

Should I stay, or Should I go: Where are all the Public Toilets in Vancouver?

by
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Abstract

Public toilets are a topic that evade public and political awareness; however, they are integral to maintaining healthy, sustainable, and equitable public spaces in which all people can take part. In the City of Vancouver, there is a severe lack of public toilet provision, which has a detrimental effect on the ability for women, seniors, people with disabilities, and many other vulnerable people to leave their homes and take part in public activities and contribute to the local economy. This study explores and evaluates four potential policy options to help the city increase their public toilet provision with the support of existing literature, case studies and key informant interviews.

Keywords: public toilet; Pit Stop program, Community Toilet Scheme, Washroom Strategy, toilet provision, toilet accessibility

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List of Acronyms

APT	Automated Public Toilet
BC	British Columbia
CTS	Community Toilet Scheme
UK	United Kingdom
UN	United Nations
UNHCR	United Nations High Commissioner of Refugees
US	United States

Glossary

Anti-social Behaviour	Outlined by the <i>Crime and Policing Act 2014</i> in the UK as “conduct that has caused, or is likely to cause, harassment, alarm or distress to any person” or “capable of causing nuisance or annoyance” to others (<i>Crime and Policing Act, 2014</i>).
Automated Public Toilet	A direct access toilet that has automated the toilet process, through an automated door mechanism and timer that limits the toilet visit to a time determined by local authorities. Furthermore, the toilet will “self-clean” between users, eliminating the need for frequent cleaning by staff.
Community Toilet Scheme	A partnership between local governments and private sector businesses to make private sector toilets open to the public to increase provision of “clean, safe and accessible toilets” (Community Toilet Scheme, 2021)
Portland Loo	A freestanding restroom that is designed to be functional and durable. The toilet design includes “anti-graffiti wall panels, open grating, easy-to clean coating, and interchange-able building components” (The Portland Loo, n.d., para. 3). The design aims to prevent vandalism, drug use, and sex work.
Publicly Available Toilet	A toilet that is found in the private sector, typically cafes, restaurants, or shops, that some groups of the public may have access to through employment, patronage of business, or discretion of business employees.

Executive Summary

Public toilet provision is an essential service that facilitates positive outcomes related to public health, sustainability, increased mobility, economic opportunities, and enhanced public participation. Despite Canada being a signatory of the United Nations 2030 Agenda for Sustainable Development, which includes a Sustainable Development Goal (SDG) number 6 to improve water and sanitation services and access, municipal public toilet provision continues to be insufficient to meet the increasing demands and needs of the Canadian public and their respective residents. By allowing the lack of provision to persist, municipalities, including the City of Vancouver, are undermining the sustainability, health, and equity of Canadian cities.

During the COVID-19 pandemic, the lack of public toilet provision became evident in the City of Vancouver, with access to toilets restricted due to business closures and lockdowns. As a result, the City experienced increased public urination and open defecation, raising concerns for a different public health crisis and bringing public toilets back onto the public and political agenda. Despite past challenges to justify high capital and operating costs related to public toilet provision, as well as concerns surrounding vandalism, drug use, and cleanliness, COVID-19 offered a policy window to further advocate for public toilet provisions and investigate solutions to adequately meet the demands of Vancouver residents.

The qualitative methods used in this study include a literature review, case studies, and key informant interviews with experts, advocates, and city officials with participants calling in from countries including Germany, Canada, Australia, Singapore, and England. Findings suggest that high operating costs, anti-social behaviour, and accessibility are primary challenges that municipalities face when analyzing alternatives to increasing public toilet provision; however, results further emphasize the benefits that public toilets provide to a community including greater public participation, increased mobility, reduced social isolation and better public health.

Four policy options were identified to address this problem: a Community Toilet Scheme, increase of on-street public toilets and signage to public toilets in public buildings, a Vancouver version of the San Francisco Pit Stop program, and the development of a Washroom Strategy and policy integration. The policy options were

analyzed by the following criteria and measures: effectiveness of equity, stakeholder acceptance, administrative complexity, safety, and capital and operating costs. This study recommends that the City develop a Washroom Strategy to gain a comprehensive understanding of the current toilet provision that residents and visitors in Vancouver face in urban areas, and to integrate public toilets in other municipal plans and strategies to maximize other city strategies and priorities. Furthermore, this study recommends the City implement a Community Toilet Scheme to provide immediate relief to the public.

Chapter 1. Introduction

In 2015, the United Nations (UN) adopted the 2030 Agenda for Sustainable Development, which outlined 17 Sustainable Development Goals (SDGs) that include targets and priorities for nations to work to achieve, with Canada being a signatory of (United Nations, n.d.; Government of Canada, n.d.). Included as an SDG is Goal 6, which strives at “ensuring the availability and sustainability of water and sanitation for all” (United Nations, n.d., Goal 6). Though water and sanitation are issues that are typically associated with developing countries, the UN recognizes the gaps in access to reliable toilet access for people living in rural areas and homeless people in urban environments such as France, the UK, and Canada (United Nations, 2019; WaterAid, 2015). Moreover, with increasing importance put on the climate crisis and sustainability, advocates, researchers, and experts have recognized toilets as being critical infrastructure to create cities and communities that are sustainable, accessible, and inclusive (Greed, 2003, 2004, 2006; Bichard et al, 2006; Bridgman, 2010; Parks Washroom Strategy, 2020; House of Commons, 2008). Despite the fact that everyone needs them, toilets are considered by advocates and experts as a problem that is too often overlooked in government policy, plans, and strategies (Doiron et al, 2021). More than ever, public institutions like the Government of Canada and the City of Vancouver are trying to shift systems and operations to support sustainable alternatives to tackle countless environmental, social, public health, and economic issues. The City of Vancouver’s commitment to such initiatives is evidenced with the release of plans such as *The Greenest City Action Plan*, *The Climate Emergency Action Plan*, *Transportation 2040 Plan*, and *The Healthy City Strategy*¹. However, among these ambitious plans, the topic of public toilets is noticeably absent with the sole exception of a minor acknowledgement to public toilets within the Transportation 2040 Plan, but with no measurable targets or timelines (2012). Because public toilets are essential for public health, mobility, and public participation, the absence of public toilet consideration among City strategies and plans undermines the progress towards achieving the goals and commitments outlined.

¹ See strategies at the following links: <https://vancouver.ca/files/cov/Greenest-city-action-plan.pdf>; <https://vancouver.ca/green-vancouver/vancouvers-climate-emergency.aspx>; <https://vancouver.ca/streets-transportation/transportation-2040.aspx>; <https://vancouver.ca/people-programs/healthy-city-strategy.aspx>

North America has experienced a unique toilet history when compared to other developed countries found in Europe (House, 2018). Public toilets in North America were more prevalent throughout the 20th century, with access being granted upon payment (Wald, 2021). However, payment was reserved for toilets and access to urinals remained unrestricted, which feminists identified in the 1970s as a sexist arrangement that needed to be amended (Wald, 2021; House, 2018). A movement to ban payment for toilets began in the States resulting in the creation of a grassroots advocacy group called Committee to End Pay Toilets in America. The movement successfully managed to ban pay toilets throughout the United States (Wald, 2021; Richards, 2018). Similar legislation can be found in Canada, with the *Public Toilet Act* (1996) in British Columbia (BC), which bans payment for access to public toilets within the province. Unfortunately, the end of pay public toilets had a negative effect on the overall provision of public toilets throughout the country, with toilets disappearing in American cities because officials stated they were “expensive and difficult to keep them safe and clean” (Wald, 2021). This is the case for Canadian cities including Vancouver (Hagemoen, 2021).

More recently, COVID-19 brought into stark focus the extent to which municipalities, rely on publicly available toilets within businesses to meet the toilet needs of citizens (Lowe, 2020; Cecco, 2021; Doiron et al, 2021). Major Canadian cities such as Vancouver, Toronto, Montreal, Edmonton, and Ottawa scrambled to address an immediate lack of toilet provision in the wake of widespread business closures, implementing temporary provisions throughout the height of the pandemic (Nowhere to go, 2021). However, many provisions turned out to be temporary or isolated to areas with concentrations of homelessness and sex work such as the Vancouver Downtown Eastside (Ghoussoub, 2021; CityNews, 2020). This has left businesses to revert back to filling in the gaps in provision, but amid rising safety concerns for employees and increasing hostility coming from the public, Vancouver businesses are calling on the City to address the problem directly and provide more public toilets (Ghoussoub, 2021, para. 6).

Given this context this study aims to address the following policy problem: *There is a significant lack of public toilet provision among urban areas through the City of Vancouver*. Exploring ways to increase public toilet access throughout the City can have positive outcomes related to public health, sustainability, increased mobility, economic opportunities, and enhanced public participation. community connection.

Chapter 2 of this study will provide a brief background and context to the issue facing the City of Vancouver with regards to public toilet provision, and Chapter 3 will explain the methodologies used throughout this study. Chapter 4 and 5 contain key findings from three case studies and 13 key informant interviews. Chapter 6 and 7 outline potential policy options feasible for the City of Vancouver to implement along with the criteria and measures used to evaluate them. Chapter 8 provides the policy analysis and Chapters 9 and 10 present recommendations for the City of Vancouver and the conclusion.

Chapter 2. Background

The City of Vancouver has been dealing with the need to provide toilet provision for its population since the town's incorporation (Andrews, 1984; Hagemoen, 2021). As Vancouver transformed from a frontier town to a city with a central government, rules and norms had to be established to veer away from common unfettered toilet behaviour characteristic of a frontier town. With a growing population, Vancouver had to establish health and sanitation standards, which included building toilet provisions for the public. Public conveniences were the first facilities to be provided to the public, who solely consisted of men at the time. Margaret Andrews (1984) argues that public toilets were the distinct step that the City took to rid Vancouver of its frontier past, and step into a "new world [of] wealth and power" (p. 17). Public conveniences were ornate and elaborately designed, and further evidence shows that attendants were located on premises to keep facilities clean and to deter unwelcomed behaviours (Andrews, 1984). Since the first public conveniences were built, more have been built to accommodate growing population; however, the 1960s saw push back against their continued operation due to increasing costs. Furthermore, the emergence of shopping centers and department stores saw the closure of two of the four public conveniences that were built in the early 1920s (Hagemoen, 2021).

Ever since, the case for building public toilets has remained low priority. Leading up to the Vancouver 2010 Winter Olympics, toilets made an appearance in municipal documents and presentations with the proposal to install the first Automated Public Toilets (APTs) in Canada (General Manager of Engineering Services, 2006). The parks board assessed washroom provision and considerations in 2009, in which they identified 10 areas, evidenced in Figure 1, throughout the city that were underserved by existing public toilets in parks and public buildings such as libraries and recreation centres (The Relieved City, 2009).

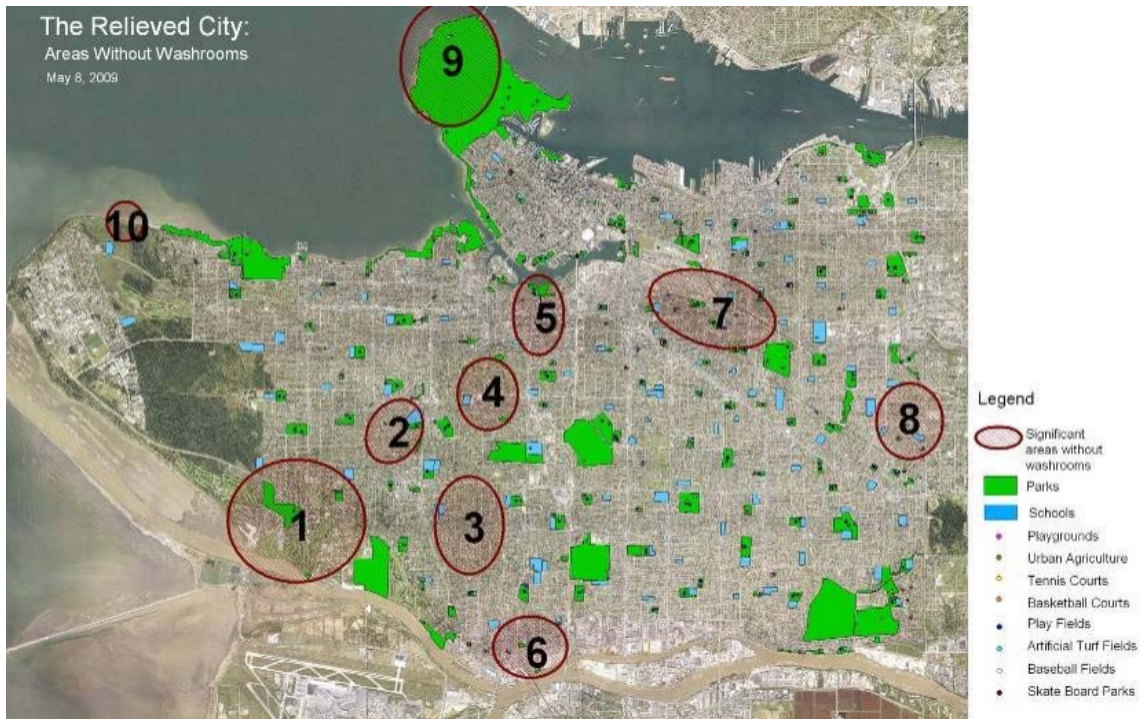


Figure 1. Map of identified zones without access to a public toilet within a 5 minute walk/ 500 meter distance (2009)

Source: <https://parkboardmeetings.vancouver.ca/files/PRESENTATION-RelievedCity-Briefing-20090511.pdf>, Copyright 2022 by City of Vancouver

During this time period, the City installed 8 APTs throughout Vancouver's downtown core area in 2009 (General Manager of Engineering Services, 2009), and hasn't increased toilet provision significantly in the 13 years since. Public toilets have also remained relatively absent on the public agenda and among City priorities since the first wave of toilet installations in 2009 (General Manager of Engineering Services, 2009). Presently, there are 93 public toilets located within park land throughout the City, 11 Automated Public Toilets dotted throughout the downtown core, and 2 comfort stations, located at Victory square and at the intersection of Main Street and Hastings. Of all the facilities that are provided, only 17 of them are wheelchair accessible (Public Washrooms, n.d.). They are found throughout Stanley Park and the downtown core area, with one accessible in the Mount Pleasant neighbourhood. Only 8 public toilets are available 24hrs a day. Additionally, the automated toilets that the City has provided have a maximum time limit of 10 minutes (Public Washrooms, n.d.). This provision is a patchwork that doesn't offer enough accessibility options to those who have the most urgent toilet needs.

The primary provision of public washrooms throughout the city is through parks, in which the responsibility of operating and maintaining remain with the Vancouver Park and Recreation Board (Parks Washroom Strategy, 2020). This limits the City's ability to provide public toilets in urban areas and places outside of parks. This creates a gap in awareness of public toilets as a problem that is interconnected with many other priorities that the municipality has, such as climate change and public health. This is harmful to the physical and mental wellbeing of residents throughout the city (Solomon, 2013; Jones, 2021), while also undermining the effectiveness of plans and strategies the City has outlined by restricting the ability for individuals to take part in initiatives that the City set out to achieve (Greed, 2004).

The City of Vancouver continues to heavily rely on the provision provided by the Vancouver Board of Parks and Recreation, which limits the location of public toilets provision in parks, which are not necessarily accessible in dense, urban areas. Evidence from the Public Washrooms Open Data Portal map shows that under provision in the 10 areas identified in 2009 persists (n.d.).

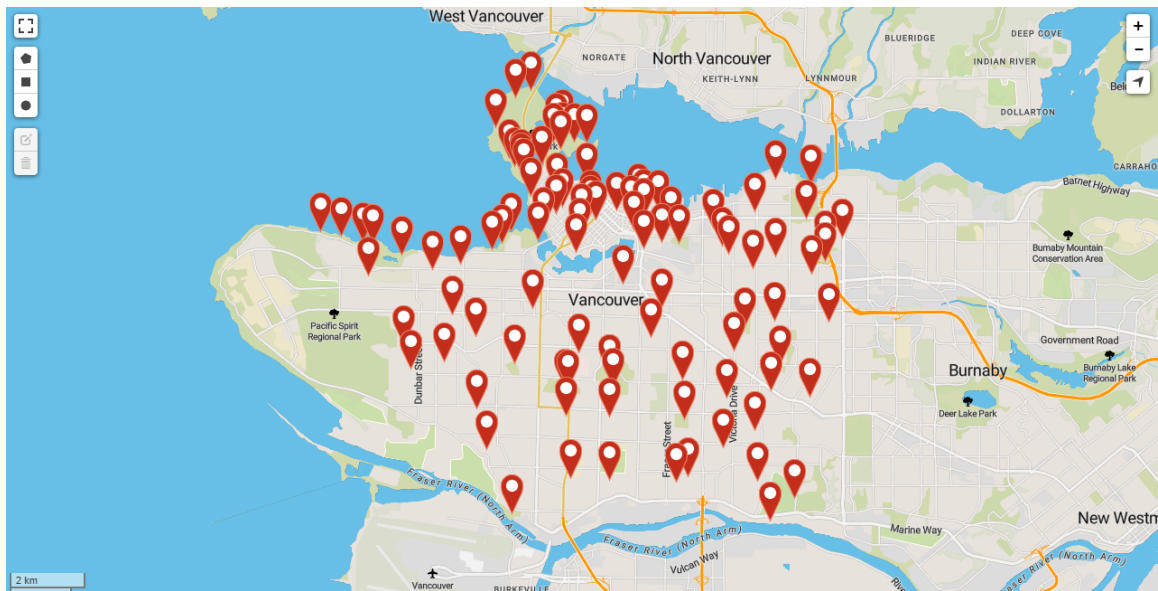


Figure 2. Map of current toilet locations in Vancouver.

Source: <https://opendata.vancouver.ca/explore/dataset/public-washrooms/map/?location=12,49.2594,-123.12309>, Copyright 2022 by City of Vancouver

The problem of insufficient public toilet provision is materializing through increased incidents of public urination and open defecation and is having a real effect on the cleanliness of city streets and alleyways, while also having a consequential impact

on City budgets (Korstrom, 2020; Gangdev, 2020). A memo to City council in 2020 revealed the prevalence of open defecation and offers a glimpse at the toll that it is taking on City resources (Impey, 2020). The number of calls made to the City to alert of feces on streets increased from 167 to 871 calls in 2018 and 2019 respectively, with a projected total of 800 calls in 2020 (Impey, 2020). The areas most affected by increase of public urination and open defecation are encampments around the downtown core and are attributed to increases in homelessness. To face this issue, the City proposed investing \$125,000 for a program to flush key laneways throughout the year, excluding winter months, and another \$75,000 for a pilot program to power wash the entrances and alcoves at business store fronts (Impey, 2020).

For many years, the topic of public toilets has received little spotlight in the media and political agenda, with advocates occasionally publishing articles in mainstream media to highlight the accessibility challenges and health implications this has on seniors and tourists². More recently, public toilets around the world gained momentum in news media with the start of the COVID-19 pandemic lockdowns, in which everyone was encouraged to stay home to isolate, and businesses were forced to close temporarily. With increased business closure, people who ventured outside were caught without any toilet provision, with private toilets in businesses being out of reach. The public's dependence on publicly available toilets in businesses became apparent and calls for improved access and provision were increasing among the public (Ghoussoub, 2021). Canadian cities especially have little toilet provision compared to European and American counterparts, and experience lower number of toilets to population ratios among jurisdictional scans previously done in Toronto (Solomon, 2013).

² See article by Liam Britten (2016). "Vancouver's lack of public washrooms isolating seniors, councillor says" <https://www.cbc.ca/news/canada/british-columbia/vancouver-public-washrooms-1.3830365>

Table 1. Toilet to population ratio for select cities.

Jurisdiction	# of Toilets	Types of toilets included	Toilet to Population Ratio
Vancouver, Canada Population = 631,486 (2016)	13	APTs, Comfort stations	1:48,576
Toronto, Canada Population = 2,956, 024 (2018)	360	Spring and Summer toilets: Parks, community centres, recreation centres, libraries	1:8,211
	192	Winter toilets: Parks, community centres, recreation centres, libraries	1:15,395
	3	APTs	1:985,341
Calgary, Canada Population = 1,372,178 (2021)	29	Includes APTs, Government buildings, Shopping centres, Medical facilities, Parks, Homeless shelters	1:47,316
San Francisco, US Population = 884,108 (2021)	25	Automated Public Toilets	1:35,364
	45	Pit Stop and Park Stop toilets with attendants	1:19,647
Paris, France Population = 2,175,601 (2021)	435	Including parks and gardens, APTs	1:5,018
	135	APTs (not including parks)	1:16,170
London, UK Population = 9,002,000	300	Including community toilets, APTs	1:30,007

Note. Data for Vancouver is from “Population” from The City of Vancouver, <https://vancouver.ca/news-calendar/population.aspx>, Copyright 2022 by City of Vancouver, Open Data Portal from The City of Vancouver, <https://opendata.vancouver.ca/explore/dataset/public-washrooms/map/?location=12,49.25912,-123.12338>, Copyright 2022 by City of Vancouver. Data for Toronto is from “Toronto at a Glance” by Toronto, <https://www.toronto.ca/city-government/data-research-maps/toronto-at-a-glance/>, Copyright 1998-2022 by City of Toronto, “Spring & Summer Washrooms in Parks & Recreation Facilities” by Toronto, <https://www.toronto.ca/explore-enjoy/recreation/spring-summer-washrooms-in-parks-recreation-facilities/>, Copyright 1998-2022 by City of Toronto, “Winter Washrooms in Parks & Recreation Facilities & Maintained Pathways” by Toronto, <https://www.toronto.ca/explore-enjoy/recreation/recreation-community-facilities/winter-washrooms-in-parks/#location=&lat=&lng=>, Copyright 1998-2022. Data for Calgary is from “Calgary – Population” by Alberta, <https://regionaldashboard.alberta.ca/region/calgary/population/#/?from=2017&to=2021>, Copyright 2022 by Government of Alberta, “A Comparative Policy Analysis of Public Toilet Provision Initiatives in North American Cities: Recommendations for the Creation of a Public Toilet Strategy in Toronto” by Rhonda Cheryl Solomon, <https://tspace.library.utoronto.ca/bitstream/1807/94386/1/225%20Solomon%20Comparative%20Policy%20Public%20Toilet%202013.pdf>, Copyright 2022 by University of Toronto. Data for San Francisco is from “San Francisco, California Population 2022 by World Population Review <https://worldpopulationreview.com/us-cities/san-francisco-ca-population>, Copyright 2022 by World Population Review, “Public Toilets” by San Francisco Public Works, <https://sfpublicworks.org/services/public-toilets> Copyright 2022 by San Francisco Public Works, “Analysis of the Pit Stop Program and Park Stop Programs” by Budget and Legislative Analyst’s Office, https://sfbos.org/sites/default/files/BLA_PitStop%26ParkStopsProg.060921.pdf, Copyright 2022 by City and County of San Francisco. Data for Paris is from “12.213.447 habitants en Île-de-France au 1er janvier 2021” by Region Ile de France, <https://www.iledefrance.fr/12213447-habitants-en-ile-de-france-au-1er-janvier-2021>, 2019, Copyright 2022 by Region Ile de France, “Les Toilettes publiques a Paris” by Paris, <https://www.paris.fr/pages/les-sanisettes-2396#:~:text=Plus%20de%20750%20toilettes%20publiques,sanisettes%20ont%20install%C3%A9es%20dans%20Paris,2020>, Copyright 2022 by Paris. Data for London is from “London’s Population” by London Datastore, <https://data.london.gov.uk/dataset/londons-population>, Copyright 2022 by Greater London Authority, “This map shows all of the UK’s loos open in Lockdown 3” by Timeout, <https://www.timeout.com/london/news/this-map-shows-all-of-the-uks-loos-open-in-lockdown-3->

sanitation services (Lowe, 2018; Maroko et al, 2021). Other forms of toilet provision found in the private sector are out of reach for people experiencing homelessness because access is restricted to paying clientele or people who can “pass” as paying clientele (Maroko et al, 2021). Because people experiencing homelessness often face discrimination and hostility by businesses and employees, they risk having no other option than to urinate or defecate openly or while in their clothes (Gangdev, 2020; Lowe 2018). This can mean the loss of dignity for those individuals and push them further into isolation from society, preventing them from accessing other essential public services.

Sometimes, toilet provision is purposefully designed or implemented to be inaccessible to certain types of people and prevent unwanted behaviours. For instance, pay toilets are common among jurisdictions across Europe as a way to regulate toilet use and maintain the facilities. Pay toilets had previously been widespread in North America prior to the ban on paid toilets in the 1970s (Richards, 2018). Similarly, in British Columbia, the *Public Toilet Act* (1996) prohibits public toilets from charging fees to users, which applies to public toilets in the City of Vancouver. Despite efforts in the United States (US) to increase accessibility to public toilets by removing financial barriers, the effect of banning pay toilets had the opposite effect – all toilets started to close and disappear. Since then cities across the US have “persistently refused to construct public restrooms” and allow “existing facilities [to fall] into disrepair” (House, 2018, para. 4). Conversely, pay toilets could increase viability and usage among other groups. Charging payment brings in a small income that may be assumed to be used to clean and maintain the toilets, which increases viability of use for certain groups who then perceive pay toilets as cleaner and well maintained compared to free toilets (Lowe, 2018; Solomon, 2013). Beyond financing abilities, pay toilets are regarded as mechanisms to prevent “vandalism and other criminal activity” (Greed, 2003, p. 248). Nonetheless, charging payment for toilets create barriers for people who may not have the financial flexibility to pay for a toilet, significantly reducing access to the most vulnerable and marginalized people (Greed, 2004).

Moreover, toilet architecture and design are other factors that attempt to “design out crime” (Bichard et al, 2006) which affect the overall accessibility of toilets in terms of perception, comfort, and physical ability. Designs to ward off unwanted behaviours are indiscriminately punishing all users, and in some cases create more harm than good, due to the relatively few who commit crimes of vandalism or use toilets for other uses

besides relieving oneself (Lower, 2018). Ultimately, toilet users will value the toilet facilities they are using based on their comfort and security. If a toilet is designed to make users feel uncomfortable and insecure while using the facility, then people will be less likely to use it, increasing the likelihood that it will be neglected and/or vulnerable to increased vandalism and abuse (Lowe, 2018)

2.2. Gender

Toilets raise significant gender considerations for men, women, and non-binary people. For women, the poor design and provision of toilets has created a series of inconveniences at the “excretory and menstrual level” (Ramster et al, 2018, p. 98). When it comes to toilet provision, equality does not mean equity. Due to physiological and cultural differences between men and women when using the toilet, women require double the amount of provision than men (Plaskow, 2008; Greed, 2003; Ramster et al, 2018). Given the fact that men use urinals, which take up less space within a restroom, men can find themselves with more provision than women, when equal floor space is allotted to both genders (Ramster et al, 2018). Additionally, women will tend to require more time in restrooms due to needing double the amount of time to urinate, having to address menstrual needs, seeing to childcare responsibilities, dealing with different types of dress, and needing to be seated to use the toilet (Greed, 2003; Ramster et al, 2018). As a result, women frequently face longer queues to access a toilet, which is ultimately “blamed” on women (Ramster et al, 2018, p. 99). The consequences of unequal provision in toilets affect men as well, who are often waiting on companions to use the toilets when in public (Plaskow, 2008). Overall, reduced toilet provision for women can act as a means to exclude them from public spaces (Flanagan, 2014). Toilet advocacy groups such as the American Restroom Association have observed school aged girls quitting sports and other recreational activities as a result of having a lack of or no public toilet availability amid bodily changes during puberty including menstruation among other urgent toilet needs (Lowe, 2018). Finally, ongoing gender segregation of toilets stands to exclude safe and reliable access to toilets for transgender people who do not conform to binary gender norms and categories (Molotch, 2010). Toilets are essential for everyone, but transgender people have increased likelihood of being harassed in public washrooms, so increasing comfort and dignity are priorities for this group in relation to creating accessible public toilet design and provision (Cavanagh,

2010). Gender-neutral toilets are an ideal toilet option for most people, including transgender people and families. However, evidence shows that authorities will convert gender segregated toilets into gender-neutral toilets, without increasing overall provision, which is problematic for women since it will significantly reduce provision for them by increasing competition to an already limited supply (Ramster et al, 2018). In this case, experts recommend that gender-neutral toilets should be made available in addition to gender segregated toilets, so as to protect essential access to toilets for women (Ramster et al, 2018).

2.3. Equity and social inclusion

Disability activists and researchers have argued that “the provision of accessible public toilets provides the minimum conditions under which disabled people can participate in social and political life” (Kitchin & Law, 2001, p. 289). Social justice and full public citizenship cannot be achieved in a built environment that actively excludes certain individuals from participating, of which access to public toilets is a crucial determinant (Kitchin & Law, 2001). Evidence has further shown that public toilets have been active sites of displacement to prevent certain demographics from occupying public spaces (Flanagan, 2014). Public toilets have been the sites of war on people experiencing homelessness in jurisdictions such as Los Angeles, where “as a matter of deliberate policy” (p. 233) recommended by the Los Angeles Police Department, public toilet provision is minimized, and toilet access for the public is dependent on “quasi-public restrooms” (p. 234) in the private sector (Davis & American Council of Learned Societies, 2006). These types of policies and rationales have existed as the foundation of modern cities, previously used to restrict women’s mobility, by constructing a built environment that limits women’s ability to enter public realms in cities including London, Chicago and Toronto, by deliberately restricting provision of public toilets for women as provision for men actively increases (Flanagan, 2014). As a result, cities materialized as masculinized environments that are inherently sexist and discriminatory to women and other marginalized groups (Flanagan, 2014).

2.4. Health factors

Public toilets play a vital role in maintaining the health, wellbeing, and dignity for people when they are outside of their homes (Doiron et al, 2021). When public toilets are not easily accessible or identified throughout public spaces, people will change their routines and habits, which can have negative impacts on both their physical and mental health (Royal Society for Public health, 2019). When people fear needing to use the toilet in public, people will choose to limit the amount of water or fluid they consume. For some individuals, this can be harmful to one's health, especially for people with pre-existing medical conditions such as cystitis (bladder inflammation) or those who are more prone to urinary tract infections. In addition to impacting existing health conditions, restricting fluid intake for a healthy person can have negative effects on their body and cause dehydration, which may cause weakness, dizziness, reduced physical performance, reduced cognitive performance including short-term memory abilities, constipation, headache, and increase chances of experiencing renal stones (kidney stones) (Royal Society for Public Health, 2019). The Royal Society for Public Health (2019) conducted a survey in the UK which reported that 56 percent of respondents would restrict their fluid intake to reduce need for a toilet during the day. Findings further indicated that as individuals age, their access to public toilet increases in importance (Royal Society for Public Health, 2019).

Within buildings and workplaces, regulations are applied to maintain the health and safety in relation to toilet accessibility and overall provision. Toilet per person ratios are tools used to guide and evaluate sufficient toilet provision given a certain environment and circumstance. For instance, sanitation infrastructure and toilets are regulated by provincial building codes such as the BC Building Code 2018 as well as Canadian Occupational Health and Safety legislation, which stipulate certain ratios of toilets per person or employee with additional considerations for differences in sex³. For BC buildings, a minimum of 1 toilet for males and 1 toilet for females should be provided for an assembled occupancy of 1-25 persons of each sex (BC Building Code, 2018, s. 3.7.2.2.). Moreover, the BC Building Code advises that toilet provision be doubled for

³ See Section 9.12(1) of Canada Occupational Health and Safety Regulations SOR/86-304 for minimum number of toilets to number of employee ratios. See Section 3.7.22 of the British Columbia Building Code for ratios of toilets for an assembly occupancy.

females as occupancy increases (BC Building Code, 2018). Additionally, similar ratios are used in legislation and regulation placing responsibilities on employers to ensure that their employees have sufficient access to toilet facilities (Canada Occupational Health and Safety Regulations, 1986). Regulations such as these recognize the importance of toilets in ensuring the health, safety, and accessibility of the built environment and workplace.

Chapter 3. Methodology

This is a qualitative study that utilizes a literature review, case study, and key informant interviews to identify and evaluate policy options based on criteria that are guided by the findings. This study received an ethics reviews and approval from Simon Fraser University's Research Ethics Board.

A literature review was conducted to establish current knowledge surrounding the topic of public toilets globally. Literature included peer reviewed academic articles, government reports, municipality plans and strategies, as well as articles published on mainstream media platforms. From the literature, three case studies with unique public toilet strategies were identified to demonstrate public toilet policy options that are already operating around the world and the level of success they have received so far. Case studies were identified within existing literature and government documents related to the research topic. The case studies demonstrate what has been accomplished in the past, what steps were followed throughout each policy option, and discussion surrounding the merits and success of the policy or program. Case studies are presented from the country of Wales, the town of Richmond in the UK, and the City of San Francisco in the United States. Each case study explores pathways that each jurisdiction has taken to tackle their respective toilet issues given competing factors such as funding, real estate, and social issues.

13 key informant interviews were conducted from December 2021 to January 2022. Participants were interviewed remotely either through Zoom conferencing or by phone. Participants came from countries including Germany, Canada, Australia, Singapore, and England, representing government staff, academics, and prominent advocates in the field. The purpose of the key informant interviews was to fill in gaps in research in the literature and case studies. Furthermore, participants were given the opportunity to comment on and identify policy options and to discuss the benefits and drawback of the options with regards to implementation in Vancouver. Finally, given the COVID-19 pandemic, interviews also offered insight to how the policy problem has changed or evolved over the course of the pandemic.

Chapter 4. Case Studies

The following examples are case studies demonstrating different policy options that are currently being used by jurisdictions around the world.

4.1. Wales, United Kingdom – Toilet Strategy

Creating a washroom or toilet strategy is an effective way to achieve a better understanding of local toilet provision and create greater public and political awareness of the problem. In Wales, the government passed legislation through the Public Health (Wales) Act (2017) that places a duty on local authorities to create a toilet strategy. A toilet strategy will bring political and public awareness to the issue of inadequate public toilets provision in the nation and compel local authorities to address gaps in services.

Part 8 of the *Public Health (Wales) Act (2017)* requires that all local authorities in the nation create a public toilet strategy. The Act comes as a result of years of increasing public toilet closures and rising public discontent with the current inadequate provision, which continues to fall short of the increasing toilet needs that the public is facing (Welsh Government, 2018). Given the absence of any previous guidance or coordination between national level goals and local level priorities with regards to toilets, the Act works to bridge the gaps in priorities between the two levels of government and requires all local authorities to create strategies tailored to the toilet issues faced within their jurisdictions (Welsh Government, 2018). Prior to the Act, public toilets remained low priority and were frequently closed due to government budget cuts. However, increasing toilet closures across the country are harming the ability for people to leave their houses and participate in public life. In an aging nation, seniors and elderly people are facing greater concerns for their mental and physical wellbeing due to toilet shortages, forcing them to stay home due to unknown toilet availability outside. To tackle this, Part 8 of the Act places a duty on local authorities within Wales to create a toilet strategy. The Act requires local authorities to assess current provision, outline targets and goals to address gaps in provision, and conduct a public engagement process for feedback prior to publishing (Public Health (Wales) Act, 2017).

A toilet strategy is a manageable starting point for local authorities to address their public toilet problems and evaluate future solutions. Local authorities are

encouraged to investigate solutions and toilet options that are forward thinking, long term, and sustainable for their communities without imposing any additional barriers for users. It is also assumed that by developing a toilet strategy, local authorities have an opportunity achieve a better understanding of the positive impacts that public toilets have on their communities and public spaces. Hence, the Act highlights the importance of having the topic of toilet provision be integrated throughout other areas of policy and planning such as health, public participation, transportation, sustainability, and economy (The Public Health (Wales) Act, 2017).

A review of the strategies must happen on a regular basis, with stipulations requiring revisions to be made after every local election (Public health (Wales) Act, 2017; Welsh Government, 2018). Since the Act has taken effect in 2017, local authorities have already published their respective toilet strategies in 2019 with revisions and evaluation to be published once more in 2023, as part of the scheduled review process after local elections are completed (Welsh Government, 2018). However, the law does not require local authorities to increase or maintain toilet provision (Welsh Government, 2018). Since the Act has been passed, toilets across the country continue to face closures and access has dwindled in large part due to competing council priorities and limited capacity (Lewis, 2019).

4.2. Richmond, United Kingdom – Community Toilet Scheme

Richmond is a London Borough that has implemented a Community Toilet Scheme (CTS) to tackle the issue of inadequate public toilet provision within their public spaces (Department for Communities and Local Government, 2008). A CTS is a partnership between local governments and local businesses, who are willing to open their private toilet facilities to the public in exchange for compensation. CTSs are more prevalent throughout Europe, with the Nette Toilette program in Germany and Switzerland, and other schemes found throughout the UK (O’Sullivan, 2016). Like many other local authorities found throughout the UK, Richmond Borough experienced declining toilet provision amid a resident population of 185,000 people and, prior to COVID-19, over 4.5 million visitors a year (House of Commons, 2008).

Prior to Richmond incorporating the CTS, five Automated Public Toilets (APT) were leased and installed in the 1990s to supplement the existing toilet provision that the local authority had in parks and public spaces. Low APT usage led to the subsequent adoption of the CTS in Richmond. In the late 1990s, two pubs took part in a pilot program to receive an annual income in exchange for providing free public toilet access (Department for Communities and Local Government, 2008). The pilot was successful and was renewed in 2004 with an additional 12 businesses included in the scheme. Currently, there are 70 businesses participating in the scheme (Community Toilet Scheme, 2021). The scheme benefits the public by increasing toilet provision while also benefiting businesses, who report increased customer footfall and personal evidence of increased business and trade as a result (Department for Communities and Local Government, 2008). Due to the CTS, the public has a wider variety of options when seeking toilet access, which benefits people with limiting health conditions, seniors, and families who would otherwise be isolated at home due to unreliable toilet provision.

When adopting the CTS, Richmond's implementation plan pursued the following steps (Department for Communities and Local Government, 2008):

- (1) conduct a feasibility test
- (2) acquire corporate support for the scheme
- (3) recruit partners to the scheme
- (4) publicise the scheme
- (5) operate the scheme
- (6) monitor and evaluate the scheme

The expectation is that the natural supervision by businesses will keep the toilets clean and safe. The London borough of Richmond continues to evaluate and monitor the success and the operations of the toilet scheme, and have outlined area of improvement for the future, including increased and improved signage, evaluation of participating businesses and the gaps in the provision, increasing awareness of the scheme for community members, and finding ways to monitor progress and visits.

A Community Toilet Scheme is a solution that employs toilets that exist in current building infrastructure found in “pubs, restaurants, cafes, community centres, retail stores, council offices, and supermarkets” (Department for Communities and Local Government, 2008, p. 7). Private toilets typically reserved for paying customers are opened to the public when a business chooses to participate in the scheme. This solution allows local authorities to avoid spending large capital costs on toilet building and installation, and minimizing operating costs associated with toilet provision.

With a CTS, individuals entering a participating business to use the publicly available toilet are not expected to purchase a product or pay a fee. Participating businesses must display a prominent sign indicating that they are a participating partner in the scheme along with a map that directs the public to other participating businesses and their location (Bernbaum, 2018). Businesses must also display signage of the type of toilet facilities that they provide, whether they are separated by sex or gender neutral, if there is wheelchair access, and if there is a baby changing station available. Participating businesses in the Community Toilet Scheme are compensated with a fee to cover additional costs involved with cleaning, maintaining, and stocking their toilets. The council monitors the toilets on a regular basis to ensure that participating businesses are following standards of service for their toilets. Overall, the Community Toilet Scheme has been more cost effective and popular among the public compared to alternatives such as the Automated Public Toilets.

A major drawback to the Community Toilet Scheme was brought to light during the COVID-19 pandemic, where businesses and households were forced into lockdown, and businesses closed their doors, and consequently, their toilets. A large increase in public urination in parks and in front of business shop fronts was experienced and was cause for concern for public health and hygiene (Adkins, 2021). The local government was called upon to address the lack of toilet accessibility during business closures. This demonstrated the weakness of the toilet scheme and the responsibility that local governments have towards ensuring that toilet accessibility is reliable despite unique circumstances.

4.3. San Francisco, USA – Pit Stop Program

The Pit Stop program in San Francisco provides clean, safe, and dignified toilet access to the public. The purpose of the program was to curb the frequency of open defecation and public urination on streets and sidewalks and to increase public toilet access to people experiencing homelessness in the city (Bishari, 2021). The program features employment opportunities for people re-entering the workforce after being incarcerated or experiencing homelessness (Sawyer, 2015). The Pit Stop program offers a mixture of modular and mobile toilets that are supervised and cleaned by paid attendants throughout the City of San Francisco. The program started in 2014 due to increasing amounts of human waste found by children walking to and from school in affected areas (San Francisco Public Works, n.d.). The unique feature of the program is the monitoring and staffing of every toilet location. The program employs former inmates and/or people experiencing homelessness, operating as an employment opportunity and social policy to help employ those who face barriers entering the workforce (Sawyer, 2015). The attendants further maintain public safety and health by monitoring the surroundings of the toilet, ensuring that the queue for the toilets is orderly, where they will “prevent overdoses, break up fights and greet regulars” (Har, 2019). Not only does this mean that the program is offering a public good for people caught outside needing a toilet, but it is also actively helping people get back in the labour market and build up a work history that is difficult to attain when also grappling with precarious living situations and unemployment⁴. Furthermore, the attendants are often members of the surrounding community creating a welcoming environment for those who are most vulnerable and marginalized (Los Angeles Central Providers Collaborative, 2017). Due to greater surveillance, cleaning, and monitoring, toilets are perceived to be safer by users. The program takes a harm reduction approach, recognizing the importance of offering services such as needle disposal, and other proactive disposal solutions such as dog waste stations, compost, and recycling bins (San Francisco Public Works, n.d.).

The program strives to adhere to the “persons per toilet or latrine” recommendation set by the United Nations High Commissioner for Refugees (UNHCR) for emergency sanitation standards for their local unsheltered population (UNHCR, n.d., para. 9). The UNHCR advise the provision of one toilet per 50 persons in an emergency

⁴ Go to <https://sfpublicworks.wixsite.com/pitstop> for an informational video

situation/short term, counting only toilets that are “cleanable, guarantee privacy, and are structurally safe to be counted” (UNHCR, n.d., para. 9). For longer-term provisions, the UNHCR advises one toilet per 20 persons (UNHCR, n.d., para. 16). The City of San Francisco managed to comply with the emergency standard for day time hours during the COVID-19 pandemic but fell short of achieving this ratio for night time toilet provision (Analysis of the Pit Stop and Park Stop Programs, 2021). As of May 2021, the City continued to provide the base emergency standard ratio for day time provision, basing the ratio on number of unsheltered individuals in the city. Night time toilet provision continues to be insufficient to meet this standard (Analysis of the Pit Stop and Park Stop Programs, 2021).

The Pit Stop program is effective at reducing the need for street cleaning. In 2015, requests for street cleaning were reduced by 60% and the reduced need for street cleaning and power washing saved roughly 600 gallons of water, indicating a connection to sustainability for providing greater toilet access to the public and for those in need (Sawyer, 2015). This was supported once more by data gathered in 2020 (28,240) that indicated a decrease in human waste reports, compared to 2019 (30,840) and 2018 (28,313) (Analysis of the Pit Stop and Park Stop Programs, 2021). The program’s success has been recognized nationally, serving as a national model to providing public toilet provision with cities across the US adopting versions of the Pit Stop program in their own jurisdictions, including Miami, Sacramento, and Los Angeles (San Francisco Public Works, 2016; City News Service, 2018). The adoption of the Pit Stop Program in Los Angeles has seen similar success to San Francisco with increased daily usage during the first four months of its pilot operation (City News Service, 2018). Furthermore, locations equipped with used needle disposal containers collected over 4,000 needles as well (City News Service, 2018).

The program has expanded from 3 toilets in 2014 to 36 Pit Stop toilet locations spread throughout 13 neighbourhoods throughout San Francisco, costing the City roughly \$12.9 million annually by May 2021 (Analysis of the Pit Stop and Park Stop Programs, 2021). The Pit Stop program is costly to install, maintain, and staff. A single toilet can cost the City roughly \$170,000-\$205,000 a year to operate as of 2018 (Eskenazi, 2018), yet the City works hard to increase budgets and expand the program at every chance. The toilets see high usage rates with roughly an average of 1400 visits a day with monthly usage for a single pit stop ranging between 11 visits to 3300 visits in

2020 (Bishari, 2021). The City also reported in 2019 that 25% of all flushes at Pit Stop locations were occurring at night, making it clear that having 24hr accessible toilets are needed by the public, which would help to support the cities plans to include an additional \$8.1 million in funding for new Pit Stop toilets in the fiscal years 2019-2020 and 2020-2021 (Office of the Mayor, 2019).

Residents in surrounding areas are often vocal opponents Pit Stop locations and are causing many Pit Stop facilities to be closed or relocated. With higher than usual demands for toilets and handwashing services due to COVID-19, having toilets be closed or relocated shortly after their opening creates confusion, instability, and mistrust for vulnerable people who depend on its access the most (Bishari, 2021).

Chapter 5. Interviews

13 key informant interviews conducted over the course of a month starting in December 2021 and ending in January 2022 offered further insights to discussion surrounding public toilets and the effects of COVID-19 on toilet discourse as well as perspectives on the solutions that are top of mind for experts around the world. Interview participants included academic experts, advocates, urban and social planners, designers, and engineers. Key themes emerging from the analysis of the interviews are detailed below.

5.1. Accessibility

Respondents emphasized that public toilets are important public infrastructure that help to maintain clean, sustainable, and accessible cities for people to live in and visit them. They also note, however, that the design and overall provision of toilets throughout public spaces have been largely overlooked as an integral way to facilitate greater public participation, a transition towards greener methods of transportation, an increase community cohesion while also benefiting from increased stimulation of the local economy. Interviewees made a point to emphasize that toilets play a pivotal role increasing accessibility and creating spaces that are welcoming for longer and more frequent visits. However, they explained that the responsibility of providing toilets to the public has largely fallen to private businesses, including cafes, restaurants, bars, grocery stores, and shopping centres. Moreover, they stated that the lack of public provision of public toilets allows certain toilet user groups to experience significant barriers when leaving their homes and spending time in public spaces. All interviewees distinguished women, seniors, families with small children, tourists, pregnant women, people living with Crohn's and Colitis, and other differently abled individuals as toilet user groups who experience greater difficulty navigating toilet provision throughout cities and this influences the frequency and the length of time that is spent outside of the home. Differing toilet needs and uses, such as menstruation, spontaneous toilet needs by young children or by people experiencing urinary or bowel problems are factors that limit one's toilet freedom and restrict their so-called "*bladder leash*." Interviewees situated across the globe could not stress enough that the fact that toilet provision is lacking for these user groups in the population creates and maintains a city that is not equitable or

fully sustainable for all. One interviewee went so far as to describe this as a form of urban violence:

[A] lack of toilet provision is almost a form of urban violence because it restricts people's ability to travel and often in terms of getting to work, leisure, shopping, tourism, travel, everything. And it's always seen as such an unimportant issue again, and again. People feel [that], well women should go to the toilet before they go out, they should've thought of it.

Participants discussed that, by allowing the problem to persist, the responsibility to mitigate any toilet needs rests on the single individual, by either restricting water intake or limiting one's time outside of the house. The problem becomes a case-by-case issue, handled privately by individuals, when ultimately, it is an issue that is shared by everyone, despite little awareness of the problem.

Accessibility is complicated, and toilets have different effects on accessibility. Three significant areas of accessibility that were discussed in interviews focused on COVID-19, gender differences, and societal perceptions of toilets and are reported on below.

5.1.1. COVID-19

COVID-19 uprooted many well-established norms throughout society, and forced governments, businesses, and individuals to be resourceful and resilient in the face of hardships. Among many challenges, interviews explained that COVID-19 brought to light the extent to which individuals depend on businesses to provide their main form of toilet access. As one interviewee elaborated, *“COVID showed the importance of public toilets, and real public toilets, not semi-public toilets, in cafes or shops.”* With low levels of public toilet provision, businesses have been the unofficial substitute for public toilets when people are away from their homes. Majority of interviewees agreed that *“municipalities, and perhaps more generally across North America, the responsibility of washrooms has kind of been offloaded a little bit onto private businesses. And with COVID, many of those businesses were closed or had additional barriers to entry.”* With businesses forced to close for lockdowns, interviewees observed that people who were typically reliant on that specific type of provision were caught off guard and realized how precarious toilet provision is given the precarious nature of businesses in turbulent economic times. Interviewees were hopeful that those with privileged access to private

businesses for toilets would rally behind a greater need for more reliable public toilet provision for everyone with one participant expressing the following:

And then the bathrooms were closed because of COVID. And so, I saw that as a real like, opportunity, in the sense that I hoped that suddenly, all of the people who had really strong access through their workplaces or because they were quite privileged in terms of like not having any extraordinary need, would suddenly be faced with this, like, you know, where the hell do you expect me to use the bathroom? I always use a bathroom here. What's the problem?

Participants also noted how governments also had to contend with transmission of COVID-19 among homeless populations, and the effects of building closures to their own toilet access. Interviews with experts revealed that limited toilet access for homeless populations risked creating a different public health crisis from increased open defecation and public urination. One Vancouver based participant made sure to note that municipalities, including Vancouver, offered temporary toilet facilities in high-risk areas experiencing homelessness and addiction, however, the gap in provision in high-risk areas experiencing homelessness and drug use was heightened nonetheless.

Finally, COVID-19 further brought awareness to other important uses for public toilets, including the handwashing capabilities, which proved to be an essential public health measure to prevent transmission. Yet, despite these factors being recognized as important public health measures, public buildings, and toilets were closed, officials citing issues related to cleaning and safety of staff. Several respondents shared that despite the reopening of businesses after initial lockdowns, private toilets remained closed with businesses citing safety concerns for their staff who didn't want to risk being exposed to the virus by cleaning the toilet facilities. Unfortunately, the policy opportunity for public toilets was short lived with one respondent explaining "*I think there was this sort of brief moment of, oh my gosh... not having bathrooms is a problem. But now everybody's sort of forgotten.*" Interviewees emphasized that the COVID-19 experience is one for municipalities and governments to learn from, and to not forget until the next emergency hits.

5.1.2. Gender

Public toilet provision typically fails to accommodate the differences in toilet needs among different genders, whether that be differences in toilet needs, the length of

time required to use the toilet, extra toilet needs related to childcare, need to undress to use the facilities or the increased space needed to provide toilets compared to urinals reducing overall provision. These factors add up to create a situation in which women face less public provision than men. The need to separate toilets for men and women is a social construction, one that creates inequities among genders, evidence by the distinct lack of gender separation in residential washrooms. As one interviewee expressed, “*in my home... it's an all-gender washroom, right? ... And so of course, you leave your home, and then... this needs to be only for women or only for [men].*” This has created a toilet culture that maintains a need to separate the genders when it comes to using the toilet, and given biological and social differences between genders, women face fewer toilet options. One interview with a participant studying women specific toilet issues in Europe revealed that lack of toilet access for women is a normalized experience with an expectation that women will adapt accordingly. They expressed concern by the fact that politicians don't recognize the lack of provision for women as a problem that requires action to solve, but one for women to figure out themselves, as evidence by the following quote they provided:

I think what surprised me is that most people just accept that the situation is bad. And they just say that 'yes, it has always been like this.' And it's kind of normal. Like the toilets, public toilets are disgusting, or you cannot find one. And also, the fact that men say that it's normal that for women it's more complicated. So, it's just taken for granted that it has to be difficult, and it's normal that for women it is even worse.

They noted that unless the lack of toilet provision for women can be identified as a public problem, locating, and navigating limited toilet provision will remain a burden for women.

Additionally, interviews with experts revealed that evolving discussions and needs towards trans-gender people threatens to reduce an already unequal provision of toilets for women. Experts explained that women's toilets are often transformed into gender neutral toilets to increase accessibility for transgender people and families who are confronted with issues taking their children into a toilet indicated for the opposite gender. They noted that changing women's toilets into gender-neutral toilets reduce overall access to toilets for women because toilet will face increased demand from all individuals, creating more competition for toilet space by all users, including men. Interviewees stressed that gender-neutral toilets were not inherently bad but their

implementation should be coupled with additional provision to ensure that toilet availability will meet the unique needs of women, who have physiological and social differences when it comes to using the toilet.

Culturally, there are also differences between men and women when using toilets. Women have a greater need for facilities that are clean, safe, and private. Unlike men, women sit down when using the toilet. The close contact that women have to the toilet make them have heightened awareness of the cleanliness of a toilet. One interviewee noted that if a toilet is perceived as unclean, a toilet user will either clean the area they need to use themselves, or not use the toilet at all. They further explained that the cleanliness of a toilet will also change how women use a toilet, choosing to hover above the toilet seat rather than sitting on. It is understood by experts that hovering above the toilet seat is not an ideal way to relieve oneself as it increases the likelihood that the bladder is not entirely emptied, which can lead to bladder infections or urinary problems if it happens frequently. Moreover, hovering above the toilet can also lead to urine being sprayed on the toilet seat, which would be up to the individual themselves or the next user to clean up after. As a result, interviewees emphasized that the cleanliness of toilets play a critical role in accessibility for women and people who menstruate since changing hygiene products requires a certain level of cleanliness to use toilet facilities and to prevent possible infection when changing sanitary products. Interviewees further urged there to be greater importance placed on toilet provision for women and people who menstruate because it is not possible to control or know when a period will start, or when a sanitary product will be saturated, making toilet accessibility a matter of maintain dignity when out in public. Therefore, when toilets are unclean or are missing key building features such as waste bins or hand washing stations, interviewees noted that it prevents people from living their lives comfortably and optimizing their health.

5.1.3. On Street toilet options

Among varying toilet provisions, some interviewees explained that on-street toilets have the greatest potential to maximize accessibility, security, privacy, and comfort for toilet users. Integrating technology and automation in toilet design to create efficiencies throughout toilet visits have been implemented through adoption of Automated Public Toilets (APT), found in places such as Vancouver, Paris, and the UK. However, interviewees indicate that the design and technology of Automated Public

Toilets are not intuitive, resulting in low usage rates which subsequently inform future public toilet decisions. One interviewee described how APTs are just “*so complicated to understand*” for typical users with constant risk of “*getting it wrong with malfunctioning, the idea of being trapped inside.*” They found that the lack of familiarity or intuitive design prevented people from using the facilities. Moreover, it was noted that APTs are usually “*always positioned... in the middle of the pavement, so if anything went wrong with the door, then everybody would be able to see you.*” Providing public toilets is a balancing act between offering a service that is inherently personal and private within public environments. With complexities such as graffiti, vandalism, and anti-social behaviour to contend with, interviewees noted that toilet provision ends up being “*sparse and robust,*” which ultimately doesn’t induce any sense of comfort or ease that may be necessary for some people to use the toilet.

Another toilet design called the Portland Loo, shown below in Figure 3, is similarly critiqued by interviewees for taking a “*target hardened*” approach to toilet provision as a way to deter vandalism and prevent misuse. Given future plans to install Portland Loo toilets in Vancouver parks, participants were asked to offer their impressions of the design and provision during interviews. The Portland Loo was praised by some participants as an accessible and simple toilet option that uses a familiar door mechanism that instills trust in one’s privacy and is practical in the sense of being large enough to accommodate strollers or bicycles. Moreover, participants approved of the exterior handwashing station which facilitates quicker toilet visits and further provides access to handwashing without needing to occupy the toilet area. The ventilation gaps throughout the walls were considered advantageous given the era of COVID-19, allowing for better air circulation and ventilation between users, and having the added benefit of providing natural surveillance and monitoring should a toilet user fall or have a medical emergency during their toilet visit.



Figure 3. The Portland Loo design

Note. Image from “The Portland Loo Gallery” by The Portland Loo, <https://portlandloo.com/gallery/>. Copyright 2022 by The Portland Loo®

Despite these benefits, participants were equally critical of the innovative and robust design. One interviewee explained that the “*hardened*” approach of the Portland Loo may not be appealing or comfortable for women and emphasized that “*these kinds of target hardened provisions sort of reclaim the space as a male dominated space.*” They went on to explain that though the design is made to reduce incidents of vandalism and graffiti, the facility is not welcoming and makes the toilet inaccessible. One participant noted that the louvered walls were particularly problematic for women and undermined one’s ability to privacy. Furthermore, participants indicated that designing the handwashing station on the exterior of the unit would hamper the ability for women and people with disabilities to use a handwashing station while using the toilet for changing menstrual products or emptying an ostomy bag. Handwashing for these instances mean to reduce the frequency of infection. Ultimately, the designs that are meant to deter the few incidents of anti-social behaviour and potential acts of vandalism are what participants consider make the Portland Loo less accessible to majority of users.

Unfortunately, on-street toilets have the disadvantage of being the most expensive type of provision with the most risk of vandalism and misuse, as indicated in an interview with a prominent toilet advocate: *“on street toilet is proven to be very expensive. And more or less of failure... they have vandalism, graffiti every single day... it costs a lot to go and build. And I think they're also not enough anyway.”* Because of the need for increased space, cleaning costs and monitoring, they expressed their preference for provision throughout the private sector within businesses and buildings in cities over on-street provision.

5.2. Toilet Culture: Fear, Safety, and toilet blindness

Interviews with experts revealed that toilets are deeply embedded with culture, nuance, and meaning. They elaborated that because everyone needs and uses them, they become a shared experience and space for all. However, despite a shared biological need to use toilets, participants explained how public toilet provision is not considered a problem by everyone. They noted that there is a significant lack of problem recognition with regards to toilet provision. Often, participants expressed that inadequate public toilet provision is perceived as a non-issue or is otherwise trivialized or normalized as an experience that is necessary when choosing to leave one's home. Participants made sure to emphasize the disproportionate effect this has on women, seniors, people with disabilities, and other vulnerable and marginalized groups. As well as recognizing that women's issues tend to be normalized and disregarded by men and people with better access to toilets, participants also noted that toilet provision generally suffers from lack of awareness and visibility as a whole. They attribute this to the stigmas and taboos associated with toilets and the types of activities and bodily functions that occur in these spaces, and as many interviewees put it, *“it's just a basic need for everyone, but we don't talk about it. And it's kind of taboo;”* or *“they have this negative connotation with dirt;”* and *“you can't have a serious discussion about it.”* For the individuals who already face barriers to public toilet access, interviewees note that these discussions are happening, but they further explain that getting toilets on the public agenda is difficult since it is not *“politically strong.”* Participants explained how the topic is not visible to those who do not personally have difficulty locating and accessing toilets because it is likely they have easy access to toilets in their workplaces or at the businesses they visit. Participants further elaborated that people who have access to personal vehicles will

spend less time commuting and will face less risk of needing to go to the toilet in transit. Therefore, participants stressed that access to toilets will vary further based on variables such as gender, employment, financial status, and ability, and for those who are most privileged, blindness to toilet issues will persist. As one interviewee explained, the decisions, policies, plans, and development that occur in public spaces are being created by people who don't have problems accessing toilets and will continue to ensure that people in need are excluded. An interview with a social planner from Australia revealed that lack of toilets is a fundamental barrier that excludes people from taking part in community events and activities designed to be accessible and inclusive. Many people do not attend simply because toilet provision is inadequate. To explain this, the social planner shared the following personal experience:

I was collecting people's toilet stories and toilets kept coming up as a reason people couldn't participate in the activities that... I was trying to plan for or that I thought were good social inclusion activities. So, whether it was parents having not been able to stay in a place because of not being able to take their children to the toilet, whether it was people who were trans and gender diverse not being able to stay in employment... elderly people being unsure about leaving their home because they weren't confident they could get to a public toilet... through collecting all these different stories and eventually connecting the dots that it was like 'right, public toilets seem to be important'

They stressed that toilets should be the foundation of creating inclusion and equitable public spaces and must be included in all policy and planning considerations if equity is a meaningful priority for governments and communities.

A problem confirmed by interview participants was the prevalence of unwanted and anti-social behaviours in and around public toilets. Anti-social behaviour refers to behaviour that is not generally acceptable in public or by society. In toilets, for instance, this would include sex or drug use. These are significant concerns among interviewees, who describe how it decreases the overall safety, cleanliness, and privacy of a public toilet and its surrounding area, which they highlighted were significant concerns for nearby businesses and residents. However, one interviewee noted that these behaviours are culturally tied to toilets and are historically significant. For instance, the interviewee indicated that toilet graffiti has existed since the Roman empire, and throughout human history, and elaborated with the following:

Why [do] people hate this space so much that they want to, you know, break it or, or why they do other things? They, you know, vandalize it, you know, although, things like graffiti in public toilets has been going on for so long, we actually have a Latin term for it. So [if it's] always been known [then] should we try and design it out? Or should we just accept that we've been doing it for a millennia or two, and just try to like... accept it... once people sense that they're not transgressing? Maybe they won't do it anymore.

Respondents explained that the persistence of graffiti, vandalism and anti-social behaviours are to be blamed for increases in costs related to cleaning, monitoring, and ongoing maintenance. They pointed out that these incidents are a main deterrent for local governments to increase public toilet provision, and an additional source of concern for nearby residents and businesses. One interviewee elaborated on the fact that *“property owners, typically in residential areas, don't want public toilets near their houses because people get drunk and there's vandalism and all the rest of it. So, it's not a popular thing to have.”* But an argument is also made in the literature and by interview participants that the benefits to local economies and public participation of providing more public toilets outweigh the costs since *“it's very valuable to have toilets because they attract more people to the city centre and because they're not restricted as to how long they stay.”*

Privacy is an important cultural factor identified by participants that affects toilet accessibility, function, and use. Though toilets are places to fulfill biological and physiological needs, they are further recognized as sites of culture and socialization. One interviewee described how toilets manifest themselves as spaces where people try to create privacy among public spaces to deal with their bodily functions, whether that be to urinate, defecate, deal with menstruation, or anything that requires privacy to handle. They went on to explain that *“however long you go, you're in there, that space cognitively becomes yours, it is your space... there's this temporary ownership of the space... we've got this meeting of biology and culture in this tiny little space in this tiny little time.”* No matter what social behaviour or rules must be followed while out in public, needing to use a toilet is a biological need that everyone has, but which people have little control over. The biological need to use the toilet becomes a cultural moment where privacy is found among public spaces.

Participants recognized that toilets function as a unique space for people to retreat to for privacy. Interviewees indicated that toilets are often used to find solitude

among public spaces, to breastfeed, to socialise, to take a break, or to check one's makeup and dress. They emphasized the importance of going to the toilet to find a place of refuge and privacy when caught outside of the home. To respondents, these are considered important functional aspects to consider when approaching toilet provision and how to appropriately design toilet spaces. In this respect, participants agreed that toilet designs such as the APT and the Portland Loo do not achieve these cultural aspects of toilets since its defensive design actively seeks to reduce privacy and expedite one's toilet visit, making repeat visits unlikely.

5.3. Government Responsibility and Challenges

Across the globe, experts and advocates supporting increased public toilet provision agreed that the problem is made worse by lack of legislation and mandates surrounding the provision of public toilets. Respondents from the UK insisted that the absence of legislation requiring governments to provide public toilets makes toilets easy targets for budget cuts and closures during austerity measures, and results in the increase of public toilet provision to be lower priority and not politically popular. As one toilet advocate expresses, "*there is no legislation in the UK whatsoever on public toilets,*" and as a result the responsibility to provide toilets to the public has fallen to private businesses and buildings such as cafes, restaurants, shops, and grocery stores. Toilets found in private businesses are called publicly available toilets since they are available to use; however, respondents are quick to point out that they come with stipulations that one must be a paying customer to gain access first, making publicly available toilets inaccessible to a portion of the public. Interviewees agree that for majority of people, publicly available toilets are sufficient to meet basic needs. However, the problem they see with publicly available toilets is the lack of duty on the business to allow access to their toilets to the public since they reserve the right to refuse people from using their facilities. One interviewee elaborates how:

For many members of the public, that's okay, because of the way they present themselves. But again, it's exclusionary, if you've got security guards and if you're living on the streets, and you go into a department store to use the toilet, I would imagine, in many cases, a security guard might stop you. So that becomes a non-place for you.

Interviewees note that business owners and employees have gatekeeping abilities over their toilets and will allow access to some people over others based on

internal and unconscious biases based on how one is perceived. Another challenge that publicly available toilets present are outdated accessibility standards or lack of accessibility at all. Participants explained how publicly available toilets are not guaranteed to meet accessibility standards, which creates barrier to access for certain toilet users, most notably seniors and people with disabilities. Allowing majority of toilet access to be found in private buildings that may present significant accessibility challenges is considered by many interviewees as a failure on governments to provide necessary infrastructure that create inclusive and equitable spaces for the public to participate in. One interviewee emphasized that if “*cities are going to put money into [keeping] our downtown cores healthy and vibrant, then [public toilets are] a definite part of that.*” Because of the increased accessibility challenges presented by publicly available toilets, majority of participants expressed that Community Toilet Schemes are not the perfect solution. One informant explained further:

I was looking at specifically under the lens of disability and access and a lot of the businesses that had been signed up [to the Community Toilet Scheme] were not accessible...And so this is quite a problematic thing, because... many disabled people are still actively excluded from accessing the high street [and] local areas.

The closure of businesses during the COVID-19 pandemic highlighted the heavy reliance on publicly available toilets across many jurisdictions, which interviewees noted had especially impacted those that operated Community Toilet Schemes. Participants reported that the pandemic reminded public officials and the public of the volatility of business and really brought into question why there were not more public toilets provided by local governments.

Because reliance on publicly available toilets is not sufficient to meet the needs of the public, respondents insisted that governments must take appropriate steps to increase public toilet provision. They note that governments must be willing to initiate their own washroom strategies to understand the current levels of provision, where gaps in access and provision exist, and the alternatives that are available for improving access. Unless revision of current provision and accessibility standards are done, participants explained that it is difficult to understand the accessibility barriers or needs that exist among the community and throughout the infrastructure. Interviewees emphasized that

Moreover, many participants suggested that governments should integrate toilet consideration throughout all policy analysis and strategic plans, otherwise they foresee the issue potentially being forgotten and not addressed in any meaningful way. The importance of toilets is increasing as more and more cities are designing their cities to be more sustainable by encouraging and enabling active transportation methods, increased investment into public transportation systems all while creating equitable communities for all. Interviewees noted that these initiatives will fall flat if people do not have the capabilities of accessing toilet facilities that are essential and needed for living.

Interviewees reported that the main barrier that local governments claim to face when considering increasing toilet provision is cost. These include two identified sources of costs: the construction and building of a toilet facility, and secondly, the significant operating costs that follow afterward. Toilets are considered “*one of the hardest working pieces of public infrastructure*” by one Vancouver interviewee with a background in planning and architecture. They add that planning for and implementing toilet provisions require extensive coordination and cooperation among multiple levels and departments of government, due to factors involved with locations, effects on existing programs and policies, and practical considerations that involve the engineering and sanitation departments. They go on to explain that toilets must withstand regular use and abuse, which means added monitoring and maintenance of facilities is essential for its longevity and reliability. The continued costs needed to operate and maintain toilets after their installation are the main reasons that governments and transport authorities are reluctant to increase provision, as one toilet advocate in Vancouver reports. Many interviewees argued that the benefits from increased toilet provision outweigh the costs. They further explained that the continued benefits to public health, local economy, and sustainability must be calculated into decision making. One interviewee stated that “*public toilets are very much linked to mobility in our communities. When people can have access to a toilet, they can spend, they can go downtown,*” which are contributions to the local economies of cities. Moreover, interviewees argued that funds are available, however, toilets are not prioritized, due to lack of political and public appeal. One interviewee described the contradiction as such:

Another thing that always comes up is it's too expensive to provide public toilets. But on the other hand, local municipalities, local governments, they always seem to find money for all sorts of other things that are not really very important like the public arts schemes, festivals, and sports,

particularly male sport. They always seem to be happy to give money to that.

All key informants agreed that any program, activity, event, or policy that a government pursue cannot be maximized when a fundamental need of toilets is not fulfilled, placing limits on public participation and overall success of government initiatives. However, one interviewee from Vancouver stressed that public funds should be used appropriated to fund public toilets, and that funding expensive projects, such as the Portland Loo pilot program in Vancouver parks, which is costing the City up to \$645,000 for a single modular toilet unit installation, will decrease public support for public toilets in the future (DeRosa, 2021). They concluded that the exorbitant price tag of the two public toilets will create opposition to any future increases in public toilet provision if tax payers believe the cost is unjustified or unworthy.

Chapter 6. Policy Options

6.1. Community Toilet Scheme

A Community Toilet Scheme is a way to provide public access to existing toilets infrastructure within private establishments. Community Toilet Schemes are found throughout the UK and Europe and have been successful in locations such as the London borough of Richmond. To implement this policy option, the City of Vancouver would partner with private businesses who voluntarily participate in the scheme to open their toilets to the public and present adequate signage for their toilets on the outside of their building to indicate to the public that their toilets are available. There must also be signage and mapping elsewhere throughout the City to indicate nearby Community Toilet Scheme toilets. In return, the businesses would be compensated either through tax breaks or a subsidy to cover the additional expense of cleaning, maintenance, and supplies. Community Toilet Schemes have been praised by communities and government officials as an inexpensive and fast way to increase toilet provision to the public. However, the main disadvantage to the Community Toilet Scheme would be the limited hours that the toilets are available and the societal barriers that would prevent people from freely using toilets in businesses despite them being open to the public.

6.2. More On-Street Public Toilet and Increased Signage for Public Toilets in Public Buildings

An option for the City of Vancouver to tackle the issue of inadequate toilet provision would be to simply install more on-street public toilets, increase awareness of public toilets in public buildings such as libraries and community centres, and increase on-street signage that will direct people to where the closest public toilet is located, whether it be in a building or on a street. Signage is an important feature of toilet accessibility. Toilets are only accessible and useful when people are aware of them. Furthermore, existing on-street toilets should have their hours of operation expanded to include evening and night-time hours. This would help address a shortage of toilet for the evening economy. Additionally, a critical area to focus emergency toilet provision efforts would be the Downtown Eastside to serve the most vulnerable and marginalized populations in the city. Following efforts made in San Francisco and standards advised

by the UNHCR, the City should provide 1 toilet per 50 unsheltered persons. Types of toilet provision could include APTs Portland Loo toilets, or toilet trailers.

6.3. Vancouver Version of Pit Stop program

The Pit Stop program in San Francisco has the potential to be a feasible option for the City of Vancouver. It addresses the need for accessible toilet provision throughout the City with special attention to areas that have higher concentrations of people experiencing homelessness and greater toilet demand. This policy option should also strive to provide an emergency minimum ratio of toilets per unsheltered persons that is demonstrated in San Francisco and advised by the UNHCR of one toilet per 50 unsheltered persons. Further, utilizing toilet trailers provides the City an alternative to creating permanent toilet facilities in areas that may not require it year-round due to seasonal changes and patterns of recreation and tourism. The Pit Stop program in Vancouver could budget to hire multiple staff that will maintain the toilets in each area. To minimize costs, the City could hire an attendant to maintain several toilets at a time, rather than have one attendant at each toilet facility as in San Francisco.

6.4. Washroom Strategy and Policy Integration

A final policy option that the City of Vancouver could implement is a city-wide Washroom Strategy that sets a basis for policy integration in other areas of municipal planning. A Washroom Strategy should evaluate all toilet provision, including public and private toilets. It is important to consider where all toilets may be, whether they are under the City jurisdiction or not, to accurately evaluate the need and demands for toilets within an area. A Washroom Strategy for the City of Vancouver should also include future planning and development options that are available to the City to implement to address any gaps or maintenance that is required throughout the current toilet provision. It should be specific about the steps that the City will take and set a foundation for further policy integration in other areas under government jurisdiction to ensure that public toilets are always a consideration in all plans, strategies, and commitments. A Washroom Strategy should be the first step in effectively addressing public toilet deficiencies, but this policy option further emphasizes the need to integrate toilets throughout all other policy and planning areas on a continual basis.

Chapter 7. Criteria and Measures

Table 2. Criteria of policy analysis.

Criteria	Measure	Scoring
Effectiveness Increasing equitable public participation for groups who otherwise face barriers related to toilet inaccessibility (Double Value)	Predicted ability for seniors, people living with Crohn's and Colitis, women, families, small children, and other vulnerable and marginalized groups to participate in public spaces and events because of increased public toilet provision due to policy option	(2) Weak: Does not increase toilet provision (4) Moderate: Increases toilet provision for two of the affected groups. (6) Good: Increases public participation for all impacted groups.
Stakeholder Acceptance Impact on Business owners and employees	Level of impact and change on regular business from the status quo. Assuming that businesses dislike policies that impact their regular business operations.	(1) Direct impact on business (2) Indirect impact on business (3) No impact on business
Administrative Complexity Ease of implementation and maintenance of policy options	The amount of new infrastructure, land, and coordination between departments required. How fast a policy can be implemented.	(1) New infrastructure, more land, and many departments involved. Long implementation time frame. (2) Maintain current infrastructure with potential for more space needed, and moderate level of departments involved. Moderate implementation time frame. (3) No new infrastructure, no new land, few departments involved. Quick implementation time frame.
Safety Level of surveillance, security, privacy offered to toilet users and potential toilet users	Perceived level of surveillance, security, and privacy of toilet facility and provided by the natural setting	(1) No surveillance, no safety, no privacy (2) Moderate surveillance, safety, and privacy (3) Good surveillance, safety, and privacy
Cost Capital Costs	Amount of capital costs	(1) High capital costs (2) Moderate capital costs (3) Low capital costs
Costs Operating Costs (Double value)	Amount of operating costs	(2) High operating costs (4) Moderate operating costs (6) Low operating costs

7.1. Effectiveness – Equity

A key objective for increasing toilet provision is equity. The priority to providing increased toilet provision for the public would be the resulting increase in public participation and accessibility to public spaces for people who currently face barriers and challenges due to insufficient toilet availability. The societal objective of implementing policies to increase toilet provision would be to create inclusive and equitable public spaces for all. Policy options were assessed on their predicted ability to improve access and equity throughout public spaces as a result of each policy. Since the City of Vancouver places a high priority on encouraging and maintaining equity throughout their plans and strategies, effective increase in equity was double valued for the purpose of the policy analysis.

7.2. Stakeholder Acceptance - Businesses

Businesses have been calling on the City of Vancouver to deal with its lack of public toilet provision in the wake of increasing public urination, open defecation, and increased use of private business toilets by non-paying customers increasing costs related to cleaning, maintenance, and repairs (Korstrom, 2020). Businesses are important stakeholders among toilet discussions because they control a vast number of the toilets found throughout the city and used by the public. Frontline workers especially are affected by behaviours and actions related to toilets such as abuse, vandalism, drug use, and misuse. Policy options were evaluated based on stakeholder acceptance of businesses, assuming that businesses prefer little interference or interaction with government.

7.3. Administrative Complexity

A challenge that municipalities when faced with increasing toilet provision is the amount of coordination and collaboration between departments and units within a local government. Planners and engineers must coordinate on a multitude of factors including design, location, utilities connectivity, funding, and many more. Policy options that are less complex and administratively involved would allow faster implementation of toilet provision. Reducing administrative complexity would have an added benefit of reducing

costs. Policy options were evaluated based on whether it will require new infrastructure and maintenance or not, and how fast a policy can be implemented.

7.4. Safety

Throughout the literature, case studies, and interviews, safety plays a significant role in whether a toilet is accessible and ultimately, used. Elements that improve a sense of safety is the level of surveillance, privacy, and location. Policy options were evaluated based on their perceived level of surveillance, security, and privacy provided by the surrounding area of the toilet.

7.5. Cost – Capital & Operating

Cost is a major hurdle for municipalities and the main challenge for improving toilet accessibility and provision. Including new toilet infrastructure is expensive, requires lots of time to plan, design and coordinate utility connections. Furthermore, the construction of toilets is resource and labour intensive. Finally, once a toilet facility is built, there are ongoing operating costs that are significant, related to utilities, maintenance, cleaning, and stocking of supplies. Operating costs are arguably the main reason that municipalities or other service authorities, such as transit systems, do not increase toilet provision, and this measure will have a double value in the policy analysis. Policy options must consider minimizing the overall costs that will be incurred related to providing toilet access to the public. Policy options were evaluated on two criteria related to cost: capital costs and operating costs.

Chapter 8. Policy Analysis

Table 3. Summary of Policy Analysis

Criteria	Community Toilet Scheme	Increased On-Street Provision and Signage	Pit-Stop Program	Washroom Strategy	
				Short Term	Long Term
Effectiveness – Equity (<i>Double Value</i>)	(4)	(6)	(6)	(2)	(6)
Stakeholder Acceptance – Business owners and employees	(1)	(2)	(2)	(3)	
Administrative Complexity	(3)	(1)	(1)	(3)	
Safety	(3)	(1.5)	(3)	(1)	(3)
Cost – Capital Cost	(3)	(1)	(1)	(3)	
Cost – Operating Cost (<i>Double Value</i>)	(4)	(3)	(2)	(4)	
Total	18/24	14.5/24	15/24	16/24	22/24

8.1. Community Toilet Scheme

A Community Toilet Scheme (CTS) is a popular choice of toilet provision in several jurisdictions in Europe and the UK. Implementing a CTS would be a quicker method to increasing the immediate provision of toilets outside of the home. This policy option would remove barriers for certain groups, while maintaining barriers for others based on different accessibility requirements. CTS can provide limited toilet access during business hours, which is dependent and fully controlled by the participating business. Furthermore, toilets are not guaranteed to meet accessibility standards, maintaining barriers for individuals who face accessibility challenges. As a result, the City can expect public participation by some groups to increase due to implementing this policy, however, full equity and participation is still limited. Barriers may still exist for those with disabilities, vulnerable and marginalized people who may not feel comfortable entering an establishment, and families needing change tables.

A CTS requires high stakeholder acceptance on the part of businesses to begin operating. Businesses must feel a sense of agency when changes are being made that will affect them, and importantly, feel that they are benefiting from the scheme in return as interviewees have suggested. Businesses must be able to see the positive aspects of opening their toilets to the public, whether this means greater foot traffic and more potential for business, or increased community bonding and building for greater brand and business loyalty. Nonetheless, there may be resistance to offering public toilet due to increases in cost related to utilities, cleaning, maintenance, and monitoring.

The safety factors of CTSs are good since there will be high levels of surveillance by business employees and other patrons. Toilet facilities already found in businesses are secure and offer a typical level of privacy that is familiar and comfortable for most users. Furthermore, toilets in businesses offer more privacy compared to on-street options with greater separation from the public eye.

Finally, since a CTS utilizes existing toilet infrastructure built within buildings and businesses, there are low capital costs associated with this policy option. There is potential for costs needing to be incurred for maintenance and upgrades, however, this is unlikely to be needed for every participating business location. On the other hand, operating costs may still be moderate, however, the costs will be partly shared by the business and will be lower for the City overall. Operating costs are also negotiable and can be set according to the City's funding capacity.

Table 4. Analysis of Community Toilet Scheme policy option

Criteria	Results	Scoring
Effectiveness Increasing equitable public participation for groups who otherwise face barriers related to toilet inaccessibility <i>(Double Value)</i>	Will increase ability for some user groups to have greater public participation, if entering private businesses are not an inherent barrier Accessibility standards are not guaranteed for those with accessibility needs Some user groups are not comfortable entering businesses for the sole purpose of using the toilet; namely seniors	(4) Moderate: Increases toilet provision for two of the affected groups.
Stakeholder Acceptance Impact on Business owners and employees	Business participation is voluntary, however, there is little control of who can enter the premises Increased expenses related to utilities, supplies, and staffing that may not be covered by compensation Potential for positive impact on business due to increased foot traffic and greater community connectivity	(1) Direct impact on business
Administrative Complexity Ease of implementation and maintenance of policy options	No new infrastructure required No additional land required Coordination and planning involved with management and evaluation of compliance to toilet accessibility and standards. Can be implemented quickly to increase immediate provision of toilets for the public	(3) No new infrastructure, no new land, few departments involved. Quick implementation time frame.
Safety Level of surveillance, security, privacy offered to toilet users and potential toilet users	Toilets provided will be monitored and have high levels of surveillance from business owners and employees and other patrons Using toilets in businesses can be a more discreet experience, compared to on-street options, providing more privacy for users	(3) Good surveillance, safety, and privacy
Cost Capital Costs	Low capital costs involved with starting the scheme since there is no need to build or acquire new facilities or parts	(3) Low capital costs

Criteria	Results	Scoring
Costs Operating Costs <i>(Double value)</i>	Typically, participating businesses receive compensation for opening their toilets to the public. Compensation is minimal and is meant to cover the additional costs to maintain, clean, and staff the toilets compared to regular usage levels. Offering compensation is a discretionary decision made by municipalities. Some Schemes can operate without compensation needed since increased business is a benefit arising from having the public enter the business to use the toilet.	(4) Moderate operating costs

8.2. More On-Street Public Toilet and Increased Signage for Public Toilets in Public Buildings

Providing more on-street toilets would be ideal for creating more opportunity and accessibility for full public participation. On-street toilets would have the potential to be fully accessible for the public and can be designed and built by the City to accommodate all toilet users. Furthermore, new facilities have the potential and opportunity to be built in areas that are identified as having greater needs for toilet infrastructure, so a prioritization of location can happen to best suit the needs of the public.

Increasing on-street toilets would have an indirect impact on nearby businesses. Interview responses and literature indicate that businesses are sometimes hesitant to accept new toilet infrastructure close to their business operations for fear of increased vandalism and crime due to the perceived types of toilet users. However, increasing on-street toilets can increase pedestrian foot traffic which would lead to greater economic opportunities for nearby businesses. The literature and interview findings both suggest that when people have access to toilets, they can stay out in public, visit businesses, and spend their money comfortably. Business may also experience fewer incidents of public urination and open defecation, which has been negatively affecting businesses who need to clean the area surrounding their premises.

The safety of on-street toilets is varied, and is largely dependent on other factors including location, amount of foot traffic, lighting, and design of the facilities. Unless security cameras are installed, on-street toilets have no formal surveillance, and will depend on natural surveillance from the surrounding area. This may not be the most comfortable for vulnerable toilet users, including women, seniors, transgender people, and people with disabilities, who require more privacy and are concerned about abuse or visibility by the public in a vulnerable state of using a toilet.

Increasing on-street toilets would have the greatest amount of administrative complexity due to the acquisition or building of new facilities that would require technical knowledge and expertise. As well, there would need to be planning and strategies created to identify appropriate locations for more toilet facilities, as well as considering accessible connections to utilities. Funding for toilets would need to be found and secured. Increasing on-street toilet provision would also require a longer time frame for implementation.

On-street toilets are very costly. They require high capital costs to acquire, design, or build, with further costs associated with installation and connectivity to utilities. In addition to capital costs, on-street toilets will also incur moderate to high operating costs to cover expenses such as maintenance, utility usage, cleaning, and stocking supplies. Operating costs can be reduced or managed more effectively by contracting the work out to a third-party company or having a partnership with an advertising agency in exchange for exclusive rights to display ads on ad space within the facility.

Table 5. Analysis of increasing on-street public toilets and signage policy option

Criteria	Measure	Scoring
<p>Effectiveness Increasing equitable public participation for groups who otherwise face barriers related to toilet inaccessibility <i>(Double Value)</i></p>	<p>Toilets can be planned and designed to be universally accessible Would be the most accommodating for user groups who face stigmas or barriers when trying to access publicly available toilets Can be located appropriately where community needs are identified</p>	<p>(6) Good: Increases public participation for all impacted groups.</p>
<p>Stakeholder Acceptance Impact on Business owners and employees</p>	<p>May be located in front or nearby businesses who may be opposed to being so close to toilets due to perceptions and stigmas associated with toilet users May increase foot traffic around businesses, which could increase economic activity or may be attractants for crime or vandalism Would reduce instances of public urinations and open defecations near businesses</p>	<p>(2) Indirect impact on business</p>
<p>Administrative Complexity Ease of implementation and maintenance of policy options</p>	<p>Would require new builds or renovation of existing toilets – more infrastructure requirements mean more departmental coordination between planners, staff, engineers, and technicians. More connections to utilities and underground assets which may be difficult and complex Long time frame for implementation</p>	<p>(1) New infrastructure, more land, and many departments involved. Long implementation time frame.</p>

Criteria	Measure	Scoring
Safety Level of surveillance, security, privacy offered to toilet users and potential toilet users	Public toilets would be standalone, which variable natural surveillance depending on location and design Security concerns arise for public toilets where there is no attendant or staff on site due to fear of assault, vandalism, sex, drug use, and graffiti On-street toilets offer less privacy and discretion for users from the public	(1.5) No surveillance, no safety, no privacy & Moderate surveillance, safety, and privacy
Cost Capital Costs	High capital costs are involved with building new public toilets, which include the planning, coordinating, design or acquisition, installation, and maintenance of the toilets. Additional capital costs associated with increased signage	(1) High capital costs
Costs Operating Costs (Double value)	Operating costs are high for public toilets since they are hardworking facilities Operating costs will involve either hiring staff to clean or contracting cleaners, in addition to continued maintenance, stocking of washroom supplies, and utility expenses Operating costs can minimized through contracts with third party advertisers or programs	(3) High operating costs & Moderate operating costs

8.3. Vancouver Version of Pit Stop Program

A Vancouver version of the Pit Stop program would increase reliable toilets to underserved groups and communities. Since toilets are expected to be cleaned more regularly and have better surveillance, they can be perceived positively by potential toilet users. This toilet provision would be beneficial to the most marginalized and vulnerable groups in Vancouver, while having people attendant the toilet who are from the community, increasing safety and community connection. This would be a positive program for individuals trying to enter the workforce and act as a social program as well.

Similar to other on-street toilet options, business will be indirectly affected by toilet provision if they are located within close proximity to their business. Businesses can expect higher foot traffic, which is positive for future potential customers and economic activity. However, business owners and employees are often concerned for the safety and security of their property due to unwanted behaviours that are commonly found at toilets, such as vandalism, graffiti, and drug use. With the Pit Stop program, a staff member would be able to mitigate these fears and be a secure presence that deters such behaviour.

As for administrative complexity, to acquire more mobile toilet trailers or to hire toilet cleaners and staff, there would be high levels of administrative complexity. Processes for hiring cleaning attendants would be required and would take time for onboarding and training. Finding appropriate connection to utilities for mobile toilet facilities could prove to be a challenge as well. Due to possible coordination between non-profits and NGOs for toilet staffing, and further coordination between departments for asset acquisition, this policy option could expect a longer time frame for implementation.

The safety of Pit Stop toilets would be optimal compared to other options since staff will be on site to ensure that toilets are being used in an orderly fashion, diffusing any problems that may arise in the surrounding area, and being a monitor for any situation that require greater care or medical assistance.

Overall, the Pit Stop program type of toilet provision and maintenance would be the most expensive, both in terms of capital costs, for acquiring more toilets and mobile toilet trailers, as well as high operating costs associated with wages and salaries for toilet cleaners and attendants.

Table 6. Analysis of Vancouver version of Pit Stop program policy option

Criteria	Measure	Scoring
<p>Effectiveness Increasing equitable public participation for groups who otherwise face barriers related to toilet inaccessibility <i>(Double Value)</i></p>	<p>Increased accessibility for all user types Equitable participation predicted throughout public spaces Equitable participation for marginalized individuals who get an opportunity to join the workforce through employment as a toilet staff Temporary nature of trailer toilets may not be effective at relieving toilet concerns or anxiety surrounding toilet provision. Temporary toilets are not dependable for the long term for toilet users.</p>	<p>(6) Good: Increases public participation for all impacted groups.</p>
<p>Stakeholder Acceptance Impact on Business owners and employees</p>	<p>Businesses that are located near a Pit Stop location may create opposition to its location, due to fears associated with toilet behaviours Can have a positive impact on business with more foot traffic and more economic opportunity</p>	<p>(2) Indirect impact on business</p>
<p>Administrative Complexity Ease of implementation and maintenance of policy options</p>	<p>The Pit Stop program is high in administrative complexity since new infrastructure is required, available land is needed for temporary toilet trailers, and toilet staff hiring is needed Lots of coordination between different departments of the City to connect toilets to utilities, in addition to coordination between local NGOs and non-profit organizations for staffing of toilet attendant. Long implantation time</p>	<p>(1) New infrastructure, more land, and many departments involved Maintain current infrastructure with potential for more space needed, and moderate level of departments involved Long implementation time frame</p>
<p>Safety Level of surveillance, security, privacy offered to toilet users and potential toilet users</p>	<p>Safety and privacy levels are high given the presence of a permanent toilet attendant monitoring toilet behaviours and surroundings Can call for help immediately in cases of medical emergencies</p>	<p>(3) Good surveillance, safety, and privacy</p>

Criteria	Measure	Scoring
Cost Capital Costs	High capital costs involved with acquiring new toilet facilities, either trailers or permanent toilet buildings Higher cost to implement	(1) High capital costs
Costs Operating Costs (Double value)	High costs involved with operating toilets, mostly due to having paid staff on site	(2) High operating costs

8.4. Washroom Strategy and Policy Integration

A toilet strategy is an essential step that will help the City identify gaps in provision, recognize options that are available to address those gaps, and make changes that will have long term, sustainable and positive impacts on Vancouver residents. A toilet strategy will have no direct impact on criteria of accessibility, equity, and safety immediately. However, a toilet strategy would create a solid foundation of knowledge to make a positive impact on toilet accessibility by creating a better understanding of how to best provide public toilets for different neighbourhoods and communities in the long-term.

Creating a Washroom Strategy would not have any direct impacts on businesses; businesses would continue to fill the gaps in provision of public toilets. Residents would similarly have no direct impact on them through making a toilet strategy. On the other hand, businesses and residents who would possibly be contacted in efforts to seek public feedback and public opinion regarding toilet provision and the local issues that people are facing in their neighbourhoods and communities. Businesses and residents would have the opportunity put in their time to provide perspective and help planners and City staff understand the toilet situation and how it can be improved. This option would have an impact on these groups but wouldn't have a direct or immediate impact on their toilet experiences.

The administrative complexity of creating a Washroom Strategy would be moderate since no new infrastructure would be required at this stage. However, creating a strategy would require a significant amount of research, including extensive public engagement to address the unique needs of the population, given accessibility factors outlined in the literature and interview findings. User needs will vary based on gender,

age, ability, and many other factors, which will need to be investigated through public engagement. Moreover, information will need to be gathered to gain awareness of other successful toilet designs and provisions found in other jurisdictions. It would also be necessary to anticipate future challenges that could affect public toilet provision, similarly to how COVID-19 changed how toilet operated in terms of cleaning, handwashing, and immediate temporary provisions to address imminent health concerns (Simcoe Muskoka, 2022). Developing a Washroom Strategy would be relatively quick to implement since few departments will have direct involvement in this stage, leaving research and public engagement to policy makers and planners for the most part.

This option is less costly since it doesn't require any new infrastructure to be acquired or for existing facilities to be upgraded or maintained. However, there will still be costs involved with recruiting staff or researchers to create the toilet strategy. Research methods, including public engagement, will increase costs of this policy option, however, estimations of costs can be easier to predict based on cost structures of past strategies and reports.

Table 7. Analysis of washroom strategy and policy integration policy option

Criteria	Measure	Scoring	
		Short Term	Long Term
Effectiveness Increasing equitable public participation for groups who otherwise face barriers related to toilet inaccessibility <i>(Double Value)</i>	Has no immediate impact on equitable public participation. Will have a meaningful impact on equitable public participation in the long term. Have greater potential and knowledge to best serve the user groups that are most vulnerable and in need of toilet provision	(2) Weak: Does not increase toilet provision [Short Term] OR	(6) Good: Increases public participation for all impacted groups [Long Term]
Stakeholder Acceptance Impact on Business owners and employees	No impact on regular business operations	(3) No impact on business	
Administrative Complexity Ease of implementation and maintenance of policy options	No new infrastructure would be required to create a strategy Coordination between departments may happen, but minimal and not urgent action needed Coordination for public engagement activities Quick implementation time frame	(3) No new infrastructure, no new land, few departments involved. Quick implementation time frame.	
Safety Level of surveillance, security, privacy offered to toilet users and potential toilet users	No immediate change in safety Potential to find toilet solutions that have optimal safety solutions	(1) No surveillance, no safety, no privacy OR	(3) Good surveillance, safety, and privacy
Cost Capital Costs	Lower capital costs since little capital is required to be acquired	(3) Low capital costs	
Costs Operating Costs <i>(Double value)</i>	Operating costs are moderate since staff, researchers, and planners will be required to work on creating a strategy.	(4) Moderate operating costs	

Chapter 9. Recommendation

To tackle the lack of public toilet provision in the City of Vancouver, a two-stage implementation process encompassing short- and long-term policy actions is recommended.

The first step that the City of Vancouver must take towards increasing public toilet provision is to develop a Washroom Strategy. The findings from the case studies, interviews and policy analysis indicate that a washroom strategy is an essential first step to guide future toilet policy solutions in the city. Unlike the *Relieved City: Washroom Renewal Plan* developed in 2009, a future Washroom Strategy must evaluate current levels of public and private toilet provision and identify gaps in total provision. The literature, case studies, and interview findings advise for a Washroom Strategy to account for all types of toilet provision to understand where additional public provision would be best served. This will further help to understand how access needs differ for users, particularly vulnerable and marginalized populations who do not have access to toilets within private businesses and buildings. It will be important that public engagement is used to gain feedback on important aspect of toilets, whether that include location, design, and accessibility considerations that are not captured in literature and research. The interview findings emphasized the extent to which policy makers and planners are typically unaware of toilet impacts due to personal toilet accessibility privileges. Experiences should be sought by user groups including but not limited to women, seniors, families, and people experiencing homelessness. Moreover, literature and interview findings indicate that lack of public toilet provision incur indirect costs to society and other government sectors by affecting public health, mental health, and reducing access to economic and public participation. While these costs are highlighted by the research, they are not measured and therefore difficult to quantify and associate to the lack of public toilet provision. Acquiring cost related information within a Washroom Strategy could help the City form a guideline for increasing toilet provision in relation to the benefits that would be provided. Therefore, it will be important for a Washroom Strategy to measure the societal and governmental related costs resulting from inadequate toilet provision.

Because there is immediate need to provide more public toilet access to the public, this study further recommends that the City of Vancouver implement a Community Toilet Scheme (CTS). A Community Toilet Scheme will open access to existing toilet infrastructure found in private businesses. The benefit of a CTS is the low cost to operate, increased toilet access, and greater potential for economic activity within businesses. However, interview findings warn that a CTS is not a solution to inadequate public toilet provision. The COVID-19 pandemic demonstrated that toilets in private businesses provide inconsistent provision and access, and that barriers to access will continue to exist for members of the public who are most vulnerable and marginalized. This study recommends the implementation of a Community Toilet Scheme as a supplementary provision to the public meanwhile the City considers and/or installs more permanent and accessible toilet options.

Once a Washroom Strategy is started, the City of Vancouver should take the next step to independently evaluate the possibility of implementing the remaining two policy alternatives presented in this study, including the Vancouver version of the Pit Stop Program and increasing toilet provision and signage. After the City investigates gaps in provision, the City will be able to identify areas that need additional public toilets services and what type of provision would be best suited (Automated Public Toilet, Portland Loo, Direct access toilet building, etc.). Moreover, the process of developing a Washroom Strategy should include an evaluation of the societal and governmental costs associated with inadequate toilet provision. Having a quantifiable understanding of these societal and government costs and consequences, the City can better assess the merits of the Pit Stop Program versus simply increasing toilet provision without staff or attendants on site. Either of these two remaining toilet policy options will be necessary to create accessible toilet provision to those who are unable to access toilets through a Community Toilet Scheme. Since toilets are an essential piece of infrastructure for all members of the public, regardless of accessibility needs, it is critical that more public toilets be provided to the public.

Chapter 10. Conclusion

Toilets are an absolute essential piece of public infrastructure for cities to include in their urban spaces to encourage public participation, diversity, inclusion. The City of Vancouver is not alone in its difficulty finding appropriate ways to provide public toilets. The aim of this study was to investigate policies to address the significant lack of public toilet provision among urban areas throughout the City of Vancouver, and in so doing, explored the complexities of public toilets with regards to its impacts on different populations throughout the city. Importantly, it examines lessons learned from other jurisdictions internationally and examines critical policy options currently being piloted in the City of Vancouver, namely the Portland Loo toilet design. Additionally, this study investigates the impacts the COVID-19 pandemic had on public toilets across the world, ranging from provision issues in relation to both the private and public sectors to concerns surrounding transmission and cleaning, to better understand the role of toilets as an essential public health service for future health responses in Vancouver.

This study recommends that the City of Vancouver develop a Washroom Strategy that will set a base for effective and inclusive future public toilet provision. This recommendation is critical to ensure that toilets are considered in ongoing policy analysis, planning, strategizing and are based on identified needs and experiences of actual users. However, given the urgency to provide public toilet options to the public, this study also recommends that in the immediate term, the City of Vancouver implement a Community Toilet Scheme which will involve partnering with private businesses to create public access to private sector toilets. Given similar difficulties to increase toilet provision in cities throughout Canada (Lowe, 2020), these recommendations may benefit the planning and priorities of other jurisdictions such as Winnipeg, Ottawa, Toronto, Montreal and Halifax.

Throughout this research, cost was revealed to be a key factor in determining public toilet provision. Because of the interconnectedness of public toilets with sustainability, equity, and health initiatives, this barrier can be overcome with further research that can evaluate the benefits resulting from greater public toilets provision. This will help government officials balance the high capital and operating costs of running public toilets against the identified benefits. This is an issue that will continue to

be significant for the City of Vancouver. For example, a new subway line in Vancouver is being built, slated for completion by 2025 but had not made any provisions for public toilets for riders (Fumano, 2021). Missing from such planning is robust evidence that can demonstrate the extent to which the provision of public toilets increases public transit ridership and active transportation usage. The research presented in this study as well as future research on costs and returns related to public toilet investment within the transit system can build a stronger operational case for immediate inclusion of public toilets.

In essence, toilets are necessary for all people to see to their human physiological needs. They allow people to be fully participating citizens and have the freedom to move throughout and engage with their communities (Kitchin & Law, 2001). Municipalities are responsible for providing public toilets within their jurisdictions; however, until recently, the topic has been largely ignored, especially by the City of Vancouver and there has been a general trend of public toilet closures not only in Canada but in the United States, and the UK. However, COVID-19 has catalyzed attention to the issue for the public at large, having affected majority of the public's reliable toilet provision found in private businesses.

While this capstone brings attention to the specific challenges and solutions of public toilet provision in the City of Vancouver, much more research and advocacy will be needed to continue to make a case and champion for increasing the public provision of toilets to maximize government objectives related to public health, sustainability, mobility, economic opportunities, and public participation. Public toilets are critical pieces of public infrastructure in this regard, and this study has demonstrated and emphasized the need for Canadian municipalities to properly serve their residents in this area, which will in turn help to uphold Canada's commitment to the SDG number 6 of the United Nations 2030 Agenda for Sustainable Development.

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