

PART 1 - URBAN CONNECTIVITY REPORT

ÉQUITÉ
NUMÉRIQUE
d'Ottawa



DIGITAL
EQUITY
OTTAWA



Boosting the Signal: Increasing Digital Equity in Ottawa

Produced by

SOCIAL PLANNING
COUNCIL
of Ottawa



National
Capital
FreeNet

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United Way
East Ontario

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Tackling the Digital Divide with a Collaborative Digital Equity Strategy

“The ‘digital divide’ is at the intersection of other divides including sex, race, age, language, ability, education, income and location. The Charter of Rights protects Canadians from discrimination based on these factors, yet women, Black, Indigenous and people of colour, people living in rural and remote communities, those who are low-income and those living with disability are at higher risk of digital exclusion. Communities living at these intersections are more likely to face barriers in both access to and uptake of the internet...It is essential to respond to divides with care; they existed prior to current technologies and can be exacerbated by new ones.”¹

“Digital equity seeks to ensure all residents and neighborhoods have the information technology capacity needed for civic and cultural participation, employment, lifelong learning, and access to essential services.”²

This report and its recommendations arose in response to COVID-19 and its lockdowns. During this time the internet became the main way many people accessed work, school, government and social services, friends and family, entertainment, shopping for food and other supplies, and health care.

The recently released Statistics Canada Canadian Internet Use Survey 2020³ showed the number of Canadians that used the internet to work from home (43%), make online voice and video calls (64%), search for health information (69%), and watch streamed video content (83%), many for the first time.

It was also a year that laid bare the effects of the digital divide and how that divide mirrors and amplifies other social inequities. When libraries, coffee shops and other locations with free wifi were closed, those who didn't have access to affordable and reliable home internet were left behind (not to mention those without connected devices and digital skills).

The same Statistics Canada report showed that while internet use among all Canadians was 92%, it was significantly lower among seniors of age 75 and over (62%), those with disabilities (84%), people living in rural areas (87%), Indigenous people (88%), and those without employment (85%). Our own survey of more than 150 Ottawa Community Housing tenants, referenced throughout this report, confirmed the challenges of the digital divide for those living on low incomes across Ottawa.

The cost of digital exclusion is the cost of choosing to leave people behind in nearly every aspect of society — including economic success, educational achievements, positive health outcomes and civic engagement⁴.

¹ *“The ‘digital divide’ is about equity, not infrastructure” Ahmed & Hareper-Merrett from First Policy Response, Ryerson University*

² *Digital Equity Initiative - Phase II-City of Seattle*

³ *Canadian Internet Use Survey, 2020 – Statistics Canada*

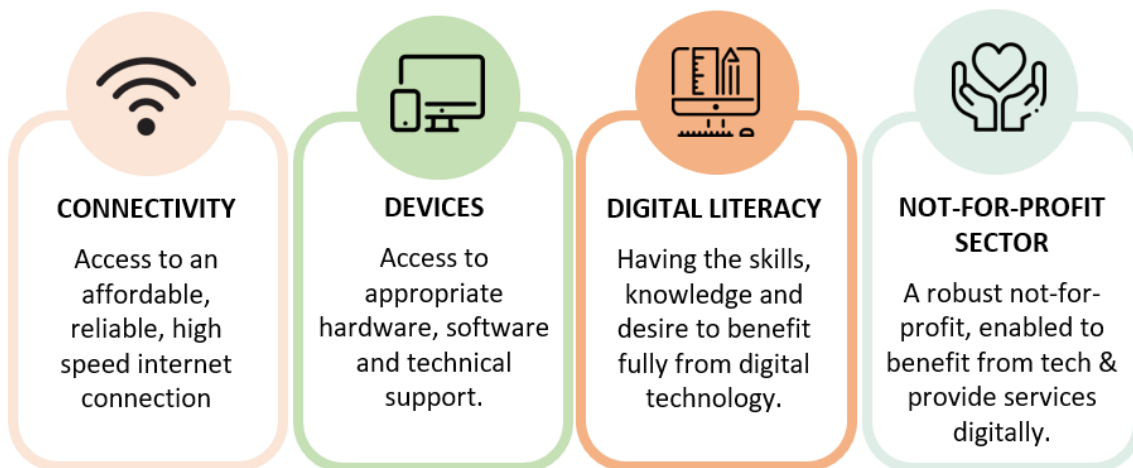
⁴ *Building Digital Communities - A Framework for Action*

Digital equity is a way to address the systemic issues that result in the digital divide and to enable residents to have access to essential technologies and the knowledge to effectively use the technologies for full digital participation. Although the pandemic made the digital divide more stark, the need for digital equity is a longstanding issue, requiring cooperation between all three levels of government, industry, small business, not-for-profits, and other social service organizations, as well as those individuals and communities most affected.

In 2020, flowing from work to improve priority neighbourhoods and the impact of COVID-19, Digital Equity Ottawa⁵ was formed to tackle the digital divide in Ottawa. Digital Equity Ottawa defines digital equity as the state in which everyone has access to essential technologies and has the knowledge to effectively use them. This includes affordable internet connectivity, access to connected devices, digital literacy, and the capacity of the non-profit sector to offer digital services while supporting those with low technical capacity.

This report is the first part of a three-part report series produced for United Way East Ontario, by the Social Planning Council of Ottawa and National Capital FreeNet, as part of the Digital Equity Ottawa initiative. The second report (Part 2) explores digital equity in the rural counties of Eastern Ontario outside of the City of Ottawa. The third report explores the feasibility of a Community Mesh Connectivity initiative. The current report is based on available data (particularly CIRA, CRTC and Statistics Canada), community planning meetings, key informant interviews, literature review, a scan of digital equity initiatives in Ottawa and elsewhere, and a survey of Ottawa Community Housing tenants. This report has been prepared to support collaborative action on the breadth of digital equity challenges, and is framed around Digital Equity Ottawa's four pillars of change:

Four Pillars of Digital Equity



Digital Equity Ottawa, 2020

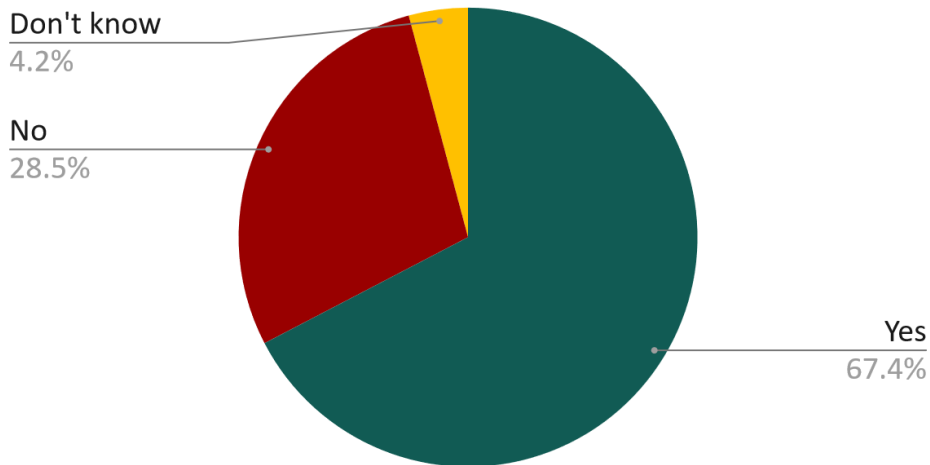
⁵ Digital Equity Ottawa - initiated by the Social Planning Council of Ottawa and National Capital FreeNet, with funding from United Way East Ontario. Digital Equity Ottawa is bringing together a cross section of stakeholders to collaborate for improvement, building on the many excellent digital equity projects already underway.

Challenge 1: Access to Connected Devices

Having access to the internet is impossible without having access to a device, be it a desktop computer, a laptop, a tablet, or a phone.

Those without a connected device tended to be seniors or those on low income, including many from equity seeking groups. In our survey of Ottawa Community Housing tenants, 56% of the respondents had access to a smartphone with data in their household, 47% had access to a laptop, 43% had access to a tablet and 31% had access to a desktop computer in their household. When asked if the household had enough connected devices for everyone that needs them, 31% said no. This need was reflected during discussion in both the strategic and community Digital Equity Ottawa groups.

19. Does your household have enough computers, tables and cellphones for everyone who needs them?



This lack of access to devices existed pre-pandemic but was not considered as pressing, given that those without connected devices could access government, commercial, educational and social services in person and/or use publicly available computers such as at the library or other public access services (e.g, Millennium Learning Centers). As well, prior to the pandemic there was a modest supply of computer donations (particularly from corporations upgrading) to tech re-use organizations like CompuCorps Mentoring who refurbished devices and sold them at a reduced cost to residents who could not otherwise afford a computer.

Unfortunately, during COVID-19 many of the sources for donated computers to refurbish dried up, as people worked from home. The supply of low-cost refurbished computers was further disrupted during COVID due to the requirements for social distancing, making it difficult for staff and volunteers to continue the work to refurbish and sell low-cost devices.

With the sudden shut-down of in-person school, health and social services due to the pandemic, there was an urgent need for devices for vulnerable community members. Governments and many philanthropic

organizations provided extraordinary pandemic-related funding that many organizations used to provide connected devices to their service users to ensure they could transition to online service delivery during lockdown. Some organizations loaned devices, while others provided low cost or free devices for households to keep. For example:

- The biggest example were school boards, who distributed thousands of devices to their students. The Ottawa Catholic School Board alone loaned out approximately 10,000 Chromebooks to students during the school year to help them transition to remote learning during lockdowns.
- Community agencies such as the Community Health and Resource Centres, the Social Planning Council of Ottawa, the Canadian Mental Health Association, members of the Champlain Community Support Network (serving seniors and people with disabilities, the Community Development Framework and the Royal Ottawa Hospital received funding to distribute devices to hundreds of community members, many of which were purchased and provided to households to keep.
- The Ottawa Public Library started offering 120 Chromebooks across its 32 branches for three-hour loans just before COVID-19. To account for when the library was closed during lockdowns, the devices can now be taken offsite. In addition, they loaned 250 Chromebooks with 80 hotspots to 40 partnering organizations to enable them to run on-line programs. As well, the library is broadcasting their wifi service outside their branches.
- Connected Canadians started a small tablet program that grew to 30 tablets able to be loaned through a partnership with HelpAge Canada called “Seniors Can Connect!”.
- Ottawa Community Housing was able to provide some devices to tenants, through lifecycle upgrades of staff computers.

Among the agencies that purchased and distributed devices, many innovative strategies and collaborations were used to facilitate the purchase, set-up and tech support related to the devices. Some of the strategies were:

- delegating the responsibility to one agency within a coalition to manage this for all members;
- a large agency with an IT department providing this service through in-kind support to partner agencies;
- contracting a private company who employed and supervised under-employed community members from equity seeking groups for these tasks.

These models, as well as the capacity of the refurbishing organizations, could be built upon to support on-going initiatives to expand access to devices.

Despite the significant mobilization to get devices into the hands of those who need them, there continues to be a tremendous gap. Even with the significant, one-time investment of funding, thousands of households are still in need. Many organizations were not able to meet the demand for connected devices during COVID-19 which affected their ability to offer services to low-income clients or otherwise vulnerable households. There are concerns about what will happen when COVID-19-specific funding for connected devices runs out or when loaned devices must be returned. For example, while students who will be continuing with distance learning are expected to be able to continue to use loaned devices they received from the school, students returning to in-person classes have to return the loaned devices. “Bring your own device to school” is expected to be a key part of the return-to-school plan. For many low income families, the loaned device from their children’s school was the only device for the family.

Recommendations to Increase Access to Digital Devices

We can build on the significant mobilization and collaboration during the pandemic to scale up a sustainable strategy to support access to digital devices, through public access points, loan programs and low-cost (or free) ownership opportunities.

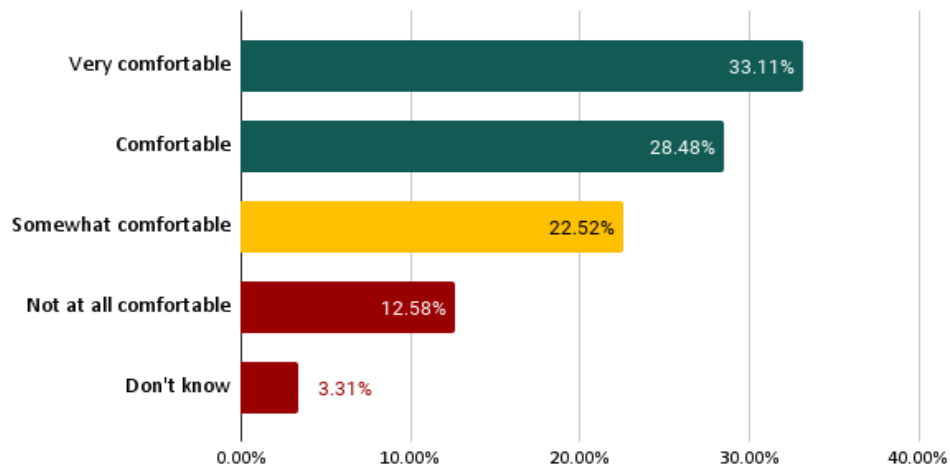
1. Develop better information on what currently exists for community members, and distribute that information in a variety of formats including information sheets, expanded information available through 211 and promotion through community agencies and programs.
2. Non-profit and social service agencies collaborate on the creation of a centralized supply and demand portal with respect to the need for devices. In a subsequent phase, this service could potentially also serve as a centralized resource to identify devices available for refurbishing – in concert with tech re-use and refurbishment programs.
3. Expand availability to devices in public access sites (such as community services, libraries)
4. Expand the availability of device-lending or device-gifting programs, ideally offered in locations where residents seek other services (e.g. food banks, libraries, social support, etc.). This can be done through a combination of additional funding, partnerships and re-deploying existing resources. Seek opportunities for agencies to collaborate on bulk-buying of tech equipment.
5. Funders allow and encourage organizations to include connectivity and devices as standard budget lines in funding applications, as they often do with food or space rentals, so that organizations can develop their digital capacity and meet the virtual and digital needs of their clients.
6. Develop a strategy to increase local capacity for tech re-use and refurbishment. Initial steps include
 - 6.1. support for existing programs to bounce back from the lockdowns of COVID-19
 - 6.2. community agencies and Digital Equity Ottawa partners incorporate a refurbishment strategy in their own tech lifecycle plans (e.g. hardware asset audit with de-commissioned devices going into the refurbishment stream)
 - 6.3. scope a scalable model to address supply and demand.
7. Explore opportunities to expand tech volunteering and training opportunities for community members in refurbishing and/or setting-up and supporting re new devices.

Challenge 2: Increasing Digital Literacy

Digital literacy includes helping people of all ages and abilities learn how to use specific devices and software programs. Digital literacy can take many forms and address different issues, such as basic training so residents can find information and connect socially; teaching transferable digital skills through community programs or games; helping people apply online for government benefits and subsidies; training users on how to identify spam and phishing attempts; teaching seniors how to feel comfortable using online banking and other online financial tools so they are less susceptible to financial elder abuse; helping children remain engaged with on-line learning, addressing online cyber-violence against girls and young women; and more.

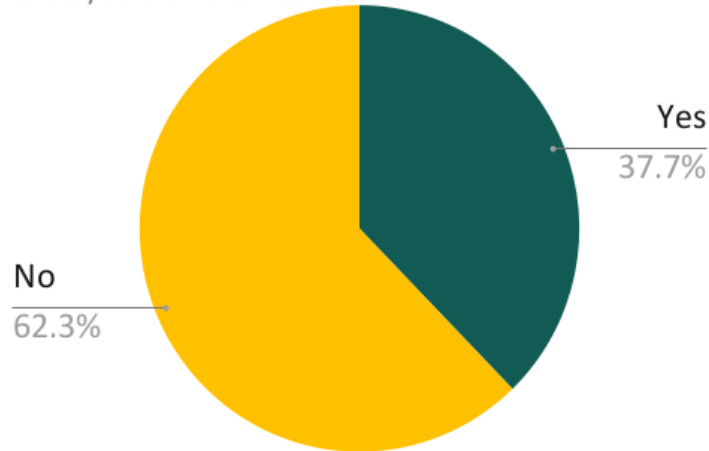
In our survey of Ottawa Community Housing tenants, 61.5% said they felt comfortable or very comfortable using the internet, with the remainder saying they were only somewhat comfortable, not at all comfortable or didn't know.

21. Overall, how comfortable are you using the Internet?



Safe use of the internet is an important component of digital literacy. The 2020 Internet Use Survey by Statistics Canada found that 58% of Canadians reported a cyber security incident, up by 6% from the year before. However, only 38% of the Ottawa Community Housing households we surveyed had received information or lessons on how to stay safe online and internet safety training was identified in the consultations as a significant gap.

22. Have you received information or lessons on how to stay safe on the Internet?



There were a range of digital literacy supports available before the pandemic, and many were able to pivot to online delivery. As well, many new initiatives sprang up – offered by agencies, institutions or community volunteers. Of particular note were the numerous community members in grassroots organizations who trained and supported their peers to effectively use technology.

Below are some examples of digital literacy initiatives offered during the pandemic by Digital Equity Ottawa partners:

- The Ottawa Public Library continued to offer one-on-one digital support tutorials, including how to access library resources like eBooks and audiobooks online, as well as for those who have specific questions about their connected devices. This happened in-person when possible, as well as over the phone. The library also offered on-line digital training and partnered with community agencies such as Shepherds of Good Hope to offer remote digital literacy classes.
- Connected Canadians offered on-line digital literacy to seniors, which transitioned to on-line service delivery during the pandemic pairing new Canadians, those furloughed from the restaurant industry and others to offer training to seniors. Connected Canadians also worked with participants from Ottawa Community Housing, local hospitals, health centres, and community resource centres. Their work included the development of an online game like Pictionary to help make learning basic tech skills fun.
- National Capital FreeNet’s HelpDesk requests related to connectivity and other digital literacy questions went up by more than 15% during the early pandemic. National Capital FreeNet also ran an online social media campaign around internet safety and digital privacy to support individuals comfortable with basic digital skills but who were still susceptible to online scams.
- Many social service organizations offered digital literacy training to program participants including those who received gifted or loaned devices. While many community members learned how to use them on their own, others needed significant amounts of help, which required additional staff knowledge and

time. Some agencies are concerned that as staff roles are re-organized as the lockdown ends, community members might not get the ongoing support they need to continue using online services.

- Many community members in neighbourhood and grassroots groups provided digital literacy training to their members. For example, groups within the Ottawa Grassroots Ethnocultural Seniors Network and neighbourhood leaders involved with Community Development Framework activities provided group training as part of their transition to digital activities and arranged one-on-one support for participants who needed additional support.

Community Navigation of Eastern Ontario is the central information source for community programs, with both a phone-based referral line and a self-serve on-line portal. At the time of writing this report, Community Navigation of Eastern Ontario had only 3 entries for “computer training” in Ottawa and only 11 entries for “digital literacy programs” in Ottawa (albeit one program with multiple sites). Clearly most digital literacy programs in Ottawa, whether they have been operating for years or just started up during the pandemic, have not registered with Community Navigation of Eastern Ontario. This makes it difficult for community members or agency staff to find existing services.

Recommendations to Increase Digital Literacy

7. Promote an information sharing blitz to ensure existing digital literacy programs are listed with Community Navigation of Eastern Ontario (i.e. 211).
8. Share and cross-promote learning opportunities, content (such as digital literacy training curriculum) and best practices.
9. Build tech and tech skills into a larger number of existing programs (such as recreational programs for youth, social programs for seniors, skills development programs for under-employed residents, and so on), in order to better develop the capacity of residents.
10. Expand existing digital literacy programs, where possible. Ideally this will include:
 - 10.1. Building on the existing models, such as digital literacy through the Ottawa Public Library;
 - 10.2. Collaboration between different organizations and focus on a wide range of potential beneficiaries, from seniors to new Canadians, Indigenous people and youth;
 - 10.3. Advancing peer-learning and inter-generational learning as ways to build social cohesion and reduce social isolation;
 - 10.4. Increased training opportunities related to online safety, digital privacy and misinformation.
11. Leverage the digital literacy capacity and teaching skills of educators and their students to offer volunteer digital support.

12. Establish a Community of Practice or coaching group for front-line staff who support their clients' digital literacy needs, potentially with a listserv and virtual meetings.
13. Consider developing a city-wide social service HelpDesk that could work directly with community members and with agency staff supporting digital literacy among their community members. This could be a self-serve online HelpDesk platform with in-person support as needed. Such a model could potentially be linked to youth employment initiatives or high school volunteer hours and/or could be developed as a social enterprise.

Challenge 3: Strengthening the Digital Capacity of the Voluntary Sector

The non-profit sector is important in addressing inequities in general, but faces its own technology challenges.

In 2020, CIRA released a report "Unconnected: Funding shortfalls, Policy Imbalances and How They Are Contributing to Canada's Digital Underdevelopment"⁶. The report's summary states that:

- Canada lacks funding for internet-related projects.
- Most funding that does exist comes from government.
- Funding is complicated and difficult to access.
- Funding is most needed for digital literacy, infrastructure, and community leadership.
- These obstacles contribute to a sector that is ad hoc, piecemeal, and unorganized.

The report's survey of organizations working on digital equity initiatives ranked their priorities:



Twelve per cent of respondents rated funding for community leadership as the most important need. However, the in-depth interviews with respondents indicated that this area was arguably the most important in terms of unlocking progress and change. The not-for-profit sector is central in community leadership on digital equity.

Funding issues here included:

- Policy advocacy and development, including research and evidence to support it.
- Lobbying for proactive legislative reform.
- Taking existing research and packaging it in ways that are easily understood by decision makers.
- Countering concentration of power, monopoly issues and data trusts.

⁶ [Unconnected: Funding Shortfalls, Policy Imbalances and How They Are Contributing to Canada's Digital Underdevelopment](#)

Certainly in Ottawa and across Eastern Ontario, the organizations that have been at the forefront of digital equity issues for years are under-resourced and challenged by the demands of day to day operations.

Even for core service delivery, the non-profit sector has been under-resourced overall for hardware and software. Many staff and volunteers face their own digital literacy barriers. In 2021, Canada Helps published “2021 Digital Skills Survey Are Canada’s Charities Ready for Digital Transformation?”⁷ The survey found that many charities were falling behind in terms of needed digital capacity, particularly access to appropriate tools as well as a massive skill gap. This was most pronounced with smaller charities, who make up the majority of the sector (90% of charities have 10 employees or fewer and 58% are 100% volunteer run according to their report). They found that in most cases, charities were not falling behind because of their perspective of the importance. Rather, the day-to-day operational demands and inadequate administration funding were negatively impacting the ability of charities to address their digital challenges. The study identified a need for government and philanthropic leadership to invest in digital capacity of the sector – both tools and the ability of non-profits to use them.

The pandemic highlighted both the challenges and the opportunities of digital transformation for the non-profit sector. Many non-profit and social service organizations faced significant challenges pivoting their organizational services online during COVID-19 while also supporting the digital equity needs of their community members to access those services. In some cases, the agencies were not able to provide services digitally either because of their own capacity, their community members not having devices/internet or there not being appropriate service-delivery models for their service. For others, online service delivery opened new opportunities, and they were able to continue services or, in some cases even expand services, using digital technologies. Additional COVID-related funding helped fill the gap temporarily for some, with one-time investments in hardware, training and program re-design. Many funders indicated the demand for technology funding during COVID far exceeded the demand. As well, there were many excellent partnership arrangements that enabled groups of agencies to have more impact than would otherwise have been possible. For example, the Phoenix Centre in Renfrew County coordinated the purchase, set-up and service plan negotiations so a broad range of mental health services in the Champlain LHIN catchment area could provide devices to their community members. This enabled the individual agencies to concentrate on adjusting their programs to digital delivery, knowing that the technology was looked after and their community members would have what they needed to participate.

In the consultations for this report, some agencies were concerned about their ability to support their own staff and volunteers, as well as community members, given the digital literacy levels and the chronic under-funding of digital capacity within the sector. They identified a need for on-going funding and suggested a dedicated helpdesk they could access. There is also a need for more support on how to appropriately transform programs to digital formats (including for smartphones), without losing the core components of success for the programs and without leaving behind their community members who are not digitally connected. For example, small considerations such as recording exercise programs so they can be downloaded, rather than running them live, provided opportunities to open up their digital offerings to community members without reliable wifi.

⁷ Canada Helps, 2021. [2021 Digital Skills Survey Are Canada’s Charities Ready for Digital Transformation?](#)

Recommendations to Increase the Digital Capacity of the Non-Profit Sector

14. Improve promotion of affordable software options for the not-for-profit sector, for example: better promotion of TechSoup Canada and similar initiatives providing discounted software licenses and a greater understanding and adoption of open-source software across the sector to enable the use of free software, sharing, and future software development opportunities.
15. Expand relevant shared learning opportunities and sharing of best or promising practices (for example, re digital program delivery).
16. Funders and philanthropic organizations continue to provide funding for digital improvements and transformation in non-profits, particularly for collaborative and scalable initiatives (such as joint purchasing and set-up of devices, cross-agency data plans, etc.)
17. Support non-profits that have been working on digital equity issues, including those involved in policy improvements.
18. Develop an easy tool so community-based organizations can conduct their own digital asset audits to identify digital assets they could leverage for community benefit. This could include WiFi publicly available in their buildings (particularly in rural areas where WiFi is limited), donating de-commissioned hardware, sharing access to software where feasible, providing space for community members for tele-health or e-learning opportunities, digital literacy training modules, and so on.
19. Advocate for the Federal Government to expand its' "Digital Main Street" initiative to include charities and non-profits

Challenge 4: Bridging the Connectivity Divide for Reliable, Affordable Wifi

Although all the elements of digital equity are important, they all hinge upon affordable, reliable internet. Unfortunately, what should be a building block is too often a stumbling block.

In a 2016 decision, the CRTC identified a universal service objective for Canadian households for internet service that offered 50 Mbps download speeds, 10Mbps upload speeds and unlimited usage (50/10/Unlimited).

By the end of 2019, 87.4% of Canadian households theoretically had access to 50/10/Unlimited service⁸. Data from the Statistics Canada, shown in Figure 1, indicates that 99.5% of urban areas have service available at the 50/10/Unlimited objective compared to only 30.5% of rural Ontario. (See our related report on digital equity in rural Eastern Ontario that summarizes the specific access challenges facing rural communities.)

⁸ [CRTC Broadband Fund – Closing the digital divide in Canada](#) - CRTC

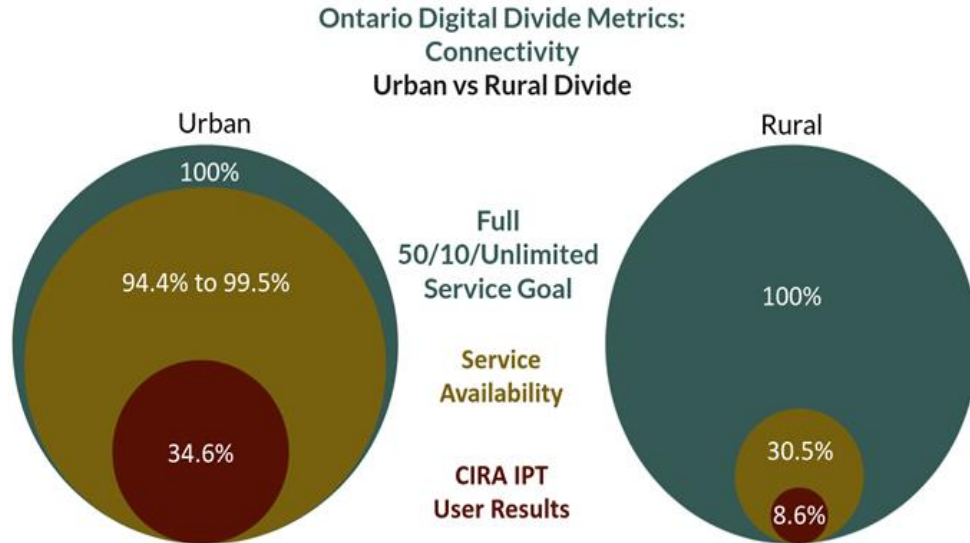


Figure 1 - Ontario Service Availability to User Experience Gap (Urban vs Rural)

Urban and suburban Ottawa, like most Canadian urban areas, has adequate infrastructure to meet the standard. However, there continues to be a significant urban/rural connectivity divide, with many parts of Ottawa’s rural areas not having access to broadband internet that could meet the CRTC service target. Most of the digital equity efforts of the Federal and Provincial governments are focused on closing the internet service availability gap by supporting infrastructure for internet service availability at the CRTC “50/10/Unlimited” objective, with a clear priority on rural and remote communities. The City of Ottawa’s Draft Rural Economic Development Strategy (March 2020)⁹ identifies the need to extend high-speed internet and wireless connectivity in Ottawa’s rural regions in order to strengthen rural economic development and create jobs and opportunities, recognizing that these wards tend to be excluded from rural connectivity initiatives by the Federal and Provincial governments.

Even in downtown Ottawa, despite the infrastructure for broadband access at the CRTC service standard, there are many who do not have home internet at all, or have service below the CRTC service target. Figure 2 shows that across Ontario, although 87.7% of urban and rural households have access to a 50/10Mbps service, only 51.5% of households are actually subscribed to home internet services with speeds that meet the CRTC Universal Service Objective from 2016.

⁹ https://documents.ottawa.ca/sites/documents/files/rural_economicstrategy_en.pdf

Ontario Digital Divide Metrics: Connectivity

Goal: 50/10/Unlimited Service

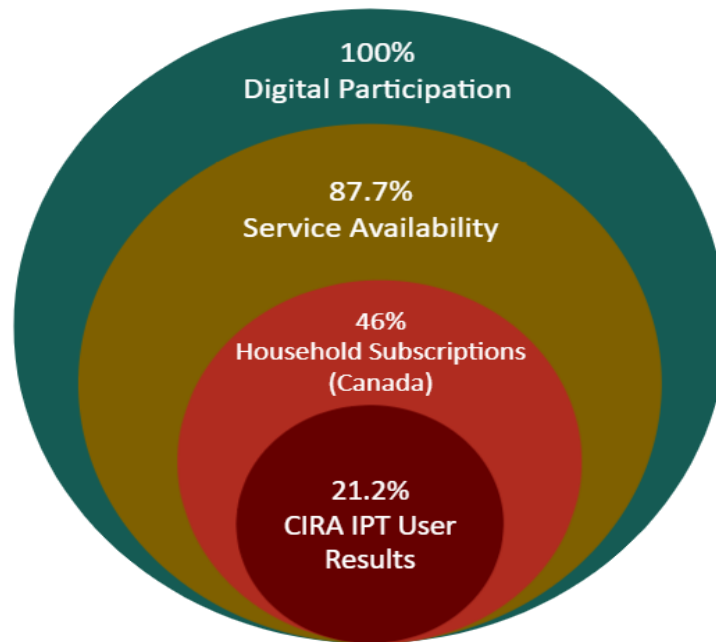


Figure 2- Ontario Digital Divide Metrics re Broadband Subscriptions

Furthermore, even for those paying for household internet service, only 21.2% had internet service that actually met the CRTC service standard (based on CIRA’s internet performance tests).

Surveys in 2019 by ACORN with community members and in 2020-21 by Digital Equity Ottawa partners with Ottawa Community Housing tenants have identified the scale of the challenges in terms of affordability and inadequate service levels.

2021 Survey of Ottawa Community Housing Tenants (by NCF, SPCO and OCH)

23% of respondents did not have a home internet connection.

45% of those with home internet pay over **\$50** a month for their service.

Top 3 issues for those with a home internet connection were speed of connection (**60%**), price (**42%**) and reliability of connection (**31%**).

52% of the respondents without home internet identified affordability as the main reason.

2019 National Survey (by ACORN and Public Interest Advocacy Centre)

25% of respondents stated that they sacrificed food to pay for internet services and almost **33%** have made multiple sacrifices.

91% of households with no children and **84%** of households with one or more children said they think internet services are too expensive.

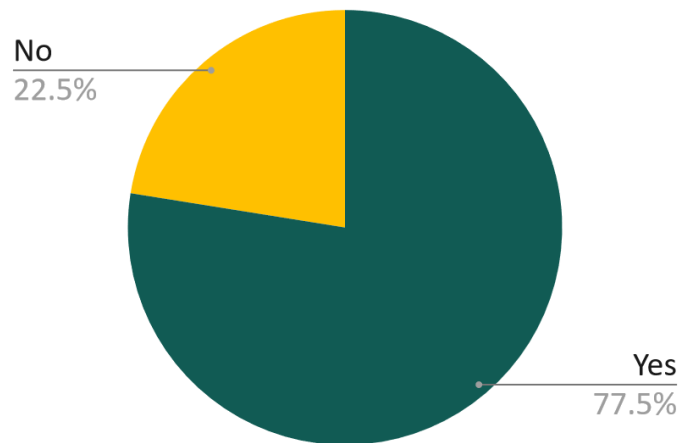
72% of respondents without home internet identified cost as the main reason.

Source: [Barriers to Digital Equality in Canada](#) and [Internet For All campaign](#)

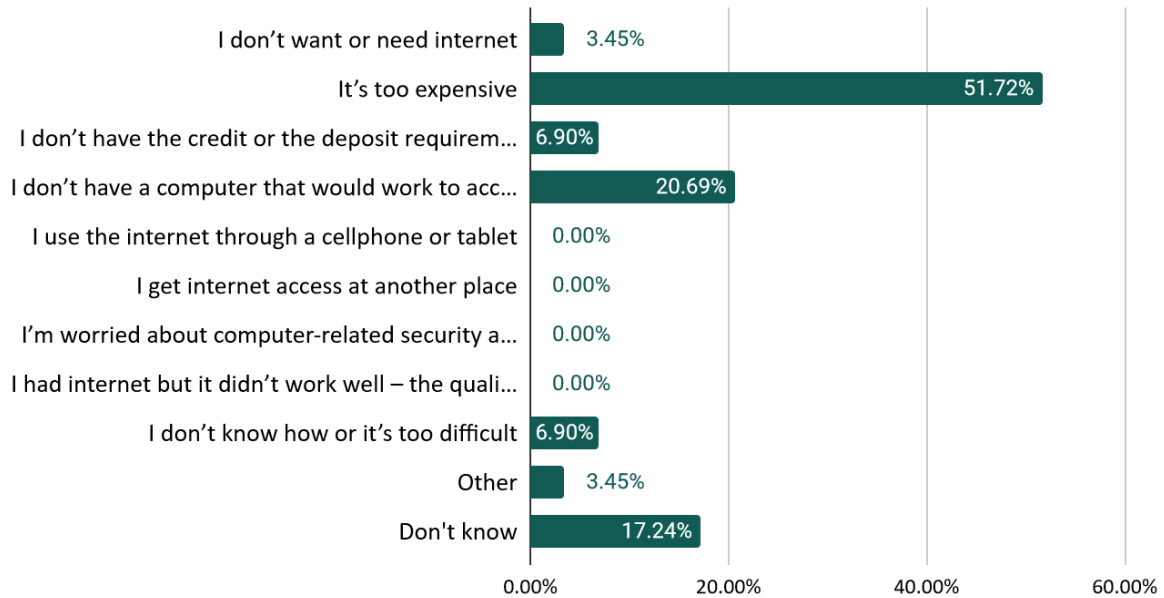
Major Affordability Gap

The biggest barrier to home internet use in Ottawa is affordability. Our survey of Ottawa Community Housing households found that 22% of respondents did not have a home internet connection at all, similar to Statistics Canada findings, with more than half of the survey respondents citing the fact that it's too expensive.

1. Do you have internet at your home?

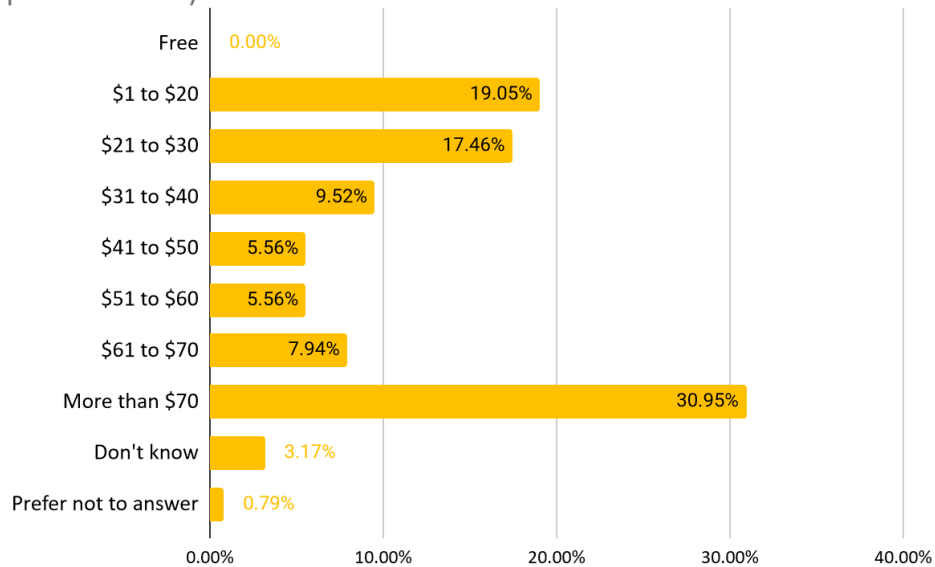


2. If you do not have internet at home, why not?



In 2018 the average Canadian consumer spent \$60.39 per month on Internet, making it among the most expensive in the world. In our survey, more than 44% of respondents pay more than \$50 per month for their internet service.

10. Approximately how much does your household pay per month for your internet service (not including cell phones, cable TV or phone service)?



While high internet prices affect all consumers, low-income households are affected the most. Households in the lowest income quintile spend 13 times the percentage of their income on internet expenditures as compared to households in the highest income quintiles¹⁰. In Ontario, household spending on food, shelter and communication subscriptions like internet is 53% for those in the lowest income quintile while it is only 27% for those in the highest quintile.

Lower-income households often need to make difficult trade-offs with other basic expenses that many other households do not have to consider. A 2019 survey by the low-income rights group ACORN, the Public Interest Advocacy Centre and the Affordable Action Coalition¹¹ found that 25% of those surveyed had to take money from their food budget to pay for internet services with 33% having to make multiple budget sacrifices. This same survey found that 91% of households with no children and 84% of households with one or more children said they think internet services are too expensive. And for those that relied on data plans for their internet access, almost one-third reported paying extra fees for exceeding their data allowance.

As their findings highlight, households relying solely on a cell phone plan for connectivity are additionally vulnerable to costs. While relying on a cell phone expands connectivity options, mobile cell data is much more expensive per Gigabyte of use, making it unaffordable to use for the full range of most people’s everyday internet use. This is where connected devices overlap with affordable access to the internet.

Between 2013 and 2019, 2.6 million more connected Canadian households subscribed to home internet services. However, the average cost for home internet services has risen by 38.8% over the same period or

¹⁰ Subscriptions by Income Quintile - Communications Monitoring Report 2019 - CRTC

¹¹ ACORN, 2019. [Barriers to Digital Equity in Canada](#).

about 5% annually. With average home internet prices outpacing wage growth, the internet is growing less affordable each year, particularly for low-income households.

A recent report by Industry Canada¹² confirms that internet prices rose in 2020 during the course of the pandemic, when work and school shifted online, making Canada an outlier among peer countries. In their 2021 report, "Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions: 2020 Edition", Industry Canada found that:

- For mobile wireless, Canada, Germany and Japan tend to have the highest prices internationally.
- For fixed broadband service in Canada, prices in all baskets [*i.e. service levels*] experienced substantial price drops between 2019 and 2018, but moved up in every basket in 2020.
- For mobile internet, Canadian mobile internet prices increased in each of the three baskets [*i.e. service levels*], continuing a three year trend for level 1, a four year trend for level 2 and a five year trend for level 3. Canadian mobile internet prices remain high relative to other surveyed countries in all baskets, lower only than Japan. US prices took a large drop in every basket compared to 2019. Prices in Japan, while still the highest among surveyed countries, have also been falling over the last three years.

The same report found that most service providers also made significant contributions (financial, in-kind or other support) to community organizations struggling under the damaging effects of COVID-19. Organizations that benefitted included the Red Cross, Community Food Banks, Canadian Mental Health Association, Kids Help Phone, Big Brothers Big Sisters and Women's Shelters Canada. Most telecom service providers also undertook measures to ease the financial hardship issues of their customers. Most of the financial relief measures taken by Canadian telecom service providers ended on or before June 30, 2020. Although the financial hardship of Canadians extended past June 2020 (and continues into 2021), the report notes that there has been considerably less "financial-hardship" response by telecom service providers since June 2020.

5% The average home internet service increased from \$44.50 to \$61.76 between 2013 and 2019, despite a price drop between 2019 and 2018.
[Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions: 2020 Edition](#)
[Communications Monitoring Report 2020](#)

2X Those living within the lowest income quintile in Ontario spent more than 4% on communication subscriptions in 2019 compared to just over 2% for those in the highest quintile.
[Survey of Household Spending](#)

Covid-19 Internet prices rose in 2020 during the course of the pandemic, making Canada an outlier among peer countries. Canada consistently has among the highest internet costs compared to peer OECD countries.
[Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions: 2020 Edition](#)

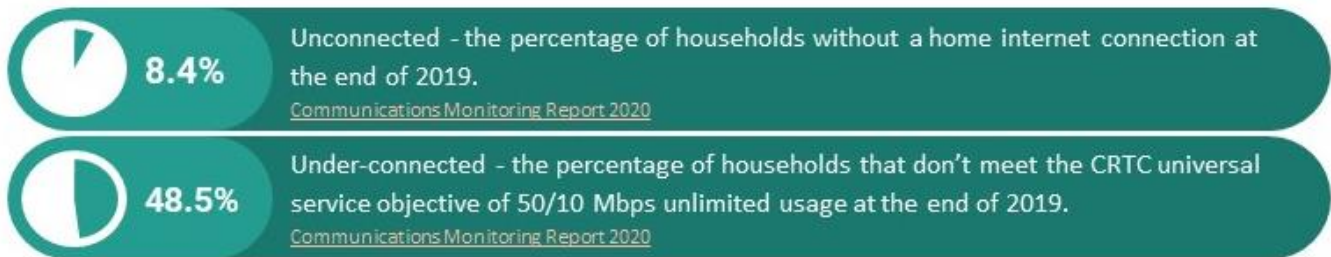
¹² Industry Canada, 2021. [Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions: 2020 Edition - Strategic Policy Sector](#)

Under-Connected Households

The reliability and performance of the connection are additional concerns that must be prioritized in the planning of a connectivity solution for under-served communities. Many households with internet access have a level of service that is too slow or unreliable for normal household use. This can be due to many factors, most notably:

- **Reliable high speed internet is not available:** In some parts of Ottawa, particularly rural Ottawa, reliable high speed internet is simply not available.
- **Cost:** Most internet service providers have a range of plans with cheaper plans providing limited service. To address the high cost of connectivity in Canada, many households subscribe to the less expensive plans, even though these are not adequate to their needs. In our survey of OCH tenants we found that 60% of those with home internet connections described the speed of their connection as medium, slow, or very slow.

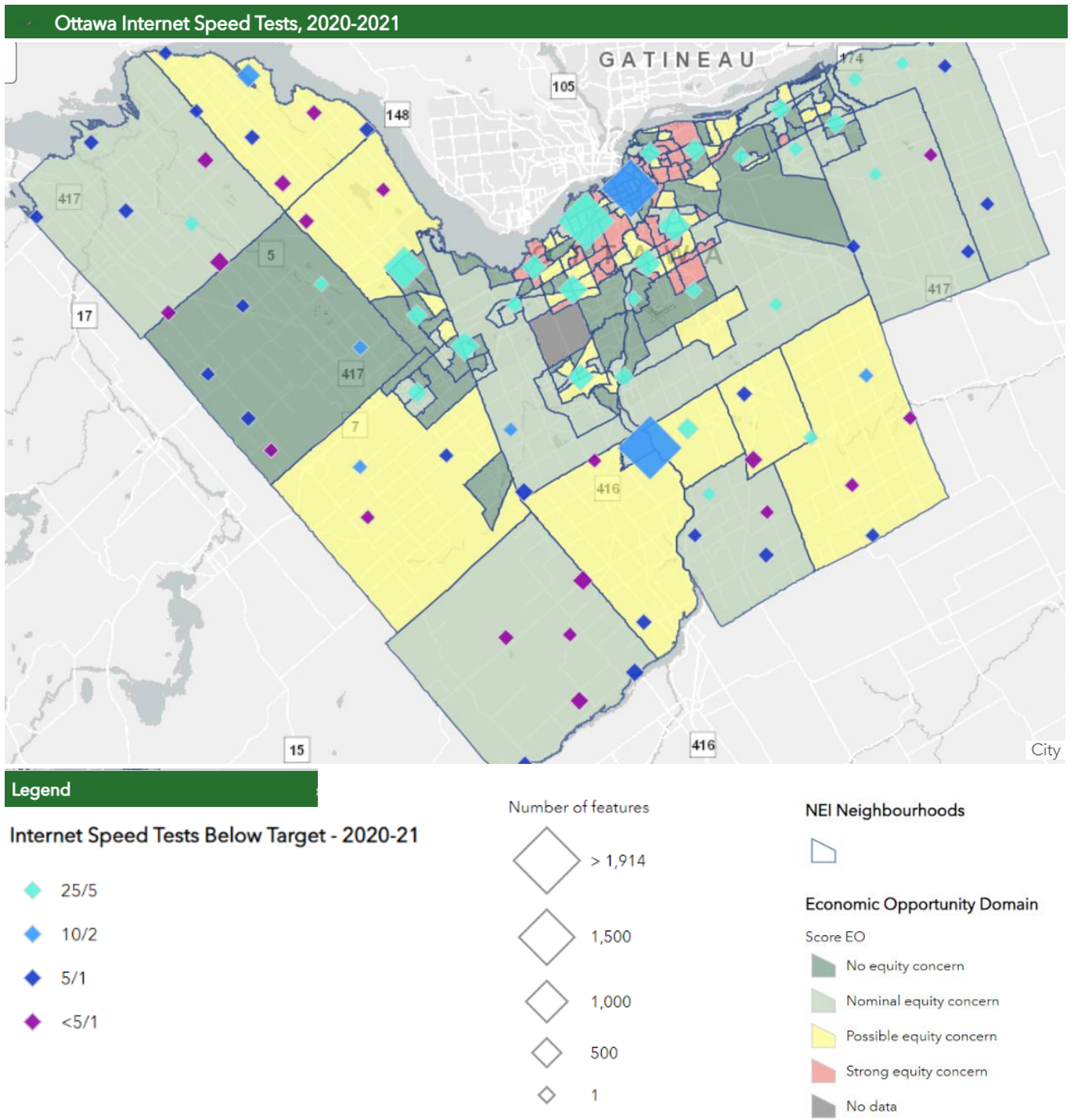
The Canadian Internet Registry Authority (CIRA) tracks the actual performance of internet service through a standardized Internet Performance Test (IPT). Across Ontario, for 2021, using 80,000 user tests from the Canadian Internet Registration Authority (CIRA) Internet Performance Test, only 21.2% of users had actual internet service that met or exceeded the 50/10/Unlimited service objective¹³.



The map below shows that the CIRA Internet Performance Tests for Ottawa (2020-21) identify many pockets of poorly-performing internet. All of the coloured diamonds indicate that tests in these locations were below the CRTC service target. Many of the lowest levels of service (represented by the purple diamonds) are in rural areas. There are many other areas with service below the CRTC target, even in the heart of downtown. Many of these areas also overlap with neighbourhoods of high inequity, as identified in the Social Planning Council's Neighbourhood Equity Index¹⁴ (indicated by the reddish areas). This map can be explored interactively on-line at <https://arcg.is/OTDSrb>

¹³ [Internet Performance Test](#) - CIRA

¹⁴ [Neighbourhood Equity Index](#) - Social Planning Council of Ottawa



Rural areas are a priority for affordable, reliable internet as well as neighbourhoods highlighted in the section on a Community Based Mesh Network for Ottawa (page 28), through the Neighbourhood Equity Index (see <https://neighbourhoodequity.ca/digital-equity-ottawa/>) and in the third report in this series on Developing a Mesh Network.

Initiatives to Improve Access to Reliable, Affordable Connectivity

Many residents rely on public access points such as public libraries, schools, public access computers within social services or free wifi in commercial spaces such as coffee shops. When these locations closed due to the pandemic, thousands of people without internet at home were left behind – most of whom were from low income households. Across Ottawa, many organizations mobilized to provide connectivity, just as they mobilized to distribute devices. Some of these solutions were short-term and are ending as the Province moves away from lockdowns. Others are long-term, particularly the initiatives of the City of Ottawa, Ottawa Public Library and Ottawa Community Housing. Some examples of new or expanded programs to address the increased need include:

- Ottawa Catholic School Board (OCSB) identified up to 4800 students living with families that did not have adequate access to WiFi. They directly supported about 400 families with WiFi sticks or WiFi hubs. The OCSB also supported students living in shelters (that spilled into hotels) struggling with WiFi access.
- Ottawa Public Library (OPL) has 3 book mobiles that visit in priority neighbourhoods that have WiFi. The OPL has also expanded WiFi at almost every location to enable outdoor access and loans portable hotspots
- The City of Ottawa is working to provide outdoor WiFi access at 13 sites in priority neighbourhoods.
- Ottawa Community Housing is working on opening a guest WiFi service that residents can use in the common areas of their buildings
- Social services supporting people with disabilities and seniors collaborated, with the leadership of Rural Ottawa Seniors Support Services and Phoenix Centre in Renfrew County to negotiate subsidized connectivity and data packages to accompany devices they purchased and distributed to community members
- Many social services purchased and distributed cellphones and cover the cost of the associated data plans to enable some level of connectivity for their community members.

Low-Income Access Programs

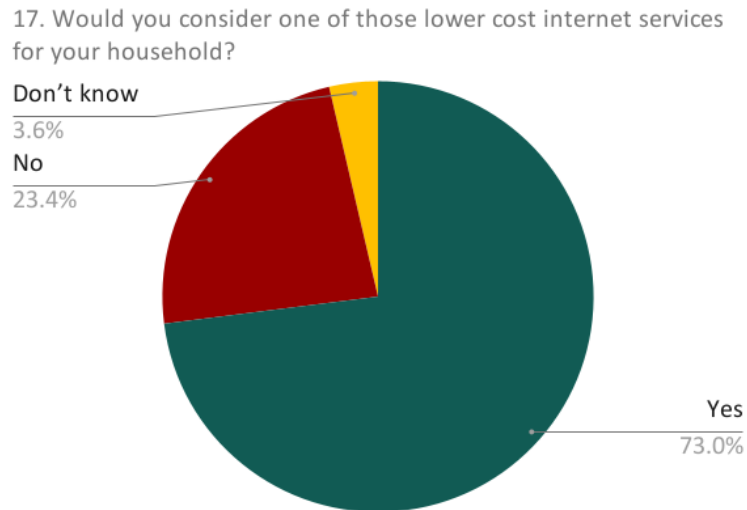
Even prior to the pandemic, some low income residents in Ottawa had access to subsidized internet through two programs:

- Rogers offers tenants receiving rent subsidies in some social housing communities (especially Ottawa Community Housing) a subsidized monthly Internet package of 25/10 Mbps speeds for \$10 monthly. Usage is capped at 30GBs but there are currently no penalties for going over the usage. This plan, called “Connected for Success” currently has a few thousand subscribers.
- In 2017, National Capital FreeNet established its Community Access Fund (CAF) to offer a subsidized 6/1Mbps \$25 monthly Internet package with unlimited usage to Ottawa Community Housing (OCH) tenants.

During the pandemic there was some increased outreach done with respect to these programs by community partners, resulting in a slight increased uptake of the Community Access Fund (NCF) and Connected for Success

(Rogers) programs. Nonetheless, these two programs are significantly under-subscribed. For example, of 32,000 Ottawa Community Housing Tenants, currently only about 10% use these services.

Our survey explored the views of OCH tenants about these services. The results indicated that 73% of all respondents said they would consider a low-income internet program for their households and over 78% of respondents using either subsidized serve were satisfied with the service.



The primary reasons people were not using the service were:

- Over 60% of respondents did not know about the low income internet programs
- Some respondents wanted faster speeds for their home internet connections than those offered.
- The application process for the Rogers program is very burdensome and even when community workers worked directly with individual tenants who were eligible, they had great difficulty navigating the application process successfully.

There is a clear opportunity, with more resourcing, to move the needle significantly on subscription rates. Several community organizations have indicated a willingness to expand access to these programs through outreach, one-on-one support in the application process to Rogers (the NCF process is not difficult), advocacy to streamline the Rogers application process and advocacy to expand these programs to low income individuals not living in subsidized housing.

A third subsidy program currently exists, but in practical terms it is not available to Ottawa residents. The “Connecting Families” program is offered by telecom incumbents like Bell, Rogers, Telus and others. This program is limited to 220,000 families across Canada that receive the maximum Canada Child Benefit and that are selected by lottery.¹⁵ Promoted by Industry Canada, this program is voluntary for the participating internet service providers and does not receive government funding. At this time, only incumbent telecom companies participate because the high wholesale internet rates set by the CRTC makes it untenable for independents.

¹⁵ https://www.ic.gc.ca/eic/site/111.nsf/eng/h_00002.html

Concerns with the program were identified in the recent Commons' Committee report *Affordability and Accessibility of Telecommunications Services in Canada: Encouraging Competition to (Finally) Bridge the Digital Divide* in which "some witnesses pointed out the importance of ensuring that broadband Internet funding programs are accessible to non-traditional [Telecom Service Providers, known as] TSPs, such as independent TSPs or municipalities. They criticized the fact that the format and eligibility criteria of government programs often exclude communities or independent organizations. They said that these stakeholders often have a better understanding of the situation in a region where they want to offer Internet service than do larger TSPs, and that they are often more inclined to invest significant resources in the project." The Commons Committee recommended "that the Government of Canada change some of the parameters for the Connecting Families program to improve accessibility by, for example:

- Changing the eligibility criteria and better targeting families to ensure all low-income households have access to it;
- Requiring service providers to participate in the program and funding them directly; and
- Promoting programs more strategically so that more low-income families are aware of them."¹⁶

An alternative or complement to these programs could be portable communication subsidies for those living on low incomes, similar to the Lifeline Support for Affordable Communications program offered in the US. "Lifeline provides subscribers a discount on monthly telephone service, broadband Internet service, or bundled voice-broadband packages purchased from participating wireline or wireless providers. The discount helps ensure that low-income consumers can afford 21st century broadband and the access it provides to jobs, healthcare, and educational resources."¹⁷

ACORN has been in the forefront of advocating for more comprehensive internet offerings for those on low incomes. They have been asking for programs that:

- Meet or exceed the CRTC recommended speeds of 50/10Mbps with unlimited usage;
- Include all low-income households;
- Offer a \$50 monthly portable broadband credit to enable choice of provider¹⁸;

Other local organizations could support ACORN's advocacy (see <https://www.internetforall.ca/>) or could advocate on their own to push for expanded access to subsidy programs by internet service providers.

Public Policy Reform

Even as digital equity advocates push for expansion of internet subsidy programs, there are concerns that these programs are piecemeal and do not address necessary systemic changes to the industry. These subsidy programs are a very marginal component of the business of the major internet service providers, who benefit from a regulatory framework that significantly disadvantages more equitable and community-oriented internet options.

¹⁶ <https://www.ourcommons.ca/Content/Committee/432/INDU/Reports/RP11439444/indurp07/indurp07-e.pdf>

¹⁷ <https://www.fcc.gov/lifeline-consumers>

¹⁸ [Canadian consumers demand \\$50 broadband benefit during COVID, like in U.S.](#) - PIAC

In particular, wholesale internet is regulated by the Canadian Radio-Television Telecommunications Commission (CRTC), including setting wholesale prices for many costs of delivering home internet (most importantly the line cost and some of the usage costs). Other components of these prices are not regulated and are offered at market rates. Most recently, on May 27, 2021, the CRTC reversed its 2019 wholesale rates decision that would have reduced the wholesale rates charged by large internet service companies (such as Bell and Rogers) to allow independent internet service providers to offer lower prices to consumers. The CRTC is facing mounting criticism for failing to prevent larger providers from imposing artificially high prices for access to their networks, therefore increasing internet costs for residents and reducing the viability of new projects.¹⁹

Most households in urban centres with home internet connections receive broadband service over DSL, Cable or FTTH (“Fibre to the Home”, sometimes also known as FTTP i.e. “Fibre to the Premise”). Unfortunately, the high tariff line rates set by the CRTC for wholesale DSL and cable service make it unsustainable for independent NCF to offer the CRTC’s basic service objective of a 50/10Mbps speed service with unlimited usage service at an affordable rate for low-income families. Currently FTTH internet access is not available wholesale to independent internet service providers like National Capital FreeNet.

Policy changes with respect to equitable wholesale rates for DSL, cable and FTTH would have the most significant impact on advancing digital equity – for residents and for entire geographic regions currently being left behind. Advocacy on this issue is urgent, as the CRTC is close to releasing an updated decision affecting these matters in the very near future (fall 2021).

In addition to the issue of wholesale rates, there are challenges with respect to accessing infrastructure to support fiber installation. This is a significant factor in connectivity projects. Connectivity projects often face barriers and delays in accessing hydro poles and hydro rights-of-way that could be used to install fiber for broadband internet. The province is working to address this through the proposed “Supporting Broadband and Infrastructure Expansion Act”. The legislation, if passed, would reduce the delays and costs associated with accessing hydro utility poles, and would require timely access to municipal rights of way.

As Suzanne Smythe, Associate Professor in Adult Literacy and Adult Education at Simon Fraser University has written: “decisions about who has internet and devices cannot be left to for-profit ISPs and ‘the market’ when the CRTC has already declared the internet an essential basic service.”²⁰

In the face of these persistent policy and market barriers, municipalities and organizations are mobilizing on strategies to mitigate the digital divide.

¹⁹ For example, see: <https://nationalpost.com/news/politics/crtc-flip-flop-on-wholesale-internet-rates-could-mean-higher-prices-for-consumers-critics>

²⁰ [Digital Equity and Community Solidarity during and after Covid-19](#) – Policy Note, Suzanne Smythe

Municipal Governments Taking Action

Municipal governments do not have a mandated, regulatory or oversight role in telecommunications, so connectivity has not traditionally been seen as a core municipal service. However, their economic development, and the health, safety and social development of their residents are profoundly impacted by the systemic barriers and market failures of the current status quo, so many municipalities have a high level of concern about connectivity. As a result, municipal governments are increasingly playing an important role in initiating digital projects advancing economic development, basic needs and equity, particularly with respect to connectivity, digital infrastructure and affordability. Municipal projects can range from free wifi hotspots, advocacy work, right up to funding projects (eg. the municipality of Caledon, Ontario has done so through a Municipal Levy), securing funding for multi-million dollar infrastructure, and building and operating their own networks.

Municipalities in Eastern Ontario have been very active in advancing digital infrastructure, and have been successful in significantly expanding the availability of high speed internet (see the accompanying report re Eastern Ontario for a summary). Many cities are also mobilizing to tackle the digital barriers faced by their residents and businesses. For example, the City of Toronto released “Affordable Internet Connectivity for All”²¹ in 2021 as part of its ConnectTO initiative. This is a proposed plan to address inequities in digital access in the City of Toronto. The plan seeks to establish an affordable, high-speed municipal broadband network which will improve economic growth, and allow the city to voice where broadband internet is most needed. The plan will also lead to lower costs for low-income communities. ConnectTO will:

- create a municipal broadband network,
- expand access to free public wi-fi,
- create youth learning and work placement opportunities, and
- develop a digital equity policy.

In addition, the Toronto Community Housing Corporation voted in December 2020 to study what it would cost to provide all its subsidized tenants with internet services.²²

Given Toronto’s recent announcement of leveraging municipal assets to allow for free public WiFi in communities experiencing higher inequities, ACORN is also asking for municipal broadband services in Ottawa that are designed with community needs in mind to be run by the city or a local community-driven not-for-profit.

The City of Ottawa has taken some important first steps to move forward on improved connectivity, alternative broadband and digital equity.

²¹ <https://www.toronto.ca/legdocs/mmis/2021/ex/bgrd/backgroundfile-159927.pdf>

²² [Should public housing have public internet? TCHC mulls covering costs for subsidized tenants – The Toronto Star](#)

The City's Draft Rural Economic Development Strategy has identified the need for improved access to broadband in Ottawa's rural communities.²³

In addition, Smart City 2.0 (2017) is the City of Ottawa's Smart City strategy, designed to encourage economic growth and better situate Ottawa as a competitor in the global economy. The strategy has three goals: building a Connected City, a Smart Economy, and an Innovative Government. It lists sample initiatives that could help improve digital inclusion in Ottawa including:

- Extend public Wi-Fi to underserved and high-traffic communities
- Improve the use of digital technologies at Ottawa public libraries
- Support programs assisting with digital literacy training and digital inclusion
- Explore broadband as a utility
- Develop a fibre broadband strategy, which would help all businesses and residents have access to affordable, high-speed internet
- Pilot smart technology initiatives which will help provide data that can be used to improve community services.
- Explore a minimum connectivity standard
- Explore options for increasing the affordability of broadband
- Integrate digital infrastructure into public tools (for example to assist with public signage or transit services).²⁴

In 2020-21 the City expanded access to digital technologies at Ottawa public libraries and is extending public wifi in 13 under-served and high-traffic communities. The Integrated Neighbourhood Services Team leveraged digital resources into high needs buildings during the lockdown (particularly overflow shelters). Staff are currently preparing a report on using city assets to address connectivity issues that are not being addressed in the marketplace, including lack of affordability. In some communities this could mean offering internet as a utility. Hydro Ottawa has network resources and Ottawa Community Housing has towers across the city, both of which could support this work, as they are municipally-owned agencies. This may also be in line with upgrades OCH and Hydro Ottawa would make to their own networks to enable smart technology in their operations. The Ottawa Catholic School Board have identified that they and the city's other school boards also have infrastructure across the city, with existing internet connections that could potentially be leveraged and amplified.

The report by City staff is expected to be presented to Council in December 2021. There is a tremendous opportunity in Ottawa to build on this momentum to significantly address the connectivity divide – for residents and neighbourhoods currently being left behind.

²³ https://documents.ottawa.ca/sites/documents/files/rural_economicstrategy_en.pdf

²⁴ https://documents.ottawa.ca/sites/documents/files/smart_city_strategy_en.pdf

A Community-Based Mesh Network for Ottawa

National Capital FreeNet (NCF) has been looking into different ways it could offer faster speeds at a lower price for those that need it most - building on its existing capacity as a not-for-profit Internet Service Provider and its partnership with Ottawa Community Housing (OCH) to offer a lower-cost internet package for OCH tenants. In collaboration with OCH, and using the Social Planning Council of Ottawa's Neighbourhood Equity Index, they have identified which communities face the most inequities and could be prioritized for an alternate and sustainable solution to address the connectivity divide. This is particularly important as the digital divide mirrors existing social inequities.

An alternative broadband solution with the potential of being deployed at affordable rates is a "Community Mesh Network", a model that has been successfully implemented in other jurisdictions. Through Digital Equity Ottawa, National Capital FreeNet, Ottawa Community Housing (OCH) and the Social Planning Council of Ottawa have come together to explore piloting a community mesh network in neighbourhoods facing high inequity as a meaningful way to improve connectivity for those living on low incomes. The community mesh network would increase community resilience by offering free public WiFi in OCH buildings and other nearby community spaces.

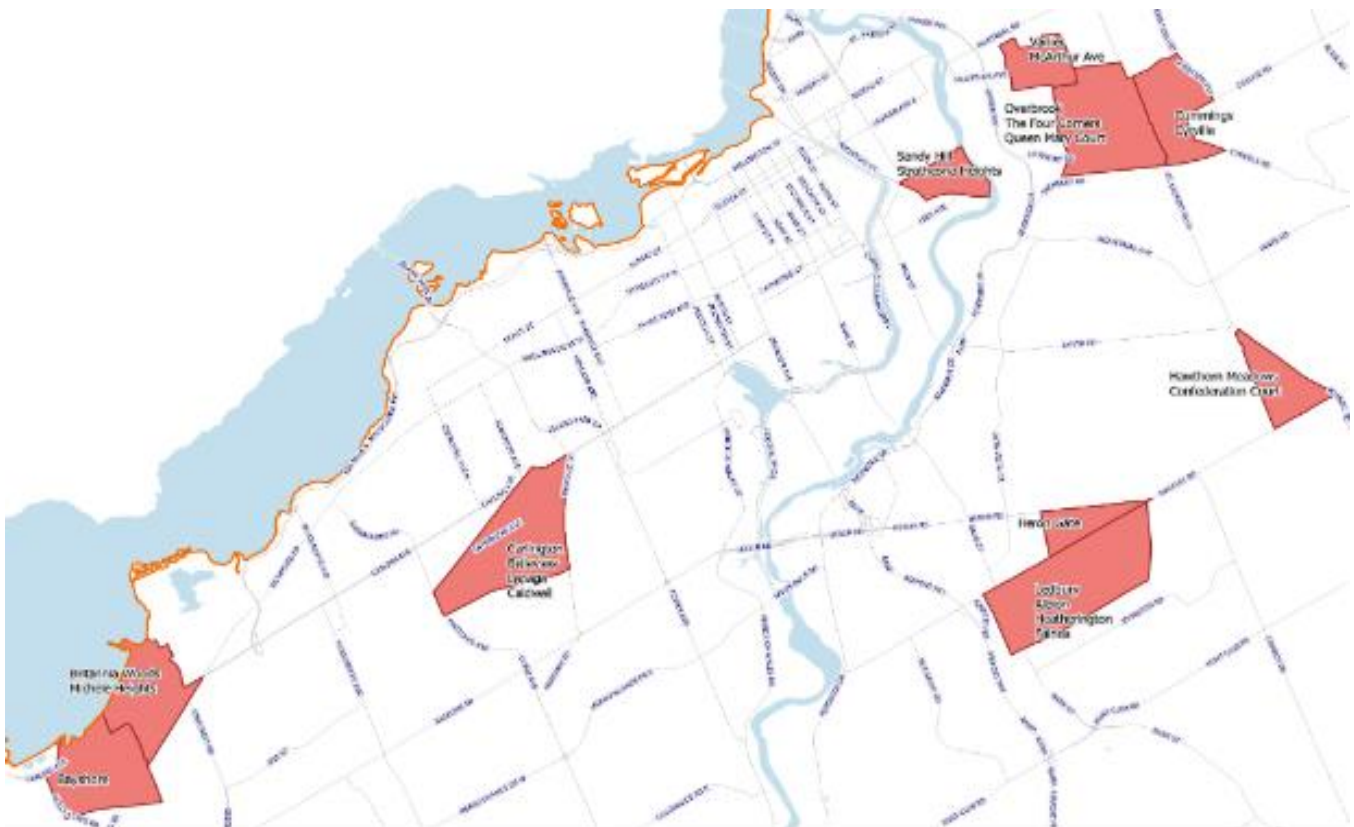
To that end, as a supplement to this document, we have prepared an initial feasibility study for a community mesh network (See "Boosting the Signal: A Community Broadband Solution in Ottawa Part 3 – Community Mesh Study"). Such a network could be implemented as a municipally-run mesh network in collaboration with other partners or as an independent community-based network – as both approaches have been successfully developed in other jurisdictions. The initial feasibility study has been developed on the assumption that the mesh would be piloted as an independent community-based network, as National Capital FreeNet is well-placed to pilot a community network in Ottawa, leveraging its existing partnership with Ottawa Community Housing (OCH).

A Community Mesh Network is built with inter-connected routers called "nodes" that route internet connectivity across a community. In Ottawa, NCF would use OCH tower blocks and the surrounding townhouses, duplexes and quadplexes as its backbone. NCF would install Point-to-Multipoint radios with antennae on OCH towers that send a wireless internet signal out to the surrounding community, depending on line of sight and distance from the antennae. Interested members of the community network would have devices installed on the outside and inside of their units that act as nodes to connect to each other and back to the antennae on top of the OCH towers for a resilient connection. The network would include a mix of home broadband solution for residents with low- to moderate-income and public WiFi areas in the indoor and outdoor common areas of the OCH buildings that can be extended to parks and other communal facilities in the neighbourhood.

Partnering with existing municipal infrastructure and other community organizations could significantly reduce costs for building and running the service, which would also make it even more affordable.

Drawing on SPCO’s Neighbourhood Equity Index data, we are proposing that the community mesh start in the ten Ottawa neighbourhoods experiencing the most inequities²⁵. They are listed and highlighted in the map below:

1. Sandy Hill – Strathcona Heights
2. Heron Gate
3. Vanier-McArthur Ave
4. Overbrook-the Four Corners-Queen Mary Court
5. Ledbury-Albion-Heatherington-Fairlea
6. Hawthorn Meadows- Confederation Court
7. Britannia Woods- Michele Heights
8. Carlington-Bellevue-Lepage-Caldwell
9. Cummings-Cyrville
10. Bayshore



10 Highest inequity Neighbourhoods in Ottawa according to Neighbourhood Equity Index

²⁵ [Ottawa Neighbourhood Equity Index](#) - SPC

The capabilities of most of the proposed technologies allow us to regroup those neighbourhoods into five communities for potential pilots.

In addition, the community mesh network would incorporate a neighbourhood training program for under-employed youth to participate in the provisioning and maintenance of the network, including HelpDesk support.

For details of the plan, please see the companion report, “Boosting the Signal: A Community Broadband Solution in Ottawa Part 3 – Community Mesh Study”.

Recommendations to Increase Affordable, Reliable Connectivity (Wifi)

The recommendations for increasing access to affordable, reliable connectivity include increased access to subsidies and other charitable supports, expanded community wifi offerings, and advocacy for policy changes that will address root causes of the problem.

21. Ottawa Public Library, school boards and health and social service agencies expand existing programs to lend portable hotspots or other connectivity supports (e.g. phone plans) for households in need that have no or unreliable internet connections.
22. Increase the number of households accessing the two subsidy programs available in Ottawa through:
 - 22.1. Resources for outreach and help with enrollment to the programs
 - 22.2. Collaboration to address the administrative barriers to enrolling in the Rogers program
 - 22.3. Expansion of the National Capital FreeNet program and the Rogers “Connect for Success” program to additional low income residents (not just social housing tenants)
23. Advocate for the federal government to expand eligibility to the Connecting Families Initiative and to transition to a subsidy-based program available to all service providers, similar to the Lifeline program in the US.
24. The City of Ottawa and anchor institutions like schools, hospitals, Ottawa Community Housing, Hydro Ottawa and the Ottawa Public Library conduct digital asset audits to better understand how their assets can be leveraged in filling digital equity gaps and opportunities. Assets can include physical assets like buildings, fibre connections and poles as well as intangible assets like software licenses and digital literacy opportunities. Consider making this information publicly available.
25. The City of Ottawa, quasi-governmental organizations and others with significant existing wifi capacity increase free public wifi inside and outside their buildings. Ideally, such deployment of free public WiFi would be done in conjunction with the community and not-for-profit community-based organizations.
26. Organizations with transportation assets consider opportunities to offer and/or expand mobile wifi via those assets. Ottawa Public Library is already doing this. Some school districts have used their school buses to

provide mobile internet to under-served areas. Some social or health services with transportation assets such as outreach vans could be resourced to add mobile internet to their mobile services.

27. The City seek opportunities to build (or partner in building) community broadband networks, particularly in low-income areas negatively affected by the high price of home internet services and in rural communities.
28. Pilot a community mesh project, as proposed in the third report in this series “Boosting the Signal: A Community Broadband Solution in Ottawa”.
29. Stakeholders advocate for a comprehensive effort to address root causes and existing equity issues in the digital divide at the federal, provincial, municipal and community levels, including:
 - 29.1. CRTC address the high cost of wholesale broadband to enable more affordable and competitive internet options.
 - 29.2. Pass the proposed Ontario “Broadband and Infrastructure Expansion Act, 2021” to ensure municipalities and utility companies provide timely access to their infrastructure, including municipal rights of way and hydro utility poles.
 - 29.3. Governments, crown corporations and community housing providers plan for connectivity in construction projects, rather than adding connectivity later, which is significantly more costly. For example: Dig Once policies and new housing projects should be pre-wired for gigabit level connectivity during the initial build.
 - 29.4. Adjust the requirements for Federal broadband funding and loan programs such that they are less prohibitive to smaller providers, including community groups and smaller ISPs, as such groups are often invested in the most under-served communities.

A Roadmap for Action

Although the task is large and the systemic issues deeply entrenched, jurisdictions across North America have demonstrated that significant improvement can be made on digital equity. With a foundation of strong collaboration and the momentum of the community's response to the pandemic, Digital Equity Ottawa is well positioned to achieve measurable improvement through collaborative action and clear annual targets.

There is a significant geographic dimension to digital inequity – linked to infrastructure and population density (affecting market demand). The Neighbourhood Equity Index can be used to support the roll out of collaborative initiatives to improve digital equity, most directly with respect to the connectivity challenge (see www.neighbourhoodequity.ca). The least equitable neighbourhoods could be prioritized for wifi improvements through a combination of the actions recommended throughout this report. For example, the community mesh pilot could be launched in one of the neighbourhoods identified, and other mitigation strategies (such as increased public wifi access, distribution of portable connectivity, outreach re existing subsidy programs, etc.) could be prioritized in the other nine priority neighbourhoods and rural communities with inadequate broadband.

 **BEST PRACTICE**

Free WiFi initiatives are being implemented in places where community members are already going to access services. This includes places such as libraries, the food bank, community halls, or even with local businesses, such as the local general store or cafe.

In addition, it is important to incorporate a demographic lens, to also prioritize populations most at risk or most impacted by inequity. Research has clearly established that the digital divide mirrors and amplifies existing social and economic inequities. Actions to address the challenges of devices, digital literacy and capacity of the sector can be linked to existing initiatives addressing inequities affecting priority populations. For example, the Digital Equity Advisory Committee has identified an intention to target congregate housing settings (such as boarding homes for people with lived experience of mental health issues) for public wifi and at least one device. Seniors are a priority for digital literacy and distribution of devices. Low income families with children are a priority for connectivity and devices. People with health issues who need access to e-health services are a priority for at least intermittent access to devices and connectivity (for example, loaned devices or access to private e-health rooms within existing services). Existing health and social services can be supported to integrate a digital equity lens and response into their services.

☑ BEST PRACTICE

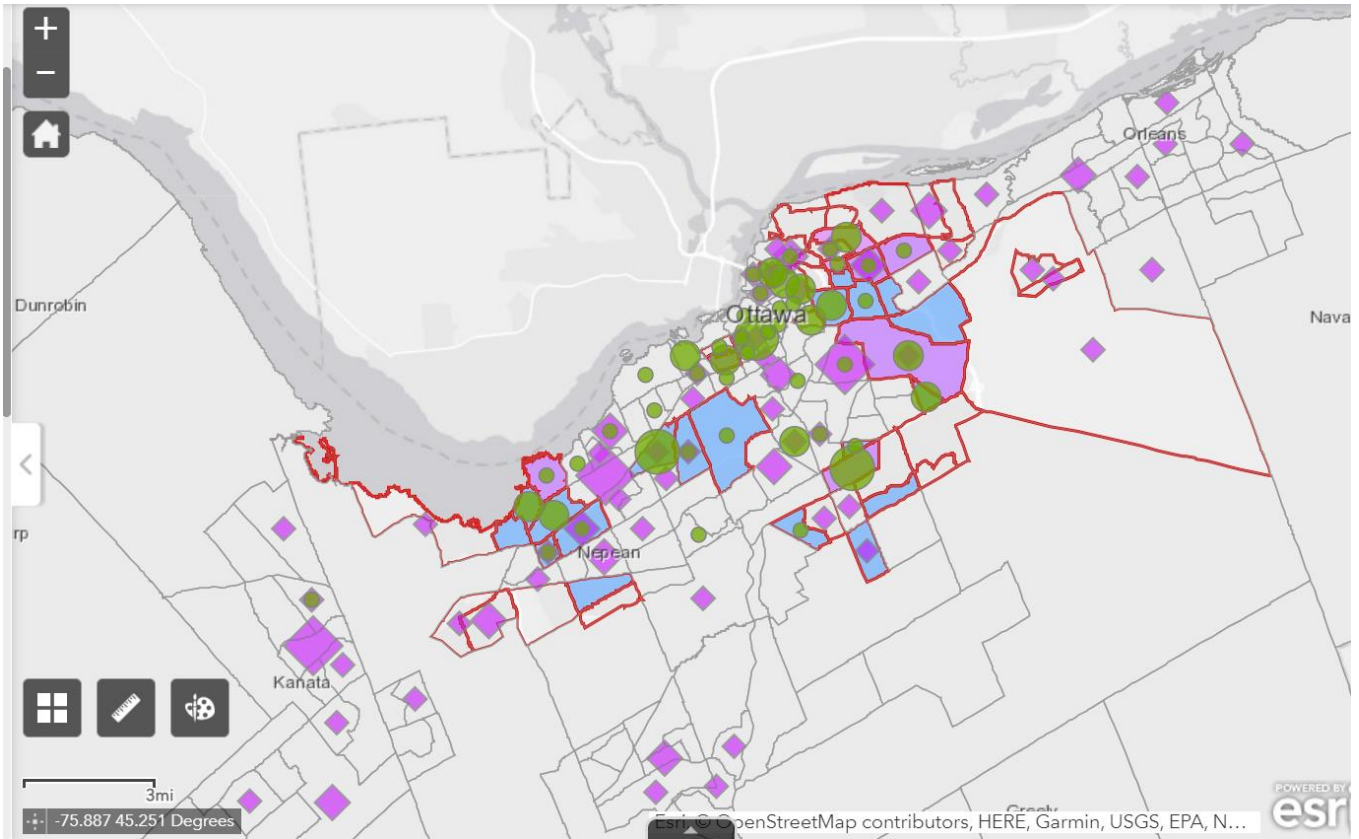
Digital literacy programs for priority populations can be presented in a variety of ways.

- One-on-one sessions, including virtually, are best for trouble shooting specific tech problems.
- Group sessions are best for general learning, and have the added benefit of reducing isolation. Examples such as senior-to-senior, youth-to-senior, newcomer-to-neighbour and trainer-to-senior models have been effective.
- An excellent strategy is to present the programming as primarily a social opportunity or enhancement of an existing relationship, building the use of devices and technology into the delivery of the program. (e.g. sharing photos using iPads for seniors or arts activities). This can greatly increase the accessibility of the program, as the digital literacy content is less intimidating.

Advertising for such programs can be done through faith communities, grocery stores, and other places where community members already go, since many participants are not yet connected to digital channels.

As the map below demonstrates, the Neighbourhood Equity Index website provides maps identifying where inequitable neighbourhoods intersect with populations of concern with respect to digital equity, pandemic related issues and other vulnerabilities. The map shown here highlights inequitable neighbourhoods as well as the concentration of vulnerable seniors (purple) and vulnerable youth (blue) This information can be used to target strategies. The interactive maps can be accessed at <https://neighbourhoodequity.ca/digital-equity-ottawa/>

Boosting the Signal: Increasing Digital Equity in Ottawa



Based on the community consultations informing this report, our recommendations are summarized and prioritized below in a three-pronged action strategy to launch concrete, sustainable and measurable improvement on digital equity in Ottawa.

Digital Equity Ottawa Action Plan, 2020-21

Maximize what is available

- Improve information on existing supports (devices, digital literacy, connectivity options)
- Expand outreach and on-on-one support for enrollment in low income connectivity access programs
- Target free devices and connectivity for greatest need and impact
- Share best practices and resources for effective digital program delivery
- The City, institutions and social/health services leverage their existing digital assets to improve digital equity, targeting priority populations and neighbourhoods

Pilot and scale collaborations and innovations that build on key opportunities

- Set and achieve annual targets for distribution of new or refurbished devices and for connectivity supports
- Scale up capacity to refurbish and distribute used computers
- Create a centralized supply and demand platform for devices, building on existing collaborations that are purchasing, loaning and distributing devices
- Embed digital literacy in existing program delivery
- Develop a shared platform for helpdesk and cross-promotion of digital literacy resources
- Expand public wifi and loaned connectivity programs
- Establish a pilot community mesh project

Support policy changes that address root causes

- City continue to expand public wifi in under-served communities, designate broadband as a utility and advance additional strategies to address affordability of broadband and access to affordable, reliable broadband
- CRTC address the high cost of wholesale internet (DSL, cable, Fibre to the Home)
- Expand eligibility for existing subsidy plan and implement a portable subsidy
- Increase support for advocacy addressing the key public policy issues identified in this report