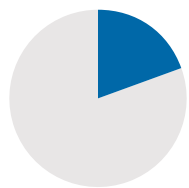
Connecting all First Nation communities with high-speed internet services by 2027 is a foundational component of the BC government’s commitment to support reconciliation. This commitment aligns with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and BC’s corresponding legislation, the Declaration on the Rights of Indigenous Peoples Act (Declaration Act). Connectivity is represented directly in action 4.36 in the Declaration Act Action Plan to ensure every First Nations community in BC has access to high-speed internet services. Connectivity also indirectly supports many other actions in the Plan, including Indigenous language revitalization, education and training, healthcare and economic development.”<sup>4</sup>

<sup>4</sup>Government of British Columbia. (2024). *BC connectivity report*. Retrieved from [www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024\\_bc-connectivity-benchmarking-report\\_apr23\\_2024.pdf](http://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024_bc-connectivity-benchmarking-report_apr23_2024.pdf). p.5

# A Snapshot of Community Internet Connectivity

## The Current State

While telecommunications is federally regulated, the BC Ministry of Citizens' Services supports expanding connectivity in BC First Nations. Their latest data available to them confirms that while 96.1% of all households in BC had access to high-speed internet, just 80.3% of First Nations households on reserves and Modern Treaty Nation lands have access.<sup>5</sup> Urban First Nations households have near identical access rates to high-speed internet as the general Canadian urban population. The central communities still needing access to high-speed internet are rural and remote First Nations, which fall further behind as they wait.



19.7%

of First Nations households on reserves and Modern Treaty lands currently **lack high-speed internet access**

Citizens' Services estimates that 19.7%, approximately 7,700, of First Nations households on reserves and Modern Treaty lands currently lack high-speed internet access.

Data available to Citizens' Services for determining high-speed internet access comes from the federal government and provincially funded project information. However, the figure of 7,700 households is likely lower than the reality. For example, estimates of First Nations households without high-speed internet service are based on the federal government's 2021 census and modelling from Innovation, Science, and Economic Development Canada (ISED). ISED has noted that the 2021 census failed to enumerate 22 of BC's rural First Nations reserves, meaning the number of households in those communities is unknown.<sup>6</sup> Additionally, the estimated figure of 7,700 households does not include the unknown number of First Nations households who did not participate in the last census.

<sup>5</sup>Government of British Columbia. (2024). *BC connectivity report*. Retrieved from [www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024\\_bc-connectivity-benchmarking-report\\_apr23\\_2024.pdf](http://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024_bc-connectivity-benchmarking-report_apr23_2024.pdf). p.16-17

<sup>6</sup>Industry, Science, and Innovation Canada. (n.d.). High Speed Internet for all Canadians. Statistics Canada. [www12.statcan.gc.ca/census-recensement/2021/dp-pd/dt-td/about.cfm](http://www12.statcan.gc.ca/census-recensement/2021/dp-pd/dt-td/about.cfm)

# 1,000+

**households** on BC reserves or Modern Treaty lands have been connected since 2022

The estimated 7,700 households yet to be connected to high-speed internet is down from 8,800 unserved households in October 2022, meaning over 1,000 households on BC reserves or Modern Treaty lands have been connected since 2022. Citizens' Services is ramping up its efforts to bring high-speed internet to rural First Nations and currently has projects underway to serve just over 4,500 households, leaving approximately 3,300 rural First Nations households still unserved once projects in progress are complete.<sup>7</sup>

<sup>7</sup>Government of British Columbia. (2024). *BC connectivity report*. Retrieved from [www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024\\_bc-connectivity-benchmarking-report\\_apr23\\_2024.pdf](http://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024_bc-connectivity-benchmarking-report_apr23_2024.pdf), p.20

<sup>8</sup>Canadian Radio-television and Telecommunications Commission. (2016, December 21). Telecom Regulatory Policy CRTC 2016-496. [crtc.gc.ca/eng/archive/2016/2016-496.htm](http://crtc.gc.ca/eng/archive/2016/2016-496.htm)

<sup>9</sup>Federal Communications Commission. (2024). *FCC increases broadband speed benchmark*. Retrieved from [www.fcc.gov/document/fcc-increases-broadband-speed-benchmark](http://www.fcc.gov/document/fcc-increases-broadband-speed-benchmark)



## How Fast is High-Speed Internet?

The Canadian Radio-television and Telecommunications Commission (CRTC) set the Canadian benchmark internet speed at 50 Megabits per second (Mbps) download and 10 Mbps upload in December 2016. At that time, the CRTC established that broadband internet access is an essential service all Canadians should have access to. Recognizing the importance of high-speed internet in everyday life was a significant shift. In 2016, the CRTC chose the 50/10 Mbps benchmark to ensure that internet services could support modern applications and multiple users in a household.<sup>8</sup> Eight years later, technology has become even more important and broadband demand has increased.

In March 2024, the United States Federal Communications Commission (FCC) raised its benchmark from 25/3 to 100/20—double Canada's current benchmark. The FCC increased its benchmark based on the standards now used in multiple federal and state programs, consumer usage patterns, and what is currently available from internet service providers.<sup>9</sup>



## Current Government Investment

In recent years, the BC government has made significant financial commitments to improve connectivity in rural and Indigenous communities. According to a report released in June 2024 by the Ministry of Citizens' Services, the Province partly funded 132 connectivity projects in rural areas with a total investment of \$289.4 million, benefiting over 73,000 British Columbian households when current projects are complete. This funding has leveraged approximately \$808.5 million from other sources, resulting in \$1.1 billion in funding for broadband internet projects in rural BC. The investment ratio of \$1 of provincial funds to \$3.79 of total private and public sector investment underscores the collaborative effort needed to expand high-speed internet services to underserved areas.<sup>10</sup>



Citizens' Services presents an optimistic forecast, estimating the following connectivity for First Nation households<sup>12</sup>



**98%** by the **2025-2026** fiscal year  
**99%** by the **2026-2027** fiscal year  
**100%** with **high-speed internet** by the end of **2027**

The current provincial connectivity funding program, Connecting Communities BC, offers funding to service providers and local or First Nations governments working with service providers to expand high-speed internet services for underserved areas. The program will also fund the province's commitment to connect all remaining First Nations communities by 2027, a vital commitment of the Declaration Act Action Plan.<sup>11</sup>

For BC First Nations, the focus on rural and remote connectivity has been pivotal. Initiatives like the Pathways to Technology program, which aimed to bring high-speed internet to 203 BC First Nations, demonstrate a concerted effort to ensure Indigenous communities are included in the digital age. Government-funded programs support expanding Internet services in rural areas where profit-driven businesses have no incentive to provide service.

<sup>10</sup>British Columbia Ministry of Citizens' Services. (2024). *2024 Rural BC Connectivity Benefits Study*. Retrieved from [www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024\\_rural\\_bc\\_connectivity\\_benefits\\_study\\_june27\\_2024\\_final\\_spread.pdf](http://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024_rural_bc_connectivity_benefits_study_june27_2024_final_spread.pdf).p.5

<sup>11</sup>Government of British Columbia. (2024). *Connectivity in B.C.* Government of British Columbia. Retrieved from [www2.gov.bc.ca/gov/content/governments/connectivity-in-bc/20358](http://www2.gov.bc.ca/gov/content/governments/connectivity-in-bc/20358). p.20

<sup>12</sup>Ibid. p.5

In the last federal budget, the Canadian government stood by its commitment to ensure 98% of Canadians have access to high-speed internet by 2026 and 100% by 2030.<sup>13</sup> Despite this, the federal government has not announced new money to meet this commitment to First Nations. The Assembly of First Nations (AFN) called on the federal government to invest \$5.2 billion to close the connectivity infrastructure gap for First Nations by 2030. The AFN estimates the amount required would rise to \$9.9 billion in the case of a delay to 2040.

“Although I am pleased to see continued funding that supports First Nations,” said National Chief Woodhouse Nepinak. “The allocations for housing and infrastructure are insufficient to meet the government’s promise to close the gap by 2030.”<sup>14</sup>

The Canadian government has made a commitment to ensure **98% of Canadians** have access to high-speed internet **by 2026** and **100% by 2030**



<sup>13</sup>Government of Canada. (2024). Budget 2024. Retrieved from [budget.canada.ca/2024/report-rapport/chap3-en.html](https://budget.canada.ca/2024/report-rapport/chap3-en.html)

<sup>14</sup>Assembly of First Nations. (2024, April 16). Budget 2024 leaves a long way to go for First Nations, says AFN National Chief Woodhouse Nepinak. Retrieved from [afn.ca/all-news/press-releases/budget-2024-leaves-a-long-way-to-go-for-first-nations-says-afn-national-chief-woodhouse-nepinak/](https://afn.ca/all-news/press-releases/budget-2024-leaves-a-long-way-to-go-for-first-nations-says-afn-national-chief-woodhouse-nepinak/)





“

*I'm not sure that the big telcos are ever going to have a business case to do anything out in those rural areas. And if there were local solutions, I think people would probably welcome that as long as it was reliable and reasonable . . . the First Nations have a pretty good opportunity, in my view, to provide that service in a subregional way.”*

~ ILIT Interviewee<sup>15</sup>



# Beyond Access

## Affordability

Connectivity infrastructure is only one part of the digital equity equation. Affordable service options and hardware devices are also vital to ensuring those with access to high-speed internet have actual access. As the internet dominates every aspect of modern life, digital access is imperative to participate in many aspects of society. Affordability disproportionately affects the most vulnerable populations, including low-income families and seniors. The affordability gap is most poignant in rural and remote areas, where in-person services are only accessible through lengthy travel. Even in metropolitan areas, many Indigenous people lack the financial means to afford the services and devices necessary to access the internet.

The average cost of high-speed internet in BC is \$68 monthly for 50/10 Mbps, and residents of rural BC pay notably more than their urban counterparts.<sup>16</sup>

It can be especially challenging in rural and remote areas where one service provider holds a monopoly and commands higher fees. Rates can vary significantly depending on the community's size and the availability of the surrounding infrastructure. For instance, one option for communities or individuals without broadband access is Low Earth Orbit Satellite (LEOS). One provider, Starlink, currently costs between \$199 and \$499 to install and \$140/month for unlimited data.<sup>17</sup>

Large service providers have joined the federal Connecting Families Initiative to offer \$10-\$25 monthly internet plans to select low-income families and seniors in urban areas. However, Indigenous people in rural areas are less likely to have access to lower-cost options. Competition, sometimes touted as a means to promote affordability, has no impact in sparsely-populated communities where large carriers do not face competition.

<sup>16</sup>Ministry of Citizens' Services. (2024). *B.C. connectivity report*. Retrieved from [www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024\\_bc-connectivity-benchmarking-report\\_apr23\\_2024.pdf](http://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024_bc-connectivity-benchmarking-report_apr23_2024.pdf), p.26.

<sup>17</sup>Starlink. (n.d.). Residential service in Canada. Retrieved June 17, 2024, from [www.starlink.com/ca/residential](http://www.starlink.com/ca/residential)



“

*Because of the poverty in the area, there aren't actually a lot of folks who could feasibly pay for internet. So there is one single provider, and that single provider gouges because they're the only option.”*

~ ILIT Interviewee<sup>18</sup>

<sup>18</sup>First Nations Technology Council. (2022). Indigenous Leadership in Technology: Understanding Access and Opportunities in British Columbia. Retrieved from [www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC\\_ILIT\\_report\\_2022.pdf](http://www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC_ILIT_report_2022.pdf). p.66



## Quality

Variations in speed are also evident when comparing rural median internet speeds and overall speeds. In 2022, Canada's median download speeds were 52.87 Mbps, and median upload speeds were 9.51 Mbps. Rural Canada experienced median speeds only half as fast as the overall Canadian average (22.04/7.74 Mbps),<sup>19</sup> and far below Canada's benchmark standard.

Similarly, internet quality varies across BC. Resource and population concentration in the province's urban centres means improved internet quality. And, as frequently referenced by Canada's major telecommunications providers, Canada's geography—including the large distances, the sparse population outside urban areas, and the mountainous and forested terrain—poses some challenges for infrastructure buildout and maintenance.

These and other contributing factors mean that rural BC residents pay for and access different levels of internet quality. Urban centres primarily enjoy high-speed and reliable internet service, while the internet in rural areas is often slower and less reliable. For example, network interruptions or outages in urban areas are quickly prioritized and remediated, with maintenance workers readily available to fix problems quickly. As a result, outages in urban areas tend to last less than 24 hours. In rural areas, the shortage of maintenance personnel is more acute, and network outages or service interruptions can last days.



**In rural areas in Canada,  
users experienced  
median speeds of  
(22.04/7.74 Mbps)**

<sup>19</sup>Canadian Internet Registration Authority, (2022) "Rural internet download speeds slowly closing the gap to urban speeds, but they still fall well below the CRTC's universal service objective." Retrieved June 17, 2024 from [www.cira.ca/en/resources/news/state-of-internet/rural-internet-download-speeds-slowly-closing-gap-urban-speeds-they-still/](http://www.cira.ca/en/resources/news/state-of-internet/rural-internet-download-speeds-slowly-closing-gap-urban-speeds-they-still/).



# Connectivity Impacts for BC First Nations

The impact of inadequate access to high-speed internet cannot be understated. Participants of the Technology Council's 2022 labour market study, identified digital inequity, specifically connectivity and broadband infrastructure, as the key barrier to advancing the prospects for Indigenous Peoples in British Columbia's digital economy. Over the past decade, numerous studies have attempted to measure the impact of high-speed internet expansion. Although methodologies and estimates differ, Canada's internet access inequity for on-reserve First Nations communities indicates a wide range of issues, including systemic barriers to economic development, employment opportunities, educational outcomes, governance, and preservation and enrichment of culture.





In rural BC, a provincial investment of **\$289.4 million** in connectivity projects is expected to generate **\$2.5 billion** in economic benefits by 2045

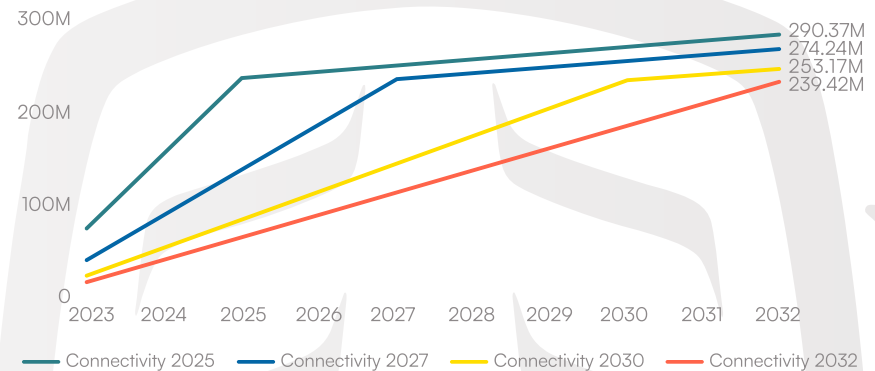
## Economic Growth

Economic growth from increased connectivity is significant. A 10% increase in broadband subscriptions contributes 1.23% to per capita GDP growth over the long term.<sup>20</sup> Translating this for BC First Nations means an estimated 2.46% GDP growth is possible by providing 100% broadband coverage for BC First Nations households. In rural BC, a provincial investment of \$289.4 million in connectivity projects is expected to generate \$2.5 billion in economic benefits by 2045.<sup>21</sup> Economic activity will create approximately 1,820 jobs during the construction phase, and there will be ongoing benefits from enhanced connectivity.<sup>22</sup>

Working with the Technology Council, the Information and Communications Technology Council (ICTC) examined various studies to estimate the impact of increased connectivity for First Nations on BC's GDP.

Using estimates of the size of the Indigenous economy in BC, provincial GDP forecasts, and historical GDP growth in BC, ICTC estimates there is potential to add \$274.2 million in GDP to the Indigenous economy in BC with full connectivity by the province's goal of 2027.

### Indigenous Economy GDP Growth with Increased Broadband Access



Data Sources: Information and Communications Technology Council (ICTC) calculations<sup>23</sup>

<sup>20</sup>British Columbia Ministry of Citizens' Services. (2024). *2024 Rural BC Connectivity Benefits Study*. Retrieved from [www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024\\_rural\\_bc\\_connectivity\\_benefits\\_study\\_june27\\_2024\\_final\\_spread.pdf](http://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024_rural_bc_connectivity_benefits_study_june27_2024_final_spread.pdf) p.5

<sup>21</sup>Ibid. p.6

<sup>22</sup>Ibid. p.5-6

<sup>23</sup>Information and Communications Technology Council. (2024). Unpublished paper.

The BC government calculates that the investment in broadband infrastructure returns 8.6 times the initial provincial investment with a \$13,900 benefit per person for newly connected households over the next 20 years.<sup>24</sup>

A 2021 report by the Royal Bank of Canada found that if Canada's Indigenous GDP matched the per capita levels of Canada as a whole, it would rise from \$33 billion to \$100 billion—in other words, digital inequity could be costing Canada about \$67 billion in GDP.<sup>25</sup>

Digital inequity could be costing Canada about  
**\$67 billion**  
in GDP

<sup>24</sup>British Columbia Ministry of Citizens' Services. (2024). 2024 Rural BC Connectivity Benefits Study. Retrieved from [www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024\\_rural\\_bc\\_connectivity\\_benefits\\_study\\_june27\\_2024\\_final\\_spread.pdf](http://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/services-policies-for-government/initiatives-plans-strategies/internet-in-bc/pdfs/2024_rural_bc_connectivity_benefits_study_june27_2024_final_spread.pdf). p.5

<sup>25</sup>Andrew Shrum, Sonya Bell, and Tracee Smith. (2021). Building Bandwidth: Preparing Indigenous youth for a digital future. RBC Thought Leadership. Retrieved from [thoughtleadership.rbc.com/building-bandwidth-preparing-indigenous-youth-for-a-digital-future/](http://thoughtleadership.rbc.com/building-bandwidth-preparing-indigenous-youth-for-a-digital-future/)





“

*[In the farming industry, there's] a system using technology and tracking cows and their breeding programs, things that are important to the ranching community. But you need connectivity to do it. And you need good connectivity, so you don't have that. Even the sale of animals, the sale of hay, the products that they produce, if they have connectivity, good connectivity out there, it just makes them so much more resilient.”*

*~ ILIT Interviewee<sup>26</sup>*

<sup>26</sup>First Nations Technology Council. (2022). Indigenous Leadership in Technology: Understanding Access and Opportunities in British Columbia. Retrieved from [www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC\\_ILIT\\_report\\_2022.pdf](http://www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC_ILIT_report_2022.pdf). p.60

## Community Economic Development

As the Technology Council's 2022 Labour Market Report on Indigenous Leadership in Technology notes, broadband access directly improves a region's economic growth.<sup>27</sup> Conversely, poor connectivity has negative impacts on the economy. The Federation of Canadian Municipalities notes that small and medium enterprises—often the only enterprises in rural communities—are burdened by high costs and low-quality internet, limiting community economic development.<sup>28</sup>

Internet access for smaller, remote communities is essential to tap into larger markets and foster economic development.<sup>29</sup> The COVID-19 pandemic highlighted the need for reliable connectivity infrastructure.

It also exposed the multifaceted challenges Indigenous businesses face across BC, with connectivity playing a central role. Data from the 2021 COVID-19 Indigenous Business Survey reveals that Indigenous businesses located on reserves, settlements, or Inuit Nunangat were disproportionately impacted by restricted travel, diminished demand for products and services, and unreliable internet connectivity.<sup>30</sup> The Indigenous Business survey found that 15% of Indigenous businesses said unreliable internet was something that hampered their ability to work from home and hindered e-commerce operations—both activities were essential avenues for business continuity during the pandemic.<sup>31</sup>



<sup>27</sup>Ibid. p.58

<sup>28</sup>Federation of Canadian Municipalities. (2014). Broadband access in rural Canada: The role of connectivity in building vibrant communities. [fcm.ca/sites/default/files/documents/resources/report/broadband-access-rural-canada.pdf](http://fcm.ca/sites/default/files/documents/resources/report/broadband-access-rural-canada.pdf). p.22

<sup>29</sup>Hudson, H. E. (2013). Beyond infrastructure: Broadband for development in remote and Indigenous regions. *Journal of Rural and Community Development*, 8(2), 47.

<sup>30</sup>Canadian Council for Aboriginal and Innovation, Science and Economic Development Canada. (2021, October 28). COVID-19 Indigenous Business Survey - Phase II. [www.ccab.com/wp-content/uploads/2021/11/indigenous\\_identity\\_report\\_v07.pdf](http://www.ccab.com/wp-content/uploads/2021/11/indigenous_identity_report_v07.pdf). p.11

<sup>31</sup>Ibid. p.11

<sup>32</sup>First Nations Technology Council. (2022). Indigenous Leadership in Technology: Understanding Access and Opportunities in British Columbia. Retrieved from [www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC\\_ILIT\\_report\\_2022.pdf](http://www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC_ILIT_report_2022.pdf). p.55



“

*We also are a fully remote company, so as long as you can get an internet connection, which I know, that's also some issues around that. But if you do have an internet connection, you basically can live anywhere if you want to stay at home in your community to support your community still have a great career living where you want to live.”*

~ ILIT Interviewee<sup>32</sup>



<sup>32</sup>First Nations Technology Council. (2022). Indigenous Leadership in Technology: Understanding Access and Opportunities in British Columbia. Retrieved from [www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC\\_ILIT\\_report\\_2022.pdf](http://www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC_ILIT_report_2022.pdf), p.55



↑ 2.9% increase in employment levels in all industries when reaching 100% broadband connectivity across BC

## Employment

A 2016 survey by the Bank of Canada revealed that 40% of Indigenous businesses identified an unreliable or nonexistent internet connection as a significant barrier to economic well-being. Those living on-reserve and in northern regions experienced this challenge more acutely.<sup>33</sup> Broadband becomes especially critical for employment in areas with lower population density. This disparity also influences the employment rates of First Nations Peoples. In BC, for example, the unemployment rate of non-First Nations People is 9.5%, compared to 15.4% for First Nations Peoples.<sup>34</sup> Moreover, the Brookfield Institute highlighted this skills gap in 2019 research, which revealed that people identifying as First Nations were both underrepresented in tech jobs and earned less than their non-Indigenous counterparts.<sup>35</sup>

Research indicates a positive correlation between broadband access and employment, but the impact varies depending on different factors and ranges from 0.2% to 5.32% for every 1% increase in broadband access.<sup>36</sup> Factoring in available research and data on this topic, ICTC estimates a 2.9% increase in employment levels in all industries when reaching 100% broadband connectivity across BC. Using this benchmark and the state of connectivity and employment estimates for BC First Nations Peoples, reaching 100% connectivity in the near term could add 1,250 more jobs. Through this method, ICTC estimated that progress on improving broadband connectivity on First Nations reserves in BC has already added an estimated 460 jobs.<sup>37</sup>

<sup>33</sup>Chernoff, A., & Cheung, C. (2023, October). An overview of the Indigenous economy in Canada. Bank of Canada. [www.bankofcanada.ca/wp-content/uploads/2023/10/sdp2023-25.pdf](http://www.bankofcanada.ca/wp-content/uploads/2023/10/sdp2023-25.pdf), p.21-22

<sup>34</sup>Ruth Williams. (2022). *Broadband connectivity in B.C.* Pathways to Technology. Presented to the National Aboriginal Economic Development Board. Retrieved from [www.naedb-cndea.com/wp-content/uploads/2022/06/ANTC-Broadband-Connectivity-in-BC-Dr.-Ruth-Williams.pdf](http://www.naedb-cndea.com/wp-content/uploads/2022/06/ANTC-Broadband-Connectivity-in-BC-Dr.-Ruth-Williams.pdf), p.13

<sup>35</sup>Brookfield Institute for Innovation + Entrepreneurship. (2019). *Who are Canada's tech workers?* Retrieved from [brookfieldinstitute.ca/wp-content/uploads/FINAL-Tech-Workers-ONLINE.pdf](http://brookfieldinstitute.ca/wp-content/uploads/FINAL-Tech-Workers-ONLINE.pdf), p.34

<sup>36</sup>International Telecommunication Union. (2012). *The impact of broadband on the economy: Research to date and policy issues.* Retrieved from [www.itu.int/ITU-D/treg/broadband/ITU-BB-Reports\\_Impact-of-Broadband-on-the-Economy.pdf](http://www.itu.int/ITU-D/treg/broadband/ITU-BB-Reports_Impact-of-Broadband-on-the-Economy.pdf), p.12

<sup>37</sup>Information and Communications Technology Council. (2024) Unpublished paper.

Notably, the estimates on labour market impact predate the work-from-home paradigm standard across today's economy, which is likely to impact numbers. For example, the portion of Canadians working from home has grown substantially over the years, increasing from 7.1% in 2016 to 20.1% in 2023. Occupations in finance and insurance, education services, and professional, scientific, and technical services were the most affected.<sup>38</sup> Further, educational opportunities will compound the economic benefits and estimates.

Online work and training are becoming foundational to much of the modern economy and labour force development, especially for those looking to participate in the digital economy. Improvements in broadband access allow for upskilling that can increase economic benefits by connecting workers with employment opportunities that otherwise would require travelling or relocating.<sup>39</sup> Internet access is also necessary to fully participate in education and training opportunities that improve the employment prospects for those living on reserve. Considering the positive effects of access to education on employment, the actual impact of connectivity on employment is likely much more pronounced than what is currently measurable.



**40%**  
of Indigenous businesses  
identified an unreliable or  
nonexistent internet connection  
as a significant barrier to  
economic well-being

<sup>38</sup>Statistics Canada. (2024). *The Daily — Canada's population estimates: Age and sex, July 1, 2023*. Retrieved from [www150.statcan.gc.ca/n1/en/pub/11-631-x/11-631-x2024001-eng.pdf?st=ZtAhEOYg](http://www150.statcan.gc.ca/n1/en/pub/11-631-x/11-631-x2024001-eng.pdf?st=ZtAhEOYg). p.3

<sup>39</sup>Catherine Middleton. (2021) *"Digital Infrastructure for the Post-Pandemic World."* Retrieved from [fsc-ccf.ca/research/digital-infrastructure-for-the-post-pandemic-world/](http://fsc-ccf.ca/research/digital-infrastructure-for-the-post-pandemic-world/).



“

*We do have listed on our criteria of our job description that you have to have access to the internet. Yeah, because without it, you can't work.”*

~ ILIT Interviewee<sup>40</sup>





# 13% gap

53% of Indigenous Peoples have reported feeling confident in their levels of digital literacy, compared to 66% of their non-Indigenous counterparts.

## Education

Despite progress, poor connectivity remains a significant barrier to accessing education for Indigenous communities. A survey of 3,195 Indigenous post-secondary students conducted between December 2020 and January 2021 found that 27% did not have adequate access to the internet, and many Indigenous students noted relying upon on-campus resources to meet their needs.<sup>41</sup> This lack of digital equity impacts levels of digital literacy and post-secondary education completion.

A 2021 survey by the Royal Bank of Canada (RBC) on youth confidence in digital literacy found a 13% gap between the digital literacy confidence of Indigenous youth and their non-Indigenous counterparts (53% versus 66%). This discrepancy is directly linked to access to reliable internet and daily usage. “Among Indigenous Peoples 15 years old and up, 76.4% use the internet daily; among all Canadians, daily usage is 91%.”<sup>42</sup>

According to Census 2021, only 34% of First Nations people living on reserve (aged 25 to 64) held post-secondary qualifications, compared to 68% of their non-Indigenous counterparts.<sup>43</sup> High-speed internet can remove geographical barriers and make education available to communities without access to in-person training. Although challenges exist, online learning has transformed Indigenous education by allowing learners in rural and remote communities to pursue education and access educational materials without relocating.

Connectivity will have several other vital impacts on First Nations communities in BC, including health, emergency services, social development, language revitalization, and others. These are no less important than the economic, employment, and educational factors explored in this report.

<sup>41</sup>Indspire. (2021). *The impact of COVID-19 on Indigenous post-secondary students in Canada*. Retrieved from [indspire.ca/wp-content/uploads/2021/05/COVID-19-Ind-Student-Report-Final-EN-WEB.pdf](https://indspire.ca/wp-content/uploads/2021/05/COVID-19-Ind-Student-Report-Final-EN-WEB.pdf). p.4

<sup>42</sup>Andrew Shrumm, Sonya Bell, & Tracee Smith. (2021). *Building bandwidth: Preparing Indigenous youth for a digital future*. RBC Thought Leadership. Retrieved from [thoughtleadership.rbc.com/building-bandwidth-preparing-indigenous-youth-for-a-digital-future/](https://thoughtleadership.rbc.com/building-bandwidth-preparing-indigenous-youth-for-a-digital-future/).

<sup>43</sup>Hou, F., O'Donnell, V., & Alexandria, L. (2023). *Indigenous people and mental health during the COVID-19 pandemic*. Statistics Canada. Retrieved from [www150.statcan.gc.ca/n1/pub/75-006-x/2023001/article/00012-eng.htm](https://www150.statcan.gc.ca/n1/pub/75-006-x/2023001/article/00012-eng.htm)



**“** I am an Education Coordinator representing [a Nation]. Opportunities for technology would include better access to basic internet services for all community members so that they can more easily access education and training opportunities.”

~ ILIT Survey Respondent.<sup>44</sup>

**“** A lot of the northern communities are really not given the priority that they need to be given. I think, you know, even just thinking about resources in schools, kids are so behind because they don't have the connectivity that they need, they don't have the hardware as well, that they need to keep up at the pace that, say, the kids in Vancouver are being given.”

~ ILIT Interviewee<sup>45</sup>

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<sup>44</sup> First Nations Technology Council. (2022). Indigenous Leadership in Technology: Understanding Access and Opportunities in British Columbia. Retrieved from [www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC\\_ILIT\\_report\\_2022.pdf](http://www.technologycouncil.ca/wp-content/uploads/2023/02/FNTC_ILIT_report_2022.pdf). p.61

<sup>45</sup> Ibid. p.63



# Next Steps

While significant strides have been made in improving internet connectivity, substantial gaps still need to be addressed, particularly in rural and remote areas where close to 20% of BC First Nations households on reserve and Modern Treaty Nation lands cannot even access high-speed internet services. This is before considering affordability of those services.

As a first step to serve these households with practical solutions, precise data regarding connectivity status is essential. To meet this need, the BC Ministry of Citizens' Services will require accurate data on the number and location of First Nations residences in BC. Collecting this data is the first step in bridging the information gap and enabling targeted strategies to deliver internet access to all unserved households. With a thorough assessment of connectivity needs, governments can work with First Nations to develop practical solutions tailored to communities' specific requirements.

Despite the critical importance of internet connectivity for accessing a host of economic, social, and emergency services, the affordability of internet services and the devices needed to access them remains a significant, unresolved issue. The federal government has a duty to provide essential services to Indigenous peoples, yet many still need affordable access to this vital resource. Addressing this challenge is crucial to ensuring digital equity for First Nations communities, the prospects of Indigenous People in British Columbia's digital economy.



# About the Artist

**Robin Roberts** is from the ȷ aayda (Haida), Ts'msyen, xʷməθkʷəy̓əm (Musqueam), and Sḵwxwú7mesh (Squamish) nations. He is an educator with Master's and Bachelor's degrees in Education from UBC and a Bachelor of Fine Arts from Emily Carr. As an artist, he carves, paints, and draws ȷ aayda/Ts'msyen designs and also researches his Coast Salish roots.

*With deep gratitude and respect, I am honoured to be living, working, unlearning and learning on the ancestral and unceded lands of the xʷməθkʷəy̓əm (Musqueam), Sḵwxwú7mesh Úxwumixw (Squamish Nation) & səlilwatał (Tseil-Waututh Nation).*



**Eyes:** In Northwest Coast Indigenous art, artists incorporate a lot of eyes. They symbolize our way of seeing, being and understanding of the world. Eyes also hold us accountable by being watched. Through seeing we can understand our interconnectedness with everything. Everything depends on everything else. We are all one.



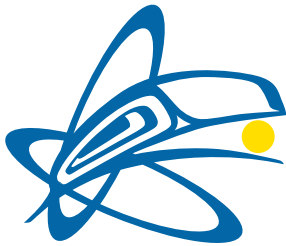
**Hands:** Hands symbolize helping and sharing; embodying values such as Respect, Relevance, Reciprocity, Responsibility, and Representation. They are the connection between our ancestors and our future. Our ancestors lifted us up, and it is our duty to do the same for our future.



**Frogs:** Frogs are revered as Spirit Helpers and Knowledge Keepers. They come from two worlds, the land and the water. Frogs are communicators of these worlds. In Northwest Coast art, they are often depicted connecting to others through their tongues which symbolize oral communication, sharing knowledge.



**Beaver:** Known for their building prowess and ecosystem stewardship through dam construction. They symbolize work or the use of our gifts, the diligent use of tools and technology. They remind us we have gifts to share, and maintenance of our tools allows us to continue sharing those gifts.



**First Nations  
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