Transportation and Well-Being:

Developing a Survey Instrument for Canada School of Public Service Employees

By

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ACCESSIBILITY STATEMENT

Accessibility statements lay out the accessibility features of a product (Gray, 2018, p. 61). This report has:

- meaning conveyed through more than colour;
- minimum 12-point font;
- structured heading levels, paragraph spacing, line spacing, and lists;
- formatted tables with designated header rows that do not break across pages, and no merged or split cells; and
- alternative text and captions for all tables and figures.

EXECUTIVE SUMMARY

Introduction

The Canada School of Public Service (the Canada School) is a federal department that operates as a service provider and an employer. Under the *Accessible Canada Act* and the *Nothing Without Us* strategy, the Canada School must provide barrier-free, accessible, and inclusive workplaces for its employees. Accessible workplaces are ones that every employee can get to and use; inclusive workplaces support the well-being of all employees.

Despite having workplace locations and employees across the country, the Canada School does not know if, and how, transportation barriers have affected its employees' well-being in terms of their workplace mental health, engagement, productivity and performance, and participation. Therefore, supported by the Canada School's Executive Co-Champion for Diversity, Equity and Inclusion (DEI), this project had one primary research question and three secondary research questions.

The primary research question was:

- How could the Canada School potentially improve its workplace accessibility and inclusion by considering the relationship between transportation and employee well-being?

The secondary research questions were:

- What does the literature say about transportation and employee well-being, and how do these concepts relate to workplace accessibility and inclusion?
- What is the current state of transportation and employee well-being at the Canada School?

- How could the Canada School administer an accessible survey to collect primary data about its employees' transportation and well-being experiences?

Methodology and Methods

After conducting a literature review alongside a gap analysis which involved current state and needs analyses, the researcher designed a 37-question survey instrument that the Canada School could use as a transportation and employee well-being needs assessment. The researcher is a Canada School employee with a disability who experiences transportation barriers.

Key Findings

Literature Review

According to the literature, transportation barriers are any transportation-related issues that make it difficult or impossible for employees to get to their desired destination. Transportation strategies, including scheduling flexibility, telework arrangements, departmental carpooling or ridesharing, and community partnerships, are approaches for helping employees overcome transportation barriers. The literature showed that transportation barriers and transportation strategies affect individuals differently when it comes to workplace mental health, engagement, productivity and performance, and participation. Based on results from previous studies, the researcher inferred that identifying and appropriately addressing employees' needs is necessary; otherwise, transportation barriers and transportation strategies may create inaccessible, non-inclusive workplaces for employees with and without disabilities.

Current State Analysis

The Canada School offers departmental ridesharing and alternative office locations through the Uber and GCcoworking initiatives, respectively. Although Canada School

employees participating in the initiatives have used these services without problems, the researcher's calculations of available data showed that between 71 and 94% of employees have not joined the projects. The current state analysis revealed that the Canada School needs additional primary data about its employees' applicable experiences to further examine the relationship between transportation and employee well-being.

Survey Instrument Development

Since employee experiences are vital for determining the extent to which their workplaces are accessible and inclusive, the survey instrument developed for this project focused on giving the Canada School a way to:

- identify what transportation barriers, if any, Canada School employees have experienced getting to work, while at work, and getting home from work;
- determine if, and how, identified transportation barriers have affected Canada School employees' well-being; and
- identify Canada School employees' ideas about what is needed for the organization to be more accessible and inclusive from a transportation and employee well-being perspective.

In investigating and hearing about research for the survey instrument development, it was found that administering a fully accessible survey online involves coding a platform from scratch. Based on this conclusion, the researcher and the client inferred that using an existing platform requires putting accessibility warnings in all recruitment materials as well as designating (stand by) survey readers and scribes. Some authors noted that suitable offline formats, including fillable PDF forms created in Adobe Acrobat Pro DC rather than Microsoft Word, should also be offered in case potential participants cannot, or do not want to, use the online platform.

Recommendation

When COVID-19 restrictions are lifted and employees' preferred work locations are more established, the Canada School should consider implementing the survey instrument presented in Annex A of this report using accessible online and offline formats. This approach would involve collaborating with various Canada School Teams, and it would likely reach more employees than interviews or focus groups. Furthermore, the Joint Union/Management Task Force on Diversity and Inclusion advised that analyzing the survey results with an inclusion lens would show the Canada School:

- which Canada School employees are excluded by transportation barriers and the suggested transportation strategies;
- factors that could be contributing to this exclusion; and
- possibilities for what can be done differently to improve and ensure workplace accessibility and inclusion.

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1 INTRODUCTION

1.1 Preface

Since March 2020, a COVID-19 pandemic has quarantined the world and changed how people carry out jobs, recreation, and other essential activities. Before COVID-19, approximately 4% of Canadian employees worked primarily from home; in early 2021, 32% did so (Mehdi & Morissette, 2021, p. 3). A recent Leger poll identified that when COVID-19 is over, 60% of Canadians want to return to the office either full- or part-time (Leger, 2021, p. 15), and a Conference Board of Canada study found that 40% of Canadian organizations expect to blend virtual and in-person work (Holmes & Coburn, 2020, A shift in practice section). Therefore, transportation will likely continue to be a part of work life for several individuals with and without disabilities.

1.2 Overview

This project explores how transportation influences employment experiences for people with and without disabilities. Focusing on the Canada School, it also explains the importance of incorporating transportation into federal workplace accessibility and inclusion efforts.

The rest of this chapter further introduces the project by presenting the problem definition; describing the client; providing the research questions, objectives, and terminology; and outlining the organizational structure of this report.

1.3 Context and Defining the Problem

The current Government of Canada prioritizes creating a barrier-free, inclusive country where everyone can fully participate in communities, services, and workplaces (Office of the Prime Minister, 2019a, paras. 2-3). Recent actions toward this commitment include

formulating and passing Bill C-81 (Parliament of Canada, n.d., Title Page), and introducing a Minister of Employment, Workforce Development and Disability Inclusion to take the lead on making sure it is successfully put into practice (Office of the Prime Minister, 2019a, para. 4; Office of the Prime Minister, 2019b, para. 15, Continue your efforts in leading the Government's work to promote disability inclusion section, bullet point 1).

Bill C-81, the *Accessible Canada Act*, received Royal Assent on June 21, 2019 (*Accessible Canada Act*, 2019, p. 1; Parliament of Canada, n.d., Title Page), and came into force on July 11, 2019 (Government of Canada, 2019, para. 1). Applicable to Parliament, the Government of Canada, and the federally-regulated private sector (Employment and Social Development Canada, 2020, *Accessible Canada Act* - visual representation 2), this *Act* makes it law to identify, remove, and prevent barriers in employment; the built environment; communication; procurement; program and service design and delivery; and transportation (*Accessible Canada Act*, 2019, p. 3). Calling for a barrier-free Canada by January 1, 2040 (*Accessible Canada Act*, 2019, p. 3), seven principles guide the *Accessible Canada Act*. They range from requiring respect and full inclusion of those with disabilities in Canadian society to incorporating their expertise during every stage of resource development and implementation (*Accessible Canada Act*, 2019, pp. 4-5).

The *Accessible Canada Act* principles inspired the construction of a five-pillar, action-oriented federal public service accessibility strategy called *Nothing Without Us*. Officially launched on May 27, 2019, *Nothing Without Us* focuses on improving accessibility in employment, the built environment, technology, services, and culture (Treasury Board of Canada Secretariat [TBS], 2019, News release section, paras. 1-3). *Nothing Without Us* intends to make Canada's public service a world-renowned leader for its accessibility and inclusiveness (Government of Canada, 2021, Nothing without us: An accessibility strategy for the Public Service of Canada section, para. 1).

Canada's public service contains the core public administration and separate agencies (TBS, 2020a, About the data section, bullet point 2). The Canada School, a department

within Canada's core public administration (TBS, 2020a, Federal public service: annual population by department Table), has to adhere to the new federal accessibility legislation and strategy. An internal accessibility policy lead explains the stipulations of these particular advancements for the Canada School: as a service provider, it must offer barrier-free products, services, and events to all learners; as an employer, it must provide barrier-free workplaces for all employees (Canada School Internal Accessibility Policy Lead, personal communication, September 27, 2019). This project concentrates on the Canada School as an employer.

The Canada School has an accessibility strategy, the *Access-Ability Strategy*, which is informed by the *Accessible Canada Act* and the *Nothing Without Us* strategy (Mosher & Paul, 2021, slide 5). It was designed as "a roadmap [for preparing] the Canada School to lead by example and become a model of accessibility for others" (Mosher & Paul, 2021, slide 5). Through five priority areas directed at the Canada School as an employer—employment, procurement, technology, built environment, and culture change—the *Access-Ability Strategy* is meant to help the Canada School achieve barrier-free, accessible workplaces for all Canada School employees (Mosher & Paul, 2021, slides 6, 11).

The *Accessible Canada Act*, the *Nothing Without Us* strategy, and the Canada School's *Access-Ability Strategy* share barrier-free, accessible, and inclusive employment as a priority. Consultations for the *Accessible Canada Act* highlighted the interconnectedness of barriers to full inclusion (Employment and Social Development Canada, 2018, On this page section, para. 2). Accessible transportation was identified as both an important stand-alone item and a necessary foundational piece for creating barrier-free employment (Employment and Social Development Canada, 2018, Online engagement section, paras. 2, 8-10, Public sessions section, para. 1, Thematic roundtables section, para. 2). The employment priority of the Canada School's *Access-Ability Strategy* also recognizes the significance of transportation: it proposes "enhancing human resource-related accessibility initiatives, […including advancing] accessibility through flexible work arrangements and other accommodations [such as] transportation arrangements" (Mosher & Paul, 2021, slide 14).

In addition to the *Access-Ability Strategy*, the Canada School (2020a) leads, supports, and participates in various workplace accessibility and inclusion initiatives (slides 13-14). Yet, it has no information about if, and how, transportation barriers have affected employees' well-being in terms of their workplace mental health, engagement, productivity and performance, and participation. To help fill this knowledge gap and potentially make the Canada School more accessible and inclusive, this project developed a survey instrument for learning about Canada School employees' transportation and well-being experiences. Implementing the survey instrument in the future is an option for the Canada School to consider.

1.4 Project Client

On April 1, 2004, three organizations, the Canadian Centre for Management Development, Training and Development Canada, and Language Training Canada, merged into what is now the Canada School. The Canada School, formed under the *Public Service Modernization Act*, has been included in the Treasury Board's portfolio since July 2004 (Canada School, 2020b, Mandate section, para. 1), and currently operates under the *Canada School of Public Service Act* (Canada School, 2020b, Acts and regulations section, paras. 1-2).

As described in Chapter 5 of this report, the Canada School has workplaces and employees across the country (Canada School, 2020c, Learning centres section; TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department and Province data file – CSV version). It also has two Co-Champions for DEI, whose role, while relevant to the *Accessible Canada Act* and the *Nothing Without Us* strategy, stems from the Government of Canada's longstanding commitment to support employment equity (N. Laviades Jodouin, personal communication, June 9, 2020). Responsible for informing and engaging only Canada School employees, the DEI Co-Champions reinforce the development of employee-driven DEI initiatives internally by being available to address any issues or concerns, assisting employees in raising awareness, and, where necessary, seeking partnership agreements with applicable

stakeholders. The DEI Co-Champions also lead and encourage involvement in the Canada School's DEI Forum, which highlights and influences departmental priorities through discussions, advice, and events (N. Laviades Jodouin, personal communication, June 25, 2019 & June 9, 2020).

Through collaboration with employees and the teams responsible for implementing the Canada School's *Access-Ability Strategy*, the DEI Co-Champions are working toward eliminating barriers to full workplace inclusion. This project developed a survey instrument for assessing whether transportation barriers have interfered with Canada School employees' well-being in an effort to improve workplace accessibility and inclusion. Therefore, it was supported by the Canada School's Executive Co-Champion for DEI, Nathalie Laviades Jodouin.

1.5 Project Research Questions and Objectives

This project had four research questions and four objectives.

The primary research question was:

- How could the Canada School potentially improve its workplace accessibility and inclusion by considering the relationship between transportation and employee well-being?

The secondary research questions were:

- What does the literature say about transportation and employee well-being, and how do these concepts relate to workplace accessibility and inclusion?
- What is the current state of transportation and employee well-being at the Canada School?
- How could the Canada School administer an accessible survey to collect primary data about its employees' transportation and well-being experiences?

The research objectives were to:

1. Summarize existing literature about transportation and employee well-being, and how these concepts relate to workplace accessibility and inclusion.
2. Describe the current state of transportation and employee well-being at the Canada School.
3. Develop a survey instrument that could support the Canada School in:
    a. Identifying what transportation barriers, if any, Canada School employees have experienced getting to work, while at work, and getting home from work.
    b. Determining if, and how, identified transportation barriers have affected Canada School employees' well-being.
    c. Producing a comparative transportation and well-being profile of Canada School employees with and without disabilities.
    d. Generating evidence-based recommendations about transportation and employee well-being that could help the Canada School become a more accessible and inclusive workplace.
4. Describe how the Canada School could make the survey administration as accessible as possible.

1.6 Terminology

Key terms from the research questions and objectives are operationally defined in sections 1.6.1 through 1.6.8 of this report. Where possible, the definitions are based on the *Accessible Canada Act* or Government of Canada interpretations.

1.6.1 Accessible Workplace

An accessible workplace is barrier-free work locations and environments that every Canada School employee "can get to and use" (Federal Accessibility Legislation Alliance, 2021, What is Bill C-81 – the *Accessible Canada Act*? section, para. 1).

1.6.2 Inclusive Workplace

An inclusive workplace is “barrier-free [work locations and environments] that [support] the well-being of all [Canada School] employees” (TBS, 2018, Definitions and principles section, principle 4).

1.6.3 Transportation Barriers

Transportation barriers are any transportation-related issues that prevent or make it difficult for Canada School employees to get to their desired destination (*Accessible Canada Act*, 2019, p. 2). The researcher defined transportation barriers by paraphrasing and extending the *Accessible Canada Act’s* definition of barrier to transportation circumstances for Canada School employees. According to the *Accessible Canada Act* (2019), “**barrier means anything**—including anything physical, architectural, technological or attitudinal, anything that is based on information or communications or anything that is the result of a policy or a practice—**that hinders** the **full and equal participation in society** of persons with an impairment, including a physical, mental, intellectual, cognitive, learning, communication or sensory impairment or a functional limitation” (p. 2, emphasis added).

1.6.4 Well-Being

Well-being is the workplace mental health, engagement, productivity and performance, and participation of Canada School employees.

1.6.5 Workplace Engagement

Workplace engagement is employee satisfaction and commitment. “Employee satisfaction [is] the level of contentment or happiness [Canada School employees assign] to: attributes of their job/position, their organization, and the general or overall way they feel about their employment. Employee commitment [is] the pride [Canada School employees] feel for their organization as well as the degree to which they: intend

to remain with [their] organization, desire to serve or to perform at high levels, positively recommend their organization to others, and strive to improve [their] organization's results" (Schmidt & Marson, n.d., p. 2).

1.6.6 Workplace Mental Health

Workplace mental health is "a state of well-being in which [Canada School employees realize their] own potential, can cope with the [everyday work-related pressures] of life, can work productively and fruitfully, and [are] able to [contribute to their workplace] community" (Mental Health Commission of Canada, 2012, p. 14).

1.6.7 Workplace Participation

Workplace participation is the extent to which Canada School employees are able to attend and be involved in all work-related activities with their colleagues, where each individual is choosing for themselves how to take part (Imms et al., 2016, pp. 33, 35-36).

1.6.8 Workplace Productivity and Performance

Workplace productivity and performance is the extent to which Canada School employees "can complete [their] assigned workload during [their] regular working hours [for example, not overtime]" (TBS, 2020b, My Job section, Question 17).

1.7 Organization of Report

Chapter 1, *Introduction*, presented and defined the rationale, client, research questions, objectives, and key terminology for this project. Organized as follows, the remaining eight chapters of this report are:

- Chapter 2, *Background: Disability Foundations*, which highlights foundational information about disability.

- Chapter 3, *Methodology and Methods*, which identifies project approvals, acknowledges the researcher's positionality on the research topic, describes the approaches used to answer the research questions, and notes limitations and delimitations of this project.
- Chapter 4, *Literature Review*, which explains how the researcher carried out the literature review and gives an overview of available knowledge on the research topic.
- Chapter 5, *Findings: Current State Analysis*, which contains more foundational information about the Canada School's current state.
- Chapter 6, *Findings: Survey Instrument Development*, which shares insights from the survey instrument development process.
- Chapter 7, *Discussion and Analysis*, which answers the project's research questions by synthesizing key findings from the literature review, current state analysis, and survey instrument development process before offering suggestions for future research.
- Chapter 8, *Options and Recommendations*, which provides four evidence-based options and one recommendation to address the problem that inspired this project.
- Chapter 9, *Conclusion*, which summarizes this project using key elements from each chapter.

2 BACKGROUND: DISABILITY FOUNDATIONS

2.1 Researcher's Note

During her first term in the Master of Public Administration program at the University of Victoria, the researcher took Dr. Thea Vakil's course called *Government and Governance* (ADMN 504). The researcher's final ADMN 504 paper, *Complexities of Disability Policy in Canada and Considerations for Federal Accessibility Legislation*, was submitted on December 15, 2017.

Some material in this chapter is the same as, or very similar to, small portions of the researcher's final ADMN 504 paper. These instances were discussed with, and approved for inclusion in this project by, the researcher's project supervisor, Dr. Kimberly Speers.

2.2 Overview

This chapter contains foundational information about disability to give further context for the issues covered in this report. It describes disability prevalence and types; compares three major disability approaches; provides applicable Canadian legislation about the fair and equal treatment of people with disabilities; and presents employment statistics and barriers concerning Canadians who have disabilities.

2.3 Disability Prevalence

As of 2011, more than one billion people worldwide have a disability, representing approximately 15% of the entire population (World Health Organization, 2011, p. 261). The *2017 Canadian Survey on Disability* indicates that 22% of Canadians who are at

least 15 years of age self-identify as living with a disability, which means disability directly affects more than 6.2 million people in Canada (Morris et al., 2018, p. 6). This survey also highlights how the likelihood of disability increases with age: 38% of Canadian seniors have disabilities compared to 20% of working-aged adults, and 13% of youth (Statistics Canada, 2018, p. 1). Most Canadians' disabilities are related to pain, flexibility, mobility, and mental health; fewer experience difficulties with seeing, hearing, dexterity, learning, memory, and development. The Canadian prevalence of these disabilities is (Statistics Canada, 2018, p. 1):

- pain-related, 15%;
- flexibility, 10%;
- mobility, 10%;
- mental health-related, 7%;
- seeing, 5%;
- hearing, 5%;
- dexterity, 5%;
- learning, 4%;
- memory, 4%; and
- developmental, 1%.

2.4 Disability Types

Disability is a well-known, complex experience (Centers for Disease Control and Prevention [CDC], 2020, What is disability? section, paras. 2-3; CDC, n.d., p. 1). The *Accessible Canada Act* (2019) defines disability as any impairment that, when combined with a barrier, prevents individuals' full and equal societal participation (p. 2). Disabilities can be visible or invisible; physical, cognitive, intellectual, or sensory; congenital or acquired; progressive or static; and permanent, temporary, or episodic (*Accessible Canada Act*, 2019, p. 2; CDC, 2020, What is disability? section, paras. 3, 5). Disabilities range from mild to very severe, and it is possible to have multiple disabilities at the same time (Morris et al., 2018, pp. 7, 9-10). Definitions and examples

of each disability type mentioned above are given in sections 2.4.1 through 2.4.13 of this report.

2.4.1 Visible Disabilities

Visible disabilities refer to disabilities that are immediately noticeable (Woodward, 2015, para. 1). Examples include broken limbs and limb loss.

2.4.2 Invisible Disabilities

Invisible disabilities refer to “[disabilities] that [are] not [noticeable] from the outside, yet can limit or challenge a person’s movements, senses, or activities” (Invisible Disabilities Association, n.d., invisible disability section, para. 1). Examples include depression and anxiety (Invisible Disability Project, n.d., Invisible Disabilities Defined section, para. 1).

2.4.3 Physical Disabilities

Physical disabilities refer to “[disabilities that affect] a person’s mobility, physical capacity, stamina, or dexterity” (Achieve Australia, 2019a, What is a physical disability? section, para. 1). Examples include multiple sclerosis and cerebral palsy.

2.4.4 Cognitive Disabilities

Cognitive disabilities refer to “disabilities [that] include difficulties with: memory; problem solving; attention; reading, linguistic, and verbal comprehension; math comprehension; [or] visual comprehension” (Web Accessibility in Mind, 2020, Clinical vs. Functional Classifications section, para. 2). Examples include dyslexia and fetal alcohol spectrum disorder.

2.4.5 Intellectual Disabilities

Intellectual disabilities refer to “disabilities [that] develop before adulthood [which] can affect a person’s ability to learn, communicate, retain information, and [participate in] work or leisure activities” (Achieve Australia, 2019b, What is an intellectual disability? section, para. 1). An IQ below 70 designates intellectual disability status (Achieve Australia, 2019b, What is an intellectual disability? section, para. 2). Examples include fetal alcohol spectrum disorder and Down syndrome.

2.4.6 Sensory Disabilities

Sensory disabilities refer to “disabilities [that] affect one or more of a person’s senses: touch, hearing, sight, taste, smell, or spatial awareness” (Achieve Australia, 2019c, What is a Sensory Disability? section, para. 1). Examples include blindness or low vision and deafness or hearing loss.

2.4.7 Congenital Disabilities

Congenital disabilities refer to disabilities that exist since birth (Achieve Australia, 2019a, What is a physical disability? section, para. 2, bullet point 1). Examples include Down syndrome and cerebral palsy.

2.4.8 Acquired Disabilities

Acquired disabilities refer to “[disabilities resulting from] an accident, infection or disease, or as a side effect of a medical condition” (Achieve Australia, 2019a, What is a physical disability? section, para. 2, bullet point 2). Examples include broken limbs and traumatic brain injuries.

2.4.9 Progressive Disabilities

Progressive disabilities refer to disabilities that get worse “over time” (Morris et al., 2019, p. 12). Examples include muscular dystrophy and cystic fibrosis.

2.4.10 Static Disabilities

Static disabilities refer to disabilities that do not change over time (IDEA Health & Fitness Association, 2000, p. 10). Examples include cerebral palsy and limb loss.

2.4.11 Permanent Disabilities

Permanent disabilities refer to disabilities that are expected to be present for life (*Canada Student Financial Assistance Regulations*, 1995, p. 3). Examples include Down syndrome and cerebral palsy.

2.4.12 Temporary Disabilities

Temporary disabilities refer to disabilities that are short-term (USLegal, n.d., Temporary Disability Law and Legal Definition section, para. 1). Examples include broken limbs and gestational diabetes.

2.4.13 Episodic Disabilities

Episodic disabilities refer to disabilities that are characterized “by fluctuating [unpredictable] periods and degrees of wellness and disability” (Realize, 2021, What is Episodic Disability? section, para. 1). Examples include Crohn’s disease and migraines.

2.5 Major Disability Approaches

Disability perception influences individual and societal responses toward people with disabilities. Three major approaches, the medical model, the social model, and the

human rights model, each understand disability differently. The medical model victimizes people with disabilities and blames them, rather than external environments, for any experienced limitations because the disability source, individuals' defects or sicknesses, is internal (Public Service Alliance of Canada, n.d., The Medical Model section). In contrast, the social model attributes any experienced limitations to environmental and attitudinal barriers because the disability source, society, is external (Public Service Alliance of Canada, n.d., The Social Model section). Finally, instead of placing blame for any experienced limitations, the human rights model recognizes the disability source as complex, acknowledges that many limitations exist, and focuses on making sure people with disabilities receive all necessary supports so they can nevertheless live out their enshrined rights (Disability Advocacy Resource Unit, n.d., Introducing the human rights model of disability section).

2.6 Disability, Human Rights, and Canadian Legislation

Several federal statutes exist for the fair and equal treatment of people with disabilities in Canada. The *Constitution Act* (1982), which contains the *Charter of Rights and Freedoms*; the *Canadian Human Rights Act* (1985); the *Employment Equity Act* (1995); and the *Accessible Canada Act* (2019) are examples. In addition to this legislation, Canada signed the *United Nations Convention on the Rights of Persons with Disabilities* (the Convention) in 2010 (Prince, 2016, p. 3), and recommitted to it in 2018 (Office of the Prime Minister, 2019a, para. 5). An international agreement for the rights of people with disabilities, the Convention's fundamental principles include "equality and non-discrimination"; "accessibility"; as well as "participation and inclusion" (Walker, 2013, pp. 8-10). Under the Convention:

- equality and non-discrimination means ensuring those with disabilities "enjoy access to human rights just like everyone else and are free from discrimination" (Walker, 2013, p. 8);

- accessibility means identifying and removing barriers, and considering accessibility from multiple angles as early as possible in every project (Walker, 2013, pp. 9-10); and
- participation and inclusion means full societal involvement for people with disabilities, including integrating their guidance into the lifecycles of policies, programs, and services (Walker, 2013, p. 10).

2.7 Disability and Employment in Canada

Despite the *Acts* mentioned above, Canadians who have disabilities are more likely to be under- or unemployed when compared to their counterparts without disabilities (Prince, 2016, p. 3). In 2016, Canadians with disabilities between 25 and 64 years old had an employment rate 21% lower than that of identically aged Canadians without disabilities, at 59 versus 80%, respectively (Morris et al., 2018, p. 11). People with disabilities are also the only under-represented employment equity group in Canada's core public administration relative to their workforce availability (TBS, 2021, p. 5). Workforce availability data from the 2019-2020 fiscal year shows that although 9% of Canadians with disabilities have the qualifications for federal public service work, their representation in this area is 5.2% (Government of Canada, 2020, Goal 1: Improve recruitment, retention and promotion of persons with disabilities section, para. 1; TBS, 2021, p. 5).

Individuals with disabilities face employment barriers such as managers and human resources personnel who lack experience in disability-related recruitment and hiring processes (Government of Canada, 2020, Goal 1: Improve recruitment, retention and promotion of persons with disabilities section, para. 3); inaccessible job information (Lindsay, 2011, pp. 1343-1344); fear of exclusion from co-workers; insufficient training; discouraging social networks; employer discrimination or labelling; and transportation-related challenges (Lindsay, 2011, pp. 1343-1344). Transportation-related challenges for people with disabilities vary depending on their disability type, disability severity, and

transportation mode (for example, Bezyak et al., 2017, pp. 55-56; Graham et al., 2018, p. 216).

3 METHODOLOGY AND METHODS

3.1 Overview

This chapter explains how the researcher conducted the project. It identifies project approvals; acknowledges the researcher's positionality on the research topic; describes the methodology and methods used to address the research questions; notes how the current state analysis data were collected and analyzed; proposes a strategy for analyzing potential future results from the developed survey instrument; and outlines the project limitations and delimitations.

3.2 Ethics Approval

The University of Victoria's Human Research Ethics Board approved this project on October 9, 2019.

3.3 Researcher's Positionality Statement

I am a Canada School employee, and transportation barriers are part of my reality. I was born with a permanent physical disability called cerebral palsy. Cerebral palsy comes in many forms and degrees. For me, it affects all four limbs and means mobility takes a lot of energy; my right foot drags; my reaction time and reflexes, especially in my legs, are very slow; and severe muscle spasms shoot through my body without warning. I can walk without help on flat surfaces in uncrowded places, but I need to hold someone's hand to navigate crowded, uneven, or slippery grounds. I depend on door-to-door rides from friends, colleagues, taxis, or paratransit to get anywhere because I live halfway across the country from my family, I can neither drive nor take public transportation independently, and I am uncomfortable using public ridesharing services (for example, Uber or Lyft) alone. Throughout the spring, summer, and fall, I can usually

transfer between buildings and vehicles on my own, but I always require assistance with this in the winter.

Since I reside in Ottawa, a city that endures heavy snowfalls and freezing rain, I have my mobility challenges and accessibility needs flagged in the taxi dispatch system during the winter. This information is available to drivers before they accept my fare; however, the most frequent disability-related transportation barriers I continually experience getting to and from the Canada School in the winter are drivers' inappropriate attitudes and lack of accessibility knowledge. For example, some drivers do not offer me help; some drive off because they think I am a no-show; some refuse to hold my hand properly which makes me tense up and almost lose my balance; and many provide suitable help while commenting that I should really be using paratransit instead of regular taxis.

In the past, I took paratransit to and from the Canada School, and it stressed me out primarily because all trips had a 30-minute pick-up window. The pick-up window meant that for my requested 3:00pm pick-up time, drivers were not considered late until after 3:30pm. Nevertheless, I had to be at my designated pick-up location by 3:00pm because drivers were only required to wait for five minutes before leaving and marking me as a no-show. These pick-up window stipulations negatively affected my workplace well-being by sometimes forcing me to rush through assigned tasks, submit unedited responses for management review, and miss portions of staff meetings and networking events. They also prevented me from staying late to help with unpredictable, urgent files. Furthermore, since I often waited between 30 and 90 minutes for paratransit after work, relying on this service made me put in 12- or 13-hour days once commute and wait times were considered, which was tiring.

I know the immense stress of transportation barriers, but I also know the indescribable feeling of inclusion when colleagues help me overcome them. My selected Canada School examples demonstrate why.

In January 2019, my branch was unexpectedly advised to go home early due to a blizzard. I continued working for another hour because I had a pre-booked taxi. I went downstairs after the hour, and my taxi was not there. Additionally, I could not get through to dispatch because the lines were down. Thirty minutes later, the situation was unchanged. At this point, I internally panicked because I doubted that my booked taxi would show up, I could not call for another one, and I knew most of my colleagues had already left. I went back upstairs, hoping to find someone with a vehicle. To my great relief, a manager from my team was still working. I explained my dilemma and asked if she was willing and able to drive me home. She was more than happy to help. She not only gave me a ride, but also tightly held my hand as we trekked through snowdrifts higher than my knees! Her actions ensured that, like my colleagues, I arrived home from work safely. This is inclusion.

In April 2019, the sidewalks were icy and I had been through a few consecutive days with unhelpful taxi drivers. I contacted a colleague who sometimes drove to work to see about the possibility of a ride. He happened to have his car at the office, and our manager let him leave to pick me up. Their actions made it possible for me to work from my preferred location. This is inclusion.

In November 2019, I initially declined an invitation for an after-work team outing because it was logistically impossible with paratransit and I knew it would cost about $80 to take a taxi home. Upon learning my circumstances, two colleagues came to my desk, inquired about paratransit's cancellation policy, and respectfully told me to cancel my regularly scheduled trip home for the outing day. Hours before the outing, one of the colleagues came by my desk again, slipped an envelope under my keyboard, and simply said "this is for tonight, it's from all of us". I opened the envelope and found enough money to cover my taxi costs. My colleagues' actions allowed me to attend the event alongside them. This is inclusion.

In February 2020, a mandatory, in-person branch town hall took place in Ottawa. A few days before the occasion, my manager emailed me, asking what I needed to fully participate. I told her I preferred to travel with someone so I could have help navigating

the ice and unfamiliar venue. On the scheduled day, I joined in for both the town hall and a team dinner immediately afterward. My colleagues' transportation generosity and hands-on support freed me from worrying about commutes to, and vehicle-building transfers at, my desired destinations. Their actions enabled me to enjoy the gatherings wholeheartedly. This is inclusion.

By showing that transportation is a vital component of workplace well-being, accessibility, and inclusion, my experiences ultimately identified the Canada School knowledge gap which inspired the research questions for this project.

The primary research question was:

- How could the Canada School potentially improve its workplace accessibility and inclusion by considering the relationship between transportation and employee well-being?

The secondary research questions were:

- What does the literature say about transportation and employee well-being, and how do these concepts relate to workplace accessibility and inclusion?
- What is the current state of transportation and employee well-being at the Canada School?
- How could the Canada School administer an accessible survey to collect primary data about its employees' transportation and well-being experiences?

3.4 Methodology

The main methodology used in this project was a gap analysis. The gap analysis process starts with identifying differences between an organization's current and desired state on an issue (Jannetti, 2012, p. 2; Altschuld & Watkins, 2014, p. 6). These differences, also known as gaps, can be knowledge-, skill-, attitude-, performance-, or practice-related (University of Toronto Faculty of Medicine, 2016, p. 1). After

determining the gap type, evidence-based strategies are collected and incorporated into an action plan that pinpoints how the gap may be minimized and the desired state achieved (Jannetti, 2012, p. 2).

Since the Canada School has a transportation and employee well-being knowledge gap; the researcher conducted a current state analysis to better understand what has been done or is taking place in the organization related to this issue. In the current state analysis, she examined:

- Canada School employees' demographics and regional distribution;
- the Canada School Learning Centre locations;
- Canada School employees' possible workday travel scenarios before, during, and after the COVID-19 pandemic; and
- the Canada School's role in two transportation-relevant initiatives.

The current state analysis findings, which are covered in Chapter 5 of this report, showed that the Canada School has limited first-hand information about its employees' transportation and well-being needs. Altschuld and Watkins (2014) define needs as "measurable [gaps] between […] what currently is and what should be" (p. 6). Therefore, the researcher complemented the current state analysis with a needs analysis by noting primary data collection methods cited in the literature that could be applied to find out what Canada School employees' needs are. Then, she developed a survey instrument that the Canada School could use as a transportation and employee well-being needs assessment. Needs assessment surveys, like the one produced for this project, can help reduce (knowledge) gaps (Altschuld & Watkins, 2014, p. 6) because they identify (World Health Organization, n.d., p. 314):

- which employees are in need;
- employees' unique needs and the severity of each need; and
- insight into what kind of support would best address employees' unique needs.

3.5 Methods

3.5.1 Literature Review

The researcher conducted a narrative literature review to provide an overview of the research topic (Green et al., 2006, p. 103). Narrative literature reviews clearly synthesize and summarize available knowledge on a particular subject so intended audiences can understand and draw upon the conclusions (Hammersley, 2004, paras. 1, 9; Green et al., 2006, p. 103).

3.5.2 Survey Instrument Development

In collaboration with the client, the researcher produced a 37-question survey instrument as the primary output for this project. A survey instrument was chosen over an interview or focus group guide because, according to Fink (2003), clearly worded surveys are a convenient way for researchers to gather data from potentially large samples of people about phenomena of interest (pp. 1-2).

The survey questions were largely informed by the literature review findings and previous *Public Service Employee Surveys* (PSES). Table 1 (on the next page) presents the project survey question numbers alongside their applicable literature review themes. In Table 1, the bolded question numbers were quoted or paraphrased from the 2019 PSES (TBS, 2020b), while the underlined question number came from the 2014 PSES (Government of Canada, 2015, Employee Engagement section, Table 3).

Table 1. Connecting project survey questions to literature review themes and previous PSES.

Literature Review Theme	**Project Survey Question Number**
Transportation barriers exist for people with and without disabilities.	1, 2, 3, 4, 5, 6, 7, 8, and 9.
There is a link between experiencing transportation barriers and accessing and retaining employment.	**18**.
Transportation barriers, a source of commuting stress, can negatively affect employees' workplace well-being.	**10**, **11**, **12**, **13**, **14**, **15**, **16**, **17**, **18**, 19, **20**, **21**, **22**, 23, 24, 25, 26, 27, and 28.
While employer and employee strategies can help reduce or eliminate employees' transportation barriers, they can also interfere with employees' well-being.	29, 30, and 31.
Appropriate strategies depend on employees' particular needs, and surveying employees is one way for employers to discover this information.	1, 2, 3, 4, 5, 6, 7, 8, 9, **10**, **11**, **12**, **13**, **14**, **15**, **16**, **17**, **18**, 19, **20**, **21**, **22**, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, and 37.
Since employees' transportation needs, work styles, and work location preferences differ, applying an inclusion perspective when addressing transportation-related issues will help support their well-being and, in turn, create an inclusive workplace.	29, 30, 31, 32, 33, 34, 35, 36, and 37.

The researcher organized the survey content by sectioning questions based on their themes. Using these themed sections, respondents are to report on their:

- transportation experiences getting to work (3 questions), while at work (3 questions), and getting home from work (3 questions);
- well-being effects of any transportation barriers experienced during their workday journeys (19 questions);
- accessible and inclusive workplace considerations for the Canada School with respect to transportation and employee well-being (3 questions);
- demographics (5 questions); and
- additional comments (1 question).

Annex A of this report contains the project survey instrument, and Table 5 in Annex B shows the project survey questions next to their related PSES questions.

Where applicable, the researcher included a glossary of key terms in the survey sections so respondents can access important definitions without navigating away from their current position in the instrument. This design decision frees respondents from finding or remembering definitions, and likely increases the consistency of any results because respondents will rely on the same terminology meanings.

The researcher produced an online survey option with the SimpleSurvey platform and an identical offline version using Microsoft Word's built-in Styles function (Western University, n.d., Creating an Accessible Word Document section). She made these survey formats as accessible as possible by:

- conveying meaning through more than colour (Okabe & Ito, 2008, When assigning colors to drawings section, "redundant coding" image);
- selecting appropriate font type, font size, and line spacing based on recommended guidelines for digital and print documents (Canadian Institute for the Blind, n.d., pp. 8, 10, 12, 14, 16; Recite Me, n.d., pp. 4, 6); and
- using structured heading levels, paragraph spacing, line spacing, and lists (University of Washington, n.d., Creating Accessible Documents in Microsoft Word section; Western University, n.d., Creating an Accessible Word Document section).

Later findings from the survey development process, however, indicated that SimpleSurvey and Microsoft Word do not generate fully accessible fillable forms. Chapter 6 of this report discusses possible strategies for overcoming these issues.

3.6 Data Analysis

For the current state analysis, the researcher obtained employee figures from TBS' open data sets (TBS, 2020a, Open datasets section), the Canada School's internal employment systems review report (Canada School, 2021a, pp. 9-10), and personal communications with Team Leads of the Uber and GCcoworking initiatives. Where applicable, she converted raw totals into percentages.

If the Canada School decides to implement the survey instrument, the researcher could export the online survey data from the selected platform to Microsoft Excel, code the variables and responses, and manually add coded responses from any surveys completed offline to the data set. Then, she could transfer the coded data set from Microsoft Excel into SPSS to generate frequency tables for each closed-ended survey question, as well as bar charts and cross-tabulations for select variables. Since most of the variables would be nominal or ordinal, cross-tabulations make descriptive, non-causal comparisons possible (Meier et al., 2015, pp. 24-25). Finally, the researcher could group similar open-ended question responses, and generate themes accordingly.

3.7 Project Limitations and Delimitations

Limitations are factors beyond a researcher's control that may weaken the results of a study, whereas delimitations are factors within a researcher's control that are intentionally set when defining the scope of a study (Price & Murnan, 2004, p. 66). This project had limitations and delimitations.

3.7.1 Limitations

First, in terms of limitations, this survey instrument was meant to assess employees' experiences related to transportation and well-being. COVID-19 implications, however, mean many Canada School employees are still working exclusively from home, and the "new normal" regarding the future of work remains uncertain.

Second, the snapshot nature of this survey instrument will not capture whether identified transportation barriers, and their effects on Canada School employees' well-being, fluctuate over time or across different situations. Following discussions with the client, it was agreed that transportation barriers and any associated well-being effects are likely more harshly felt during the winter, especially for those in areas where substantial snow accumulation is common and prolonged. When COVID-19 is over and the future of work is clearer, the Canada School could distribute the survey instrument during the winter and summer to investigate potential seasonal comparisons.

Third, designing a survey instrument for collecting primary data online, rather than through in-person interviews or focus groups, eliminated the visibility of the researcher's disability. Even so, since the researcher is also a Canada School employee, knowledge of her disability and transportation barriers may influence some respondents' responses.

Finally, due to reliance on self-reporting, respondents' willingness and ability to provide relevant and accurate information will determine data quality.

3.7.2 Delimitations

One delimitation is this project only distinguished employees with and without disabilities. In agreement with the client, the researcher excluded survey questions related to disability type, gender, and employment level because these elements, or any potential intersectional comparisons, do not matter for this project. As alluded to in this project's rationale, the problem that needs addressing occurs if **any** Canada School employee experiences transportation barriers or if their well-being is subsequently

affected. The researcher focused on disability status because of its prominence in the *Accessible Canada Act*.

A final delimitation is this survey instrument cannot confirm causal inferences. Nevertheless, its findings could offer a starting point for future experimental studies.

4 LITERATURE REVIEW

4.1 Overview

This chapter describes the literature review process and findings. It summarizes available evidence about the research topic using the following sections:

- Transportation Barriers, Disability, and Employment;
- Transportation Barriers, Commuting Stress, and Employee Well-Being;
- Strategies to Address Employee Transportation Barriers;
- Transportation Strategies and Employee Well-Being; and
- Transportation Strategies and Workplace Inclusion.

4.2 Search Strategy and Source Identification

Scholarly sources were found using these initial search terms: transportation barriers, disability, employment, employee mental health, employee engagement, employee productivity, employee performance, employee participation, employer transportation strategies, workplace, accessibility, inclusion, and well-being.

Between May 2019 and February 2020, the researcher entered initial, synonymous, and related search terms into Google, Google Scholar, and the University of Victoria's Summon 2.0 search engines. Related terms stemmed from key elements in the researcher's operational definitions. For example, words associated with workplace engagement included employee job satisfaction, turnover intention, and organizational commitment. Similarly, employee task completion was a word associated with workplace productivity and performance. The researcher changed transportation barriers to commuting stress in various searches.

Fitting academic and professional studies were located through modified Boolean searching. Boolean searching typically involves connecting applicable keywords and phrases with *and*, *or*, and *not* (Morningside College, 2020, Combining Keywords section); the researcher excluded *not*. The researcher accessed resulting abstracts to see whether studies gave positive, negative, or neutral evidence toward the research questions for this project. For additional resources, she inspected reference lists in relevant works, and looked at similar or related articles suggested by the databases based on her browsing history.

Information in this chapter primarily comes from academic, peer-reviewed publications, including:

- *Transportation Research Record*;
- *Transportation Research Part A: Policy and Practice*;
- *Transportation Research Part F: Traffic Psychology and Behaviour*;
- *Journal of Organizational Behavior*;
- *Journal of Vocational Rehabilitation*; and
- *Journal of Disability Policy Studies*.

The researcher reviewed an assortment of studies that drew on quantitative, qualitative, or mixed-methods approaches. The studies were largely carried out in, or based on data from, North America and Europe; common source countries were the United States, Canada, and the United Kingdom.

4.3 Findings

4.3.1 Transportation Barriers, Disability, and Employment

There is agreement in the literature that transportation issues negatively affect aspects of employment for people with disabilities (Adams et al., 2019, pp. 232-236; Bjerkan et

al., 2013, Results section; Graham et al., 2018, p. 216; Grise et al., 2019, p. 287; Hagner et al., 2015, p. 199; Lindsay, 2011, pp. 1343-1344; Lubin & Deka, 2012, p. 94; Magill-Evans et al., 2008, p. 438; Saxe, 2018, p. 38; Shier et al., 2009, p. 69; Vedeler & Schreuer, 2011, pp. 100, 102). Studies have shown that transportation barriers interfere with this population finding, securing, maintaining, and advancing in a job.

People with disabilities strongly believe transportation plays a vital role in their finding and securing employment (Lubin & Deka, 2012, p. 94). A frequently cited job search barrier for those with disabilities is lack of transportation. Two national American surveys, the *1994-1995 Disability Supplements to the National Health Interview Survey* (NHIS-D) and the *2015 Kessler Foundation National Employment & Disability Survey*, reveal that lack of transportation initially prevented nearly 30% of respondents from looking for or obtaining work (Kessler Foundation, n.d., p. 2; Loprest & Maag, 2001, Executive Summary section, Findings sub-section, para. 1). Of the Kessler Foundation survey participants who experienced this barrier, 42% overcame it (Kessler Foundation, n.d., p. 2); they found rides from family, took public transportation, or modified their prescriptions in order to drive (Sundar et al., 2018, p. 104).

Previous research indicates that public transportation does not enable everyone to find work (Adams et al., 2019, pp. 234, 236; Graham et al., 2018, p. 216). In a New Jersey survey of 489 people with disabilities actively seeking employment, 38% of respondents identified public transportation as an asset in their job search (Lubin & Deka, 2012, p. 94). On average, however, inaccessible public transportation excludes people in wheelchairs from between 25 and 54% of jobs that are accessible to individuals who do not use wheelchairs (Grise et al., 2019, p. 287). Common public transportation barriers for people with disabilities are inadequate transit systems; drivers failing to announce stops; drivers' insensitive attitudes or lack of accessibility knowledge; difficulty navigating the transit system; inaccessible vehicles, stops/stations, or routes; and weather (Bezyak et al., 2017, p. 55).

Some individuals with disabilities who cannot drive or use public transportation might ask people in their network for rides to and from work (Brewer & Kameswaran, 2019, p.

6; Sundar et al., 2018, p. 104), but others “feel guilty” about constantly having to do this (Hammel et al., 2015, p. 585). Although public ridesharing services can provide a degree of commuting independence to those with disabilities (Brewer & Kameswaran, 2019, p. 8), individuals who have vision impairments report difficulties navigating the ridesharing application to secure and locate drivers (Brewer & Kameswaran, 2019, pp. 4, 6). Additionally, ridesharing drivers have cancelled or refused rides to people after learning about their disability-related needs (Honick, 2019, “Let Uber/Lyft know you’re traveling with a service dog” section; Huff & Brinkley, 2020, p. 164).

People with disabilities may be hesitant to disclose their transportation barriers during employment interviews (Bjerkan et al., 2013, Results section, para. 13); however, scholars have found that they often apply for positions and respond to job offers based on transportation-related considerations. Factors such as accessible parking availability (Bjerkan et al., 2013, Results section, paras. 11-12), transit or paratransit schedules (Magill-Evans et al., 2008, p. 438; Shier et al., 2009, p. 69), commute time (Vedeler & Schreuer, 2011, pp. 100, 102; Graham et al., 2018, p. 216), commute distance, and office proximity to transit and paratransit (Graham et al., 2018, p. 216) weigh into their employment decisions. Of the previously mentioned New Jersey survey respondents, 40% had turned down a job offer due to transportation challenges (Lubin & Deka, 2012, p. 94).

Unless people with disabilities work exclusively from home, transportation to and from the job site is necessary. In a national survey of 502 American small business employers, 2% noted that getting to work is the biggest employment challenge for people with disabilities (Dixon et al., 2003, pp. 20-21). People with disabilities say their workday commutes are difficult because of not having a driver’s license, complex transit schedules, public transportation safety concerns, and the unreliability and restrictiveness of paratransit services (Magill-Evans et al., 2008, p. 438). Paratransit trips must be booked anywhere from 24 hours (Westerlund et al., 2019, p. 6) to a week (Nova Scotia Department of Justice, 2018, p. 2) in advance, and are not always obtainable when needed (Bezyak et al., 2017, p. 53; Westerlund et al., 2019, p. 6). Therefore, reliance on this service dictates and limits workable hours (Magill-Evans et

al., 2008, p. 438), making it hard for some people with disabilities to cover spontaneous overtime shifts (Shier et al., 2009, p. 69). Constantly planning for transportation is stressful for people with disabilities and leaves them quite tired when completing their assigned work or training responsibilities (Bjerkan et al., 2013, Results section, paras. 1, 41). Additionally, using taxis (Shier et al., 2009, p. 69), public transportation, personal vehicles (Litman, 2020, p. 4), or paratransit (Adams et al., 2019, p. 233) can be costly.

According to past studies, commuting problems have put people with disabilities at risk for losing their positions (Magill-Evans et al., 2008, p. 438); excluded them from workplace events (Hagner et al., 2015, p. 199) and career advancement opportunities (Graham et al., 2018, p. 216); and forced them to quit their jobs (Lubin & Deka, 2012, p. 94). For example, 25% of the New Jersey survey respondents noted above had left at least one employment position because of transportation barriers (Lubin & Deka, 2012, p. 94).

4.3.2 Transportation Barriers, Commuting Stress, and Employee Well-Being

The literature shows that transportation barriers can be a source of commuting stress for people with and without disabilities. Commuting stress is broadly defined as physical or psychological responses that occur because strenuous back and forth travel has depleted resources or threatened well-being (Lazarus & Folkman, 1984, as cited in Burch, 2015, p. 3). It contains objective and subjective factors (Gottholmseder et al., 2009, p. 560). Objective factors refer to commuting conditions such as distance, time, speed, and traffic, whereas subjective factors refer to individuals' personality traits or demographics as well as their assessments of commuting conditions, including any encountered unpredictability (Gottholmseder et al., 2009, p. 560). Given individuals' uniqueness, people can perceive similar commuting situations differently, and commuting situations that are stressful for some may not be stressful for all (Chatterjee et al., 2020, p. 9; Koslowsky, 1997, p. 156). It is also possible that while stressful

commutes residually affect some people, others are unbothered by them as soon as they reach their desired destination (Olsson et al., 2013, p. 262).

4.3.2.1 Mental Health

The literature specifies how commuting stress can affect aspects of employees' psychological welfare. Researchers have found that individuals experiencing stressful commutes exhibit higher levels of strain (Clark et al., 2020, pp. 2790, 2796; Wener et al., 2005, pp. 115-116), and decreased mental health (Clark et al., 2020, pp. 2790, 2796; Feng & Boyle, 2014, pp. 617-618). Measures of mental health include one's ability to concentrate, get adequate sleep, make decisions, feel confident, and overcome challenges (Feng & Boyle, 2014, pp. 613-614). While it can bring on stress, fatigue (Morris & Guerra, 2015a, pp. 42-43; Royal Society for Public Health, 2016, p. 8; Talbot et al., 2016, p. 546), sadness (Morris & Guerra, 2015a, pp. 42-43), and work-life balance struggles (Talbot et al., 2016, p. 546; Workforce Institute @ Kronos, 2011, as cited in Business Wire, 2011, News Facts section, bullet point 5), commuting to and from the office does not always influence employees' moods or emotions (Javadian, 2014, p. 35; Lorenz, 2017, p. 16). Work-related travel, however, produces lower affect scores than non-work related travel (Morris & Guerra, 2015b, p. 33), with employee frustration and aggression more likely following a difficult journey to work (Hennessy, 2008, pp. 2322, 2325). Nevertheless, people endure stressful commutes because the perceived benefits of doing so outweigh the costs (Stutzer and Frey, 2008, as cited in Mahudin, 2012, p. 6), or they do not have a feasible alternative option (Chatterjee et al., 2020, p. 22).

4.3.2.2 Engagement

There is disagreement in the literature about whether commuting stress interferes with employee engagement. While some researchers have found that job satisfaction is higher following stressful commutes (Mahudin, 2012, p. 6), likely because employees consider problematic trips worth it for benefits such as gainful employment and neighbourhood preference (Stutzer and Frey, 2008, as cited in Mahudin, 2012, p. 6),

others have concluded that “[commuting] stress does not significantly predict job satisfaction” (Mahudin et al., 2011, p. 234). Another group of scholars suggests commuting challenges make employees less content with their positions since, for some, stressful commutes are similar to losing 19% in gross annual pay (Clark et al., 2020, p. 2793). Demanding workday travels can also decrease job satisfaction because they cause employees to feel burnt out (Amponsah-Tawiah et al., 2016, pp. 115-116). Difficult commutes (Demiral, 2018, p. 17; Mahudin, 2012, p. 5; Amponsah-Tawiah et al., 2016, p. 115), and the subsequent exhaustion (Amponsah-Tawiah et al., 2016, pp. 115-116; Mahudin et al., 2011, p. 234), increase the likelihood of employees’ turnover intentions. A 2011 online *Road Wage Survey* included 2,042 American adults. Of the 1,077 respondents who travel to work, 15% would leave their job for one with an easier commute (Workforce Institute @ Kronos, 2011, as cited in Business Wire, 2011, News Facts section, bullet point 5, Survey Methodology section, para. 1). Strenuous journeys to and from the workplace reduce employee commitment in terms of their organizational attachment or identification, especially if they do not have a sense of job autonomy or work-life balance (Emre & De Spiegeleare, 2019, pp. 4, 15-17). Commuting stress, however, does not stop employees from promoting their organization to others, suggesting and seeking out ideas for improving individual and collective performance results, or surpassing organizational expectations (V.A., 2015, pp. 16, 20).

4.3.2.3 Productivity and Performance

Existing literature suggests commuting stress has a variety of consequences on employee productivity and performance. Researchers have shown that stressful travels can lead to slower problem solving in fast-paced, time-sensitive situations (Hennessy & Jakubowski, 2007, pp. 267-268), decreased proofreading accuracy (Evans & Wener, 2006, p. 410; Wener et al., 2005, p. 115), hurried or unfinished work tasks (Gobind, 2018, p. 5), and poorer overall job performance (Gobind, 2018, p. 6; Ma & Ye, 2019, p. 135). Although commuting stress may lessen employees’ willingness to help co-workers with responsibilities as needed, it does not hinder their individual initiative or desire to achieve beyond expectations (V.A., 2015, pp. 16, 20). Absenteeism (Ma & Ye, 2019, p. 134), arriving late to work, and exhaustion (Mahudin et al., 2011, p. 234), however, are

more likely when employees perceive their journeys to and from the office as burdensome. Compared to those who are well rested, exhausted employees struggle to focus, take longer to get things done, and, on average, lose 4.1 productive work hours weekly (Ricci et al., 2007, p. 6). Each year, tired employees' suboptimal functioning on the job costs the United States' workforce approximately $330 million in lost productivity (Ricci et al., 2007, p. 6).

4.3.2.4 Participation

The literature consistently shows that commuting stress impedes upon employees' workplace participation. Researchers have found that those with travel difficulties are more likely to arrive at work late (Loong et al., 2017, pp. 5-6, 9; Mahudin et al., 2011, p. 234; Rahman et al., 2014, pp. 3-4), and have to leave early (Gobind, 2018, p. 5; Nova Scotia Department of Justice, 2018, p. 2). Transportation problems can therefore cause employees to be away from either portions of, or entire, workplace events, which means they miss any information presented in their absence. Furthermore, spontaneous events tend to exclude employees who rely on paratransit services as these rides must be booked ahead of time (Nova Scotia Department of Justice, 2018, p. 2; Westerlund et al., 2019, p. 6). In a recent descriptive study with 53 employment specialists, the lowest workplace inclusion scores for people with disabilities, 18 and 52%, were related to transportation barriers preventing their participation in offsite team gatherings and organization-wide functions, respectively (Hagner et al., 2015, p. 199). Transportation barriers and commuting stress can also interfere with employees' level of involvement during work-related activities if, for example, they are tired from their trip to the office (Gobind, 2018, p. 5; Loong et al., 2017, pp. 5-6), or distracted by watching the clock to ensure their ride is not missed (Gobind, 2018, p. 5).

4.3.3 Strategies to Address Employee Transportation Barriers

According to available research, there are several ways to help address employee transportation barriers (Adams et al., 2019, p. 235; Bonaccio et al., 2020, pp. 147-148;

Crudden et al., 2002, pp. 13-14; Demiral, 2018, p. 17; Hagner et al., 2015, p. 199; Joblinks Employment Transportation Center, 2012; Kuznetsova & Bento, 2018, p. 37; Martz, 2007, p. 325; Point2Point, n.d.; Royal Society for Public Health, 2016, p. 10; Talbot et al., 2016, p. 548; Vedeler & Schreuer, 2011, pp. 99, 102). Appropriate solutions, however, depend on employees' particular needs. Employers can discover employees' needs through conversations (Hoff & Jordan, 2012, p. 1), surveys (Adams et al., 2019, p. 230), interviews (Bjerkan et al., 2013, Methods section, paras 1-2), focus groups (Graham et al., 2018, p. 209), or a combination of these approaches (Magill-Evans, 2008, p. 435; Shier et al., 2009, p. 65). Table 2 presents examples of employee transportation barriers next to possible employer transportation strategies frequently suggested in the literature.

Table 2. Employee transportation barriers and possible employer transportation strategies.

Employee Transportation Barriers	**Possible Employer Transportation Strategy**
Restrictive transit or paratransit schedules, and commuting time.	Allowing for scheduling flexibility.
Commuting time, commuting distance, and limited parking.	Permitting the use of alternative office locations (outside of home).
Restrictive transit or paratransit schedules, commuting time, commuting distance, cost, limited parking, inaccessible public transportation, no personal vehicle, and no driver's license.	Setting up work from home telework arrangements.
Restrictive transit or paratransit schedules, cost, limited parking, inaccessible public transportation, no personal vehicle, and no driver's license.	Providing a company van service for transportation to and from work and work-related events.
Cost.	Offering transportation subsidies.

Employee Transportation Barriers	Possible Employer Transportation Strategy
Restrictive transit or paratransit schedules, cost, limited parking, inaccessible public transportation, no personal vehicle, and no driver's license.	Creating departmental carpools or ridesharing options.
Restrictive transit or paratransit schedules, limited parking, inaccessible public transportation, no personal vehicle, and no driver's license.	Developing partnerships with community organizations who could deliver reliable voluntary or paid driving services.

One study recommends making such employer-based mobility management strategies part of existing organizational well-being policies (Clark et al., 2020, p. 2798). Those in management positions would most likely facilitate scheduling flexibility, telework agreements, employer-provided transportation or subsidies (Talbot et al., 2016, p. 548), and organization-wide policy implementation (Clark et al., 2020, p. 2798). Employees from all levels, however, can initiate internal and external ridesharing collaborations (Crudden et al., 2002, p. 14; Talbot et al., 2016, p. 548), and propose workplace policy updates. Having dedicated internal transportation coordinators could help with developing, promoting, implementing, and assessing transportation-related programs for the workplace (Point2Point, n.d., p. 4).

A number of studies also suggest "innovative solutions" (Magill-Evans et al., 2008, Abstract), including app or mobile platform development, are necessary to address transportation barriers (Lindsay, 2020, p. 1136; Westerlund et al., 2019, pp. 7-9; Wu et al., 2020, pp. 7-8). For example, through providing real-time trip updates, landmark pictures and descriptions, and instructions for each stop, the CanGo app improves public transportation access for those with cognitive difficulties (CanAssist, 2020, What is it? section, para. 1). Employers and employees can undertake app and mobile platform creation.

4.3.4 Transportation Strategies and Employee Well-Being

This section considers employee well-being in many of the transportation strategies noted above. Individuals have various transportation needs, work styles, and work location preferences, so the strategies can affect each person's well-being differently.

4.3.4.1 Scheduling Flexibility

Scheduling flexibility describes situations where employees have partial or complete control over when they fulfill their work hours (De Menezes & Kelliher, 2011, p. 456). It contains flex time, compressed workweeks, and reduced or part-time hours (Canadian Centre for Occupational Health and Safety, 2016, Flexible Work Arrangements section, What are examples of flexible work arrangements answer). Flex time means an employee works full-time and has a core working day, but with varied working hours. A compressed workweek refers to when an employee puts in more working hours each day as a trade for a day off. Reduced or part-time hours is an arrangement where an employee's workweek has less than 37.5 or 40 hours (Canadian Centre for Occupational Health and Safety, 2016, Flexible Work Arrangements section, What are examples of flexible work arrangements answer).

Previous research provides mixed results as to how scheduling flexibility interacts with employee well-being (De Menezes & Kelliher, 2011, pp. 459-462). Scheduling flexibility does not always affect job performance (Kattenbach et al., 2010, p. 288), and it makes no difference in terms of employees' happiness with their produced work (Hazak et al., 2017, p. 508). To the extent that it grants time autonomy, scheduling flexibility has improved employees' work-life balance, and reduced their exhaustion (Kattenbach et al., 2010, p. 288). Employees are likely to be better rested, more energized, and less psychologically distressed in employment environments that offer scheduling control (Moen et al., 2011, p. 418). Having too much control in this regard, however, may cause some employees to feel pressured to take on more job demands, and need longer breaks between work tasks (Biron & Van Veldhoven, 2016, p. 1330).

Although employees with scheduling options tend to have more organizational commitment and fewer turnover intentions (Onken-Menke et al., 2018, p. 257), this flexibility does not reduce their actual quitting or transfer decisions (Caillier, 2018, p. 114). Furthermore, perceived availability of flexible schedules increases employees' job satisfaction and organizational commitment (Chen & Fulmer, 2018, p. 387); flexible schedule use, in comparison, significantly lowers these well-being elements (Chen & Fulmer, 2018, p. 389). Even so, flexible schedule users testify to less stress and burn out than employees who choose not to draw on this way of working (Grzywacz et al., 2008, p. 206). Scheduling flexibility is still a possible workplace stressor, however, because it can lead to difficulties coordinating meetings or executing team tasks; exclusion from discussions or activities; and harassment or judgment from co-workers (Kossek et al., 2015, p. 11).

4.3.4.2 Telework Arrangements

Telework refers to when an employee undertakes their work responsibilities from home or other sites that are closer to their home rather than from their official office location (U.S. Office of Personnel Management, 2010, as cited in Vega et al., 2015, p. 314). Previous research provides mixed results about the effects of teleworking on employees' well-being (Allen et al., 2015, pp. 47-56). Studies have shown that compared to their work outcomes in the office, employees tend to perform better, have greater job satisfaction, and demonstrate more proficiency at creative problem solving when teleworking (Vega et al., 2015, p. 319). Additionally, some employees are happier with what they develop when they work away from the office (Hazak et al., 2017, p. 508). While working from home, part-time teleworkers also demonstrate enhanced focus, generally need less down time between work-related tasks (Biron & Van Veldhoven, 2016, p. 1327), and report both increased positive as well as decreased negative feelings toward their job (Anderson et al., 2015, pp. 888-889).

Teleworking affords employees autonomy and flexibility (Choi, 2020, p. 471), but it does not guarantee work-life balance (Allen et al., 2015, p. 47). This arrangement raises the probability of employees working overtime hours (Noonan & Glass, 2012, p. 40), not

fully disconnecting from their job (Madden & Jones, 2008, as cited in Allen et al., 2015, p. 47), and feeling overwhelmed from encountering so many digital communication technologies at once (Kingma, 2019, p. 400). Telework intensity, however, does not seem to interfere with employees' engagement in terms of their professional captivation and enthusiasm (De Vries et al., 2019, pp. 579, 585). Employees' ability to choose whether to telework makes them more satisfied with their position and more likely to stay with the organization (Lee & Kim, 2018, p. 463). Telework-supportive employers experience less voluntary turnover in their staff than those who do not support this practice (Choi, 2020, p. 486), but telework does not stop employees from transferring to other positions (Caillier, 2018, p. 114). Although telework decreases the likelihood of employees actually quitting their jobs (Caillier, 2018, p. 114), employees' organizational commitment is lower on teleworking days completed entirely from home (De Vries et al., 2019, p. 581).

Professional and social isolation are more likely for teleworking employees when they are home-based because they may feel less supported by management (De Vries et al., 2019, p. 585), or excluded from face-to-face components of company-valued career development opportunities such as interpersonal networking, informal learning, and mentoring (Cooper & Kurland, 2002, p. 519). Isolated employees are particularly prone to weaker job performance (Golden et al., 2008, p. 1416). Furthermore, due to their absence from the office, some teleworkers might worry about their chances for promotions (Cooper & Kurland, 2002, p. 512). Without suitable teleworker and organizational social support, employees can experience less job satisfaction, greater psychological strain (Bentley et al., 2016, p. 213), and exhaustion (Sardeshmukh et al., 2012, p. 202) from telework. Offering telework as an option; achieving a balance between moderate amounts of telework and in-person working days; and having increased, high-quality leader- and team-member exchanges are the evidence-based recommendations for upholding employees' well-being (Allen et al., 2015, p. 60).

4.3.4.3 Departmental Carpooling or Ridesharing

Departmental carpooling means colleagues informally give/get rides to/from each other as needed, where the driver and passengers have a shared destination (Shaheen et al., 2018, p. 4). Departmental ridesharing involves situations where employees use a corporate account to book their rides through either a taxi company or an established ridesharing service such as Uber or Lyft (Ridesharing, 2020, Ridesharing section, para. 1). The Canada School's Uber Pilot Project, described in section 5.5.1 of this report, is an example.

Departmental carpooling and departmental ridesharing are forms of sharing rides. According to anecdotal evidence in the literature, sharing rides primarily benefits employee well-being (Shaheen et al., 2018, p. 6). For instance, it offers potential networking opportunities (Ridesharing, 2020, Advantages of Ridesharing for the GC section, para. 1). Additionally, it can lower commuting stress, thereby contributing to boosts in employee morale, productivity, and job satisfaction (Shaheen et al., 2018, p. 6). It is logical to infer, however, that employees' well-being could also be negatively affected by departmental ridesharing, particularly if people are hesitant about public ridesharing services because of safety concerns (Nicoll & Armstrong, 2016, Ride-sharing brings trust and safety concerns section, paras. 1-2, 4), or are unable to use them due to unavailability or inaccessibility (Brewer & Kameswaran, 2019, pp. 4, 6; Honick, 2019, "Let Uber/Lyft know you're traveling with a service dog" section; Huff & Brinkley, 2020, p. 164). Departmental carpooling, which makes it possible for employees to get to and from workplace activities with known colleagues, can be coordinated in-person or through digital platforms like Poparide (Poparide, 2020, How it works section) and OttawaRideMatch (OttawaRideMatch, 2020, Frequently Asked Questions section). The success of a carpooling initiative, however, depends on committed participation from drivers and passengers (Park et al., 2018, p. 711). Furthermore, without fully accessible vehicles, carpooling may exclude some employees (Booth, 2020, para. 2).

4.3.4.4 Community Partnerships

Community partnerships are purposeful, mutually beneficial collaborations (Quality Improvement and Innovation Partnership, 2010, p. 5) that may give employees access to alternative transportation options. For example, they can generate a pool of retired people willing to give rides (Crudden et al., 2002, p. 13), or put forward organizations who can coordinate or deliver driving services (Adams et al., 2019, p. 235; United Way, n.d., A Community Collaboration section, para. 2). Furthermore, community partnerships can enable ride arrangements through pay-roll deduction plans or possible cost-sharing mechanisms (Wheels to Work, n.d., Benefits section, paras. 1-3).

In one community partnership that provided improved public transportation access to job sites, roughly 67% of surveyed employers believed this action would help employees stay with the company (United Way, n.d., From an Employer Perspective section, para. 1). Community partnerships that set up external ridesharing for individual employees or groups would have the same considerations and potential well-being effects as those already discussed in section 4.3.4.3 of this report (Booth, 2020, para. 2; Brewer & Kameswaran, 2019, pp. 4, 6; Honick, 2019, “Let Uber/Lyft know you’re traveling with a service dog” section; Huff & Brinkley, 2020, p. 164; Nicoll & Armstrong, 2016, Ride-sharing brings trust and safety concerns section, paras. 1-2, 4; Ridesharing, 2020, Advantages of Ridesharing for the GC section, para. 1; Shaheen et al., 2018, p. 6).

4.3.5 Transportation Strategies and Workplace Inclusion

Creating an inclusive workplace requires supporting employees’ well-being (TBS, 2018, Definitions and principles section, principle 4); it is not achievable through a one-size-fits-all approach to transportation-related issues. Rather, examining and addressing these situations by applying an inclusion perspective is essential. According to the Joint Union/Management Task Force on Diversity and Inclusion, applying an inclusion

perspective involves asking three questions (TBS, 2018, Appendix I, Ask about inclusion section, para. 1):

1. Who is excluded [by transportation barriers and the suggested transportation strategies]?
2. What could be contributing to this exclusion?
3. What can be done differently to ensure inclusion?

4.4 Summary and Application

This literature review established six themes. Table 3 provides the literature review themes and shows how the researcher applied them to the survey instrument development process for this project. Unlike Table 1 on page 38 of this report, Table 3 does not connect the project survey questions to previous PSES questions.

Table 3. Connecting literature review themes to project survey questions.

Literature Review Theme	**Project Survey Question Number**
Transportation barriers exist for people with and without disabilities.	1, 2, 3, 4, 5, 6, 7, 8, and 9.
There is a link between experiencing transportation barriers and accessing and retaining employment.	18.
Transportation barriers, a source of commuting stress, can negatively affect employees' workplace well-being.	10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, and 28.
While employer and employee strategies can help reduce or eliminate employees' transportation barriers, they can also interfere with employees' well-being.	29, 30, and 31.

Literature Review Theme	Project Survey Question Number
Appropriate strategies depend on employees' particular needs, and surveying employees is one way for employers to discover this information.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, and 37.
Since employees' transportation needs, work styles, and work location preferences differ, applying an inclusion perspective when addressing transportation-related issues will help support their well-being and, in turn, create an inclusive workplace.	29, 30, 31, 32, 33, 34, 35, 36, and 37.

5 FINDINGS: CURRENT STATE ANALYSIS

5.1 Overview

This chapter contains foundational information about the Canada School's current state to better understand what the organization has done and is doing in relation to transportation and employee well-being. Knowing this information enables an examination of what already works well, what may need improvement, and where specific gaps may exist when it comes to the Canada School reaching its desired barrier-free, accessible, and inclusive future state. Therefore, this chapter provides employees' demographics and regional distribution; identifies the Canada School Learning Centre locations; explains employees' possible workday travel scenarios before, during, and after COVID-19; and discusses the Canada School's role in two transportation-relevant pilot projects.

5.2 Demographics of Canada School Employees

As of March 31, 2020, the Canada School has 668 employees (TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department data file – CSV version). Of these, 87% are Indeterminate, 5% are Casual, 4% are Students, and 4% are Term hires (TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department and Tenure data file – CSV version). For 57%, French is their first official language, while 42% identify theirs as English (TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department and First Official Language data file – CSV version). The average employee age is 42.4 years (TBS, 2020a, Open datasets section, Population of the Federal Public Service by

Department and Average Age data file – CSV version), with 28% between the ages of 20 and 34, 46% between the ages of 35 and 49, and 26% between the ages of 50 and 64 (TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department and Age Band data file – CSV version). Women make up nearly two-thirds of the workforce, and men comprise just over one-third (TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department and Gender data file – CSV version). Visible minorities, people with disabilities, and Indigenous peoples represent 16, 6, and 3.5% of Canada School employees, respectively (Canada School, 2021a, pp. 9-10).

5.3 Regional Distribution of Canada School Employees

As of March 31, 2020, 83% of Canada School employees work in the National Capital Region (NCR), 9% work in the regions, and 8% work in an unknown location (TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department and Province data file – CSV version). *The NCR* refers to Ottawa and Gatineau. *The regions* refer to all Canada School regions outside of the NCR, namely: Pacific and Yukon; Prairies and Northwest Territories; Ontario; Quebec and Nunavut; and Atlantic (Canada School, 2020c, Learning centres section). Since the overwhelming majority of employees work in the NCR, the Canada School typically distinguishes the NCR and the regions. Employees' detailed regional distribution is (TBS, 2020a, Open datasets section, Population of the Federal Public Service by Department and Province data file – CSV version):

- NCR, 557 employees (83%);
- Pacific and Yukon Region, 16 employees (2%);
- Prairies and Northwest Territories Region, 12 employees (2%);
- Ontario Region, 11 employees (2%);
- Quebec and Nunavut Region, 9 employees (1%);
- Atlantic Region, 10 employees (2%); and

- Unknown, 53 employees (8%).

5.4 The Canada School Learning Centres

The Canada School has 19 faculty members (Canada School, 2021b, Members section) and 10 distinguished fellows (Canada School, 2019, Distinguished Fellows section) who facilitate training, course offerings, and panel discussions, in-person and virtually, nation-wide (Canada School, 2020c, Learning centres section, para. 1). While faculty members teach public servants from all levels (Canada School, 2021b, Faculty members section, para. 1), the distinguished fellows, former Deputy Ministers or Assistant Deputy Ministers, provide guidance and expertise specifically for senior executives (Canada School, 2019, Distinguished Fellows section, para. 1). To help deliver these opportunities, there are 15 Canada School Learning Centres across Canada. The following multi-level list gives the region, name, and address for each Learning Centre location:

1. **NCR.**
    a. Asticou Centre, 241 de la Cite-des-Jeunes Boulevard;
    b. La Salle Academy, 373 Sussex Drive; and
    c. John G. Diefenbaker Building, 111 Sussex Drive.
2. **Pacific and Yukon Region.**
    a. Vancouver Learning Centre, Library Square, 300 Georgia Street West;
    b. Victoria Learning Centre, P.L. James Building, 1230 Government Street; and
    c. Whitehorse Learning Centre, Elijah Smith Building, 300 Main Street.
3. **Prairies and Northwest Territories Region.**
    a. Calgary Learning Centre, Harry Hays Building, 220 4th Avenue South East;
    b. Edmonton Learning Centre, Canada Place Building, 9700 Jasper Avenue; and
    c. Winnipeg Learning Centre, Stanley Knowles Building, 391 York Avenue.

4. **Ontario Region.**
    a. Toronto Learning Centre, Dominion Public Building, 1 Front Street West.
5. **Quebec and Nunavut Region.**
    a. Montreal Learning Centre, Guy-Favreau Complex, 200 Rene-Levesque Boulevard West; and
    b. Quebec Learning Centre, Rene-Nicolas Levasseur Building, 94 Dalhousie Street.
6. **Atlantic Region.**
    a. Halifax Learning Centre, Maritime Centre, 1505 Barrington Street;
    b. Moncton Learning Centre, 777 Main Street; and
    c. St. John's Learning Centre, John Cabot Building, 10 Barter's Hill.

5.5 Canada School Employees and Workday Commuting

Before COVID-19, traveling to and from work was necessary for several Canada School employees. Some employees also commuted between the different Learning Centres, and others met with clients and stakeholders at external locations (Crandall, 2019, para. 1). To help employees with work-related commutes strictly while at work, the Canada School led an Uber Pilot Project. To potentially reduce the distance and time of employees' workday commutes to, from, and at the office, the Canada School enrolled in the GCcoworking Pilot Project (Canada School, 2020a, slides 9, 13; Public Services and Procurement Canada [PSPC], 2019a, The GCcoworking pilot project section, paras. 1-2, Participating federal departments section, para. 2, bullet point 2).

Although COVID-19 restrictions have decreased or eliminated workday trips because employees are temporarily working from home, various employees may start making these trips again after restrictions are lifted. Furthermore, the Uber and GCcoworking initiatives remain part of the Canada School's response to *Beyond2020*, Canada's public service renewal framework (Canada School, 2020a, slides 9, 13). By exploring and embracing mindsets and behaviours related to being agile, inclusive, and equipped,

Beyond2020 strives to increase Canada's public service effectiveness (Privy Council Office, 2021, paras. 2-3).

5.5.1 The Uber Pilot Project

Uber is a modern ridesharing service. Launched in November 2018, the Uber Pilot Project let Canada School employees sign up for a corporate account on the Uber app (Ridesharing, 2020, Ridesharing Platforms and the Government of Canada section, para. 2). A Canada School accounting operations team lead explains that employees could then use their corporate account to conveniently hail drivers for workday travel. Due to diverse provincial Uber regulations and the low volume of transactions in the regions, corporate accounts were ultimately available to only NCR employees (Accounting Operations Team Lead, personal communication, August 19, 2020 & September 22, 2020).

Corporate account trips, which had to happen between 7:00am and 6:00pm unless otherwise authorized, included fares up to $60. For these, the Canada School's Financial Services Team immediately received trip details for analysis and invoicing. Fares very rarely exceeded $60; if they did, individuals paid the difference out-of-pocket and submitted receipts for reimbursement following trip completion (Accounting Operations Team Lead, personal communication, August 19, 2020 & December 8, 2020). Employees within and outside the NCR could also provide receipts and receive reimbursement after using their personal Uber accounts for work-related travel, but the pilot project was designed to encourage and track corporate account trips (Accounting Operations Team Lead, personal communication, August 19, 2020 & October 14, 2020).

The pilot project had many anticipated individual and organizational advantages. Beyond convenience, expected individual benefits were accessibility; advanced scheduling and travel planning capabilities; traveling together with colleagues; shorter wait times; navigational clarity; frequent user discounts or promotions; and opportunities to rate and receive higher quality drivers (Ridesharing, 2020, Advantages of

Ridesharing for the GC section, para. 1). Based on providing instant and accurate trip information digitally, organizational Uber Pilot projections consisted of:

- increasing the Canada School's Financial Services Team efficiency and information management control (Accounting Operations Team Lead, personal communication, August 19, 2020);
- improving employees' accountability and removing their risk of losing paper trip records (Accounting Operations Team Lead, personal communication, August 19, 2020);
- generating cost-savings by eliminating overhead administrative fees commonly found in the Government of Canada's standard taxi chit system (Ridesharing, 2020, Advantages of Ridesharing for the GC section, para. 2); and
- supporting decision-making for possible future projects such as offering more alternative transportation options or investing in real property closer to employees' frequently traveled work-related locations (Ridesharing, 2020, Advantages of Ridesharing for the GC section, para. 3).

The Canada School fully implemented this initiative in the NCR in June 2019 (Accounting Operations Team Lead, personal communication, July 7 & 8, 2020). As of July 7, 2020, 294 employees use Uber, and 193 have activated their corporate account (Accounting Operations Team Lead, personal communication, July 7, 2020). An analysis of employees' key routes (for example, La Salle Academy to Asticou Centre) shows that, when compared to taxi chits, savings with Uber are approximately 35% (Canada School's Deputy Chief Financial Officer, personal communication, March 1, 2021).

Since registering for a corporate Uber account does not require employees to disclose their disability status, commuting comparisons between those with and without disabilities are not possible (Accounting Operations Team Lead, personal communication, July 7, 2020). While information related to employees' perceptions of Uber's accessibility is currently unavailable, an analyst in the Canada School's (former) Innovation and Policy Services Branch notes that the Canada School will be looking to

collect user feedback from an accessibility perspective (Innovation and Policy Services Analyst, personal communication, July 13, 2020). To date, there are no known employee complaints about using Uber services (Accounting Operations Team Lead, personal communication, July 7, 2020).

5.5.2 The GCcoworking Pilot Project

In this section, “operational” and “functioning” refer to the GCcoworking sites that were completely set up and running as intended before COVID-19 restrictions existed. COVID-19 restrictions have closed GCcoworking sites since March 2020.

Officially launched in June 2019, the two-year GCcoworking Pilot Project, led by Public Services and Procurement Canada (PSPC), provides alternative work locations, called GCcoworking sites, to participating federal employees in participating departments (PSPC, 2019a, The GCcoworking pilot project section, paras. 1-2, Participating federal departments section, paras. 2-3; PSPC, 2019b, News release section, para. 2, Quick facts section, bullet point 2). Two primary factors determined departmental eligibility for first phase participation and early adopter designation (PSPC, 2019a, Participating federal departments section, para. 1; GCcoworking, 2021, FAQs & Tools section, General category, My Department is not on the list of early adopters. Is there any way I can participate answer):

- employees’ affirmative work laptop status and telework capabilities; and
- departments’ affirmative central electronic management tool status and remote VPN accessibility.

Fourteen departments, including the Canada School, are participating as initial early adopters (PSPC, 2019a, Participating federal departments section, para. 2). As of June 5, 2020, 3,000 public servants, from 41 different departments, have taken part (GCcoworking Community / communauté cotravailGC, 2020, para. 1).

Original intentions were to open 10 GCcoworking sites over the course of the pilot project: five in the NCR, and five in the regions (PSPC, 2019b, Quick facts section, bullet point 2). A coPro on the GCcoworking team, however, confirms that, because Edmonton, Alberta plans have fallen through, there will only be nine pilot sites (GCcoworking coPro, personal communication, July 16, 2020). As of June 2020, six are operational (GCcoworking Community / communauté cotravailGC, 2020, para. 1). Table 4 provides the location, address, official opening date, and hours of operation for each functioning GCcoworking site (GCcoworking, 2021, Locations section). Upcoming site locations include Vancouver, British Columbia; Laval, Quebec; and Dartmouth, Nova Scotia (GCcoworking, 2021, Locations section, Upcoming Locations sub-section; GCcoworking coPro, personal communication, July 16, 2020).

Table 4. Operational GCcoworking sites as of June 2020.

Site Location	Site Address	Site Official Opening Date	Site Hours of Operation
Downtown Ottawa	171 Bank Street	May 6, 2019	Monday-Friday, 7:00am-5:00pm
Ottawa South	335 River Road	May 6, 2019	Monday-Friday, 8:00am-4:00pm
Toronto	655 Bay Street	September 12, 2019	Monday-Friday, 7:00am-6:00pm
Ottawa West	555 Legget Drive	September 13, 2019	Monday-Friday, 8:00am-4:00pm
Ottawa East	110 Place d'Orleans Drive	September 20, 2019	Monday-Friday, 7:00am-5:00pm
Gatineau	480 de la Cite Boulevard	September 20, 2019	Monday-Friday, 8:00am-4:00pm

Designed to foster employee inclusion, collaboration, innovation, and productivity, these contemporary, technology-equipped, fully accessible workspaces also have transportation-related advantages (PSPC, 2019a, The GCcoworking pilot project section, paras. 2-4). For example, they make it possible for employees to cut down on commute time and avoid traffic congestion. Additionally, they serve as potential stopping points between meetings, offer safety from severe weather conditions, and help employees sustain a healthy work-life balance through affording them more flexibility in where they complete their work (PSPC, 2019b, News release section, paras. 1, 3, Quotes section, para. 1).

As of July 9, 2020, 68 Canada School employees are on-boarded to the GCcoworking Pilot Project. Of these, 43 have accessed a site, and 25 have not (GCcoworking coPro, personal communication, July 9, 2020). Between August 1, 2019 and March 1, 2020, Canada School employees used the GCcoworking sites 214 times, with the number of uses ranging from three in August 2019 to 41 in January 2020. Canada School employees' site use frequencies for each location, in descending order, are (GCcoworking coPro, personal communication, July 9, 2020):

- Ottawa East, 93 times;
- Downtown Ottawa, 43 times;
- Gatineau, 32 times;
- Toronto, 25 times;
- Ottawa South, 11 times; and
- Ottawa West, 10 times.

In a brief May 2020 exit survey, employees were never asked about whether their individual site uses were specifically due to transportation barriers; 87% of Canada School respondents, however, selected "Location & Convenience" as their primary reason for using GCcoworking sites (GCcoworking coPro, personal communication, October 2, 2020). Since users never have to disclose their disability status, site use comparisons between those with and without disabilities are not possible. To date, the

GCcoworking team has received no comments about site accessibility from Canada School users (GCcoworking coPro, personal communication, July 9, 2020).

5.6 Summary

This current state analysis revealed five key findings:

1. The Canada School's Learning Centres and employees are located in various regions across the country, but most employees work in the NCR.
2. Before COVID-19, commuting to, from, or at work was common for some Canada School employees, and these trips may resume after the COVID-19 pandemic.
3. Two transportation strategies offered by the Canada School include departmental ridesharing through the Uber initiative, and alternative office locations through the GCcoworking initiative.
4. Most Canada School employees have not used the transportation strategies mentioned above, and the available data does not allow for strategy use comparisons between employees with and without disabilities.
5. The Canada School needs more first-hand information about how its employees make different workday journeys along with how such travels affect employees' workplace well-being.

6 FINDINGS: SURVEY INSTRUMENT DEVELOPMENT

6.1 Overview

This chapter presents findings from the survey instrument development process. It covers accessibility considerations for online and offline survey administration; describes the User Pilot Test phase; and notes the researcher's reflections on the User Pilot Test results.

6.2 Online Survey Platforms: Accessibility Considerations

In Summer 2020, the researcher attended the Inclusive Design Research Centre's virtual event called *A Conversation on Accessible Survey Platforms*. There, she learned from panelist David Berman that (D. Berman, personal communication, August 4, 2020):

- none of the existing online survey platforms (for example, SimpleSurvey, Qualtrics, SurveyMonkey, etc.) are completely accessible; and
- developing a fully accessible online survey requires individuals to code their own platform.

Since coding a survey platform is not always feasible, working through the following considerations during survey development can help make the instrument as accessible as possible for everyone at each stage (D. Berman, personal communication, August 4, 2020):

- Who is the survey audience?
- Who is involved in the survey administration?

- What languages does the survey need to be in?
- What technology are people going to be using to respond to the survey?
- What mandatory requirements (for example, accessibility, privacy, official languages) limit the survey design solutions or platform choice?
- What is the survey context (for example, a one-time instrument or part of a series)?
- What is the survey budget?
- What is the survey timeline?

Led by these insights, the researcher and the client agreed that if the Canada School implemented the project survey instrument on an existing platform, it would be best to be transparent about the survey's possible accessibility issues right from the recruitment phase. They also agreed it would be best to have designated assistants available to read or scribe the survey for participants, if needed. Additionally, the researcher and the client thought the recruitment invitation should encourage potential participants to contact the researcher if other alternative arrangements are necessary for their full and equal participation. Through such actions, potential participants would know that accessibility was fully incorporated into the project.

6.3 Importance of Offline Survey Options

Offline survey options, including secure fillable electronic or print-based forms, help make the instrument accessible and inclusive for people who cannot, or do not want to, respond using the online platform.

Accessible interactive PDF forms can be produced in programs such as Adobe Acrobat Pro DC (UA Technology Accessibility, 2019). Designing accessible fillable forms involves making sure that (Queen's University Accessibility Hub, n.d., para. 2; UA Technology Accessibility, 2019):

1. all fillable fields have clear, accessible labels and instructions;
2. all labels and instructions match up to the fillable fields they represent; and

3. the tab order is logical.

With a logical tab order, respondents can use the Tab key to move through the survey's fillable fields (UA Technology Accessibility, 2019, 29:13; Queen's University Accessibility Hub, n.d., para. 2). With correctly formatted labels and instructions (sometimes called tooltips), assistive technology users know exactly what information is being requested in the survey questions (UA Technology Accessibility, 2019, 16:18, 19:07, 27:58).

Interactive forms can also be created in Microsoft Word. Document protection properties that enable such forms to be fillable (Microsoft, n.d., Add protection to a form section), however, make any protected content (for example, headings, instructions) less accessible for assistive technology users (Page, 2019, Why Word forms are not accessible section). For example, JAWS screen reader users must anticipate and find protected content with a PC cursor, read the protected content after changing to a secondary JAWS cursor, and then switch back to a PC cursor to fill in the form fields (Page, 2019, Why Word forms are not accessible section, paras. 4-5). As "this process may have to be repeated many times in a single form, […] only the most advanced and experienced screen reader users are likely to be comfortable with [it]" (Page, 2019, Why Word forms are not accessible section, para. 5). Similarly, some literacy and magnifier/reader software users may struggle with protected content because it will not be dictated by Read&Write Gold or SuperNova programs, and it will not be highlighted in Read&Write Gold (Page, 2019, Why Word forms are not accessible section, paras. 3, 6).

Leaving headings or instructions unprotected removes the mentioned barriers for JAWS, Read&Write Gold, and SuperNova users, but this approach increases the risk of respondents accidentally changing or deleting important content (Page, 2019, Why Word forms are not accessible section, paras. 7-8).

6.4 User Pilot Testing

To make sure the project survey content was clear for its intended audience, the researcher conducted a User Pilot Test from March 17 through March 26, 2021. She chose SimpleSurvey as the online platform because, until recently, the Canada School used it for collecting employee opinions about proposed initiatives. Additionally, SimpleSurvey has multi-lingual functionality and AA-level accessible templates (SimpleSurvey, 2020a, Solution section, Features and Options, Overview Table; SimpleSurvey, 2020b, Frequently Asked Questions, Accessibility section, para. 1). Under Web Content Accessibility Guidelines 2.0, AA, the second-highest ranking, means most people with and without disabilities can understand and use the website (Accessible Metrics, 2019, WCAG 2.0 Level AA: Acceptable compliance section, para. 1).

The researcher met the Official Languages requirements set out in section 2(a) of the *Official Languages Act* (1985, p. 2) by making the recruitment documents, privacy notice, consent form, and survey instrument available in English and French for the User Pilot Test.

The researcher emailed an invitation for the User Pilot Test to nine Canada School employees. Seven participants completed the survey, making the response rate 78%. Participants' median and mean completion times were 16 and 27 minutes, respectively. Completion times ranged from 12 to 71 minutes. In total, 14% of participants (1 person) self-identified as having a disability; hearing disabilities were represented.

6.5 Researcher's Reflections on the User Pilot Test Results

Based on participants' comments from the User Pilot Test, the researcher changed the following survey content:

- removed “bias-free” from the inclusive workplace definition;
- removed the “lack of a personal vehicle” transportation barrier;
- added “do not own any vehicles” as a transportation barrier;
- added “do not always have access to the household vehicle(s)” as a transportation barrier;
- added “transportation source showing up full (for example, at maximum capacity)” as a transportation barrier;
- added “source” after transportation in the “transportation not showing up” transportation barrier;
- added “source” after transportation in the “transportation showing up late” transportation barrier; and
- added “do not know when my transportation source will show up” as a transportation barrier.

For the User Pilot Test, the survey instrument had 36 questions, and its frame of reference was the last winter before the COVID-19 pandemic (November 2019 through February 2020). Furthermore, Question 30 (With respect to transportation and employee well-being, what could help the Canada School become a more accessible and inclusive workplace?) did not specifically ask about individuals’ needs. Therefore, after reflecting, the researcher decided to:

- start each survey question with “in the last week” so that accurate information about employees’ recent experiences will be gathered; and
- adjust the wording in Question 30 and break it up into two questions so that individuals’ first-hand experiences and needs will be distinguished from their suggestions inspired by second-hand sources.

The researcher’s reflections resulted in a 37-question instrument, where the new Question 30 and Question 31 are:

- **Question 30.** Considering **your own** transportation and well-being experiences, what **would help** the Canada School become a more accessible and inclusive workplace **for you**?
- **Question 31.** Considering transportation and well-being experiences **in general** (for example, looking beyond your own experiences), what **could help** the Canada School become a more accessible and inclusive workplace **for its employees**?

Annex A contains the proposed survey instrument.

6.6 Summary

The survey instrument development process revealed six key findings:

1. Survey instruments can be designed online or offline.
2. Building an online survey platform from scratch is the only way to guarantee its full accessibility.
3. Since online surveys may not be preferred by all potential respondents, offering suitable offline options makes an instrument more inclusive.
4. To be as accessible as possible for assistive technology users, fillable offline PDF surveys should be created using programs such as Adobe Acrobat Pro DC rather than Microsoft Word.
5. Survey accessibility issues should be mentioned during the recruitment phase so that potential respondents are aware of them.
6. User pilot tests help determine whether content makes sense to intended audiences, so the researcher clarified the survey instrument based on feedback from seven Canada School employees.

7 DISCUSSION AND ANALYSIS

7.1 Overview

This chapter answers the project's research questions by summarizing and synthesizing key findings from the literature review, current state analysis, and survey development process. It also identifies gaps and areas for future research.

7.2 Answering the Project's Research Questions

This section examines the extent to which the investigations conducted for this project enabled the researcher to answer the research questions.

7.2.1 What does the literature say about transportation and employee well-being?

This part of one secondary research question was fully answered. This project defined well-being as the workplace mental health, engagement, productivity and performance, and participation of Canada School employees. The literature described in sections 4.3.2.1 through 4.3.2.4 of this report showed that residually stressful transportation barriers affect well-being in many ways. The literature discussed in sections 4.3.4.1 through 4.3.4.4 of this report also showed that transportation strategies positively and negatively influence well-being aspects.

The following three sections list cited examples of how transportation barriers have played into well-being, and present the cited benefits and drawbacks of various transportation strategies when considering well-being.

7.2.1.1 Transportation Barriers: Effects on Well-Being

1. **Workplace mental health effects from transportation barriers:**
    a. increased strain;
    b. decreased mental health (for example, concentration, sleep quality, decision-making, self-confidence, and problem solving);
    c. stress;
    d. fatigue;
    e. sadness;
    f. frustration;
    g. aggression;
    h. lower affect scores during work-related commutes; and
    i. work-life balance struggles.
2. **Workplace engagement effects from transportation barriers:**
    a. increased job satisfaction;
    b. decreased job satisfaction;
    c. increased turnover intentions;
    d. reduced organizational commitment; and
    e. reduced organizational attachment.
3. **Workplace productivity and performance effects from transportation barriers:**
    a. slower problem solving;
    b. decreased proofreading accuracy;
    c. hurried work tasks;
    d. unfinished work tasks;
    e. poorer overall job performance;
    f. decreased willingness to help co-workers with responsibilities; and
    g. increased likelihood of absenteeism.
4. **Workplace participation effects from transportation barriers:**
    a. arriving at work late;
    b. leaving work early;

c. missing out on work-related events partially or entirely;
d. exclusion from company functions or offsite team gatherings; and
e. decreased involvement or focus during work-related activities.

7.2.1.2 Transportation Strategies: Well-Being Benefits

1. **Well-being benefits of scheduling flexibility:**
    a. autonomy;
    b. flexibility;
    c. improved work-life balance;
    d. reduced exhaustion;
    e. better sleep;
    f. higher energy levels;
    g. less psychological distress;
    h. increased organizational commitment;
    i. fewer turnover intentions;
    j. increased job satisfaction;
    k. less stress; and
    l. less burn out.
2. **Well-being benefits of telework arrangements:**
    a. better on-the-job performance;
    b. increased job satisfaction;
    c. increased proficiency at creative problem solving;
    d. increased happiness with produced work;
    e. enhanced focus;
    f. needing shorter breaks between work tasks;
    g. increased positive feelings about job;
    h. decreased negative feelings about job;
    i. autonomy;
    j. flexibility;
    k. increased organizational commitment; and
    l. decreased likelihood of quitting job.

3. **Well-being benefits of departmental carpooling or ridesharing:**
    a. potential networking opportunities;
    b. increased morale;
    c. increased productivity; and
    d. increased job satisfaction.
4. **Well-being benefits of community partnerships:**
    a. increased organizational commitment;
    b. potential networking opportunities;
    c. increased morale;
    d. increased productivity; and
    e. increased job satisfaction.

7.2.1.3 Transportation Strategies: Well-Being Drawbacks

1. **Well-being drawbacks of scheduling flexibility:**
    a. increased pressure to overwork;
    b. needing longer breaks between work tasks;
    c. decreased job satisfaction;
    d. difficulties coordinating meetings;
    e. difficulties executing team tasks;
    f. exclusion from work-related discussions or activities; and
    g. harassment or judgement from co-workers.
2. **Well-being drawbacks of telework arrangements:**
    a. no guarantee of work-life balance;
    b. increased likelihood of working overtime;
    c. not fully disconnecting from job;
    d. feeling overwhelmed from technology overload;
    e. lower organizational commitment;
    f. professional and social isolation;
    g. exclusion from face-to-face interpersonal networking, informal learning, and mentoring;
    h. increased anxiety about being overlooked for promotions;

i. psychological strain without suitable organizational support; and
j. exhaustion without suitable organizational support.

3. **Well-being drawbacks of departmental carpooling or ridesharing:**
    a. decreased morale, productivity, or job satisfaction if service is perceived as unsafe, unavailable, or inaccessible; and
    b. exclusion if service is perceived as unsafe, unavailable, or inaccessible.
4. **Well-being drawbacks of community partnerships:**
    a. decreased morale, productivity, or job satisfaction if service is perceived as unsafe, unavailable, or inaccessible; and
    b. exclusion if service is perceived as unsafe, unavailable, or inaccessible.

7.2.2 How do transportation and employee well-being relate to workplace accessibility and inclusion?

This part of one secondary research question was fully answered. As a group, the lists provided in sections 7.2.1.1 through 7.2.1.3 of this report highlight how transportation barriers and transportation strategies affect individuals differently, which aligns with findings from several academics whose work allowed the researcher to infer that employees' perceptions influence the relationship between transportation, employee well-being, workplace accessibility, and workplace inclusion (Chatterjee et al., 2020, p. 9; Koslowsky, 1997, p. 156; Olsson et al., 2013, p. 262). For example, extending the *Accessible Canada Act's* (2019) definition of barrier to transportation circumstances demonstrated that transportation barriers exist whenever employees believe transportation-related issues make it difficult or impossible to get to a desired destination (p. 2). Therefore, transportation barriers are directly linked to workplace accessibility because, as the Federal Accessibility Legislation Alliance (2021) pointed out, if employees cannot "get to and use" their workplace, that work location and environment is not accessible (What is Bill C-81 – the *Accessible Canada Act*? section, para. 1).

Furthermore, the Joint Union/Management Task Force on Diversity and Inclusion placed well-being at the heart of workplace inclusion by describing inclusive workplaces as work locations and environments where all employees' well-being is fully supported (TBS, 2018, Definitions and principles section, principle 4). Based on this understanding, transportation barriers and transportation strategies are connected to workplace inclusion because if these things cause employees to feel stressed or unsupported by their workplace, then that work location and environment is not inclusive (TBS, 2018, Definitions and principles section, principle 4).

7.2.3 What is the current state of transportation and employee well-being at the Canada School?

This secondary research question was fully answered. Under the *Accessible Canada Act* and the *Nothing Without Us* strategy, the Canada School must provide barrier-free, accessible, and inclusive workplaces for its employees. The Canada School has multiple Learning Centres as well as various external clients and stakeholders, so traveling to, from, and at the office has been a reality for Canada School employees. Recognizing this, the Canada School offers departmental ridesharing and alternative office locations through the Uber and GCcoworking initiatives, respectively. Departmental ridesharing (for example, Ridesharing, 2020, Advantages of Ridesharing for the GC section, para. 1) and alternative office locations (for example, Crudden et al., 2002, p. 13; PSPC, 2019b, News release section, paras. 1, 3, Quotes section, para. 1; Talbot et al., 2016, p. 548) were mentioned in the literature as potential strategies for addressing employee transportation barriers.

Data from the Uber and GCcoworking initiatives showed that participating Canada School employees used the services without any problems. Although this finding points to the initiatives' apparent accessibility (Federal Accessibility Legislation Alliance, 2021, What is Bill C-81 – the *Accessible Canada Act*? section, para. 1), most employees have not joined the projects. For example, 71% do not have an activated corporate Uber

account, and nearly 94% do not use GCcoworking sites. The researcher calculated these percentages based on data provided in Chapter 5 of this report. Figure 1 explains the researcher's calculations.

Figure 1. Calculations for Canada School employees' non-use of corporate Uber accounts and GCcoworking sites.

The initiatives' unavailability in several Canada School regions likely contributes to the low uptake rates, but these rates may also indicate that many employees:

- do not know about the initiatives;
- do not travel while at work;
- select a transportation mode other than corporate Uber for at-work travel;
- choose to work from home; or
- prefer working from a Canada School Learning Centre as opposed to a GCcoworking site.

Even so, 87% of active GCcoworking Canada School employees used the GCcoworking sites mainly because of location and convenience, which implies that these alternative office spaces helped reduce employees' commuting distance or time. The literature identified commuting distance and commuting time as possible transportation barriers for employees (for example, Graham et al., 2018, p. 216; Magill-Evans et al., 2008, p. 438; Vedeler & Schreuer, 2011, pp. 100, 102).

Taken together, the literature review and current state results suggest that:

- employees' needs and perceptions are vital for figuring out whether workplaces are accessible and inclusive; and
- the Canada School requires more information about if, and how, transportation experiences on various workday journeys have affected employees' well-being in terms of their workplace mental health, engagement, productivity and performance, and participation.

7.2.4 How could the Canada School potentially improve its workplace accessibility and inclusion by considering the relationship between transportation and employee well-being?

This primary research question was partially answered. According to the literature review findings, the Canada School could potentially improve its accessibility and inclusion around transportation and employee well-being by collecting first-hand data that:

- identifies what transportation barriers, if any, Canada School employees have experienced getting to work, while at work, and getting home from work;
- determines if, and how, identified transportation barriers have affected Canada School employees' well-being; and
- identifies Canada School employees' ideas about what is needed for the organization to be more accessible and inclusive from a transportation and employee well-being perspective.

Previous studies demonstrated that the Canada School could collect this primary data through conversations (Hoff & Jordan, 2012, p. 1), surveys (Adams et al., 2019, p. 230), interviews (Bjerkan et al., 2013, Methods section, paras. 1-2), focus groups (Graham et al., 2018, p. 209), or mixed method approaches (Magill-Evans, 2008, p. 435; Shier et al., 2009, p. 65). Regardless of how the first-hand information is gathered, the Joint

Union/Management Task Force on Diversity and Inclusion recommended analyzing the results with an inclusion lens because doing so would allow the Canada School to see (TBS, 2018, Appendix I, Ask about inclusion section, para. 1):

- which employees are excluded by transportation barriers and the suggested transportation strategies;
- factors that could be contributing to this exclusion; and
- possibilities for what can be done differently to improve and ensure workplace accessibility and inclusion.

By synthesizing findings from the project methodology rationale, literature review, and current state analysis, the researcher inferred that the Canada School will be able to more fully answer this research question after conducting a transportation and well-being needs assessment with its employees. Chapter 8 of this report discusses four possible options for how the Canada School could perform such a task. Insights gained through the present survey instrument development process, which are explained in Chapter 6 of this report, emphasized that needs assessment tools should be created in accessible formats.

7.2.5 How could the Canada School administer an accessible survey to collect primary data about its employees' transportation and well-being experiences?

This secondary research question was fully answered. According to the survey instrument development findings, the Canada School could administer a fully accessible transportation and well-being survey online by coding a platform from scratch (D. Berman, personal communication, August 4, 2020). David Berman, a panelist from an Inclusive Design Research Centre event, noted that every survey platform currently on the market has accessibility issues. Therefore, the researcher and the client agreed that using an existing platform would require putting accessibility warnings in all recruitment

materials as well as designating (stand by) survey readers and scribes. Some authors also recommended having appropriate offline formats, such as a fillable PDF form created in Adobe Acrobat Pro DC rather than Microsoft Word, available in case potential participants cannot, or do not want to, use the online platform (Queen's University Accessibility Hub, n.d., para. 2; Page, 2019). Section 6.3 of this report described why Adobe Acrobat Pro DC forms are more accessible than Microsoft Word forms.

7.3 Gaps and Areas for Future Research

Although this project fully answered three of its four research questions, there are still gaps and areas that could be covered in future research. For example, this project focused on transportation barriers, employment experiences, and disability status in general. Yet, past studies showed that there is diversity in transportation-related challenges faced by people with disabilities depending on one's disability type, disability severity, and transportation mode (for example, Bezyak et al., 2017, pp. 55-56; Graham et al., 2018, p. 216). The literature also revealed that commuting problems can affect people based on gender alone (for example, Hennessy, 2008, pp. 2322, 2325), age (for example, Talbot et al., 2016, p. 546), location (for example, Adams et al., 2019, pp. 234, 236; Graham et al., 2018, p. 216), as well as gender and parental status (for example, Wener et al., 2005, pp. 115-116). Upcoming projects may wish to investigate the relationship between transportation barriers, employment, and workplace well-being for these demographics.

This project did not separate government and non-government employees when describing results from the literature. Therefore, future research could look into the transportation barriers, employment experiences, and preferred transportation strategies of government employees with and without disabilities, breaking the data down by disability type where possible. Stemming from the most recent workforce availability and employment equity data reported by TBS (2021), future studies could also explore the extent to which transportation-related issues contribute to the under-representation of people with disabilities in Canada's core public administration (p. 5).

Conducting federal, provincial, and municipal jurisdictional scans may be beneficial to find out if, and how, different government levels and departments incorporate transportation into their workplace accessibility and inclusion efforts.

According to the reviewed literature, employers have used home-based telework (for example, Talbot et al., 2016, p. 548) and working remotely from alternative office locations (for example, Crudden et al., 2002, p. 13; PSPC, 2019b, News release section, paras. 1, 3, Quotes section, para. 1; Talbot et al., 2016, p. 548) as strategies to help employees overcome transportation barriers. Since COVID-19 restrictions eliminated in-person office work for many employees inside and outside of Canada's federal government for about 18 months, future research could compare how Canada's public servants with and without various disabilities feel about remote work now versus the pre-COVID times. These results could support best practice recommendation updates for return-to-work guidelines as employees and employers continue navigating the "new normal". Studies cited in the current project indicated that teleworking can have both positive (for example, Vega et al., 2015, p. 319; Hazak et al., 2017, p. 508; Biron & Van Veldhoven, 2016, p. 1327; Anderson et al., 2015, pp. 888-889) and negative (for example, Noonan & Glass, 2012, p. 40; Kingma, 2019, p. 400; De Vries et al., 2019, pp. 581, 585; Bentley et al., 2016, p. 213; Cooper & Kurland, 2002, pp. 512, 519) effects on employee well-being, but the researcher conducted the literature review before the COVID-19 pandemic.

The reviewed literature suggested that apps can reduce transportation barriers for those with disabilities (CanAssist, 2020, What is it? section, para. 1; Lindsay, 2020, p. 1136; Westerlund et al., 2019, pp. 7-9; Wu et al., 2020, pp. 7-8), yet one study found that people with vision impairments sometimes have difficulty using ridesharing platforms (Brewer & Kameswaran, 2019, pp. 4, 6). Therefore, performing an accessibility evaluation of existing transportation apps for different disability types is another possible future research opportunity. The findings of such an evaluation could inform ideas for current app improvements and new app development.

Some authors noted weather as a transportation barrier for people with (Bezyak et al., 2017, p. 55) and without (Loong et al., 2017, pp. 5-6; Demiral, 2018, p. 17) disabilities. Therefore, future studies may want to dive deeper into the influence of seasons on government employees' workday journeys and subsequent workplace well-being. Results from this kind of research could help determine if an organization should dedicate part of its budget to seasonal resources. Seasonal resources could include hiring additional grounds maintenance crews in the winter for snow and ice removal at the workplace.

Finally, the Canada School may want to conduct a cost-benefit analysis for building an online platform from scratch versus using an existing platform. The researcher did not look into the steps, time, or costs involved with survey platform construction, but the present survey instrument development findings showed that designing a fully accessible online instrument requires this approach.

8 OPTIONS AND RECOMMENDATIONS

8.1 Overview

This chapter offers four possible options and one evidence-based recommendation for addressing the Canada School's knowledge gap related to transportation and employee well-being. It evaluates each option using the criteria of potential scope and effectiveness; management acceptance; ease of implementation; and resource capacity. The recommendation is informed by the option assessment results and the findings discussed in this report.

8.2 Options to Consider

Four possible options that the Canada School could use to help reduce its transportation and employee well-being knowledge gap include:

1. implementing the survey instrument presented in Annex A of this report as it is;
2. implementing the survey instrument presented in Annex A of this report with an added question about interest in participating in a follow-up individual interview or focus group;
3. conducting only individual interviews with employees; and
4. conducting only focus groups with employees.

8.3 Defining the Methods in the Options

According to Check and Schutt (2012), surveys involve self-administered questionnaires for respondents, whereas interviews involve questionnaires for respondents that are administered by an interviewer (pp. 4-5). While surveys can reach thousands of people

(Hanson & Ginsburg, 1988, as cited in Salkind, 2009, p. 142), interviews usually reach no more than 20 individuals (Galvin, 2015, p. 4). Flick (2015) explains that surveys collect information from respondents through identical questions set in a pre-determined order, but interviews vary in how questions are organized and asked depending on where interviewees' responses lead (p. 140).

Lavrakas (2008) describes focus groups as "a qualitative research method [where] a trained moderator conducts a collective interview of typically six to eight [similar] participants" (p. 2). In focus groups, the moderator helps "create open lines of communication across individuals and [relies] on the dynamic interaction between participants to yield data that would be impossible to gather via other approaches, such as one-on-one interviewing" (p. 2).

Interviewers (Flick, 2015, p. 140) and focus group facilitators (Vaughn et al.,1996, as cited in Puchta & Potter, 2004, p. 6) want to understand participants' personal views and experiences about a selected topic. Therefore, developing guiding documents before conducting either approach helps ensure that the research objectives are addressed during the meetings (Flick, 2015, p. 140; Vaughn et al.,1996, as cited in Puchta & Potter, 2004, p. 6).

8.4 Assessing the Options

8.4.1 Option 1: Implementing the survey instrument presented in Annex A of this report as it is.

8.4.1.1 Potential Scope and Effectiveness

Option 1 would allow hundreds of Canada School employees to provide input. Respondents would complete the survey anonymously at their convenience, and it would likely require less than 30 minutes of respondents' time. Option 1 would provide

general, less in-depth information about Canada School employee experiences and needs than individual interviews or focus groups, but a higher number of employees may prefer the survey approach due to its anonymity, convenience, and small time commitment. Since there is no guarantee that Canada School employees will complete the survey, Option 1 might have limited effectiveness in addressing the Canada School's transportation and employee well-being knowledge gap.

8.4.1.2 Management Acceptance

Option 1 has been approved by the Canada School's Executive Co-Champion for DEI, but the survey content still needs approval from management in the Canada School's Access to Information and Privacy Team through a Privacy Impact Assessment. Additionally, an Information Management Checklist outlining how the survey data will be handled at every stage in the project lifecycle must be completed before being reviewed and approved by management in the Canada School's Information Management Team. Finally, some respondents may also need approval from their direct supervisor to complete the survey during work hours.

8.4.1.3 Ease of Implementation

Implementing Option 1 would involve:

- completing a Privacy Impact Assessment on the survey content with guidance from the Canada School's Access to Information and Privacy Team;
- consulting with the Canada School's Digital Academy to see what it would take to build an accessible online survey platform from scratch;
- selecting an online platform and acquiring appropriate software licenses with guidance from the Canada School's Evaluation Team if the Digital Academy consultation shows that building an online platform is not feasible;
- designing accessible fillable PDF forms with guidance from the Canada School's User Experience Team;

- conducting a pilot test of the online and offline survey formats with support from the Canada School's DEI Forum;
- completing an Information Management Checklist with guidance from the Canada School's Information Management Team;
- connecting with the Canada School's Linguistic Services Team to ensure the finalized documents are made available in English and French;
- recruiting and designating voluntary survey readers and scribes with support from the Canada School's DEI Forum;
- advertising the survey opportunity in the Canada School's weekly digital newsletter, *News@TheSchool*, with support from the Canada School's Communications Team;
- distributing the survey instrument to all Canada School employees with support from the Canada School's DEI Co-Champions;
- analyzing the survey results with support from the Canada School's Evaluation Team; and
- sharing key findings across the Canada School with support from the Canada School's DEI Forum and Communications Team.

8.4.1.4 Resource Capacity

As shown in the Management Acceptance and Ease of Implementation criteria, implementing Option 1 would depend on the availability of various individuals and teams across the Canada School.

8.4.2 Option 2: Implementing the survey instrument presented in Annex A of this report with an added question about interest in participating in a follow-up individual interview or focus group.

8.4.2.1 Potential Scope and Effectiveness

The survey portion of Option 2 would allow hundreds of Canada School employees to provide input. Respondents would complete the survey anonymously at their convenience, and it would likely require less than 30 minutes of respondents' time. The survey portion of Option 2 would provide general, less in-depth information about Canada School employee experiences and needs than individual interviews or focus groups, but many employees may prefer the survey approach due to its anonymity, convenience, and small time commitment.

The follow-up individual interview route of Option 2 would likely allow no more than 10 Canada School employees to elaborate on their survey responses and provide additional insights, though this total could be increased if multiple interviewers are available. Respondents' required time commitment for the interview would probably be between 45 and 60 minutes, but it would depend on the number and type of interview questions, and how detailed the respondent goes with their answers. The follow-up interview route of Option 2 would provide more specific, in-depth information about Canada School employee experiences and needs than surveys alone; however, a higher number of employees may not prefer the interview approach due to its reduced anonymity, decreased convenience, and large time commitment.

The follow-up focus group route of Option 2 would likely allow no more than 10 Canada School employees to elaborate on their survey responses and provide additional insights, though this total could be increased if multiple facilitators are available and multiple focus group sessions are offered. Respondents' required time commitment for

the focus group would probably be between 90 and 120 minutes, but it would depend on the number and type of focus group questions, the number of participants, how detailed participants go with their answers, and the extent to which interaction takes place between the participants. The follow-up focus group route of Option 2 would provide more specific, in-depth information about Canada School employee experiences and needs than surveys alone; however, a higher number of employees may not prefer the focus group approach due to its reduced anonymity, decreased convenience, and large time commitment.

Employees with and without disabilities who experience transportation barriers would be the target population for the follow-up interviews and focus groups of Option 2. Therefore, the researcher would identify and select potential participants using purposive sampling. Purposive sampling refers to choosing people for inclusion in a study specifically because they have research objective-relevant characteristics (Robinson, 2014, p. 5244).

Since there is no guarantee that Canada School employees will complete the survey or participate in a follow-up interview or focus group, Option 2 might have limited effectiveness in addressing the Canada School's transportation and employee well-being knowledge gap.

8.4.2.2 Management Acceptance

The survey, follow-up interview, and follow-up focus group content for Option 2 needs approval from management in the Canada School's Access to Information and Privacy Team through a Privacy Impact Assessment, but the follow-up content has to be created first. Additionally, an Information Management Checklist outlining how the survey, interview, and focus group data will be handled at every stage in the project lifecycle must be completed before being reviewed and approved by management in the Canada School's Information Management Team. Finally, some respondents may need approval from their direct supervisor to complete the survey, interview, or focus group during work hours.

8.4.2.3 Ease of Implementation

Implementing Option 2 would involve:

- developing interview and focus group guides;
- completing a Privacy Impact Assessment on the survey, interview guide, and focus group guide content with direction from the Canada School's Access to Information and Privacy Team;
- consulting with the Canada School's Digital Academy to see what it would take to build an accessible online survey platform from scratch;
- selecting an online survey platform and acquiring appropriate software licenses with guidance from the Canada School's Evaluation Team if the Digital Academy consultation shows that building an online platform is not feasible;
- designing accessible fillable PDF forms with guidance from the Canada School's User Experience Team;
- conducting a pilot test of the online and offline survey formats with support from the Canada School's DEI Forum;
- conducting a pilot test of the interview and focus group guides with support from the Canada School's DEI Forum;
- completing an Information Management Checklist with guidance from the Canada School's Information Management Team;
- connecting with the Canada School's Linguistic Services Team to ensure the finalized documents are made available in English and French;
- recruiting and designating voluntary survey readers and scribes with support from the Canada School's DEI Forum;
- recruiting and designating voluntary, knowledgeable interviewers with support from the Canada School's DEI Forum;
- recruiting and designating voluntary, knowledgeable focus group facilitators with support from the Canada School's DEI Forum;
- advertising the survey as well as the follow-up interview and focus group opportunities in the Canada School's weekly digital newsletter,

News@TheSchool, with support from the Canada School's Communications Team;

- distributing the survey instrument to all Canada School employees with support from the Canada School's DEI Co-Champions;
- analyzing the survey results with support from the Canada School's Evaluation Team;
- identifying eligible survey respondents who expressed interest in the follow-up interview or focus group opportunities with support from the Canada School's Evaluation Team;
- distributing the interview guide to eligible Canada School employees who expressed interest in being interviewed with support from the Canada School's DEI Co-Champions;
- distributing the focus group guide to eligible Canada School employees who expressed interest in taking part in a focus group with support from the Canada School's DEI Co-Champions;
- coordinating dates and times for the follow-up interviews;
- coordinating dates and times for the follow-up focus group(s);
- analyzing the follow-up interview and focus group results with support from the Canada School's Evaluation Team; and
- sharing key findings across the Canada School with support from the Canada School's DEI Forum and Communications Team.

8.4.2.4 Resource Capacity

Executing the follow-up interview route in Option 2 would require at least one knowledgeable interviewer. Similarly, executing the follow-up focus group route in Option 2 would require at least one knowledgeable focus group facilitator. Finally, as shown in the Management Acceptance and Ease of Implementation criteria, implementing Option 2 would depend on the availability of various individuals and teams across the Canada School.

8.4.3 Option 3: Conducting only individual interviews with employees.

8.4.3.1 Potential Scope and Effectiveness

Option 3 would likely allow no more than 10 Canada School employees to provide input, though this total could be increased if multiple interviewers are available. Respondents' required time commitment would probably be between 45 and 60 minutes, but it would depend on the number and type of interview questions, and how detailed the respondent goes with their answers. Option 3 would provide more specific, in-depth information about Canada School employee experiences and needs than surveys; however, a higher number of employees may not prefer the interview approach due to its reduced anonymity, decreased convenience, and large time commitment.

Employees with and without disabilities who experience transportation barriers would be the target population for the individual interviews. Therefore, the researcher would identify and select potential participants using purposive sampling (Robinson, 2014, p. 5244).

Since there is no guarantee that Canada School employees will complete an interview, Option 3 might have limited effectiveness in addressing the Canada School's transportation and employee well-being knowledge gap.

8.4.3.2 Management Acceptance

Once created, the content of the interview guide for Option 3 must be given to management in the Canada School's Access to Information and Privacy Team for review and approval through a Privacy Impact Assessment. Additionally, an Information Management Checklist outlining how the interview data will be handled at every stage in the project lifecycle must be completed before being reviewed and approved by management in the Canada School's Information Management Team. Finally, some

respondents may need approval from their direct supervisor to participate in an interview during work hours.

8.4.3.3 Ease of Implementation

Implementing Option 3 would involve:

- developing an interview guide;
- completing a Privacy Impact Assessment for the interview guide content with direction from the Canada School's Access to Information and Privacy Team;
- designing accessible fillable PDF forms with guidance from the Canada School's User Experience Team;
- conducting a pilot test of the interview guide with support from the Canada School's DEI Forum;
- completing an Information Management Checklist with guidance from the Canada School's Information Management Team;
- connecting with the Canada School's Linguistic Services Team to ensure the finalized documents are made available in English and French;
- recruiting and designating voluntary, knowledgeable interviewers with support from the Canada School's DEI Forum;
- advertising the interview opportunity in the Canada School's weekly digital newsletter, *News@TheSchool*, with support from the Canada School's Communications Team;
- distributing the interview guide to eligible Canada School employees who expressed interest in being interviewed with support from the Canada School's DEI Co-Champions;
- coordinating dates and times for interviews;
- analyzing the interview results with support from the Canada School's Evaluation Team; and
- sharing key findings across the Canada School with support from the Canada School's DEI Forum and Communications Team.

8.4.3.4 Resource Capacity

Executing Option 3 would require at least one knowledgeable interviewer. Additionally, as shown in the Management Acceptance and Ease of Implementation criteria, implementing Option 3 would depend on the availability of various individuals and teams across the Canada School.

8.4.4 Option 4: Conducting only focus groups with employees.

8.4.4.1 Potential Scope and Effectiveness

Option 4 would likely allow no more than 10 Canada School employees to provide input, though this total could be increased if multiple focus group facilitators are available and multiple focus group sessions are offered. Respondents' required time commitment would probably be between 90 and 120 minutes, but it would depend on the number and type of focus group questions, the number of participants, how detailed participants go with their answers, and the extent to which interaction takes place between the participants. Option 4 would provide more specific, in-depth information about Canada School employee experiences and needs than surveys; however, a higher number of employees may not prefer the focus group approach due to its reduced anonymity, decreased convenience, and large time commitment.

Employees with and without disabilities who experience transportation barriers would be the target population for the focus groups. Therefore, the researcher would identify and select potential participants using purposive sampling (Robinson, 2014, p. 5244).

Since there is no guarantee that Canada School employees will complete a focus group session, Option 4 might have limited effectiveness in addressing the Canada School's transportation and employee well-being knowledge gap.

8.4.4.2 Management Acceptance

Once created, the focus group guide content for Option 4 must be given to management in the Canada School's Access to Information and Privacy Team for review and approval through a Privacy Impact Assessment. Additionally, an Information Management Checklist outlining how the focus group data will be handled at every stage in the project lifecycle must be completed before being reviewed and approved by management in the Canada School's Information Management Team. Finally, some respondents may need approval from their direct supervisor to participate in a focus group session during work hours.

8.4.4.3 Ease of Implementation

Implementing Option 4 would involve:

- developing a focus group guide;
- completing a Privacy Impact Assessment for the focus group guide content with direction from the Canada School's Access to Information and Privacy Team;
- designing accessible fillable PDF forms with guidance from the Canada School's User Experience Team;
- conducting a pilot test of the focus group guide with support from the Canada School's DEI Forum;
- completing an Information Management Checklist with guidance from the Canada School's Information Management Team;
- connecting with the Canada School's Linguistic Services Team to ensure the finalized documents are made available in English and French;
- recruiting and designating voluntary, knowledgeable focus group facilitators with support from the Canada School's DEI Forum;
- advertising the focus group opportunities in the Canada School's weekly digital newsletter, *News@TheSchool*, with support from the Canada School's Communications Team;

- distributing the focus group guide to eligible Canada School employees who expressed interest in taking part in a focus group with support from the Canada School's DEI Co-Champions;
- coordinating dates for the focus group sessions;
- analyzing the focus group results with support from the Canada School's Evaluation Team; and
- sharing key findings across the Canada School with support from the Canada School's DEI Forum and Communications Team.

8.4.4.4 Resource Capacity

Executing Option 4 would require at least one knowledgeable focus group facilitator. Additionally, as shown in the Management Acceptance and Ease of Implementation criteria, implementing Option 4 would depend on the availability of various individuals and teams across the Canada School.

8.5 Recommendation

When COVID-19 restrictions are lifted and employees' preferred work locations are more established, the Canada School should consider implementing Option 1 using accessible online and offline formats. Option 1 was for the Canada School to implement the survey instrument presented in Annex A of this report as it is.

8.6 Recommendation Rationale

The survey instrument in Option 1 would be available to every Canada School employee. In addition, it uses open- and closed-ended questions, so Canada School employees would have space to describe specific examples of their transportation and well-being needs. Without employee participation, however, all four possible options would be ineffective. All four options would involve collaborating with various Canada School Teams, but Option 1 offers respondents the highest level of anonymity, the most convenience, and the lowest time commitment. Therefore, Option 1 would probably be

preferred by the greatest number of Canada School employees. Option 1 and Option 2 have the largest potential scope, and both would require recruiting stand-by voluntary survey readers and scribes for accessibility and inclusion purposes. Nevertheless, because Option 1 eliminates having to create additional content guides, recruit knowledgeable interviewers and focus group facilitators, and coordinate qualitative follow-up opportunities, it would be the easiest option for the Canada School to implement.

8.7 Implementation Plan for the Recommendation

This section summarizes the steps described in the Ease of Implementation criterion for Option 1, and puts them into three phases:

1. Before Survey Launch;
2. Survey Launch; and
3. After Survey Launch.

8.7.1 Before Survey Launch

Before launching the survey, the Canada School would need to:

- complete a Privacy Impact Assessment on the survey content;
- determine the feasibility of building an online platform from scratch;
- select an existing online platform and acquire appropriate software licenses if constructing a platform is not feasible;
- design accessible fillable PDF forms;
- conduct a pilot test of the online and offline survey formats
- complete an Information Management Checklist;
- make finalized documents available in English and French;
- recruit and designate voluntary survey readers and scribes; and

- advertise the survey opportunity internally.

8.7.2 Survey Launch

To officially launch the survey, the Canada School would need to:

- distribute the survey instrument.

8.7.3 After Survey Launch

After the survey participation deadline, the Canada School would need to:

- analyze the results; and
- share key findings across the Canada School.

9 CONCLUSION

Under the *Accessible Canada Act* and the *Nothing Without Us* strategy, the Canada School must provide barrier-free, accessible, and inclusive workplaces for its employees. Therefore, the primary purpose of this project was to discover how the Canada School could potentially improve its workplace accessibility and inclusion by considering the relationship between transportation and employee well-being. Findings from the literature review and the Canada School current state analysis suggested that the answer to this question depends on identifying employees' individual needs, perceptions, and experiences.

Canada School employees' needs, perceptions, and experiences related to transportation and well-being are largely unknown, so this project recommends that the Canada School consider implementing the survey instrument presented in Annex A using accessible online and offline formats.

The survey results, which should be analyzed with an inclusion lens, would show Canada School employees' current transportation barriers, the effects of those transportation barriers on specific aspects of employees' workplace well-being, and employees' ideas about what the Canada School could do to become more accessible and inclusive from a transportation and well-being perspective.

Having this kind of first-hand information is particularly important for the Canada School and other federal organizations striving to improve workplace accessibility and inclusion because transportation will be part of employees' work life unless they work from home 100% of the time. Since 60% of Canadians hope to return to the office in some capacity after the COVID-19 pandemic, employees' transportation-related needs should be identified and incorporated into workplace accessibility and inclusion efforts. After all, creating barrier-free, accessible, and inclusive workplaces is more than just a nice thing to do; it is the law.

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ANNEX A: SURVEY INSTRUMENT

This 37-question survey instrument has 10 sections:

1. Transportation Experiences Getting to Work (3 questions);
2. Transportation Experiences While at Work (3 questions);
3. Transportation Experiences Getting Home From Work (3 questions);
4. Transportation Barriers and Workplace Mental Health (5 questions);
5. Transportation Barriers and Workplace Engagement (5 questions);
6. Transportation Barriers and Workplace Productivity and Performance (3 questions);
7. Transportation Barriers and Workplace Participation (6 questions);
8. Workplace Considerations for the Canada School (3 questions);
9. Demographics (5 questions); and
10. Further and Final Thoughts (1 question).

Please know that **your input is valuable and needed even if** you have not experienced transportation barriers, or your transportation barriers have not affected your well-being.

Section 1: Transportation Experiences Getting to Work

This section has three questions. It asks about your transportation modes, transportation barriers, and frequency of transportation barriers getting to work.

Section 1 Glossary

Transportation barriers: any transportation-related issues that prevent or make it difficult for you to get to your desired destination.

Section 1 Questions

Question 1. In the last week, what transportation modes did you use getting to work? Select all that apply.

- Not applicable, I **never** commuted to work in the last week [exclusive choice]
- Personal vehicle (driver)
- Personal vehicle (passenger)
- Public transportation
- Paratransit
- Taxi
- Public ridesharing service (for example, Uber, Lyft)
- Bike
- Walk
- Other (please specify)

Question 2. In the last week, what transportation barriers did you experience getting to work? Select all that apply.

- Not applicable, I **never** commuted to work in the last week [exclusive choice]
- Not applicable, I **never** experienced transportation barriers during my commutes to work in the last week [exclusive choice]
- Do not own any vehicles
- Do not always have access to the household vehicle(s)
- No driver's license
- Lack of parking spaces
- Difficulty asking for rides
- Difficulty finding rides, even after asking
- Inadequate public transportation system (for example, slow service)
- Difficulty navigating public transit systems
- Inaccessible transit stops

- No public ridesharing services (for example, Uber, Lyft) in my area
- Weather (for example, icy roads or sidewalks, snowbanks)
- Crowds
- Costs of vehicle ownership (for example, parking, gas, insurance, maintenance)
- Cost of travel fares (for example, bus passes, taxi rides, Uber rides)
- Commuting time
- Commuting distance
- Drivers' disrespectful actions or attitudes
- Drivers' lack of accessibility knowledge
- Inflexible transportation schedules
- Transportation source showing up full (for example, at maximum capacity)
- Transportation source not showing up
- Transportation source showing up late
- Do not know when my transportation source will show up
- Wait times of 20 minutes or more
- Inaccessible transportation-related information (for example, announcements, directions)
- Traffic congestion
- Other (please specify)

Question 3. In the last week, how often did you experience your identified transportation barriers getting to work? Select one response.

- Rarely
- Sometimes
- Often
- Always
- Not applicable

Section 2: Transportation Experiences While at Work

This section has three questions. It asks about your transportation modes, transportation barriers, and frequency of transportation barriers while at work (for example, getting to and from meetings).

Section 2 Glossary

Transportation barriers: any transportation-related issues that prevent or make it difficult for you to get to your desired destination.

Section 2 Questions

Question 4. In the last week, what transportation modes did you use while at work (for example, getting to and from meetings)? Select all that apply.

- Not applicable, I **never** commuted while at work in the last week [exclusive choice]
- Personal vehicle (driver)
- Personal vehicle (passenger)
- Public transportation
- Paratransit
- Taxi
- Public ridesharing service (for example, Uber, Lyft)
- Bike
- Walk
- Other (please specify)

Question 5. In the last week, what transportation barriers did you experience while at work (for example, getting to and from meetings)? Select all that apply.

- Not applicable, I **never** commuted while at work in the last week [exclusive choice]
- Not applicable, I **never** experienced transportation barriers during my commutes at work in the last week [exclusive choice]
- Do not own any vehicles
- Do not always have access to the household vehicle(s)
- No driver's license
- Lack of parking spaces
- Difficulty asking for rides
- Difficulty finding rides, even after asking
- Inadequate public transportation system (for example, slow service)
- Difficulty navigating public transit systems
- Inaccessible transit stops
- No public ridesharing services (for example, Uber, Lyft) in my area
- Weather (for example, icy roads or sidewalks, snowbanks)
- Crowds
- Costs of vehicle ownership (for example, parking, gas, insurance, maintenance)
- Cost of travel fares (for example, bus passes, taxi rides, Uber rides)
- Commuting time
- Commuting distance
- Drivers' disrespectful actions or attitudes
- Drivers' lack of accessibility knowledge
- Inflexible transportation schedules
- Transportation source showing up full (for example, at maximum capacity)
- Transportation source not showing up
- Transportation source showing up late
- Do not know when my transportation source will show up
- Wait times of 20 minutes or more
- Inaccessible transportation-related information (for example, announcements, directions)

- Traffic congestion
- Other (please specify)

Question 6. In the last week, how often did you experience your identified transportation barriers while at work (for example, getting to and from meetings)? Select one response.

- Rarely
- Sometimes
- Often
- Always
- Not applicable

Section 3: Transportation Experiences Getting Home From Work

This section has three questions. It asks about your transportation modes, transportation barriers, and frequency of transportation barriers getting home from work.

Section 3 Glossary

Transportation barriers: any transportation-related issues that prevent or make it difficult for you to get to your desired destination.

Section 3 Questions

Question 7. In the last week, what transportation modes did you use getting home from work? Select all that apply.

- Not applicable, I **never** commuted home from work in the last week [exclusive choice]
- Personal vehicle (driver)

- Personal vehicle (passenger)
- Public transportation
- Paratransit
- Taxi
- Public ridesharing service (for example, Uber, Lyft)
- Bike
- Walk
- Other (please specify)

Question 8. In the last week, what transportation barriers did you experience getting home from work? Select all that apply.

- Not applicable, I **never** commuted home from work in the last week [exclusive choice]
- Not applicable, I **never** experienced transportation barriers during my commutes home from work in the last week [exclusive choice]
- Do not own any vehicles
- Do not always have access to the household vehicle(s)
- No driver's license
- Lack of parking spaces
- Difficulty asking for rides
- Difficulty finding rides, even after asking
- Inadequate public transportation system (for example, slow service)
- Difficulty navigating public transit systems
- Inaccessible transit stops
- No public ridesharing services (for example, Uber, Lyft) in my area
- Weather (for example, icy roads or sidewalks, snowbanks)
- Crowds
- Costs of vehicle ownership (for example, parking, gas, insurance, maintenance)
- Cost of travel fares (for example, bus passes, taxi rides, Uber rides)
- Commuting time

- Commuting distance
- Drivers' disrespectful actions or attitudes
- Drivers' lack of accessibility knowledge
- Inflexible transportation schedules
- Transportation source showing up full (for example, at maximum capacity)
- Transportation source not showing up
- Transportation source showing up late
- Do not know when my transportation source will show up
- Wait times of 20 minutes or more
- Inaccessible transportation-related information (for example, announcements, directions)
- Traffic congestion
- Other (please specify)

Question 9. In the last week, how often did you experience your identified transportation barriers getting home from work? Select one response.

- Rarely
- Sometimes
- Often
- Always
- Not applicable

Section 4: Transportation Barriers and Workplace Mental Health

This section has five questions. It asks about how often your identified transportation barriers affected specific aspects of your workplace mental health.

Section 4 Glossary

Workplace mental health: a state of well-being in which you realize your own potential, can cope with the everyday work-related pressures of life, can work productively and fruitfully, and are able to contribute to your workplace community.

Section 4 Questions

Question 10. In the last week, how often did your identified transportation barriers make it hard for you to access learning opportunities at work? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 11. In the last week, how often did your identified transportation barriers increase your level of work-related stress? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 12. In the last week, how often did your identified transportation barriers make you feel emotionally drained after your workdays? Select one response.

- Never

- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 13. In the last week, how often did your identified transportation barriers make it hard for you to be creative at work? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 14. In the last week, how often did your identified transportation barriers make it hard for you to balance your work and personal life? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Section 5: Transportation Barriers and Workplace Engagement

This section has five questions. It asks about how often your identified transportation barriers affected specific aspects of your workplace engagement.

Section 5 Glossary

Workplace engagement: employee satisfaction and employee commitment. Employee satisfaction means the level of contentment or happiness you assign to attributes of your job or position, the Canada School, and the overall way you feel about your employment. Employee commitment means the pride you feel for the Canada School as well as the degree to which you intend to remain with the Canada School, desire to serve or to perform at high levels, positively recommend the Canada School to others, and strive to improve the Canada School's results.

Section 5 Questions

Question 15. In the last week, how often did your identified transportation barriers make it hard for you to be satisfied with the Canada School? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 16. In the last week, how often did your identified transportation barriers make you like your job less? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 17. In the last week, how often did your identified transportation barriers make it hard for you to recommend the Canada School as a great place to work? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 18. In the last week, how often did your identified transportation barriers make you think about leaving your current position for a comparable job elsewhere? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 19. In the last week, how often did your identified transportation barriers make it hard for you to put in the extra effort to get the job done, even though you were willing to do so? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Section 6: Transportation Barriers and Workplace Productivity and Performance

This section has three questions. It asks about how often your identified transportation barriers affected specific aspects of your workplace productivity and performance.

Section 6 Glossary

Workplace productivity and performance: the extent to which you can complete your assigned workload during your regular working hours (not overtime).

Section 6 Questions

Question 20. In the last week, how often did your identified transportation barriers make it hard for you to complete your assigned workload during your regular working hours (not overtime)? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 21. In the last week, how often did your identified transportation barriers make you have to work overtime to catch up on your work? Select one response.

- Never
- Rarely
- Sometimes
- Often

- Always
- Not applicable

Question 22. In the last week, how often did your identified transportation barriers make you feel like the quality of your work suffered? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Section 7: Transportation Barriers and Workplace Participation

This section has six questions. It asks about how often your identified transportation barriers affected specific aspects of your workplace participation.

Section 7 Glossary

Workplace participation: the extent to which you are able to attend and be involved in all work-related activities with your colleagues, where each individual is choosing for themselves how to take part.

Section 7 Questions

Question 23. In the last week, how often did your identified transportation barriers make you have to virtually attend work-related activities in your region that you wanted to be at in person? Select one response.

- Never

- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 24. In the last week, how often did your identified transportation barriers force you to be absent from work-related activities? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 25. In the last week, how often did your identified transportation barriers make it hard for you to focus on the task at hand during the work-related activities you attended? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 26. In the last week, how often did your identified transportation barriers make you late for work-related activities? Select one response.

- Never
- Rarely

- Sometimes
- Often
- Always
- Not applicable

Question 27. In the last week, how often did your identified transportation barriers make you have to leave work-related activities early? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Question 28. In the last week, how often did your identified transportation barriers cause you to work from home **when you would have preferred** to work in the office? Select one response.

- Never
- Rarely
- Sometimes
- Often
- Always
- Not applicable

Section 8: Workplace Considerations for the Canada School

This section has three questions. It asks about your transportation-related use of GCcoworking sites, and for your ideas on how the Canada School could become a

more accessible and inclusive workplace with respect to transportation and employee well-being.

Section 8 Glossary

Accessible workplace: barrier-free work locations and environments that every Canada School employee can get to and use.

GCcoworking sites: alternative work locations provided through Public Services and Procurement Canada's two-year GCcoworking pilot project. The Canada School is participating in this initiative. Participating federal employees in participating departments can use the GCcoworking sites. There are six functioning GCcoworking sites throughout the National Capital Region and the regions:

1. Downtown Ottawa (171 Bank Street);
2. Ottawa South (335 River Road);
3. Ottawa West (555 Legget Drive);
4. Ottawa East (110 Place d'Orleans Drive);
5. Gatineau (480 de la Cite Boulevard); and
6. Toronto (655 Bay Street).

Inclusive workplace: barrier-free work locations and environments that support the well-being of all Canada School employees.

Transportation barriers: any transportation-related issues that prevent or make it difficult for you to get to your desired destination.

Well-being: the workplace mental health, engagement, productivity and performance, and participation of Canada School employees.

Section 8 Questions

Question 29. In the last week, did you ever choose to work from a GCcoworking site in an effort to reduce your identified transportation barriers? Select one response.

- Yes
- No
- I did not know about GCcoworking sites
- Not applicable

Question 30. Considering **your own** transportation and well-being experiences, what **would help** the Canada School become a more accessible and inclusive workplace **for you**? (Please know that your responses to this question will provide context for future considerations in making the Canada School a barrier-free and inclusive employer, but will not guarantee implementation of the ideas.)

- Text response.

Question 31. Considering transportation and well-being experiences **in general** (for example, looking beyond your own experiences), what **could help** the Canada School become a more accessible and inclusive workplace **for its employees**? (Please know that your responses to this question will provide context for future considerations in making the Canada School a barrier-free and inclusive employer, but will not guarantee implementation of the ideas.)

- Text response.

Section 9: Demographics

This section has five questions. It asks about your disability status, primary Canada School office location, live-in province or territory, and the approximate distance between your home and primary Canada School office location.

Section 9 Glossary

Primary Canada School office location: the place where you carry out most of your work tasks.

Section 9 Questions

Question 32. In the last week, did you consider yourself to be a person with a disability? Select one response.

- Yes
- No

Question 33. In the last week, where was your primary Canada School office location? Select one response.

- Vancouver Learning Centre (Library Square, 300 Georgia Street West)
- Victoria Learning Centre (P.L. James Building, 1230 Government Street)
- Whitehorse Learning Centre (Elijah Smith Building, 300 Main Street)
- Calgary Learning Centre (Harry Hays Building, 220 4th Avenue South East)
- Edmonton Learning Centre (Canada Place Building, 9700 Jasper Avenue)
- Winnipeg Learning Centre (Stanley Knowles Building, 391 York Avenue)
- Toronto Learning Centre (Dominion Public Building, 1 Front Street West)
- Asticou Centre (241 de la Cite-des-Jeunes Boulevard)
- La Salle Academy (373 Sussex Drive)
- John G. Diefenbaker Building (111 Sussex Drive)
- Montreal Learning Centre (Guy-Favreau Complex, 200 Rene-Levesque Boulevard West)
- Quebec Learning Centre (Rene-Nicolas Levasseur Building, 94 Dalhousie Street)
- Halifax Learning Centre (Maritime Centre, 1505 Barrington Street)
- Moncton Learning Centre (777 Main Street)
- St. John's Learning Centre (John Cabot Building, 10 Barter's Hill)

- GCcoworking Site Downtown Ottawa (171 Bank Street)
- GCcoworking Site Ottawa South (335 River Road)
- GCcoworking Site Ottawa West (555 Legget Drive)
- GCcoworking Site Ottawa East (110 Place d'Orleans Drive)
- GCcoworking Site Gatineau (480 de la Cite Boulevard)
- GCcoworking Site Toronto (655 Bay Street)
- My home
- Other (please specify)

Question 34. In the last week, what was your live-in province or territory? Select one response.

- British Columbia
- Alberta
- Saskatchewan
- Manitoba
- National Capital Region
- Ontario (excluding the National Capital Region)
- Quebec (excluding the National Capital Region)
- Newfoundland and Labrador
- Prince Edward Island
- Nova Scotia
- New Brunswick
- Yukon
- Northwest Territories
- Nunavut
- Outside of Canada

Question 35. In the last week, what was the approximate distance, in kilometres (km), between your home and primary Canada School office location? (Please indicate 0 if your home was your primary Canada School office location.)

- Text response.

Question 36. In the last week, did you work **only** from home? Select one response.

- Yes
- No

Section 10: Further and Final Thoughts

This section has one question. It provides space for you to note any further and final thoughts.

Section 10 Question

Question 37. Please use this space for any additional comments.

- Text response.

ANNEX B: COMPARING THE PROJECT SURVEY INSTRUMENT TO PREVIOUS PSES

Table 5. Comparing project survey questions to previous PSES questions.

Project Survey Question	PSES Question (Year)
Question 10. In the last week, how often did your identified transportation barriers make it hard for you to access learning opportunities at work?	**Question 46c.** To what extent have the following adversely affected your career progress in the federal public service over the last 12 months? Lack of access to learning opportunities. (2019)
Question 11. In the last week, how often did your identified transportation barriers increase your level of work-related stress?	**Question 75.** Overall, my level of work-related stress is… (2019)
Question 12. In the last week, how often did your identified transportation barriers make you feel emotionally drained after your workdays?	**Question 76.** After my workday, I feel emotionally drained. (2019)
Question 13. In the last week, how often did your identified transportation barriers make it hard for you to be creative at work?	**Question 14.** I am encouraged to be innovative or to take initiative in my work. (2019)

Project Survey Question	PSES Question (Year)
Question 14. In the last week, how often did your identified transportation barriers make it hard for you to balance your work and personal life?	**Question 6.** I have support at work to balance my work and personal life. (2019)
Question 15. In the last week, how often did your identified transportation barriers make it hard for you to be satisfied with the Canada School?	**Question 52.** I am satisfied with my department or agency. (2019)
Question 16. In the last week, how often did your identified transportation barriers make you like your job less?	**Question 16.** Overall, I like my job. (2019)
Question 17. In the last week, how often did your identified transportation barriers make it hard for you to recommend the Canada School as a great place to work?	**Question 51.** I would recommend my department or agency as a great place to work. (2019)
Question 18. In the last week, how often did your identified transportation barriers make you think about leaving your current position for a comparable job elsewhere?	**Question 53.** I would prefer to remain with my department or agency, even if a comparable job was available elsewhere in the federal public service. (2019)
Question 19. In the last week, how often did your identified transportation barriers make it hard for you to put in the extra effort to get the job done, even though you were willing to do so?	**Question 14.** I am willing to put in the extra effort to get the job done. (2014)

Project Survey Question	PSES Question (Year)
Question 20. In the last week, how often did your identified transportation barriers make it hard for you to complete your assigned workload during your regular working hours (not overtime)?	**Question 17.** I can complete my assigned workload during my regular working hours. (2019)
Question 21. In the last week, how often did your identified transportation barriers make you have to work overtime to catch up on your work?	**Question 74e.** Overall, to what extent do the following factors cause you stress at work? Overtime or long work hours. (2019)
Question 22. In the last week, how often did your identified transportation barriers make you feel like the quality of your work suffered?	**Question 18.** I feel that the quality of my work suffers because of… (2019)