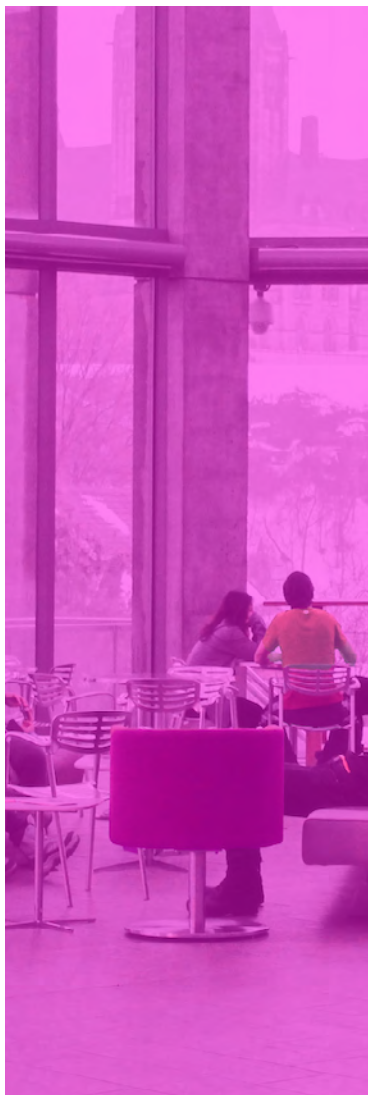




Social and Digital Infrastructure

Laying the Groundwork for an Inclusive Recovery



Future Skills
Centre

The Future Skills Centre – Centre des Compétences futures (FSC-CCF) is a forward-thinking centre for research and collaboration dedicated to preparing Canadians for employment success. We believe Canadians should feel confident about the skills they have to succeed in a changing workforce. As a pan-Canadian community, we are collaborating to rigorously identify, test, measure, and share innovative approaches to assessing and developing the skills Canadians need to thrive in the days and years ahead.

The Future Skills Centre was founded by a consortium whose members are Ryerson University, Blueprint, and The Conference Board of Canada.

If you would like to learn more about this report and other skills research from FSC, visit us at fsc-ccf.ca or contact info@fsc-ccf.ca.

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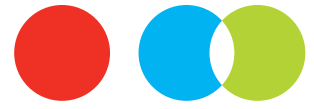


**The Conference
Board of Canada**

Blueprint

Funded by the
Government of Canada's
Future Skills Program





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Key Findings

- Education and skills leaders agree that social infrastructure (including child care and mentorship programs) and digital infrastructure are critical for people to access employment and education. Reliable access to these infrastructures will foster inclusion, allow individuals to contribute to the growth of their communities, and increase economic well-being.
- Mentorship is important at every stage of employment, not only in the job search process. It will be central to retaining international students to fill growing talent shortages as Canada's population ages.
- We need major investments in social infrastructure to support women in the workforce. Affordable child care, flexible work environments, and more robust health and safety workplace practices in women-dominated industries will foster gender equity in Canada's economic recovery.
- Many rural and remote communities still do not have adequate broadband connections. A lack of telecommunications infrastructure makes employment and education difficult to access and impacts essential services like health care.
- Businesses need support to participate in the growing digital economy. Governments, post-secondary institutions (PSIs), and industries should collaborate to help organizations understand the benefits of technology and equip workers with digital skills.



Background

Gaps in Canada's infrastructure leave many without the social and digital supports they need to succeed. The COVID-19 pandemic magnified these gaps.

Too many Canadians, without basic services including child care and broadband Internet connection, are unable to access employment and education. For example, as of 2019, only 31 per cent of households on First Nations reserves had access to the 50/10 Mbps broadband speeds needed to access online employment and education services.¹ Education and skills leaders are now grappling with ways to renew a sense of pre-pandemic normalcy without returning to the “normal” that left many Canadians behind.

In partnership with the Future Skills Centre (FSC), The Conference Board of Canada brought together leaders in education, skills, and training to discuss how to best support the diverse needs of Canadians across regions. In various dialogues during the Regional Sounding Tour (RST), leaders examined challenges in Canada's skills systems and offered potential solutions for the future. We introduced the Virtual Regional Sounding Tour (VRST) during the COVID-19 pandemic to expand on key issues raised in earlier in-person gatherings. VRST participants discussed how to create infrastructure that addresses looming talent shortages and that supports an increasingly digital economy.



Stakeholders in all events discussed the key resources that people need to take advantage of employment and learning opportunities. This impact paper explores their perspectives on social and digital infrastructure—two categories of support that Canadians need to build thriving communities—and offers reflections on increasing the vitality of Canada's education and skills systems.

¹ Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report 2019*.

A Sounding Board for Canadians

The Conference Board of Canada, in partnership with the FSC, spoke with education and skills stakeholders across Canada about their priorities, strategies, and regional perspectives.

Regional Sounding Tour, October 2019 to March 2020:

- 1,032 participants across 12 events;
- free-flowing conversation with prompts to discuss the following: regional skills priorities, important skills for career success, how to better support vulnerable populations, vision for a better skills ecosystem.

Virtual Regional Sounding Tour, December 2020 to March 2021:

- 344 participants across 14 events;
- free-flowing conversation with prompts to discuss the following: how the pandemic changed program priorities, current labour market challenges, examples or suggestions for initiatives to address these challenges.

Analysis of 92 transcripts identified five major themes, acknowledging regional variations and unique perspectives.



Social Infrastructure

The isolating effects of the pandemic renewed leaders' attention on the critical role that social supports play in preparing Canadians for work.

Social infrastructure includes services and programs that help individuals, families, and communities meet social needs and maximize their potential through access to education and employment.²

Mentorship Paramount to Filling Talent Shortages

Leaders from Ontario stressed the importance of “continuous support throughout the phases” of a rapidly changing labour market and emphasized that employers must be involved in the mentorship process.³ However, even before the pandemic, stakeholders from Nova Scotia worried that businesses are not in a financial position to “train somebody, to properly mentor them, to give them the skills.”⁴ They suggested that more support is needed from both the government and PSIs. This indicates that mentorship is a pre-existing capacity issue that may worsen as businesses navigate through uncertain times.

[It] takes a whole community of different sectors – education, government, non-profit – to work on [partnerships] and start having those dialogues. I think things like mentorship are great.... We are starting to see a lot more employers coming

2 Vancouver, “Spaces to Thrive: Vancouver Social Infrastructure Strategy.”

3 RST, Ontario, October 31, 2019.

4 RST, Nova Scotia, November 22, 2019.

and talking to students about the skills that they do want to see.... Our students thrive off of opportunities for that.

RST participant, Nova Scotia, November 2019

As skill demands change, a collaborative approach to employment support will be critical for everyone participating in Canada's labour market. This approach will be especially important for retaining international students who can help to fill growing skills gaps in regions with aging labour forces.⁵

The Study and Stay program of the Atlantic Canada Opportunities Agency is an innovative pilot program that focuses on retaining international students, supporting them in the transition from education to employment.⁶ Through the final year of post-secondary studies, the program provides international students with mentorship opportunities, immigration and employment resources, and an easily accessible group support system. A stakeholder in Nova Scotia shared how the Study and Stay program benefits international students as they become working professionals:

They go into the workforce, and there's a lot of cultural learning that happens.... It's important for them to have people to talk to about what they're going through.... They have a peer across the province. They feel safe coming to us and talking about some of the intercultural struggles they are having in the workplace.

RST participant, Nova Scotia, November 2019



While the Study and Stay program started in Nova Scotia, it was soon extended across the Atlantic provinces with support from Immigration, Refugees and Citizenship Canada.⁷ Issues around training migrant workers came up both in the RST and VRST; some participants in places such as Ontario spoke about the upside of online formats in terms of providing more support to international students and workers.

We know from some of our partners that some of the mentorship programs have actually grown and that the online delivery and the pairing of new entrants with mentors in the sector have actually been more successful ... in the online format, providing more access and, perhaps, overcoming some of the barriers of geography or time or just increasing that flexibility for mentorship to be happening.

VRST participant, Southern Ontario, March 2021

In Newfoundland and Labrador, stakeholders described a planned program aiming to pair retired mentors with students who experienced learning gaps during the pandemic. Mentors would provide international students with academic support and help them establish connections with others in their community.

⁵ Kustec, *The Role of Migrant Labour Supply in the Canadian Labour Market*.

⁶ Atlantic Canada Opportunities Agency, "Study and Stay Program."

⁷ Ibid.

These mentorship programs highlight the intended benefits of collaboration among PSIs, non-governmental organizations, and employers. They could feasibly be extended across Canada to help fill talent gaps in sectors hardest hit by the pandemic, including hospitality and tourism industry, which reported a 47.9 per cent GDP decrease in 2021.⁸

Child Care Is Critical for Parents to Get Back to Work

Stakeholders across all regions were acutely aware that women were disproportionately impacted by the pandemic and their work situation. Although women were at higher risk of job loss long before the pandemic – in 2019, they held an estimated 54 per cent of occupations at high risk for automation⁹ – the social and economic impacts of COVID-19 expedited a mass exit from the labour market. Twelve times as many mothers as fathers left full-time employment to take on child care and home-schooling responsibilities,¹⁰ and a further 2.7 million women lost their jobs or most of their hours since COVID-19 was declared a pandemic in March 2020.¹¹



Women have exponentially been more impacted by the pandemic in a lot of ways: certainly in the workforce, the jobs that have been lost; but also their responsibilities at home.... The burden mostly falls to women, and I'd love to say it doesn't, but it does.

VRST participant, British Columbia, March 2021

To address women's needs in the pandemic recovery and to curb what many have termed a "she-cession," we must consider how best to support women's employment moving forward. The benefits of affordable, high-quality child care are evidenced by programs like Quebec's early child care system, which has increased women's participation in the workforce by 8 per cent since its inception in 1977.¹² Access to child care will not only increase women's participation in the labour force but will also promote gender equality in Canada's workplaces. Early childhood education has other, wide-ranging benefits: it reduces inequities, lifts families out of poverty, and helps children develop core competencies such as reading, math, and social skills.¹³

While affordable public child care will vastly improve women's employment outcomes and opportunities, employers also need to be part of the solution. Organizations should focus on increasing flexibility to support women in the workplace; doing so will allow employers to retain the skills, knowledge, experience, and contributions of their women employees.

8 Tam, Sood, and Johnston, *Impact of COVID-19 on the Tourism Sector, Second Quarter of 2021*.

9 Desjardins and Agopsowicz, *Advantage Women*.

10 Desjardins and Freestone, *COVID Further Clouded the Outlook for Canadian Women at Risk of Disruption*.

11 Canadian Women's Foundation and others, *Resettling Normal*.

12 Department of Finance Canada, *Budget 2021: A Recovery Plan for Jobs, Growth, and Resilience*.

13 Honourable Margaret Norrie McCain, *Early Years Study 4: Thriving Kids, Thriving Society*.

As a stakeholder from Prince Edward Island suggested, flexible work environments will be key to getting women back in the workforce:

A woman can work excellent hours but may need to come in at 8:30 [a.m.] instead of 8 a.m. because of child care drop-off. We need some flexibility. It is a huge challenge for women.

RST participant, Prince Edward Island, February 2020

Some options for increasing flexibility include offering hybrid or remote working options. Organizations could also develop a performance-driven working environment where employees work flexible hours to complete tasks and meet established expectations. Flex work greatly benefits employees: it reduces travel time, leads to improved work-life balance,¹⁴ and increases labour market participation for equity-deserving populations such as people with disabilities.¹⁵

Care Economy Key to Curbing the “She-Cession”

Supporting women in the workforce must extend beyond increasing access to wraparound services like child care. We also need to address staffing shortages and systemic inequalities in industries dominated by women, like the care economy. The care economy includes paid and unpaid work related to caring for children, elderly people, and people with disabilities. Those who work in the care economy help these people with health care, education, and leisure

or personal services, “all of which contribute to nurturing and supporting present and future populations.”¹⁶ We heard from a participant in Ontario that support for those working in this industry is critically needed, especially during recovery from the pandemic:

There’s lots of recruitment and retention challenges, specific to nurses and unregulated care providers, and long-term care, retirement living, and home care.... There’s low pay rates, lack of transitions, stressful and demanding work, high-risk working conditions. It really all diminishes the interest in these professions and these care settings, unfortunately.

VRST participant, Ontario, March 2021



¹⁴ Business Development Bank of Canada, “Remote Work Is Here to Stay.”

¹⁵ Employment and Social Development Canada, *Flexible Work Arrangements*.

¹⁶ Peng, “Why Canadians Should Care About the Global Care Economy.”

Those working in the care economy can face demanding workloads and often earn below average pay. For example, personal support workers in Ontario make an average of \$22.14 per hour,¹⁷ \$10 an hour less than the provincial average wage of \$32.36 per hour.¹⁸ A large proportion of those working in the field also face multiple systemic barriers; many immigrant women work in child care and elder care;¹⁹ jobs can be precarious, not always providing paid sick leave.²⁰ In Ontario alone, newcomers and refugees who work in health care made up a staggering 45 per cent of COVID-19 cases in the field up to June 2020.²¹ To address systemic inequalities, those who work in the care economy need more health and safety standards, including paid sick leave, flexible working conditions, and adequate staffing.²²

PSIs and governments should collaborate to address staffing shortages in the care economy. To encourage enrolment in health-related programs of study, PSIs could consider offering students flexible learning options. Hybrid and online courses can make

learning more accessible for some who live outside of urban areas and for those already in the workforce.²³

But addressing shortages cannot be solved solely through educating a new generation of workers – the best solution to filling the talent gap and retaining workers is to ensure safe and healthy work environments where workers feel valued.²⁴



17 Ontario Ministry of Long-Term Care, *Long-Term Care Staffing Study*.

18 Statistics Canada, "Table 14-10-0134-01: Average Weekly Earnings."

19 Canadian Women's Foundation and others, *Resetting Normal*.

20 Macdonald, *COVID-19 and the Canadian Workforce*.

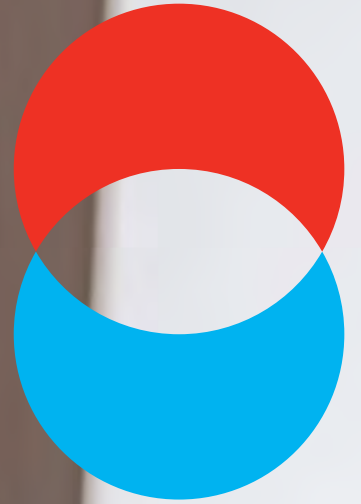
21 Guttman and others, *COVID-19 in Immigrants, Refugees and Other Newcomers in Ontario*.

22 Wright, "Feds Mull Ways to Address COVID-19's Disproportionate Impact on Women."

23 For more on hybrid learning, see Smith, Rizk, and Kumah, *Beyond the Classroom*, and the Sounding Tour page at <https://www.conferenceboard.ca/futureskillscentre/sounding-tours>.

24 Canadian Women's Foundation and others, *Resetting Normal*.

To address systemic inequalities, those who work in the care economy need more health and safety standards, including paid sick leave, flexible working conditions, and adequate staffing.



Digital Infrastructure

Digital infrastructure drives participation in education and employment and spurs economic growth.

Digital infrastructure increasingly is tied closely to the economic well-being of a community, allowing people to work and access education remotely.²⁵ It can also foster social inclusion—online tools like Zoom, FaceTime, and Google Meets allow people to connect safely with friends and family to mitigate the negative impacts of social distancing during the pandemic.^{26,27} Digital infrastructure includes access to devices, adequate broadband, and digital literacy.

However, broadband is not available to everyone; only 45.6 per cent of those living in rural communities have adequate broadband (50/10 Mbps) compared with 87.4 per cent of those living in urban communities.²⁸ Northern skills development ecosystems are particularly affected by poor Internet connections, a challenge that is explored in *Skills Development in the North: An Ecosystem Shaped by Distinct Challenges*.²⁹

Even before the pandemic, stakeholders in Ontario, Saskatchewan, and Newfoundland and Labrador shared concerns that a lack of Internet connection prevented people living in remote areas from participating in employment, education, and social services. In Nova Scotia, one participant shared that poor Internet service in rural areas forced people to leave their communities and travel to large urban centres.

I just finished up a career development portfolio program in a local town, and three out of the seven had no Internet because they couldn't get it.... And working in their community wasn't an option because there's no employment there.

RST participant, Nova Scotia, November 2019

Connectivity gaps are particularly prominent in Canada's territories where travel distances are greater than in other regions.³⁰ The pandemic worsened Canada's already existing digital divide, making it difficult for people to access essential services that went almost entirely digital in response to public health restrictions. Stakeholders in Ontario, Prince Edward Island, and Newfoundland and Labrador cited lack of access to broadband Internet as one of the

25 Middleton, *Digital Infrastructure for the Post-Pandemic World*.

26 David and Roberts, "Smartphone Use During the COVID-19 Pandemic."

27 Moreover, people who suffer disabilities and often limited in mobility were also more included. For more on this, see Macpherson and Rizk, *Recovery for All: Finding Equities in Education and Employment*, and the Sounding Tour website at <https://www.conferenceboard.ca/futureskillscentre/sounding-tours>.

28 Canadian Radio-television and Telecommunications Commission, *Broadband Fund*.

29 Cooper, *Skills Development in the North*.

30 Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report 2019*.

biggest barriers to accessing education, which is key to filling skills gaps as the rural population dwindles. A leader from Northern Ontario told us how the lack of broadband connection impacted rural students during the pandemic:

It almost immediately became apparent that in communities, particularly places like the North where broadband access isn't all that terrific, our students would struggle more. We had students across Ontario who didn't have access to technology, sitting in parking lots, trying to get Wi-Fi access to take a course that day.

VRST participant, Ontario, March 2021

To support individuals' educational and career aspirations in remote areas, it is more and more imperative that all Canadians have broadband access.³¹ Improving broadband will also be critical in maintaining local essential services such as health care; health care workers rely on the Internet to access patients' medical records and understand the best courses of treatment.³² Establishing broadband connection is also the first step of a plan to guarantee that no Canadian is left behind in the move to the digital economy.

Businesses Need Help to Expand in the Digital Economy

Canada's digital economy was growing quickly before the pandemic. By 2019, the digital sector made up nearly the same percentage of Canada's economy as oil, gas, and mining combined.³³ However, online commerce has expanded by unprecedented rates in the pandemic. While the overall economy shrank by 5 per cent in 2020, the digital sector grew by 3.5 per cent.³⁴

But moving online has been challenging for many, and new stressors have been introduced. For example, training providers in Prince Edward Island expressed concern about how virtual client meetings would be kept confidential. In Quebec, stakeholders shared that many business owners are already overwhelmed with navigating tax and insurance policies and are "completely helpless in the face of new technologies, in the use of new tools."³⁵ The FSC heard from many project partners across Canada that the move to online training brought challenges for both training providers and trainees.



31 Innovation, Science and Economic Development Canada, *High-Speed Access for All*.

32 Federation of Canadian Municipalities, *Rural Challenges, National Opportunity*.

33 Lane, "The Digital Transformation and Canada's Economic Resilience."

34 Ibid.

35 VRST, Quebec, February 25, 2021.

Although we know that a strong web and social media presence is now critical for businesses, we heard from stakeholders in British Columbia, Ontario, Quebec, and Nova Scotia that businesses often do not have the capabilities to adopt online technologies.³⁶ As digitization increases, businesses will need help moving online. Essential supports should include resources that help businesses identify their technology needs and understand how technology can benefit them.

One of our projects that we're piloting ... is an online marketplace for small businesses on the coast, so we've done a number of different studies to see how COVID-19 has really affected these businesses and how a digital presence could really be a benefit.

VRST participant, Newfoundland and Labrador, December 2021

This model of support has proven successful in other provinces, the most notable example being Toronto's Digital Main Street program. In 2016, the City of Toronto partnered with the Toronto Association of Business Improvement Areas (TABIA) to create Digital Main Street, a program to assist businesses to grow through the use of technology.³⁷ The program provides support including access to digital resources, "digital service squads," and digital training for businesses and staff.³⁸

Since 2016, the program has garnered support from tech giants, including Mastercard, Shopify, and Microsoft. Now the program has ballooned across Ontario, Alberta, and New Brunswick and is funded in part by the Government of Canada.³⁹ In May 2021, Google invested \$1 million to create DMS shopHERE, a program that provides independent businesses in Alberta and Ontario with a free online store to mitigate the financial strain of pandemic closures.⁴⁰

Growing these types of partnerships across Canada will be essential in helping small businesses succeed in the digital economy. Businesses in rural and remote areas will need extra support, including financial investments in broadband and employee training, to implement technological solutions and fill digital skills gaps.

Putting It All Together

After speaking with stakeholders across Canada's urban and rural regions, we better understand the investments needed in social and technological infrastructure.

At the same time, we recognize that a discussion of physical infrastructure is missing from this report, largely because physical needs have received much attention from scholars and

36 For more on workplace changes, see our Issue Briefing #5 by Rizk, Macpherson, and Fadila: *The Only Constant: Changing Nature of Work and Skills*.

37 Toronto, TABIA, "Digital Main St."

38 Ibid.

39 Rickett, "Toronto's Digital Main Street Program to Expand Across Ontario."

40 Toronto, TABIA, "DMS shopHERE."

government organizations.⁴¹ But, as a stakeholder from Northern Ontario cautioned, we cannot forget that many Canadians do not have the physical infrastructure needed to access digital and social services.

Everyone wants to solve our problems with technology, but we do not have access. Because of the housing crisis, a big percentage of our clients are homeless. They do not have a permanent address.... It's a concern for us and the North.

RST participant, Ontario, November 2019

Participants told us that, no matter how much we invest in digital literacy training and affordable child care, Canadians need reliable housing and transportation before they can participate fully in the economy of the future. VRST stakeholders in Nunavut shared how the pandemic worsened pre-existing problems with physical infrastructure:

The biggest challenge for us again was how to handle the COVID lockdowns. Being in Nunavut—the circumstances that we have in Nunavut—we're having a lot of issues with housing. How are we going to handle [lockdowns] if we have COVID?

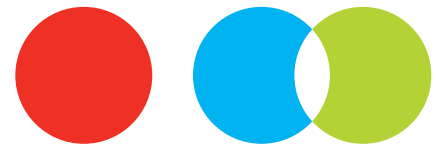
VRST participant, Nunavut, March 2021

Issues around physical infrastructure are especially important in Canada's territories. Climate change has a growing impact both on the structural integrity of "building foundations, roads, runways and pipelines" and on economic opportunities in the region.⁴² As we recover from the pandemic, policy-makers and PSIs will need to work directly with community organizations to address local needs and ensure that all Canadians have access to meaningful opportunities.

It's not just about skills, it is about transportation, housing, daycare, all of those things. We have wonderful examples of employers who have really stepped up ... but it is not solvable only in one place ... there needs to be a wider community engagement.

RST participant, Halifax, November 2019

Other central skills challenges, including post-secondary education and equity, were mentioned in this report. For more in-depth discussion of these themes and on how we can foster a brighter, more inclusive skills ecosystem for all Canadians, read our other reports on the VRST and RST.⁴³



⁴¹ For examples of research on physical infrastructure, see Canada Mortgage and Housing Corporation, *National Housing Strategy*; Tranjan, *The Rent Is Due Soon*; and Transport Canada, "Transportation 2030—Infographic."

⁴² Canadian Northern Economic Development Agency, *Pan-Territorial Growth Strategy*.

⁴³ <https://www.conferenceboard.ca/futureskillscentre/sounding-tours>.

What's Next for the Future Skills Centre?

The discussions at the Regional Sounding Tours—both virtual and in-person—highlight the fact that social and digital infrastructure will be critical to the future of work in Canada.

As a centre focused on supporting and fostering innovation in skills development across Canada, the FSC engages with hundreds of organizations, including service providers, employers, and government bodies, on a range of issues pertinent to skills development that will drive an inclusive and equitable future.

While social and digital infrastructure often lies outside of FSC's own mandate, we see the effects of the gaps acutely. Nonetheless, the FSC can advance these issues in at least two specific ways:

1. FSC is committed to learning from its investments in research and skills innovation, particularly in order to understand how different programs and interventions work for different groups of people, and under what conditions. In doing so, we build a more nuanced understanding of how gaps in child care, for example, may be affecting women in a specific training program.
2. FSC is also committed to working with multi-stakeholder partnerships to dialogue about the intersection of social policy and investments. For example, a training initiative with a remote community may require local public and/or private investment in digital connectivity to be effective.

Overall, the FSC will continue to listen, learn, and share this learning—together with our partners, employers, and other stakeholders—as we pursue a dynamic and engaged skills ecosystem that drives a more inclusive and prosperous economy.



Appendix A

Methodology

In collaboration with the Future Skills Centre (FSC), The Conference Board of Canada spoke with Canadians who are actively engaged in the country's skills and training community and with those individuals interested in learning more about skills development and the future of work.

The Regional Sounding Tour (RST) brought together Canadians who are actively involved or interested in education, employment, skills, and training. The RST sessions were held in-person between October 2019 and October 2020.

The Virtual Regional Sounding Tour (VRST) focused on the impact of COVID-19 on Canada and how the FSC can help on the road to recovery. The VRST sessions were held virtually between December 2020 and March 2021.

Who Attended?

Most participants who attended the RST and the VRST were employers and professionals working in government, post-secondary institutions, professional associations, and non-profit organizations across Canada. We spoke to 1,376 participants at 26 Sounding Tour “stops.”

Data Analysis

In total, we analyzed 92 transcripts (52 from the RST, 40 from the VRST) to help us understand communities' needs and think of a regional approach to skills training that aligns with the future of work.

Data were organized by region and whether the tour stop was in-person or virtual. Team members created a code book to code transcripts consistently. We also looked at popular themes in grey literature (news clippings, journal articles) to help us identify the latest research in skills gaps, upskilling, equity, and shifts due to the pandemic. We coded only the conversations with participants, removing all staff commentary and remarks. NVivo 12 software was used to code all interviews.

To learn more about whom we spoke to and what we asked, please visit the [Sounding Tours webpage](#).

Appendix B

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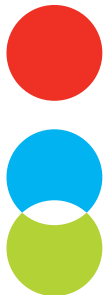
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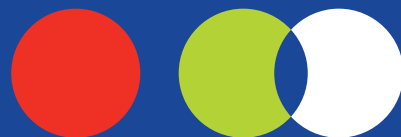
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