Assessing Geographic Context in Relation to Public Transit Experience in Toronto

By: Michael Axiak

Supervised by Mahtot Gebresselassie

A Major Paper submitted to the Faculty of Environmental and Urban Change in partial fulfillment of the requirements for the degree of Master's in Environmental Studies

York University, Toronto, Ontario, Canada

July 31st, 2025

Abstract

This research examines how geographic context affects residents' experiences with public transit in Toronto, with a focus on equity, accessibility, and social sustainability. Using the theoretical lens of the Right to the City, this study investigates the lived experiences of transit users across three distinct sites: Bloor-Yonge Station in the downtown Toronto core, York University Station in North York, and Kennedy Station in Scarborough. These locations represent diverse socio-economic and demographic contexts within the city. Using a qualitative methodology, this research combines participant observation with open-ended questionnaires to explore how service reliability, accessibility, safety, and first- and last-mile connections vary across neighbourhoods and influence transit use. Findings revealed systemic inequities in the quality, reliability, and convenience of transit service, disproportionately affecting marginalized groups such as low-income, racialized, and disabled riders, particularly in suburban areas. While downtown riders face overcrowding and wayfinding challenges, users in North York and Scarborough experience longer travel times, infrequent service, and inadequate infrastructure. This study emphasizes the importance of transit planning that considers geographic context and the diverse needs of users to promote equitable transit usage and social sustainability. Insights from this research can inform more inclusive and effective transit policies that better serve the needs of each community in Toronto.

Keywords: Public transit, Planning, Equity, Social Sustainability, Accessibility, Marginalization

Foreword

This Major Research Paper was completed in fulfillment of the requirements for the Master of Environmental Studies (MES) in Planning program at York University. At the start of my MES journey, I was drawn to exploring how different communities experience transit by comparing the social impact on users. Through my research, I aimed to gain a deeper understanding of the issues related to public transit and social sustainability, identifying the impacts on the accessibility and mobility of different communities throughout cities. This goal assisted in identifying three key learning components from my Plan of Study: 1. Public Transportation Planning, 2. Social Sustainability, and 3. Equitable Access to Public Transportation.

Initially, I was interested in comparing transit systems in Montreal and Toronto. However, after spending more time living in Toronto during my studies and gaining experiential learning through work on subway and heavy rail transit planning in the Greater Toronto Area (GTA), I chose to focus on a more local context. As I progressed through the program, I continued to learn about the local context of transit infrastructure and services in the city, which made me eager to gain a deeper understanding of the transit experiences of different communities in Toronto. Thus, I decided to research how residents in the downtown core of Toronto experience transit compared to those who live further from the city centre, in areas such as Scarborough and North York. The scope of Toronto felt personal after living in the city, specifically North York, for the past six years. Through exploring the city via transit, I have been getting to know the transit services available in each area of interest. With this, my research has also fulfilled specific learning objectives in my Plan of Study, including:

- *Objective 1.1: To engage and understand key issues within the discourse of transportation planning that impact the decision-making process*
- *Objective 1.2: To obtain the knowledge and skills necessary to meet the program requirements of the Ontario Professional Planners Institute for candidacy membership*
- *Objective 1.3: To examine how public transportation planning impacts marginalized groups, looking within the city of Toronto and surrounding boroughs*
- *Objective 3.1: To gain in-depth knowledge on how equity is considered within urban planning, governance, and policy*
- *Objective 3.2: To gain a deep insight into the barriers that people living in cities may face that impact their equity in terms of accessibility*

Based on the learning components and objectives identified in my Plan of Study, this study explores the following two research questions:

1. How do residents of Toronto experience public transit when travelling?
2. What issues impact their usage of public transit?

The primary goal of my Major Paper is to highlight the challenges that riders encounter in accessing public transit. By shedding light on these issues, I aimed to draw meaningful attention to the transit inequities experienced by diverse communities across the city of Toronto.

Acknowledgements

I'm incredibly thankful to my supervisor, Professor Mahtot Gebresselassie, for your guidance and patience throughout my academic journey. Your support, encouragement, and kindness meant a great deal to me and helped me see this paper through to completion.

Thank you to my amazing MES friends and the entire cohort. I feel very fortunate to have had your confidence in me as the Ontario Professional Planners Institute cohort representative for us over the past two years, and it has been a pleasure to get to know you all.

I would also like to thank Professor Teresa Abbruzzese, as without her encouragement and support, I would not have applied to the MES program, nor would I have gained the experience and knowledge I have. Thank you for setting me on this amazing path.

Lastly, I would like to thank my family. Thank you for always supporting me and motivating me to strive for more. My academic journey started a new chapter in my life, and as it comes to a close, I feel extremely grateful for your continued support.

Table of Contents

Chapter 1. Introduction

1.1 Introduction to Research

This major research aimed to understand personal experiences related to public transit, focusing on different geographic contexts in the city of Toronto. It looked at how residents in the downtown core of Toronto experience transit compared to those who live further from the city centre, in areas such as North York and Scarborough. The research goal was to understand the similarities and differences in the experiences of all public transit users in these areas by examining their trip purposes and the dominant issues that influence their experiences based on location. There is a need for transit agencies and cities to assess the needs of people who use their services to ensure equitable access to public transit, particularly for marginalized populations who face barriers to mobility and accessibility (Collins et al., 2023). The specific transit stations used for this research are Bloor-Yonge Station in Downtown Toronto, York University Station in North York, and Kennedy Station in Scarborough.

These three sites were chosen for the case studies because they are high-traffic, multi-modal stations located near areas zoned as commercial-residential and residential (Toronto Transit Commission, 2023; City of Toronto, 2013). This allowed for a variety of responses from users who live near or commute to the station using its various modes of public transit, enabling a more comprehensive analysis. The focus of this research was to investigate how residents perceive and experience the city's public transit networks for their trip purposes, identify issues and strategies that residents suggested cities, specifically Toronto, should consider more seriously, and examine the similarities and differences of issues between different locations using the same public transit network.

This research utilized the Right to the City theoretical framework to explore how residents from diverse financial, racial, cultural, and gender backgrounds in Toronto experience public transit, including those who are marginalized. Marginalization refers to the social disadvantage and barriers that specific communities face in accessing public services, such as public transit (Collins et al., 2023). Marginalized populations are those who are excluded or disadvantaged due to systemic inequities, referring to racial minorities, low-income earners, women, people with disabilities, and more (Collins et al., 2023). These groups face challenges in mobility, economic opportunities, and access to essential services, such as healthcare and employment, because public transit systems are not equitably distributed or designed to serve their needs (Collins et al., 2023). The Right to the City theoretical approach emphasizes that urban spaces should belong to all residents, not just those who are affluent or in power, advocating for democratic control over the urban environment (Lefebvre, 1996). The right to the city is about the lived experience of those who inhabit a city, particularly

marginalized groups (Duff, 2017). It asserts that this right is performed through the everyday use and occupation of urban spaces by various communities (Duff, 2017).

The right to the city is seen as a struggle for space and recognition, one that is socially, materially, and emotionally realized (Duff, 2017). It emphasizes the significance of recognizing how various intersections, including race, gender, class, and location, influence access to a city. The study used the framework to understand access to public transportation. Through the lens of the right to the city, this research questioned whether all communities have equal access to the city through public transit. Yousefzadeh-Barri et al. (2021) find that marginalized communities often face long travel times, inefficient service, issues with first- and last-mile connections, safety concerns, affordability problems, and more.

This study used three case studies at different sites to investigate the research problem. The main questions this research looked to answer are: How do residents of Toronto experience public transit when travelling, and what issues impact their usage of public transit? This research also looked to understand how individual experiences reflect broader systemic issues within public transit across different locations. A key area of interest also involved understanding the role of proximity and first- and last-mile connections in impacting the usage of transit. Specifically, this research examined the issue of distance and travel time for users to their nearest station and how this can affect their likelihood of using public transit. It also considered how demographic attributes such as age, income, and ethnicity affect transit patterns and whether these influences vary across different neighbourhoods or regions. By analyzing these interconnected factors, the research aimed to uncover spatial and social dynamics that may contribute to transit inequities. Through understanding travellers' experiences with public transit, this research aimed to provide insights into how Toronto can address equity and social sustainability in its transit networks, and travellers can benefit from transit solutions.

Researching issues within public transit is both timely and essential, as transit systems are vital for many residents (Yousefzadeh Barri et al., 2021). However, disparities in access to reliable and efficient transit disproportionately affect specific communities, including marginalized populations (Yousefzadeh Barri et al., 2021). Understanding how different communities interact with transit can help policymakers advocate for more equitable transit policies and practices (Ingram et al., 2020). The findings of this research highlight various geographic and demographic disparities in public transit experiences across the case study sites at Bloor-Yonge, York University, and Kennedy Stations, as seen through participant observation and qualitative questionnaires. Users at Bloor-Yonge who are located in the downtown core primarily benefit from more frequent service and access to multimodal transit. However, they experience the most severe overcrowding combined with complex wayfinding barriers that complicate accessibility. In contrast, York University Station is a newer and more

recently designed station that serves a largely racialized and lower-income population that continues to face longer commute times and infrequent service, particularly in the surrounding municipalities. At Kennedy Station in Scarborough, riders encounter aging infrastructure, safety concerns, and poor first- and last-mile connections despite the station's role as a key multimodal hub.

Across the three sites, the findings from participant observation and qualitative questionnaires revealed recurring thematic issues related to safety, unreliability, and accessibility, especially for marginalized populations. Demographic attributes such as income, race, and physical ability influenced how respondents perceived and interacted with transit infrastructure. These issues were compounded by systemic barriers, particularly in suburban areas such as North York and Scarborough. This research found that, despite the existence of transit access, the quality, reliability, and ease of use vary across different locations in Toronto. This undermines the broader goals of transit equity and social sustainability for everyone. The research highlights the importance of transit planning that considers geographic context, demographic vulnerability, and the everyday experiences of users more deliberately. The findings from this research offer insight into the lived experiences of transit users in Toronto, informing policymakers and urban planners on decisions related to new transit development and policy.

The current public transit network in Toronto is overstressed and outdated, making it more challenging for low-income residents to access transit infrastructure (Allen et al., 2023). Therefore, these systems must adapt and evolve to meet the changing demands of populations while ensuring inclusivity and equity (Allen et al., 2023). Understanding the experiences of respondents from various diverse backgrounds will be essential to identifying the dominant issues users face at each site, which can assist in understanding what different communities need to improve their transit experience. This research aims to contribute to discussions about transit equity, accessibility, mobility, and inclusivity. It can help support policymaking for a more connected transit system in Toronto that meets residents' needs and improves their experience.

1.2 Context Background: Reviewing Governance

Reviewing the governance of public transit in Toronto is crucial for understanding the transit experience that users encounter. This section aims to identify the key stakeholders responsible for planning, building, operating, and maintaining the city of Toronto's transit systems.

1.2.1 Ontario-Toronto Transit Partnership Agreement

In February 2020, the City of Toronto and the Province of Ontario formalized the Ontario-Toronto Transit Partnership Agreement (City of Toronto, n.d.). This agreement outlines the respective roles of the province of Ontario and the city of Toronto in major transit projects, including

the Ontario Line, Eglinton Crosstown LRT, and Yonge North Subway Extension (City of Toronto, n.d.). The city retains ownership of the subway system, with the TTC also responsible for operating and maintaining the system after its completion (City of Toronto, n.d.). With federal support, the province committed nearly $30 billion through Metrolinx, while Toronto redirected $5 billion to maintain its existing network (City of Toronto, n.d.). This partnership is significant in addressing Toronto's growing transit needs and will have a better impact on the user experience (City of Toronto, n.d.).

1.2.2 City of Toronto

Toronto plays a key governance role in transit planning in various ways, including policies outlined in the Official Plan and the Rapid Transit Evaluation Framework (City of Toronto, n.d.). In broad terms, the city funds TTC operations and prioritizes maintaining the current transit infrastructure in the city (City of Toronto, n.d.). Toronto has made strategic efforts to improve accessibility and promote transit-oriented development, with the 2041 Regional Transportation Plan and TOCore serving as key frameworks (City of Toronto, n.d.). However, current transit equity concerns persist, particularly in underserved areas such as Scarborough and North York (Bista et al., 2021). These areas often suffer more from limited service and long travel times (Bista et al., 2021). Bista et al. (2021) also highlight affordability challenges and inadequate investment in these lower-density areas. Policies encouraging active transportation and sustainable mobility have also yet to address the first and last-mile connectivity gaps in many areas (Bista et al., 2021). Ingram et al. (2020) similarly examine how systemic inequities and historical disinvestment affect low-income and racialized communities in Toronto the most.

1.2.3 TTC

The TTC operates the city of Toronto's vast transit system (City of Toronto, n.d.). It serves 85% of all public transit trips in the GTHA and coordinates with stakeholders, including the city, province, and Metrolinx (City of Toronto, n.d.). The 2024-2028 Accessibility Plan and Wheel-Trans Transformation Program align with the Accessibility for Ontarians with Disabilities Act (AODA) standards (TTC, n.d). The TTC has allocated $1.7 billion for accessibility improvements across the network (TTC, n.d.). Key initiatives include elevator installations, platform upgrades, greater access hubs, and expanding the Family of Services to combine Wheel-Trans vehicles with accessible conventional transit (TTC, n.d.). A pilot for zero-emission buses and the expansion of digital tools also aim to improve the TTC's delivery of service options and the overall transit experience for users (TTC, n.d.). The public has provided feedback that emphasizes the importance of safety and equity as key features that they think need greater consideration in future planning for the network (TTC, n.d.).

1.2.4 Government of Ontario

Ontario's role in Toronto transit includes funding and legislative authority (TTC, n.d.). Through agencies like Metrolinx, the Province implements projects such as the Ontario Line and Scarborough Subway Extension (City of Toronto, n.d.). Bill 107 and Bill 171 enabled Ontario to expedite transit development, giving Metrolinx control over rapid transit planning and easing environmental assessments (City of Toronto, n.d.). The province's planning frameworks, such as the Provincial Planning Statement, help to guide growth and infrastructure investment (City of Toronto, n.d.).

1.2.5 Metrolinx

Metrolinx manages regional transit planning and expansion across twenty-one municipalities (City of Toronto, n.d.). It is responsible for building major transit projects in Toronto, including the Finch West LRT, Eglinton Crosstown LRT, Scarborough Subway Extension, and Ontario Line (City of Toronto, n.d.). Post-completion, the TTC will assume operations of these systems (Metrolinx, n.d.). The Finch West LRT will span 11 km with 18 stops, improving North York's connectivity (Metrolinx, n.d.). The 19 km Eglinton Crosstown will ease congestion and link with multiple transit lines, including Line 2 in Scarborough at Kennedy station, supporting sustainable development along its corridor (Metrolinx, n.d.). The Scarborough Subway Extension will extend Line 2 by 7.8 km and add three new stations, providing a more reliable and higher-capacity connection to Scarborough (Metrolinx, n.d). It will replace the decommissioned Line 3, ensuring faster travel times and supporting growth in the eastern parts of Toronto (Metrolinx, n.d.). The Ontario Line will run 15.6 km between the previous Ontario Science Centre and Exhibition Place, aiming to relieve pressure on Line 1 at Bloor-Yonge station and connect more people to jobs and services (Metrolinx, n.d.). Overall, Metrolinx initiatives aim to introduce new modes of transportation throughout the city of Toronto, enhancing the travel experience for a larger number of users (Metrolinx, n.d.).

Chapter 2. Literature Review

2.1 Important Considerations for Transit Planning

2.1.1 Equity & Social Sustainability

Equity and social sustainability are recognized as fundamental to planning effective and inclusive public transportation systems. Various scholars emphasize that these two concepts are connected, with social sustainability seeking to ensure that all communities have equitable access to essential urban resources, including public transit (e.g., Yiftachel & Hedgecock, 1993; Davidson, 2010). Grengs (2005) and Taylor and Morris (2015) stress that transit planning must focus on efficiency and addressing the needs of the most transit-dependent populations, particularly in the face

of neoliberal policies prioritizing cost-effectiveness over equity. Levine et al. (2019) further support this by arguing that public transit should enhance the quality of life by connecting people to key services, employment, and opportunities, with these objectives requiring socially sustainable planning. Despite many scholars agreeing, recurring issues remain, as many transit systems are not designed with vulnerable communities in mind (Grengs, 2005). Transit investment often fails to meet the needs of those who rely on it most, especially in low-income and racialized areas, undermining equity and long-term sustainability (Grengs, 2005).

There are also critiques of the broader structure that shapes transit accessibility. Diab et al. (2020) and Yousefzadeh Barri et al. (2021) both argue that transportation funding is disproportionately allocated to support private vehicle infrastructure rather than public transit, which creates greater inequality while undermining the opportunity for sustainable transit development. Private vehicle development has significant environmental and social implications, including increased emissions, increased traffic congestion, car dependency, and reduced transit ridership (Diab et al., 2020). While some cities have introduced measures to boost transit ridership, overall usage has declined (Diab et al. 2020). This highlights the need for more comprehensive and systemic changes to increase transit ridership (Diab et al., 2020). Studies by Yousefzadeh Barri et al. (2021) demonstrate that targeted investments in low-income, underserved neighbourhoods can increase access and reduce car dependency, offering a more socially sustainable alternative. To create equitable and sustainable urban environments, transit planning needs to better address the systemic issues that continue to negatively impact the most vulnerable populations.

2.1.2 Accessibility

Public transit has received a lot of attention in transportation research. Many studies discuss the importance of connecting users to essential areas in their city in a timely and non-costly manner. Levine et al. (2019) differentiate between mobility and accessibility, emphasizing that while mobility refers to the ability to move, accessibility is about the number of meaningful destinations that can be reached. This framework is central to planning transit in a way that supports equitable urban living (Levine et al., 2019). Many scholars argue that accessibility is often an issue in further low-density and suburban areas, where infrequent bus service and long travel distances limit transit users' ability to reach jobs, education, and services efficiently (e.g., Merlin et al., 2021; Foth et al., 2013). This is something that Foth et al. (2013) also highlight, noting that downtown residents of Toronto have greater access to transit options than those in Scarborough and North York, who must endure longer commutes and less reliable service. These findings align with Merlin et al.'s (2021) call for prioritizing accessibility over ridership volume in transit planning, particularly in underserved areas. The studies demonstrate how transit frequency and urban form shape accessibility and create

geographic inequities, particularly for low-income and racialized residents who are further away from city centers.

Studies also examine strategies to overcome transit accessibility barriers, particularly through improvements to first- and last-mile connections. Grahn et al. (2021) and Yin et al. (2024) investigate how emerging transit technologies, such as on-demand shuttles and shared e-scooters, can enhance existing transit networks by extending their reach into underserved areas and bridging the first- and last-mile distance. However, both Grahn et al. (2021) and Yin et al. (2024) caution that these services could risk existing inequities to persist if not implemented thoughtfully. For example, Yin et al. (2024) describe how they observed e-scooter usage typically being concentrated in central areas, leaving marginalized neighbourhoods more out. Similarly, Hall et al. (2018) found that ride-sharing services, such as Uber, can complement public transportation and have been shown to increase ridership in dense urban areas by bridging service gaps. However, in remote areas or smaller cities, it may draw users away from transit altogether (Hall et al. 2018). While ride-sharing can improve flexibility and coverage, there are still greater cost barriers which make these services less accessible to low-income users (Hall et al., 2018). Overall, various researchers highlight that while these first- and last-mile solutions can help increase ridership and user experience, the success of enhancing transit accessibility depends on whether they are equitably employed, how affordable they are, and whether they coordinate well with existing transit systems (Hall et al., 2018).

2.2 Prevalent Challenges for Users

2.2.1 Unreliable Service & Lack of Convenience

Convenience and reliability are recurring themes in transit literature as they are central factors shaping the transit experience, especially for low-income and suburban users. Multiple studies have shown that while public transit is often marketed as an affordable and accessible option, its convenience depends on both geographic location and system design. Legrain et al. (2016) highlight how employment clusters in suburban zones, such as the manufacturing and warehouse sectors, are often poorly served by transit, creating a significant mismatch between job locations and service availability. This issue is echoed by Liu and Shalaby (2024), who note that residents of North York and Scarborough face disproportionate disruptions and longer wait times due to their reliance on limited bus services. Meanwhile, downtown Toronto riders benefit from denser, multimodal networks of subways, streetcars, and buses (Liu and Shalaby, 2024). These service disparities result in longer and less predictable commutes for those residing farther from the city centre, highlighting the connection between service reliability and spatial and economic inequities (Liu and Shalaby, 2024). Overall, these studies highlight how high-density central areas are often prioritized in transit planning,

overlooking the needs of further areas that cannot afford or access private vehicles, reinforcing systemic barriers to mobility.

The issue of unreliable and inconvenient service is further heightened when considering broader socioeconomic contexts. Grengs (2005) critiques how neoliberal priorities in North American urban planning have led to a focus on cost-efficiency over equitable service provision. Diab et al. (2020) reinforce this by identifying a consistent decline in ridership in cities such as Toronto, Montreal, and Ottawa, which they attribute to inadequate coverage, infrequent service, and the growing popularity of more flexible alternatives like Uber and Lyft. While ride-sharing services seem to offer improvements in convenience for all users, these services are not always financially accessible and may deter low-income riders (Hall et al., 2018). The literature suggests that unreliable and inconvenient transit service is not merely a logistical problem but also a structural one rooted in how transit systems are planned, funded, and prioritized across different urban and socio-economic contexts. Transit investment needs to be redistributed more equitably to address these issues, especially in areas with the greatest need and the least access.

2.2.2 Delays & Travel Times

Another issue impacting transit users' experience is delays and lengthy travel times. Transit riders in Toronto face numerous issues, many of which are related to service reliability, including delays and disruptions that lengthen their daily commutes (Liu & Shalaby, 2024). Liu & Shalaby (2024) highlight that service levels are generally lower than planned schedules, resulting in increased travel times for users, except during early morning hours when road traffic is lower (Liu & Shalaby, 2024). Major system-wide delays affect all riders, but certain groups, such as Black and low-income residents, exhibit greater resilience (Liu & Shalaby, 2024). This is due to their reliance on bus networks rather than rail systems, which tend to recover from disruptions more slowly (Liu & Shalaby, 2024).

However, these riders may still face systemic transit barriers and have limited alternative transportation options compared to wealthier commuters who can use ridesharing or private vehicles (Liu & Shalaby, 2024). The demographic composition of Toronto’s transit riders includes several equity-seeking groups, such as racialized individuals, recent immigrants, individuals with limited English proficiency, those who do not drive, and those with low incomes (Liu & Shalaby, 2024). Overall, racialized users of transit in Toronto comprise almost half of the city’s transit riders who rely on it the most for access (Liu & Shalaby, 2024). However, socioeconomic factors limit these groups' mobility options and create a larger transit equity gap between communities (Liu & Shalaby, 2024).

2.2.3 Safety Issues

Safety issues are a significant factor that impacts transit users' travel experience, deterring many people from using transit entirely. The article by Louie et al. (2017) examines the impact of safety and security on transit service disruptions in Toronto's subway system. The study emphasizes the importance of understanding both causal and non-causal variables that influence the duration of service delays, aiming to improve transit safety and accessibility (Louie et al., 2017). One key finding is that incidents that simultaneously impact safety and operations result in longer delays than those that affect only one factor (Louie et al., 2017). This suggests that transit agencies should prioritize addressing incidents that pose safety risks while minimizing service disruptions to reduce overall delay times (Louie et al., 2017). The study also finds that incidents occurring at interchange stations are generally resolved faster than at non-interchange stations, likely because they are a higher priority as a larger transit hub (Louie et al., 2017).

Despite many trains and stations having modern wayfinding and navigation, TTC trains also tend to experience longer delays (Louie et al., 2017). This is potentially due to technical issues and instances where users are confused or unfamiliar with the system (Louie et al., 2017). The study also discussed how the Toronto Transit Commission (TTC) adheres to proper recovery procedures to minimize delays, particularly in response to operational issues (Louie et al., 2017). However, this adherence has a limited impact on incidents involving external factors, such as passenger injuries or security incidents (Louie et al., 2017). Improving safety measures is necessary, which includes ensuring that effective response protocols are in place for various delays and enhancing passenger awareness of emergency systems to improve transit operations and accessibility (Louie et al., 2017). Transit operators need to make continuous improvements in incident management to ensure the reliability and efficiency of their public transit services are upkept (Louie et al., 2017). Furthermore, safety-related incidents such as passenger illnesses, emergency alarms, and security concerns are among the most frequent and disruptive causes of service delays in Toronto’s subway system (Prajogi, 2024). These safety events often lead to extended service interruptions and cascading network delays, significantly increasing travel times for riders (Prajogi, 2024).

The literature review provides an overview of the key dimensions of transit user experiences, particularly in urban contexts such as Toronto. It highlights equity and social sustainability as foundational elements for effective transit planning, as scholars argue that urban transit systems must address the needs of low-income, racialized, and transit-dependent populations, particularly those in underserved suburban regions like Scarborough and North York (Grengs, 2005; Yousefzadeh Barri et al., 2021). Scholars also critique how neoliberal policies and the prioritization of private vehicle infrastructure have historically undermined the development of equitable and sustainable public transit (Yousefzadeh Barri et al. 2021). Further, studies highlight how accessibility remains uneven

across Toronto (Merlin et al., 2021; Foth et al., 2013). High-density areas enjoy better service, while areas further from the city centre often suffer from poor transit connectivity, leading to social exclusion (Merlin et al., 2021; Foth et al., 2013).

Previous studies identify pressing transit-related challenges faced by Toronto residents. These include accessibility issues, unreliable service, inconvenience, delays, long travel times, and safety concerns, all of which impact user equity and experience. For example, residents further from the city centre are disproportionately affected by delays and limited high-frequency services, leading to longer and more uncertain commutes (Liu & Shalaby, 2024). As well, safety concerns in Toronto's subway system lead to service disruptions, as incidents involving both safety and operational issues result in longer delays (Louie et al., 2017). There is a need for improved incident response, enhanced passenger awareness, and prioritization of high-traffic stations to enhance overall transit safety (Louie et al., 2017). The review also reveals the significance of first- and last-mile solutions in enhancing accessibility for residents in low-density neighbourhoods, such as ride-sharing and micro-mobility services (Grahn et al., 2021; Yin et al., 2024). However, in areas further from the city centre, these solutions may draw users away from transit and reduce ridership (Hall et al., 2018).

Chapter 3. Research Methodology, Design, & Objectives

3.1 Methodology

This major research used a qualitative approach to examine how residents of Toronto experience public transit, as well as to understand the challenges people face. By approaching this research through a qualitative lens, the objective was to convey the lived experiences of various residents who use transit. The specific transit station sites chosen for the qualitative case studies were Bloor-Yonge Station, York University Station, and Kennedy Station. As stated, these sites were selected based on their proximity to municipal public transit systems, including subways, buses, streetcars, and bike-sharing services. They were also selected due to the high volume of foot traffic at each site and the presence of surrounding communities with diverse social backgrounds zoned as commercial-residential and residential (TTC, 2023; Toronto Social Atlas, 2016; City of Toronto, 2013). This allowed the research pool to reach those who live near or commute through the stations, enabling a more meaningful analysis.

This research employed a qualitative methodology to investigate how geographic context influences the lived experiences of public transit users in Toronto. The specific research question this study aimed to answer was: How do residents of Toronto experience public transit when travelling, and what issues impact their usage of public transit? Qualitative methods are well-suited for understanding complex social issues, making them a suitable approach for studying equity and user

experiences in transit planning (Spencer et al., 2020). Unlike quantitative methods, which focus on statistical data, qualitative research examines people's experiences and perspectives more closely, which is especially important when studying social equity, personal experience, and spatial inequality (Spencer et al., 2020). In this study, a qualitative approach was used to facilitate connections with participants and gain an understanding of how transit infrastructure, accessibility, and governance influence their everyday lives. This method supports the study's use of the Right to the City framework, which emphasizes the need to explore how different social groups experience and navigate public spaces, such as transit systems (Lefebvre, 1996; Duff, 2017; Collins et al., 2023). This research used participant observation and qualitative questionnaire analysis at each of the three sites to gain a deeper understanding of residents' personal experiences with public transit in Toronto.

3.2 Participant Observation

The participant observation portion of the research involved becoming a participant observer to understand key characteristics of the transit infrastructure available at the sites identified for each case study. The goal was to detail the context of each site and how the transit looked and operated through them, depending on the time and day observed. This included service frequency for all transit modes, general accessibility, safety, delays, congestion, and more. Each site was observed three times, for an hour to an hour and a half at a time, ensuring each visit was at different times of the day (morning, midday, & evening) on both weekdays and weekends. These times are reflected in the table in Appendix A. Additionally, a checklist for participant observation was used to ensure consistency in the observations and to provide greater transparency on what the participant observation specifically looked at in and around each site. The checklist is provided in Appendix B for reference.

Participant observation was valuable for studying transit infrastructure because it allows researchers to analyze how physical environments, such as the layout of stations, access points, and the placement of transit stops can impact functionality and accessibility, which can directly affect a user's experience (Ashton et al. 2008). Participant observation helped identify factors that are not apparent in numerical data, such as spatial organization, design flaws, environmental barriers, and safety issues that might have influenced the experience and how effectively the infrastructure supported transit users (Mulhall, 2003). Participant observation provided a firsthand knowledge of the transit at each station, offering this research a deeper insight into the various experiences of users.

3.2.1 Bloor-Yonge Station

Bloor-Yonge Station is located at 20 Bloor Street East. It is Toronto's busiest subway interchange, connecting Line 1 Yonge–University with Line 2 Bloor–Danforth and enabling major transfers across the city (TTC, n.d.). With an average of over 200,000 weekday users, the station is

undergoing significant upgrades. This includes expanded platforms and future support from the Ontario Line to address crowding and improve flow (TTC, n.d.). The station is located in University-Rosedale, a centrally situated ward with a population of 106,216 residents (Government of Canada, 2021). The area is known for its high educational attainment, with 80.5 percent of residents holding postsecondary qualifications, and a median household income of $93,600 (Government of Canada, 2021). Housing is dominated by high-rise apartments, and the area has a relatively balanced mix of owners and renters (Government of Canada, 2021). The community is ethnically diverse, with large populations of White, Chinese, and South Asian individuals, and English being the most commonly spoken language (Government of Canada, 2021). Bloor-Yonge plays a central role in supporting a high-density, professional, and urban population of Toronto.

3.2.2 York University Station

York University Station is located in the middle of the university's Keele campus in North York. It is a part of the Line 1 subway and offers direct access to both Toronto and York Region transit systems (TTC, n.d.). The station opened in 2017 as part of the Toronto–York Spadina Subway Extension, serving thousands of students, faculty, and commuters daily (TTC, n.d.). The station is located in the Humber River–Black Creek ward, which has a population of 111,593 (Government of Canada, 2021). This community is marked by significant cultural diversity and economic disadvantage. A large proportion of residents identify as visible minorities, and many are renters (Government of Canada, 2021). The median household income is $31,400, with high rates of child poverty, including 33.9 percent of children living below the poverty line (Government of Canada, 2021). The station provides essential transit access in an area where public transportation is a vital service for daily mobility.

3.2.3 Kennedy Station

Kennedy Station is located at 2455 Eglinton Avenue East in Scarborough and is a key transit hub in eastern Toronto. It links subway, bus, and commuter rail services and will soon connect with the new Line 5 Eglinton and the Scarborough Subway Extension (TTC, n.d.). Its integration with GO Transit's Stouffville Line further enhances regional connectivity (TTC, n.d.). Situated in the Scarborough Southwest ward, the station serves a population of 111,994 (Government of Canada, 2021). The area is ethnically diverse, with communities from South Asia, Black, Filipino, and Chinese backgrounds among the largest (Government of Canada, 2021). The median household income is $72,000, and housing includes a mix of detached homes and high-rise apartments (Government of Canada, 2021). Although educational attainment and income levels are higher than in Humber River–Black Creek, housing affordability remains a challenge, with 44.5 percent of renters spending more than 30 percent of their income on shelter (Government of Canada, 2021). Kennedy's ongoing

transit expansion reflects its growing importance as a multimodal hub serving a diverse middle-income area.

3.2.4 Comparison

Each of the three stations serves as a vital point in Toronto's transit network, but they vary in their function and surrounding socio-economic context. Bloor-Yonge is the most central and busiest, acting as the city's primary interchange and serving a demographically well-educated, affluent population in the dense urban core of Toronto. Kennedy Station serves as a major terminal in the city's east, supporting both local and regional transit users while also undergoing infrastructure upgrades designed to enhance future capacity and service. York University Station, although not an interchange, is crucial for student and commuter access and enhances north-end connectivity particularly to York Region. The demographics of the surrounding areas further distinguish each station's role. Bloor-Yonge in the University-Rosedale reflects high-income levels, high education, and dense vertical housing. Humber River–Black Creek, the location of York University Station, is a lower-income area with higher poverty levels and a large visible minority population. Many residents also depend on rental housing. Scarborough Southwest, served by Kennedy Station, falls between these two in terms of income and education but faces similar affordability challenges, particularly for renters. These demographic contrasts underscore how each station plays a distinct role in supporting mobility and access across communities with diverse needs and realities. Transit infrastructure must be planned with these local differences in mind to ensure inclusive and equitable service across the city.

3.3 Qualitative Questionnaire

The qualitative questionnaires involved engaging travellers of various income, racial, cultural, and gendered backgrounds who used the chosen station sites. These questionnaires were solely qualitative, featuring open-ended questions that allowed respondents to share their anonymous experiences. Open-ended formats in qualitative questionnaires allowed respondents to discuss their unique experiences and concerns with less constraint, leading to deeper understandings that might otherwise have been missed (Krosnick & Presser, 2010). Qualitative questionnaires were valuable tools for understanding transit experiences in different city areas because they allowed respondents to express their thoughts and experiences in their own words, providing context-specific insights (Krosnick & Presser, 2010). By using qualitative questionnaires, the research gained valuable insights to help understand how transit services affect people's daily lives.

The qualitative questionnaires were advertised at each site identified for the case studies. Each site was visited a minimum of four times to complete participant observation and gather responses for

the qualitative questionnaire, with these activities conducted concurrently. The qualitative questionnaire was available in both online and in-person formats, allowing for greater access to respondents when present at the stations. The total number of completed questionnaire responses received was twenty-three from the three sites, with no incomplete questionnaires. All responses were completed virtually. The research employed purposive sampling to select participants who could best address the research topic of transit experience. This method ensured that the sample population more strongly aligned with the research goals (Campbell et al., 2020). Purposive sampling enables researchers to focus on individuals with relevant experiences, resulting in more impactful responses (Campbell et al., 2020). The qualitative questionnaires enabled participants to share their experiences openly, allowing key themes to emerge, including transit reliability, affordability, safety, and accessibility. Thematic coding was used to analyze the data inductively, providing a structured approach to organize and identify common themes directly derived from respondents' answers, as well as to identify unique challenges faced by different groups (Vaughn & Turner, 2016).

Chapter 4. Findings

4.1 Participant Observation

4.1.1 Bloor-Yonge Station

Walking through Bloor-Yonge Station feels like moving through one of the busiest spots in the city's transit system. The station has four levels, starting with a main concourse connecting you to subway lines 1 and 2. If heading north or south on Line 1, you'll be on the upper platforms. To catch an east or west train on Line 2, you'll head downstairs to the bottom level of the station. Line 1 and 2 have their tracks stacked on each other to allow for multi-directional service. Signs and maps are posted around the station to help users find their way, with stairs, escalators, and elevators available to move between levels. The station's entrances open to different points along Yonge and Bloor Streets, making it somewhat easy to get in and out, depending on where you're coming from. Even though the stations' design is quite large, it gets very overcrowded. The capacity issues are especially prevalent during peak rush hours when the station becomes almost chaotic. Although Bloor-Yonge is one of the older TTC stations, it's clear that it has been upgraded at various times to be more accessible, featuring amenities such as elevators and textured floor tiles. Walking through Bloor-Yonge feels like navigating a busy, layered maze, and observing the station reveals various issues that impact the user experience, especially at different times of the day.

Subway Platform

Arriving at Bloor-Yonge Station on the southbound platform of Line 1, the first noticeable feature was the station's size. The station appears to have been designed to accommodate the large number of users who travel through it at various times of the day. However, it still felt as if the station lacked space, which was especially noticeable during peak rush hours when you are forced to squeeze onto the platforms and can only move at a slow pace due to overcrowding. Line 1 is located on the third level of the station and features dual platforms, separating passengers travelling in opposite directions. Line 2 on the other hand is located on the fourth level and features a single central platform that serves both eastbound and westbound passengers.

The first concern observed was infrastructure capacity issues, as the size of the platforms and the significant number of users made them extremely crowded, especially during weekday visits between 8:00 am and 9:00 am and 5:30 pm and 7:00 pm. Most notably, during the evening peak hour visit on Line 1, there were only three train departures northbound within a twenty-minute period and six departures southbound within the same time frame. Line 1 northbound experienced numerous delays during both peak-hour site visits. The delay during the evening peak-hour visit was attributed to emergency alarms at another station, which caused the train to stall. During the same evening peak time visit while observing Line 2, there were five train departures westbound within twenty minutes and five train arrivals within the same amount of time with no delays. For its size, the station has sufficient safety features, including platform edge markers, security cameras, and emergency assistance intercoms on both Line 1 and Line 2 platforms. However, both platforms would benefit from having platform edge doors, as the sheer number of passengers at peak morning and evening rush hours can be concerning due to overcrowding and passengers trying to enter and exit the train. The overcrowding issue also heightened accessibility challenges, making it difficult to view wayfinding signs, especially for those with a disability.

Continuing to walk through the platforms of Lines 1 and 2, the general accessibility of station areas became a very prevalent issue. The station is equipped with various modes of transportation, including stairs, escalators, and elevators, to facilitate movement throughout the different areas. However, the size of the station makes accessibility to elevators difficult, especially for vulnerable users. There are a total of seven elevators: two serving the northbound and southbound Line 1 platforms from the north concourse, two serving those same platforms from the south concourse, one connecting the northbound Line 1 platform to Line 2, and two non-TTC elevators from street-level to each concourse. The most significant issues with the elevators are that they are disconnected from each other, as well as the distance one must travel between elevators to access Line 2. The elevators between platforms are not connected, requiring users to switch between multiple elevators to reach their desired platform. Suppose a user is arriving at the southbound platform of Line 1 and needs to transfer to Line 2. In that case, they must take the elevator up to the south concourse, switch to a

different elevator to return to the northbound Line 1 platform, and then switch to a third elevator to descend to the Line 2 trains. The elevators are not adjacent to each other, and users must still travel a considerable distance through large crowds to reach them. During one visit, a passenger in a mobile wheelchair became very frustrated when trying to navigate from the Line 1 southbound platform to the Line 2 elevator and ended up asking a fellow passenger for directions. This incident highlights the issue of accessibility and inadequate wayfinding and accessible design at Bloor-Yonge Station.

All the platforms are generally well maintained, with no concerning maintenance issues during each visit. However, a notable concern was the lack of seating along the platforms, which would be an issue for those who have trouble or are unable to stand and wait for the train. Providing proper amenities should be of key importance for transit providers. The station's layout and infrastructure focus on movement and flow but overlook basic comfort features that would improve the overall passenger experience, especially for older adults, people with disabilities, or parents with young children.

Station Areas (Concourse, Hallways, Waiting Areas)

Moving to the station areas of Bloor-Yonge, these spaces are generally small for the large capacity seen at certain times. The North and South concourses are of similar size from observation, and they are consistently crowded with a large number of people walking in different directions at all times of the day. Peak morning and evening rush hours make it uncomfortable to walk around the station, to the point where one feels they must rush to get in or out. The station areas also lack many seating options for users who may need to sit and wait, which could be a significant issue for vulnerable residents during harsh weather conditions. During the week, around midday, the station is still moderately congested with people coming in to interchange between subway lines, although it doesn't feel as though you must rush as much. The Bloor-Yonge station concourses also had accessibility issues with their elevators, as previously discussed. There are elevators present, which is a benefit for accessibility. However, they are not direct, and users must switch elevators once they reach the northbound Line 1 subway platform to get to Line 2. On the positive side, Bloor-Yonge station areas had adequate lighting, passenger assistance intercoms, and station staff present, which helped make the station feel more secure. Additionally, the station was easily accessible via various payment methods, making it a seamless entry for users.

Station Arrival/Departure (Surrounding Environment)

Examining the station entrances and their surrounding contexts, five out of seven entrances are located through various indoor buildings above the station. One entrance provides elevator access, followed by a ramp or stairs to reach the North Concourse Level via the lower level of the Hudson's Bay Centre. Another route involves stairs followed by a ramp or additional stairs to the same North Concourse Level. Access to the South Concourse Level is available via both elevator and stairs. From

the Yonge Street entrance, passengers can reach the Line 2 Subway Platform Level directly using stairs and fare gates. Bus service is accessible at stops along Yonge Street, and an accessible Wheel-Trans stop is located on the street at the 20 Bloor Street East entrance of the Hudson's Bay Centre. There are also various pick-up and drop-off areas outside station entrances, allowing for easy switching between transportation modes to complete first- and last-mile travel.

One of the most significant issues observed outside of Bloor-Yonge Station once again is wayfinding. Many of the signs outside have not been updated since their last update and do not clearly indicate where you can access the station from specific entrances. Many of the subway entrance signs are combined with retail signs, making it confusing at different entrances. Additionally, various entrances to the station feel unsafe due to their positioning, such as the entrance onto Asquith Avenue, where users exit to the rear of the retail building, which is poorly lit at night. This could pose a safety concern for many users, especially those who are most vulnerable. Aside from this issue, the surrounding station area was well-maintained and designed to allow users to access various other transit modes, such as bicycles/bike share, buses, and walking paths, which are conveniently located in the heart of the city. There are also many residential units directly within walking distance from the station, making it very accessible to the surrounding community and those who commute through it.

4.1.2 York University Station

Walking through York University Station offers a strikingly different experience from most other TTC stations. Located on the western end of the Line 1 extension, the station primarily serves the university campus and was designed with students and pedestrians in mind. Unlike older stations, York University Station is built at grade and seamlessly integrates into its surroundings, featuring large glass panels, clean lines, and ample natural light that floods the concourse areas. There is only one subway line running through here, so the layout is relatively straightforward. There is a wide center platform that makes boarding and exiting trains straightforward, although it makes for large crowds moving in opposing directions. The station has multiple entrances that lead directly to major campus buildings, including a large open plaza that encourages foot traffic between classes and transit. Accessibility is well thought out, with elevators, escalators, and tactile floor markings throughout. Because it serves a specific population, crowd levels seem to vary greatly depending on the academic calendar. Compared to busier downtown hubs, York University Station feels more open and thoughtfully planned, with a clear emphasis on comfort and ease of movement for daily users. It's a glimpse at how new TTC infrastructure is adapting to meet the needs of modern urban spaces.

Subway Platform

When arriving at York University station on the subway, the platform space becomes immediately evident. York University is a newly designed station in the TTC system, larger than

many of the older downtown TTC stations. There is a single centre platform that is very wide to accommodate the large number of passengers coming in and out of the station. This design works well for the station, as it does not feel overcrowded or unsafe, especially during peak times. The platform features tactile edge markers on both the northbound and southbound sides, passenger assistance intercoms, adequate lighting, and security cameras, which contribute to a sense of security while on the platform. There are multiple real-time display screens as well, allowing passengers to know when the next train will arrive. Seating is also plentiful on the platform for those who may need it, which is a big difference compared to the other station sites. There are multiple ways to exit the station from the platform, including stairs, escalators and elevators. There are two elevators on the platform, which allow those who need them to access the station and use the transit system, as well as multiple stairs and escalators.

However, there are two evident issues with the movement throughout the station. One consistent problem is that users who need to use the elevators often have to switch between multiple elevators to get from the platform to the station exit. This makes it more strenuous for those with disabilities to navigate the station and makes their experience worse. The second issue is that the escalators get decently busy during peak hours, making it difficult to navigate between the platform and the concourse in crowded conditions. During the first visit, at peak morning rush hour, there were seven southbound train departures and six northbound departures within twenty minutes. During the midday visit, both directions had five train departures in the same twenty-minute span. During the peak evening rush hour visit, six trains departed in each direction, both southbound and northbound, over a twenty-minute period. There was one service issue in the southbound direction during the evening visit, which may have resulted in fewer trains. This had a slight impact on crowding, but it was not very noticeable. The station platform was also not undergoing any construction during any site visits.

Station Areas (Concourse, Hallways, Waiting Areas)

The concourse area of York University Station is spacious, bright, and designed with a strong emphasis on modern aesthetics and accessibility. Large skylights and wide glass panels allow natural light to pour into the space, creating an open and welcoming atmosphere that contrasts with the more enclosed feel of older Toronto Transit Commission (TTC) stations. The concourse, situated just below street level, serves as a central connection point between the platform level and the two station entrances. Ticket vending machines, PRESTO card readers, and fare gates are all neatly arranged along the perimeter, keeping the central area open for smooth pedestrian flow. There were no crowding issues during any of the site visits, thanks to clear signage and wayfinding elements that directed passengers toward exits, elevators, and escalators, making navigation intuitive even for first-time users. Multiple TTC staff members were present at the fare gates to assist any passengers in

need, as well as passenger intercoms, security cameras, and ample lighting, all of which contributed to the overall sense of safety. There are various ways to navigate the concourse to the platform or street level, including stairs, escalators, and elevators, allowing anyone to access the station. However, you would need to change elevators to get to the platform after arriving at the concourse from the street, which can be a consistent issue. Overall, the concourse area at York University Station feels more like a thoughtfully designed public space than a typical transit hub.

Station Arrival/Departure (Surrounding Environment)

The area outside York University Station is distinctly academic and pedestrian-focused, reflecting its location in the heart of the university campus. The station opens onto large, open plazas and wide walkways that connect directly to major campus buildings, such as Vari Hall and the Schulich School of Business. The station's exterior, being very open, does, however, make it feel uncomfortable at night when it is dark, which could make first and last-mile travel feel unsafe. Bicycle racks, benches, and wayfinding signs are strategically placed to support foot and bike traffic. The space was typically busy during visits, as they coincided with the school year when students were moving between classes. Unlike stations surrounded by dense urban development, York University Station is part of a more planned, institutional setting, with limited commercial activity nearby. However, the larger surrounding community in the York University Heights area is a mix of student housing, residential neighbourhoods, and some retail strips. The area continues to evolve, with ongoing development aimed at increasing density and improving services. Still, the station itself remains primarily a campus-oriented transit hub that reflects the needs of its academic surroundings.

4.1.3 Kennedy Station

Walking through Kennedy Station gives a very different experience compared to the downtown core, but it’s just as important within the TTC system. Located in Scarborough, Kennedy serves as a central transit hub on Line 2, connecting many area residents to the downtown core. The station is multi-levelled, with a central concourse that helps direct passengers to their respective connections. Although signage is available, the layout can feel disjointed, seemingly due to various expansions and additions over time, but no fundamental station overhauls. Entrances to the station are spread out along Kennedy Road and surrounding streets, which can be either convenient or confusing, depending on your familiarity with the area. While Kennedy doesn’t experience the same dense crowds as downtown stations, it still sees heavy foot traffic during peak commuter hours, especially with bus riders transferring to trains. The station has been upgraded in parts, with elevators and new platforms being built for improved accessibility. However, there is a clear feeling that parts of the station still feel dated. Moving through Kennedy Station feels like transitioning between different eras of TTC design, and as a key terminal point, it highlights both the potential and the challenges of transit connectivity.

Subway Platform

Upon arriving at the subway, there is a single platform for dual boarding, with trains departing only in the westbound direction, as Kennedy Station is the easternmost terminus station on Line 2. The platform has an elevator, escalator, and stair access to the concourse level, as well as escalator access directly to Bus Platform A. The platform safety is adequate, with tactile platform edge markings, customer service intercoms, and security cameras. There was sufficient seating between the escalators and stairs, and the station was generally well-maintained. Many TTC staff were constantly cleaning the platform areas and the trains before they departed. The presence of a large number of cleaning staff was a notable feature that was not observed at any other site and was a positive aspect. The station was able to comfortably handle the number of passengers at various times of the day, even during peak rush hours in the morning and evening, when there were significantly more people. During the first site visit in the morning peak, there were six train departures westbound within twenty minutes and six train arrivals within the same time frame, which aligned with the TTC's service plan. During the afternoon site visit, there were five arrivals and departures within a twenty-minute span, and in the evening peak, there were six arrivals and departures within a twenty-minute period as well. There was also no construction on the subway platform during the various visits made to the station. However, there is much construction outside the station.

The subway platform at Kennedy Station had many faults when observing the infrastructure. For one, the distance from the subway platform to the exits is decently far if you need to use the elevator. Kennedy, like the other two station sites, has elevators from the platform to the concourse, and then you must take another elevator from the concourse to street level. This makes navigating the long station more difficult for those who require the use of the elevator. Secondly, the station features a mix of outdated and new wayfinding elements, including old display boards indicating which train is departing next, alongside newer television screens similar to those found at many TTC stations today. The new wayfinding system is not yet fully implemented throughout the subway platform. It is only available in one specific area, which can make it confusing to determine when the next train is scheduled to depart. The station also failed to make audio announcements during every visit, including when trains were departing or if there were any service adjustments, which could be a critical issue for those who are visually impaired or rely more on audio for navigation. Overall, the most significant problems on the subway platform were outdated wayfinding, the station's lack of audio announcements, and the difficulty of accessing the station from and to the platform.

Station Areas (Concourse, Hallways, Waiting Areas)

Kennedy Station features very wide and open hallways, accessible by taking the elevator up one level from the subway platform. This is very good from a capacity standpoint. However, it does make the station feel quite eerie and daunting at later hours. While the hallways and concourses were

large and well-lit, they had barely any seating for passengers, which was a drawback. There are two entrances to Kennedy Station's concourse area, one located on the east side and the other on the west side. On the west side is the main concourse, where passengers enter and exit via fare payment gates, allowing users to pay by a variety of methods, including Presto, credit, debit, and cash. There were also many TTC staff available during each visit, but they would usually be in groups of three or four placed in one spot together rather than spread throughout the station areas. There were customer service stations and security cameras throughout the station as well. However, they were usually located closer to the fare gates at each end of the station rather than in central areas, which could pose a safety issue. The east side also had direct access to a passenger pick-up and drop-off area, but this section is not elevator-accessible, creating a significant drawback.

The east side of the station, where the TTC connects to GO Transit, was a significant issue for several reasons. No TTC staff members were present on the east side of the station, where the secondary entrance is connected to the Kennedy GO station, with this area feeling very unsafe during each visit. This was due to the space feeling so large and empty. With no staff on that side of the station, it made it feel even more uncomfortable to walk through. The east side of the station has an awkward feeling, mixed with it not being elevator accessible. For those trying to access the station from the GO entrance via elevator, they will need to navigate to the west side of the station and enter through that entrance to use the elevator. This is not a short walk either, as the station is quite long and would require users to also navigate through construction, which will be discussed in more detail.

Station Arrival/Departure (Surrounding Environment)

The exterior of Kennedy Station is currently facing numerous construction barriers to better improve the station and integrate it with the soon-to-be Line 5 Eglinton Crosstown LRT. Wayfinding outside the station is plentiful but very confusing. During the first site visit, it was challenging to navigate outside the station to different transit alternatives, such as the bus terminal, as well as simply to a sidewalk. This made it frustrating to figure out how to navigate the surrounding community on foot and by bike, with the process being slightly more straightforward via bus and car. It also made it frustrating when trying to figure out how to switch to other transit modes, such as the bus. There are lots of maps and other wayfinding signs. However, some signs are contradictory, such as one point in the direction of Bus Terminal A and another, opposite to it, stating 'no pedestrian access to Bus Terminal A'. Much of the wayfinding signage is also temporary until the surrounding construction is complete, which compromises its effectiveness. For a first-time user, the station's exterior is very confusing to navigate. There is also not a lot of light during the evening, which makes the exterior feel very uncomfortable. This issue will be rectified post-construction once the station's full potential is realized. On the positive side, there are numerous direct access points to the designated passenger pick-up and drop-off area located outside the station, as well as direct access to regional transit via the

GO Transit Stouffville line, which is adjacent to the station. Overall, the exterior of Kennedy has many issues that would impact the user experience.

Bus Terminal

The bus terminal at Kennedy Station is very compartmentalized and confusing, mainly due to the ongoing construction. However, it makes user navigation of the terminal more complex than it needs to be. There are technically two bus terminals: terminal A and terminal B. Both terminals offer different bus lines, and Terminal A is the only one with direct access from the station to the terminal. If you need to access bus terminal B, you must exit bus terminal A, walk across the street, and then straight into the bus terminal. This can make proof of payment confusing for customers, as they may unknowingly walk into the terminal without paying, only to try to navigate to their bus or subway. Both bus terminals, however, have real-time departure display screens, labelled bus bays, adequate lighting, and plenty of outdoor seating. Indoor seating, however, was essentially nonexistent, which would be a concern for those who need it or in inclement weather when exterior seating is not plausible. The bus service for each line was extensive, with numerous connections. The terminal offered seven express bus lines, fourteen regular service bus lines, and three overnight bus lines. The terminal also never experienced overcrowding, as both Terminal A and Terminal B are pretty large, and bus service was frequent. Aside from the layout and wayfinding issues, the terminal serves a decent function for users.

4.1.4 Comparison

Equity and Social Sustainability

Field observations across Bloor-Yonge, York University, and Kennedy stations reveal disparities in how infrastructure and spatial design reflect broader concerns of transit equity and social sustainability. Bloor-Yonge Station despite being a central transit hub has struggled to accommodate its high volume of users. The station's aging infrastructure has not kept pace with growing demand, resulting in limited space, overcrowding, and user discomfort. While features like tactile flooring and emergency intercoms exist, their functionality is undermined by fragmented layouts and overcrowding. This makes the experience less equitable for users who may require more time or assistance to navigate the space. York University Station offered a noticeably more inclusive and modern experience. The at-grade station layout, wide platforms, and clearly marked signage promote a greater sense of openness and accessibility.

Users at York University Station benefit from real-time information screens and more thoughtful integration of design with the surrounding campus. These features contribute to a perception of greater equity, particularly for students and individuals who rely heavily on public

transit for daily mobility. However, challenges still exist for some users due to elevator transfer requirements, which complicate access for those with mobility constraints. At Kennedy Station, systemic underinvestment and the burden of being located in an outer city area of Scarborough were evident. The station's fragmented layout and construction projects highlighted a lack of thoughtful planning and maintenance. The disjointed bus terminals and aging internal design elements suggested that Kennedy Station has not been prioritized to the same degree as more central transit hubs. This inequality manifests not just in outdated infrastructure but in the physical and mental stress placed on commuters who must navigate the station sometimes daily.

Unreliable Service and Travel Time

Bloor-Yonge Station suffers from significant delays and unreliable service, particularly on Line 1. The congestion caused by slow-moving trains and delays results in an overcrowded environment, where passengers often experience rushed and uncomfortable boarding. These conditions exacerbate delays and extend travel times, making commuters add substantial buffer time to their commutes to ensure sufficient travel time. The design of the station being multi-levelled and fragmented further slows movement and adds unnecessary complexity to the commuting experience. While York University Station has a more modern design, it still experiences inefficiencies in service for users commuting from surrounding municipalities. Although crowding is minimal inside the station, long travel times remain a concern due to limited municipal transit connectivity and infrequent feeder bus routes.

Despite improved station infrastructure, the surrounding network often fails to support seamless and timely travel for many users, especially those coming from areas such as Vaughan or North York. This reflects a mismatch between station quality and broader network integration. Kennedy Station's users face some of the longest and most disrupted travel experiences. Construction related to the future Line 5 has created confusing wayfinding and inconsistent access. Outdated train cars, bumpy rides, and a physically divided bus terminal further complicate travel, making the experience time-consuming and frustrating. Transfers between terminals require crossing streets, and users entering from the GO Transit side face a lack of elevator access, requiring extensive backtracking to enter the main station area. These conditions add to the delays commuters face, underscoring how aging infrastructure and poor integration can result in unreliable and inefficient service.

Safety Concerns

Safety concerns were consistently observed across all three stations but varied in form. At Bloor-Yonge, crowding presents the most immediate safety hazard. Overwhelming congestion during

peak periods leads to rushed movement on platforms and in stairwells, creating, at times, a physically hazardous environment. Poor lighting and outdated signage at certain entrances, such as those on Asquith Avenue, contribute to a sense of disorientation and vulnerability, particularly during early morning or late evening hours. York University Station, while more visually open and staffed, reveals safety concerns mainly after dark due to the exposed nature of the station's surrounding plaza. The sense of vulnerability is amplified during off-peak hours when the presence of other passengers and staff is limited. While internal areas are clean and well-maintained, the station's modern design does not fully address users' needs for a secure environment beyond the fare gates, especially in isolated outdoor areas.

At Kennedy Station, safety is compromised both inside and outside the station. Internally, TTC staff are often grouped near the west entrance at the fare gates, leaving much of the concourse and hallway areas unmonitored. The east concourse, where the TTC connects to the GO station, felt particularly unsafe due to poor lighting, minimal foot traffic, and a complete absence of visible staff. External conditions exacerbate this issue, with temporary fencing, uneven lighting, and inconsistent signage creating a disorienting and unwelcoming environment. These gaps in station safety are particularly concerning for women, elderly users, and those travelling alone during off-peak times.

Accessibility

Accessibility remains a persistent challenge across all three stations despite differences in age and design. Bloor-Yonge's elevator system is notably fragmented, requiring users with mobility needs to switch between disconnected elevators across long distances and heavily trafficked areas. This design flaw, combined with crowded corridors and limited seating, makes navigation difficult and tiring. Users who rely on visual cues or need to rest frequently are especially disadvantaged by the station's outdated layout and unclear signage. York University Station performs better in terms of design and layout, with wide concourses, open spaces, and straightforward navigation. However, even in this modern station, elevator transfers are still required to move between levels. This indicates that newer stations have not fully resolved core accessibility issues with a more equitable solution. Escalators and elevators become congested during peak periods, making it harder for those with physical challenges to move. The overall layout and wayfinding features are still significantly more supportive than those at Bloor-Yonge.

Kennedy Station faces compounded accessibility challenges due to construction and structural disconnection. Users who require elevators must navigate between distant access points, often with little signage to assist them. For example, entering from the GO Transit side offers no direct elevator access, forcing users to travel the length of the station to the west concourse to find an elevator. Additionally, the station's interior wayfinding systems are inconsistent, featuring a mix of outdated

boards and newer screens that have not been fully integrated into the station. Audio announcements are absent, which poses a barrier for visually impaired users. These shortcomings, combined with the station's overall fragmented structure, contribute to an experience that is both physically and cognitively inaccessible for many users, especially those with disabilities. The participant observations at Bloor-Yonge, York University, and Kennedy Stations offer real-world evidence of the issues highlighted in the literature review and study context. The site-specific insights from participant observations highlight how systemic inequities, infrastructure limitations, and design inefficiencies create issues in real-time.

4.2 Qualitative Questionnaire

The qualitative questionnaires revealed various issues that riders face at each of the three transit sites. The total number of qualitative questionnaire responses from each station was seven for Bloor-Yonge Station, eight for York University Station, and eight for Kennedy Station. The participants who completed the questionnaires represented a diverse range of demographic backgrounds. At Bloor-Yonge Station, the ages of respondents ranged from 22 to 61, with the majority in their 30s and 40s. The majority were women, and most were employed full-time. The reported annual incomes varied, with one participant earning under $20,000 and others earning up to $120,000 per year. Ethnic backgrounds included Black or African descent, East Asian, South Asian, and White or European descent. While most were born in Canada, there were a few newcomers.

The participants who completed the York University Station questionnaire were primarily young adults between the ages of 20 and 25. The group included five men and three women. The majority of reported annual incomes were under $40,000, with half of the respondents earning less than $20,000. Employment statuses included a mix of full-time, part-time, student, and self-employed roles, with most identifying as students. Ethnic backgrounds were diverse, including White or European descent, South Asian, Black or African descent, Middle Eastern or North African descent, and Latin American or Hispanic descent. While the majority were born in Canada, others were long-term residents who immigrated over 10 years ago. The Kennedy Station survey respondents were diverse in age, ranging from their 20s to 50s, and included three men and five women. Incomes ranged from under $20,000 to $80,000. Most were employed, either full-time, part-time, or as students. Their ethnic backgrounds included White, Black, East Asian, and Middle Eastern. While some were born in Canada, most were immigrants who had been residing in the country for an extended period of time.

4.2.1 Bloor-Yonge Station

Service Reliability & Delays

Thematic coding from Bloor-Yonge Station revealed many recurring concerns central to transit equity and experience. One of the most prominent themes was the unreliability of transit service, which significantly impacted commuter satisfaction and efficiency. Participant A expressed deep frustration, stating, “The subway system is very broken. Lots of delays and speed restrictions make it a nightmare. There is so much overcrowding due to the slow service. It’s unsafe at times.” This sentiment was echoed by Participant B, who said that what negatively impacts their commuting experience is, “People mostly. And the delays. People need to be spread out into different modes, in my opinion. Not enough modes equals gridlock.” Both participants highlighted how inconsistent service and a lack of transit alternatives lead to delays and congestion, forcing users to plan far in advance or risk late arrivals. Delays and long travel times also emerged as significant inconveniences. Participant B commented, “Even though it isn’t that long, I don’t live far enough from this station for that time to be reasonable,” illustrating how inefficiencies in service can make even short distances feel disproportionately long. Similarly, Participant A shared that their daily commute takes “about 40 minutes in the morning and 50 going home,” suggesting that service quality at specific times of day needs improvement.

Crowding & Safety

Crowding was another frequently mentioned issue affecting users' experience at Bloor-Yonge Station. Participant C described the station as “very convenient, just busy,” while Participant D acknowledged it is “for sure busy, but it still is [the] quickest.” Participant F stated more explicitly that “relieving crowding needs to be of the utmost importance for the TTC, [they need] bigger spaces for people just to spread out.” The crowding not only affected comfort but also raised safety concerns, especially during peak hours. Participant A reiterated this by saying, “There’s so much overcrowding because of the slow service, it’s unsafe at times.” These perspectives suggest that crowding is not just a matter of inconvenience but one that can undermine both safety and social sustainability, particularly for vulnerable commuters.

Accessibility & Equity

Accessibility emerged as a primary concern among many respondents. Participant G, a user of a mobile wheelchair, shared their struggles navigating the station, stating, “So long waiting for wheel trans to help [me]… many elevators to go between and too many people. I can’t see sometimes through crowds.” This experience reflects how both physical design limitations and crowding can create significant barriers for people with disabilities. Participant G emphasized that “greater accessibility” is needed, underscoring the importance of an equitable transit system that accommodates everyone. Other socially vulnerable users also expressed accessibility concerns. Participant E, a 22-year-old woman with an annual income under $20,000, uses the station for both

school and work. Despite the short travel time, she still finds it “sometimes difficult to navigate the signs” and noted that there are “unsafe people sometimes.” These challenges point to deeper issues around navigability and perceived safety, suggesting that the station environment does not fully support younger or lower-income riders equitably.

Despite the challenges raised by participants, there was some optimism regarding upcoming transit improvements. Several respondents pointed to the Ontario Line as a potential solution to existing crowding and reliability issues. Participant B noted that “the Ontario line will help free up the mass number of commuters clogging up the subway,” and Participant C echoed this hope, stating, “I think the Ontario line will help the crowding issues.” While current experiences are often frustrating, these responses reflect a belief that infrastructure investment could support a more equitable and efficient system, ultimately improving the commuting experience. In summary, participants consistently expressed concerns regarding service reliability, delays, crowding, and accessibility, all of which directly impact their daily commutes and lived experiences at Bloor-Yonge Station.

4.2.2 York University Station

Service Reliability & Frequency

Thematic analysis of the questionnaire responses from York University Station revealed significant concerns across many key themes. The respondents discussed issues related to equity, social sustainability, accessibility, unreliable service, inconvenience, delays, long travel times, and safety concerns. Participants shared their insights into the daily challenges of commuting to the station, with many coming from underserved areas such as Vaughan and parts of North York. A dominant theme was the unreliable service, particularly in terms of bus frequency and subway delays. Participant A commented, “Mostly I spend a lot of time waiting for a bus… it might be my opinion, but I’ve noticed North York tends to have less frequent buses as opposed to downtown.” This perception was echoed by Participant B, who shared that their commute takes an hour and a half, explaining that it’s due to “infrequent buses and only one subway station in Vaughan.” Similarly, Participant C stated that “more frequent subway cars to accommodate times of day with more people” would significantly improve their experience. These accounts reflect systemic unreliability in transit timing and service planning, especially in areas outside Toronto’s urban core.

Delays & Inconvenience

Closely tied to reliability is the theme of delays and inconvenience. Several participants shared that they had long commute times despite relatively short commuting distances. Participant G (2025) noted, “It takes very long to bus to the subway just to come up to York station,” stating they

face a commute of up to an hour long. Participant E (2025) similarly reported, “I use the subway to get to campus from VMC station, then bus home. 1 hour 15 minutes.” These prolonged commutes are the result of limited route options, poor service integration, and a lack of express services. Participant F described that there is an express bus along Finch that they could take. However, they stated that it “isn’t always running when I need it.” This highlights how inconsistent service schedules amplify commuter frustration.

Accessibility, Equity & Affordability

The theme of accessibility, both in terms of physical access and connectivity, was particularly prevalent among participants commuting from more distant areas. Participant A articulated this clearly: “It seems up here, as opposed to downtown, that getting to the subway line 1 takes way longer… because of long bus waits and no other alternatives except cars.” Participant B, who does not own a car or hold a license, reported similar frustrations: “No car/license… it takes very long by bus to get to the subway station.” The experiences of users describe how York University Station’s current infrastructure and regional connections disproportionately burden those without personal vehicles, often lower-income or student commuters, highlighting a broader issue of transit equity. Equity and affordability also appeared in many of the respondents' answers. Participant A explained that the choice to use transit was based on affordability: “I can’t afford alternatives like a car… I already am a student renting a room further away from campus to save more. But that’s the compromise I make.” Participant F echoed this: “It’s the cheaper option as I don’t own a car.”

Safety & Social Sustainability

Safety concerns, particularly during nighttime travel, were expressed by several participants. Participant E admitted, “At night when I’m trying to get to the station, it can be very creepy. I hate it.” This suggests a lack of security and inadequate lighting at the station, particularly during certain times. Similarly, Participant F stated, “The station at night outside can also give one some anxiety… I always feel vulnerable.” Participant H, a young woman, described the station environment as “so creepy, especially outside the station.” These consistent feelings and experiences of discomfort point to a gap in the socially sustainable design, particularly concerning nighttime safety for women and marginalized users. Despite these challenges, participants expressed hope that new transit initiatives could improve their commuting experience. Many advocated for expanding bus routes or extending rapid transit. Participant B noted that “new and more frequent bus routes or subway additions in the Vaughan area would make my commute significantly faster.” Participant G wished for “some sort of extension to my area of the city east of campus”, while Participant F emphasized that the “Finch LRT would help cut down my time on the bus.”

4.2.3 Kennedy Station

Equity & Unequal Service Provision

When examining the responses from Kennedy Station, several critical themes, including equity, social sustainability, accessibility, unreliable service, inconvenience, delays, long travel times, and safety emerged. The participants' comments discuss shared frustrations and challenges while also discussing hope for more inclusive and responsive transit improvements. Equity emerged as a significant issue in the form of unequal service provision to residents of Scarborough. Participant B noted, "There should be more stations further into Scarborough. This one old station is a far ride… it would help me and my family a ton." This highlights a feeling that certain areas are underserved. Participant C echoed this, explaining, "Scarborough can feel left out of transit even though we are part of Toronto." These statements highlight that the community may feel they lack equitable infrastructure investment, with transit burdens being disproportionately placed on them in the outer city areas.

Accessibility, Social Sustainability & Affordability

Aspects of social sustainability were discussed to improve and make transit infrastructure more inclusive. Participants valued public transit for its affordability and environmental benefits. Participant C discussed that transit is "cheaper, more cleaner for the environment", suggesting the importance of sustainable transit in this community. However, the prolonged construction, outdated infrastructure, and lack of user-centric design currently undermine this sustainability in practice. Accessibility concerns were notably prominent. Participant E shared, "I need to use the elevators now and it is so frustrating needing to switch between multiple. And the distance between them really sucks." This illustrates how those with mobility needs face significant barriers, with unclear signage and long walks through construction zones exacerbating accessibility challenges.

Unreliable Service & Inconvenience

Unreliable service and inconvenience were frequently mentioned, particularly in relation to construction and outdated infrastructure. Participant D, when asked why they find it hard to access Kennedy Station, bluntly stated, "Construction is gross." Participant A, when asked about what impacts their experience on transit negatively, commented, "Mostly the construction. Also, it is very old. Trains feel old and bumpy." The ongoing construction outside the station has disrupted travel ease and comfort, and the station's aging infrastructure has undergone minimal changes to offset this.

Long Travel Times, Delays & Wayfinding Challenges

Delays were another common frustration. Participant G mentioned, “Certain construction delays can make it very irritating when arriving at the station”, while Participant F (2025) complained of poor signage and weather-worn instructions making navigation harder. These delays not only extend commute times and deter transit use but also diminish the overall experience of using public transit. Long travel times disproportionately affected participants living farther from Kennedy Station. Participant B explained, “[Kennedy Station is] far from where I stay”, and Participant D added that when it comes to Kennedy Station, “It’s too damn far.” Participant E highlighted inefficiencies by comparing car and bus travel: “If the car takes half the time as the bus, things could be more efficient.” These comments highlight the need for improved geographic distribution of transit services.

Safety

Safety concerns were also deeply felt, especially by women. Participant C noted, “Sometimes at night it isn’t a very safe place” and emphasized the need for more visible security staff. Participant H was even more direct by stating, “As a woman, I sometimes don’t feel safe at Kennedy. I see what happens in the news at this station, especially at night.” The lack of staff presence and poorly lit areas contribute to both a perceived and a real vulnerability. Overall, the responses reveal Kennedy Station as a critical yet flawed transit hub.

4.2.4 Comparison:

Equity & Social Sustainability

Comparing the responses between each site shows the similarities and differences in how transit infrastructure is experienced at Bloor-Yonge Station, Kennedy Station, and York University Station. Several participants at York University Station mentioned infrequent service for areas such as Vaughan and North York. Participant A stated, “Mostly I spend a lot of time waiting for a bus… North York tends to have less frequent buses as opposed to downtown.” At Kennedy Station, some participants expressed that Scarborough had not received the same level of transit development. Participant C said, “Scarborough can feel left out of transit even though we are part of Toronto.” Participants from York and Kennedy Stations described choosing transit because of cost. Participant A from York said, “I can’t afford alternatives like a car… I already am a student renting a room further away from campus to save more.” While Bloor-Yonge Station was seen as a more accessible location, some such as Participant E still described the station environment as intimidating and difficult to navigate.

5.3.2 Unreliable Service & Travel Times

Participants at all three stations reported concerns about service delays and long commute times. At Bloor-Yonge Station, Participant A described the experience as “a nightmare,” noting delays and crowding. Participant B stated that even short trips felt slow. At York University Station, several participants described commutes over one hour. Participant E stated, “I use the subway to get to campus from VMC station, then bus home. 1 hour 15 minutes.” Participant G said, “It takes very long to bus to the subway just to come up to York station.” At Kennedy Station, participants mentioned aging infrastructure and ongoing construction. Participant A noted, “Mostly the construction. Also, it is very old. Trains feel old and bumpy.” Participants B and D stated that the station felt too far away.

5.3.3 Safety Concerns

Participants from all three stations mentioned safety concerns, particularly at night. At Bloor-Yonge Station, Participant A said the system is “unsafe at times.” Participant E referred to “unsafe people sometimes.” At York University Station, Participant E stated, “At night when I’m trying to get to the station, it can be very creepy. I hate it.” Participant H also said it was “so creepy, especially outside the station.” At Kennedy Station, Participant H said, “As a woman, I sometimes don’t feel safe at Kennedy. I see what happens in the news at this station, especially at night.” Participant C said that “more staff at night” would be helpful.

5.3.4 Accessibility

Participants at each site reported challenges with physical and informational access. At Bloor-Yonge Station, Participant G, a wheelchair user, described difficulties with navigating crowds and elevators: “Many elevators to go between and too many people. I can’t see sometimes through crowds.” Participant E stated that the signage was difficult to follow. At York University Station, Participant B noted, “No car/license… it takes very long by bus to get to the subway station.” Participant A described challenges reaching the subway from distant areas. At Kennedy Station, Participant E said, “I need to use the elevators now, and it is so frustrating needing to switch between multiple. And the distance between them really sucks.” Participant F noted that signage was “weather-worn,” which made it harder to navigate.

Chapter 5. Discussion

5.1 Participant Observation

5.1.1 Equity & Social Sustainability

York University, Bloor-Yonge, and Kennedy Stations all revealed some equitable limitations for those with accessibility, generally due to design. The requirement to switch between multiple

elevators to travel between levels is a common design feature at all three sites to ensure adherence to fare payment. This issue mirrors the structural oversight identified by Yin et al. (2024), who warned that accessibility upgrades often fall short when not implemented cohesively. York University, among the three stations, excelled in crowd control and the integration of equitable design. However, the burden placed on users with disabilities to navigate multiple vertical transitions still highlights gaps in inclusive design solutions. Previous studies highlight that accessibility must extend beyond mobility to encompass meaningful connections to destinations (Levine et al., 2019). All three stations reflect different degrees of accessibility. Bloor-Yonge offers good locational accessibility with its location directly downtown in the heart of Toronto, but it falls short in terms of infrastructure accessibility. Bloor-Yonge Station also faces numerous systemic accessibility challenges due to its aging infrastructure. As observed, navigating between Lines 1 and 2 requires multiple disconnected elevators and long detours, often through dense crowds, making wayfinding difficult. This is consistent with what Foth et al. (2013) identified as an equity concern, as they discussed how even in high-access areas, the experience can be exclusionary for people with disabilities or older adults. The example of the frustrated wheelchair user at Bloor-Yonge echoes this concern.

Similarly, Kennedy Station's bus terminal configuration also has many equity issues. As observed, users navigating between Terminals A and B must exit the fare-paid zone and cross a street with contradictory signage. This makes it challenging for users unfamiliar with or vulnerable to payment validation and transfers. These issues support Grahn et al. (2021), who argue that unless carefully implemented, multimodal integration can exacerbate inequality rather than alleviate it. Furthermore, in the literature, both Grengs (2005) and Taylor and Morris (2015) emphasize that equitable transit planning must consider the needs of transit-dependent populations. Equity was a clear issue reflected in the observations at Kennedy Station. Kennedy Station helps serve a racially and economically diverse community in Scarborough. However, observations revealed the community faces challenges related to outdated and inaccessible infrastructure. This is particularly hindering for individuals with mobility impairments and accessibility needs. Despite renovations, as a multimodal transit hub, Kennedy's infrastructure lacked clear wayfinding and accessibility. Users had to switch elevators or access them after travelling long distances, and signage, especially at the bus terminal and exterior of the station, was contradictory. This was an especially prevalent issue at the GO Transit connection on the east side, which creates accessibility and safety concerns. This finding also supports Ingram et al. (2020) and Bista et al. (2021), who found that underserved areas such as Scarborough often receive less investment and experience poorer service quality.

5.1.2 Unreliable Service & Travel Time

Service unreliability and long travel times are two prevalent challenges identified by Liu and Shalaby (2024), particularly for users farther from the city centre. However, service unreliability was

most observed at Bloor-Yonge Station out of the three sites. Despite its centrality and infrastructure investment, delays on Line 1 were frequent. This was primarily seen on the Line 1 northbound platform which experienced multiple disruptions during peak hours. These service gaps create greater stress on overcrowded platforms and vertical circulation. As noted in the literature, the impact of such delays is particularly burdensome for racialized and low-income users who cannot afford alternatives such as ride-hailing (Liu & Shalaby, 2024; Hall et al., 2018). The delays observed at Bloor-Yonge directly support these findings, as large numbers of people had to wait for extended periods for their trains, compared to the wait times at York University and Kennedy stations. However, different types of delays and unreliable service were found at these other stations in the qualitative questionnaire responses.

5.1.3 Safety Concerns

Louie et al. (2017) argue that safety incidents in stations affect service reliability and user confidence. While Bloor-Yonge had visible security features, such as cameras and intercoms, the sheer volume of passengers and the lack of crowd management infrastructure, like platform edge doors, created feelings of insecurity during peak hours. Kennedy Station also faced safety issues, as the east-side entrance near the GO connection was often unattended and lacked adequate TTC staff presence and lighting. This caused discomfort and raised safety concerns, which were particularly felt during the evening hours. This mirrors Louie et al.'s (2017) observation that not all station areas are treated equally in safety protocols, with non-interchange or less-central locations often neglected in staff deployment and design improvements. At York University Station, safety was better integrated, with ample lighting, clear signage, and staff visibility. However, the exterior raised concerns at night due to its exposed walkways and open areas surrounding the station. This supports the dual role that station design plays in perceived and actual safety, which is related to the calls in the literature for safety planning in transit that considers both operational and environmental variables (Louie et al., 2017).

5.1.4 Governance Coordination

The study context outlines how governance is distributed among the TTC, the City of Toronto, the Province, and Metrolinx, which scholars have noted can result in fragmented implementation (Bista et al., 2021). The challenges observed at Kennedy Station, including unclear wayfinding, safety issues, outdated infrastructure, and confusing modal transfers, underscore the governance issues identified in the literature. Despite being a key terminal station undergoing infrastructure expansion, Kennedy’s problems with staff distribution, elevator access, inconsistent signage, and safety reflect implementation shortfalls that have been observed in the literature regarding overlapping jurisdictions. This reinforces Ingram et al.’s (2020) critique that, despite

inclusive policy frameworks, execution often lags, especially in marginalized communities such as the area surrounding Kennedy. The TTC's Accessibility Plan (TTC, n.d.) promises improvements, such as elevator installations and better wayfinding, yet participant observations show that these benefits have not been fully realized. While stations like York University reflect new ways to design transit infrastructure aligned with accessibility and sustainability goals, older stations, such as Bloor-Yonge and Kennedy, continue to reflect the infrastructure of earlier, less equitable planning frameworks.

The participant observations strongly reinforce the themes and challenges outlined in the literature and study context. Across all three stations, issues related to equity, accessibility, reliability, and safety reflect the persistent structural and systemic flaws in Toronto's transit network that negatively impact user experience. Observations at Bloor-Yonge validate academic critiques of outdated infrastructure struggling under modern demand. At the same time, York University highlights how new design standards can both advance and fall short of true accessibility. Kennedy Station underscores the real consequences of underinvestment and fragmented governance in suburban and marginalized areas. Overall, these real-world insights affirm the need for transit planning that is not only comprehensive and modern but also attentive to the lived realities of diverse and vulnerable populations.

5.2 Qualitative Questionnaire

The qualitative questionnaire responses aligned with many of the trends identified in participant observations, providing a deeper understanding of how users experience transit at each site.

5.2.1 Equity & Social Sustainability

The qualitative questionnaire responses across Bloor-Yonge, York University, and Kennedy stations strongly reflect the equity-related challenges that are central to the academic literature in transit planning. Participant experiences across all three sites reflected the impacts of structural inequalities in transit service, reinforcing scholarly critiques by Grengs (2005), Foth et al. (2013), and many others who argue that public transportation in Toronto is inequitably distributed and inadequately designed to meet the needs of marginalized and transit-dependent populations. At Kennedy Station, multiple participants expressed that Scarborough is often overlooked in transit planning. One user noted, "Scarborough can feel left out of transit even though we are part of Toronto." At the same time, another emphasized that having "more stations further into Scarborough" would greatly help their family. These voices directly echo the concerns raised by Grengs (2005) and Taylor and Morris (2015), who argue that transit investments tend to favour central areas, neglecting low-income and racialized communities that rely most on public transit.

At York University Station, users repeatedly described the burden of lengthy and inefficient commutes, with several stating that affordability constraints forced them to live farther away and rely on infrequent service. One participant explained, “I can’t afford alternatives like a car. I already am a student renting a room further away from campus to save more. But that’s the compromise I make.” These experiences are consistent with the work of Levine et al. (2019), who argue that transit systems must do more to connect people to employment, education, and essential services in order to support social sustainability. Even at Bloor-Yonge Station, which is located in a higher-income area, participants from lower-income backgrounds or with disabilities described barriers that limited their access and safety. The lived realities of these riders illustrate how social vulnerability, affordability, and systemic underinvestment converge to produce inequitable transit outcomes across the network. The literature emphasizes that transit planning must actively address these structural disparities, and the questionnaire responses provide clear evidence that these disparities are felt daily by users across Toronto.

5.2.2 Unreliable Service & Travel Times

Unreliable transit service and long travel times were recurring themes in both the literature and questionnaire responses. The academic literature highlights how systemic underinvestment in suburban areas contributes to service delays and inefficiencies. Liu and Shalaby (2024) note that users in Scarborough and North York experience longer wait times and more frequent disruptions compared to riders in downtown Toronto. These insights are echoed vividly in user experiences from both York University and Kennedy Stations. One participant at York shared, “It takes very long to bus to the subway just to come up to York station,” while another added that their commute from Vaughan can take over 90 minutes due to “infrequent buses and only one subway station.” These experiences demonstrate how geographic location significantly impacts service quality, which aligns with Diab et al. (2020), who critique how transit funding often prioritizes cost efficiency over reliability in marginalized areas.

At Kennedy Station, delays were often tied to construction and aging infrastructure. One participant complained that “construction is gross,” while another noted that the outdated trains feel “old and bumpy.” These statements align with findings by Legrain et al. (2016), who discuss how employment zones and lower-income neighbourhoods often lack adequate transit infrastructure, resulting in inefficient and inconvenient travel. Even at Bloor-Yonge, which is a central and highly trafficked station, participants noted persistent delays, with one commuter describing the subway system as “very broken” due to frequent slowdowns and overcrowding. These user perspectives support the literature’s position that unreliable service reflects deeper structural planning failures. These inefficiencies do not impact all riders equally. They disproportionately burden low-income users, who often cannot afford flexible alternatives, such as owning a car or rideshare services. As the

questionnaire responses show, unreliable service is more than a logistical inconvenience; it is a barrier to equity and efficient urban living.

5.2.3 Safety Concerns

Safety concerns are a consistent theme across both the literature and participant responses. Louie et al. (2017) identify safety issues as one of the most common factors causing service disruptions and increased travel times in Toronto's transit system, noting that stations with higher incidents of crime or unsafe conditions tend to experience longer operational delays and diminished user trust. Prajogi's (2024) analysis of TTC delay data further reinforces this point by highlighting safety-related incidents such as passenger illnesses, emergency alarms, and security concerns as frequent and highly disruptive causes of subway service delays. These events often lead to extended interruptions and cascading network delays, substantially increasing travel times for riders (Prajogi, 2024). This connection between safety and service reliability highlights the critical need for enhanced safety protocols and response systems to improve transit efficiency in Toronto. The concerns raised in the literature are reflected strongly in the experiences of participants at all three case study sites, particularly among women and other vulnerable users. At Kennedy Station, nighttime safety was a common concern, with one participant stating, "At night it isn't a very safe place," and another expressing that as a woman she sometimes feels unsafe, citing news reports about incidents at the station after dark. Similar fears were voiced by respondents at York University Station, where one described the area as "very creepy" at night. These lived experiences echo the literature's assertion that safety concerns not only deter ridership but also exacerbate the structural disadvantages faced by women, racialized individuals, and lower-income transit users.

Even in high-traffic stations like Bloor-Yonge, users described the physical danger posed by crowding and disorganized flow. Participants expressed feeling unsafe while navigating congested platforms and passageways, which was worsened by service delays and poor communication. The literature suggests that safety and operational efficiency are closely connected, and the participant responses help affirm that poor design, insufficient staff presence, and limited lighting create environments where passengers feel physically and emotionally unsafe. These responses suggest a need for the community to have better integration and investment in underserved transit corridors, particularly for those commuting into York University from more peripheral neighbourhoods. In summary, the qualitative questionnaire responses from York University Station commuters reveal systemic challenges in service reliability, access equity, and commuter safety. Long travel times, delayed and infrequent buses and perceived neglect of certain areas exacerbate the daily strain on students and low-income riders. At the same time, calls for improved bus frequency, enhanced infrastructure, and safer station environments provide clear and actionable recommendations to support more equitable and socially sustainable transit at York University and beyond.

5.2.4 Accessibility

Accessibility remains one of the most prominent themes in both the literature and the participant responses. The literature distinguishes between mobility and accessibility, emphasizing that equitable transit must prioritize the ability of users to reach meaningful destinations in a reasonable time and with minimal effort (Levine et al., 2019). Participants across all three stations described barriers that hindered accessibility, particularly for those with disabilities or limited mobility. At Bloor-Yonge Station, a wheelchair user stated, “So long waiting for Wheel-Trans to help me… many elevators to go between and too many people. I can’t see sometimes through crowds.” This reflects the precise issue outlined by Foth et al. (2013), who found that high-density stations in downtown areas often become accessibility bottlenecks due to poor wayfinding and overuse. At Kennedy Station, accessibility was made worse by construction. One participant described needing to “switch between multiple elevators,” which were far apart and confusingly marked. Similarly, at York University Station, elevator transfers continued to be a consistent obstacle despite the station’s newer infrastructure.

The literature emphasizes that accessibility challenges are particularly pronounced in suburban areas, where service is infrequent and not easily integrated into the broader transit network. Participants from York University Station expressed this directly, with one user stating that it takes “very long by bus to get to the subway station” due to poor regional access. These comments validate the findings of Merlin et al. (2021), who argue that suburban and low-density areas require intentional accessibility planning to avoid systemic exclusion. Overall, the qualitative responses reveal that infrastructure gaps, fragmented elevator systems, and inadequate signage continue to hinder access for many users, particularly those who already face physical, financial, or social disadvantages.

5.2.5 Governance Coordination

Transit governance in Toronto plays a crucial role in shaping user experience through infrastructure development, policy implementation, service delivery, and equity outcomes (City of Toronto, n.d.). The division of responsibilities among the City of Toronto, TTC, the Province, and Metrolinx can lead to delays and unequal service if not effectively coordinated. While agreements like the Ontario-Toronto Transit Partnership promise major investments, concerns emerged about whether these have been equitably distributed throughout Toronto’s transit network. As well, plans such as TOCore and the 2041 Regional Plan face challenges in translating goals into tangible improvements, particularly for suburban and marginalized communities (Bista et al., 2021). Although TTC accessibility initiatives mark progress, they also highlight the continued need for infrastructure upgrades. Research by Bista et al. (2021) and Ingram et al. (2020) highlights a gap between inclusive policy language and on-the-ground outcomes, as evident in user responses. Achieving transit equity

will require more integrated governance, affordable service, and meaningful community participation in planning processes.

5.2.6 Limitations

While this research provides valuable insights into the lived realities of transit users in Toronto, it also highlights several limitations and areas for future investigation. While this research captured key demographic factors, a specific focus on intersecting identities, such as disability and age, would provide a deeper context for how transit inequity is experienced differently across specific populations. Future research could also benefit from integrating more quantitative data to complement the qualitative narratives presented in this study. Examining the long-term effects of new infrastructure projects and transit governance changes would also be essential to assess whether policy shifts are resulting in more equitable outcomes over time.

Chapter 6. Conclusion:

This research has examined the lived experiences of Toronto transit users across three distinct geographic contexts: Downtown Toronto at Bloor-Yonge Station, North York at York University Station, and Scarborough at Kennedy Station. Using a qualitative methodology grounded in the Right to the City theoretical framework, this study identified key differences in how users experience public transit in terms of accessibility, reliability, affordability, and infrastructure quality. The findings reveal that transit is not experienced the same across the city and that systemic disparities continue to shape the mobility of residents, particularly those who are marginalized by race, income, and location. However, there are many similar issues that all transit users face, and this research has helped to highlight the problems for each station specifically and transit overall in the city of Toronto.

Participants from Bloor-Yonge Station reported greater access to frequent and multimodal transit, although they still faced concerns regarding overcrowding and navigating accessibility. In contrast, residents using York University and Kennedy Stations experienced more structural barriers, including longer travel times, fewer service options, and reduced accessibility and safety. These findings align with broader themes in the literature, which highlight how urban transit systems often prioritize high-density, affluent areas while neglecting lower-income and racially marginalized communities (Grengs, 2005; Foth et al., 2013; Liu and Shalaby, 2024). The disparities observed in this research confirm that transit equity remains a persistent challenge in Toronto and that infrastructure development must consider not only spatial efficiency but also social justice.

In terms of governance, this study has shown that while multiple stakeholders, including the City of Toronto, the TTC, Metrolinx, and the Province of Ontario, are responsible for different aspects

of transit planning and operations, their efforts are not always aligned with community needs. Although recent infrastructure projects, such as the Ontario Line and Scarborough Subway Extension, are intended to improve connectivity, it remains uncertain whether they will effectively address transit equity gaps or further entrench existing inequalities (Bista et al., 2021; Ingram et al., 2020). Public consultations and accessibility initiatives are important, but inclusive, community-driven planning frameworks and sustained investment in underserved areas are essential to support them.

In conclusion, addressing transit equity in Toronto requires a fundamental shift in how transit is planned, funded, and evaluated. Equitable transit must centre the needs of marginalized communities and prioritize investments in areas that have historically been underserved. By capturing the lived experiences of transit users, this research highlights the need for a more inclusive and responsive transit policy that reflects the diverse realities of all city residents. Ensuring equitable access to transit is essential not only for mobility but also for advancing broader social sustainability, economic opportunity, and urban inclusion goals.

7. Appendix:

7.1 Appendix A: Date & Times of Site Visits

Bloor-Yonge Station:

Date	Time	Weekday or Weekend
March 21st, 2025	5:30-7:00 PM	Weekday
March 26th, 2025	8:00-9:00 AM	Weekday
March 30th, 2025	12:00-1:00 PM	Weekend

York University Station:

Date	Time	Weekday or Weekend
March 10th, 2025	8:00-9:00 AM	Weekday
March 14th, 2025	5:00-7:15 PM	Weekday
March 16th, 2025	12:00-1:00 PM	Weekend

Kennedy Station:

Date	Time	Weekday or Weekend
April 7th, 2025	4:30-6:00 PM	Weekday
April 11th, 2025	8:30-9:30 AM	Weekday
April 13th, 2025	1:00-2:00 PM	Weekend

7.2 Appendix B: Participant Observation Checklist

Participant Observation Checklist **Date:**

Time:
Site:
Visit #:

1. Station Arrival/Departure (Surrounding Environment):

- ☐ Clear and visible signage directing passengers to station entrances and exits
- ☐ Accessibility of station entrances (ramps, elevators, automatic doors)
- ☐ Upkeep and maintenance of station entrances and exits
- ☐ Adequate lighting for safety (especially at night)
- ☐ Availability and visibility of transit maps and fare information
- ☐ Presence of security personnel or CCTV cameras
- ☐ Presence of designated pick up/drop off areas for accessibility services
- ☐ Proximity to surrounding transit connections
- ☐ Construction
- ☐ Ease of access to station area via different modes:
    - ☐ Walking (sidewalk, multi use trails, etc)
    - ☐ Biking (including bike storage & bikeshare)
    - ☐ Driving (Passenger pick up/drop off)
    - ☐ Bus/Streetcar
    - ☐ Other:_____

2. Station Areas (Concourse, Hallways, Waiting Areas):

- ☐ Crowding levels in hallways and waiting areas
- ☐ Seating areas for waiting passengers
- ☐ Upkeep of general station infrastructure
- ☐ Adequate lighting for safety
- ☐ Emergency contact intercom stations & CCTV cameras
- ☐ Ease of entry with fare payment options (Presto, cash, credit/debit)
- ☐ Accessibility features (elevators, escalators, tactile paving, etc)
- ☐ Availability of transit staff and or security for assistance
- ☐ Ease of access from concourse to station exit and subway platform
- ☐ Construction

3. Subway Platform:

- ☐ Safety features (platform edge markings, CCTV, emergency intercoms)
- ☐ Distance from station entrance to subway platform
- ☐ Real-time train arrival information displays and audio announcements
- ☐ General upkeep of the platform area

- ☐ Adequate seating
- ☐ Crowding issues (as relates to infrastructure)
- ☐ Accessibility considerations (elevator access, etc)
- ☐ Number of train departures in a 20 minute span (Eastbound & Northbound)
- ☐ Number of train departures in a 20 minute span (Westbound & Southbound)
- ☐ Number of train delays during visit (Eastbound & Northbound)
- ☐ Number of train delays during visit (Westbound & Southbound)
- ☐ Construction

4. Bus Terminal (If Applicable - Kennedy Station Only):

- ☐ Clear directional signage to bus terminal from station areas (platform, concourse, entrance/exit)
- ☐ Adequate bus shelter coverage and seating availability
- ☐ Real-time bus departure information (digital screens, announcements)
- ☐ Safe and well-lit pedestrian pathways between subway and bus terminal
- ☐ Presence of security personnel or CCTV cameras
- ☐ Crowd control and organization of bus queues
- ☐ Availability of transit staff or security at the terminal
- ☐ Distance from bus terminal to subway station areas
- ☐ Number of bus line connections available
- ☐ Construction

7.3 Appendix C: Qualitative Questionnaire

1. Survey: I voluntarily consent to participating in the research survey:
    - ☐ Yes
    - ☐ No
2. Data Use: I agree with the use of anonymous quotations from my questionnaire responses:
    - ☐ Yes
    - ☐ No
3. How Old Are You?:_____
4. How do you identify your gender?
    - ☐ Man
    - ☐ Woman
    - ☐ Non-Binary
    - ☐ Other: _____
5. What is your income from all sources (Work, School funding, Government assistance, etc) annually?
    - ☐ Under $20,000
    - ☐ $20,001–$40,000
    - ☐ $41,000–$60,000
    - ☐ $60,001–$80,000
    - ☐ $80,001–$100,000
    - ☐ $100,001–$120,000
    - ☐ $120,001+
6. What is your current employment status? (select all that apply)
    - ☐ Employed Full-time
    - ☐ Employed Part-time
    - ☐ Self-employed
    - ☐ Student
    - ☐ Unemployed
    - ☐ Retired
    - ☐ Other: _____
7. How would you describe your ethnicity or race? (select all that apply)
    - ☐ Black or African descent
    - ☐ East Asian (e.g., Chinese, Japanese, Korean)
    - ☐ South Asian (e.g., Indian, Pakistani, Bangladeshi)

- ☐ Southeast Asian (e.g., Filipino, Vietnamese, Thai)
- ☐ Middle Eastern or North African
- ☐ Latin American or Hispanic
- ☐ White or European descent
- ☐ Other: _____

8. Were you born in Canada?
   - ☐ Yes
   - ☐ No
9. If no to the above question, how long have you lived in Canada?
   - ☐ Less than 1 year
   - ☐ 1–2 years
   - ☐ 3–5 years
   - ☐ 6–9 years
   - ☐ 10+ years
10. On average, how many days this past week have you travelled to this station to use any form of transit (subway, bus, streetcar, etc)?
    - ☐ 1 Day
    - ☐ 2 Days
    - ☐ 3 Days
    - ☐ 4 Days
    - ☐ 5 Days
    - ☐ 6 Days
    - ☐ 7 Days
11. What modes of transit do you use at this station (subway, bus, streetcar, etc)? Select all that apply
    - ☐ Subway
    - ☐ Bus
    - ☐ Streetcar

- ☐ Bike Share
- ☐ Other: _____

12. What hours of the day do you travel through this station? (select all that apply)

- ☐ Morning
- ☐ Afternoon
- ☐ Evening
- ☐ Overnight
- ☐ Other: _____

13. In the past week, what were the reasons you used transit (To get to work, school, errands, etc)?:

_____

14. How long did your commute take you?:

_____

15. Do you think the time you spent commuting was reasonable?:

- ☐ Yes
- ☐ No

16. If no to the question above, why not?

_____

17. What reasons made you choose transit specifically to travel?

_____

18. Do you frequently travel through this transit station?

- ☐ Yes
- ☐ No

19. Do you find it hard to access this transit station?:

- ☐ Yes
- ☐ No

20. If yes to the question above, why do you find it hard to access this transit station?

_____

21. Do you think new transit initiatives in this area (e.g. bus/subway additions) will benefit you? Why or why not?

_____

22. What impacts your experience on transit negatively?

_____

23. What would help make your experience using transit at this station better?

_____

24. Do you want to add anything else?

_____

References

Allen, J., Higgins, C. D., Silver, D., & Farber, S. (2023). Are low-income residents disproportionately moving away from transit? *Journal of Transport Geography*, *110*(Complete). https://doi.org/10.1016/j.jtrangeo.2023.103635

Ashton, C., Aziz, N. A., Barwood, C., French, R., Savina, E., & Worrall, L. (2008). Communicatively accessible public transport for people with aphasia: A pilot study. *Aphasiology*, *22*(3), 305–320. https://doi.org/10.1080/02687030701382841

Bista, S., Hollander, J. B., & Situ, M. (2021). A content analysis of transportation planning documents in Toronto and Montreal. Case Studies on Transport Policy, 9(1), 1–11. https://doi.org/10.1016/j.cstp.2020.06.007

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing*, *25*(8), 652–661. https://doi.org/10.1177/1744987120927206

City of Toronto. (2016). 2015 Median After-Tax Household Income Social Atlas. [Map]. https://www.toronto.ca/wp-content/uploads/2018/06/976e-ct16_TOR_Income_AfterTaxInc.pdf

City of Toronto. (2013). Zoning By-law 569-2013. [Map]. https://map.toronto.ca/maps/map.jsp?app=ZBL_CONSULT

Collins, K., Der Wartanian, R., Reed, P., Chea, H., Hou, Y., & Zhang, Y. (2023). Social equity and public transit in the inland empire: Introducing a transit equity analysis model. *Transportation Research Interdisciplinary Perspectives*, *21*(Complete). https://doi.org/10.1016/j.trip.2023.100870

Davidson, M. (2010). Social Sustainability and the City. Geography Compass, 4: 872-880. https://doi.org/10.1111/j.1749-8198.2010.00339.x

Diab, E., Kasraian, D., Miller, E. J., & Shalaby, A. (2020). The rise and fall of transit ridership across Canada: Understanding the determinants. *Transport Policy*, *96*(Complete), 101–112. https://doi.org/10.1016/j.tranpol.2020.07.002

Duff, C. (2017). The affective right to the city. *Transactions of the Institute of British Geographers*, *42*(4), 516–529. https://doi.org/10.1111/tran.12190

Edge, S., Goodfield, J., & Dean, J. (2020). Shifting gears on sustainable transport transitions: Stakeholder perspectives on e-bikes in Toronto, Canada. *Environmental Innovation and Societal Transitions*, *36*(Complete), 197–208. https://doi.org/10.1016/j.eist.2020.07.003

Foth, N., Manaugh, K., & El-Geneidy, A. M. (2013). Towards equitable transit: examining transit accessibility and social need in Toronto, Canada, 1996–2006. *Journal of Transport Geography*, *29*, 1–10. https://doi.org/10.1016/j.jtrangeo.2012.12.008

Ghafouri‐Azar, M., Diamond, S., Bowes, J., & Gholamalizadeh, E. (2023). The sustainable transport planning index: A tool for the sustainable implementation of public transportation. Sustainable Development, 31(4), 2656–2677. https://doi.org/10.1002/sd.2537

Grahn, R., Qian, S., & Hendrickson, C. (2021). Improving the performance of first- and last-mile mobility services through transit coordination, real-time demand prediction, advanced reservations, and trip prioritization. *Transportation Research Part C: Emerging Technologies*, *133*(Complete). https://doi.org/10.1016/j.trc.2021.103430

Grengs, J. (2005). The abandoned social goals of public transit in the neoliberal city of the USA. *City*, *9*(1), 51–66. https://doi.org/10.1080/13604810500050161

Hall, J. D., Palsson, C., & Price, J. (2018). Is Uber a substitute or complement for public transit? *Journal of Urban Economics*, *108*(Complete), 36–50. https://doi.org/10.1016/j.jue.2018.09.003

Ingram, M., Leih, R., Adkins, A., Sonmez, E., & Yetman, E. (2020). Health Disparities, Transportation Equity and Complete Streets: A Case Study of a Policy Development Process through the Lens of Critical Race Theory. Journal of Urban Health, 97(6), 876–886. https://doi.org/10.1007/s11524-020-00460-8

Krosnick, J. A., & Presser, S. (2010). Question and Questionaire Design. Marsden, P. V., & Wright, J. D. (Eds.), Handbook of Survey Research (pgs. 263 -313) Emerald Group Publishing LTD. https://web.stanford.edu/dept/communication/faculty/krosnick/docs/2010/2010%20Handbook%20of%20Survey%20Research.pdf

Lefebvre, H. (1996). Writings on Cities. *Blackwell, Oxford.* https://thecharnelhouse.org/wp-content/uploads/2017/08/Henri-Lefebvre-Writings-on-Cities.pdf

Legrain, A., Buliung, R., & El-Geneidy, A. M. (2016). Travelling fair: Targeting equitable transit by understanding job location, sectorial concentration, and transit use among low-wage workers. *Journal of Transport Geography*, *53*(Complete), 1–11. https://doi.org/10.1016/j.jtrangeo.2016.04.001

Levine, J., Grengs, J., & Merlin, L. A. (2019). From Mobility to Accessibility: Transforming Urban Transportation and Land-Use Planning. Cornell University Press. http://www.jstor.org/stable/10.7591/j.ctvfc52mj

Liu, R. Z., & Shalaby, A. (2024). Impacts of public transit delays and disruptions on equity seeking groups in Toronto – A time-expanded graph approach. *Journal of Transport Geography*, *114*(Complete). https://doi.org/10.1016/j.jtrangeo.2023.103763

Louie, J., Shalaby, A., & Habib, K. N. (2017). Modelling the impact of causal and non-causal factors on disruption duration for Toronto's subway system: An exploratory investigation using hazard modelling. *Accident Analysis & Prevention*, *98*(Complete), 232–240. https://doi.org/10.1016/j.aap.2016.10.008

Merlin, L. A., Singer, M., & Levine, J. (2021). Influences on transit ridership and transit accessibility in US urban areas. *Transportation Research Part A: Policy and Practice*, *150*(Complete), 63–73. https://doi.org/10.1016/j.tra.2021.04.014

Metrolinx. (2018). Transit Access and Social Equity in the Greater Toronto and Hamilton Area: Background Paper to the 2041 Regional Transportation Plan. https://assets.metrolinx.com/image/upload/v1663240133/Documents/Metrolinx/Transit_Access_and_Equity_2018.pdf

Miller, P., de Barros, A. G., Kattan, L., & Wirasinghe, S. C. (2016). Public transportation and sustainability: A review. KSCE Journal of Civil Engineering, 20(3), 1076–1083. https://doi.org/10.1007/s12205-016-0705-0

Mulhall, A. (2003). In the field: notes on observation in qualitative research. *Journal of Advanced Nursing*, *41*(3), 306–313. https://doi.org/10.1046/j.1365-2648.2003.02514.x

Prajogi, T. (2024). Analyzing TTC Delay Data to Improve Future Efficiency. *Telling Stories with Data.* https://tellingstorieswithdata.com/inputs/pdfs/paper-1-2024-TimothiusPrajogi.pdf

Spencer, R., Pryce, J. M., & Walsh, J. (2020). Philosophical Approaches to Qualitative Research. In *The Oxford Handbook of Qualitative Research* (pp. 113–142). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190847388.013.13

Taylor, B. D., & Morris, E. A. (2015). Public transportation objectives and rider demographics: Are transit's priorities poor public policy? *Transportation*, *42*(2), 347–367. https://doi.org/10.1007/s11116-014-9547-0

Toronto Transit Commission. (2024). Toronto Transit Commission Subway Ridership, 2023-2024. https://cdn.ttc.ca/-/media/Project/TTC/DevProto/Documents/Home/Transparency-and-accountability/Subway-Ridership-20232024.pdf?rev=0a95df70f45543c08b347f6057f2b2e4

Toronto Transit Commission. (2017). Operating Statistics - 2017. https://www.ttc.ca/transparency-and-accountability/Operating-Statistics/operating-statistics---2017/spadina-subway-extension

Toronto Transit Commission. (2023). Line 3 Scarborough Permanently Closed. https://www.ttc.ca/riding-the-ttc/Updates/Line-3-Scarborough-permanently-closed

University of Toronto. (2018). 2016 TTS Travel Summary by Ward for the City of Toronto. https://dmg.utoronto.ca/wp-content/uploads/2022/06/2016TTS_Summaries_Toronto_Wards.pdf

Vaughn, P., & Turner, C. (2016). Decoding via Coding: Analyzing Qualitative Text Data Through Thematic Coding and Survey Methodologies. *Journal of Library Administration*, *56*(1), 41–51. https://doi.org/10.1080/01930826.2015.1105035

Yiftachel, O., & Hedgcock, D. (1993). Urban social sustainability: The planning of an Australian city. Cities, 10(2), 139–157. https://doi.org/10.1016/0264-2751(93)90045-K

Yin, R. K. (2018). Case study research and applications: design and methods (Sixth edition). SAGE Publications, Inc.

Yin, Z., Rybarczyk, G., Zheng, A., Su, L., Sun, B., & Yan, X. (2024). Shared micromobility as a first- and last-mile transit solution? Spatiotemporal insights from a novel dataset. *Journal of Transport Geography*, *114*(Complete). https://doi.org/10.1016/j.jtrangeo.2023.103778

Yousefzadeh Barri, E., Farber, S., Kramer, A., Jahanshahi, H., Allen, J., & Beyazit, E. (2021). Can transit investments in low-income neighbourhoods increase transit use? Exploring the nexus of income, car ownership, and transit accessibility in Toronto. Transportation Research Part D: Transport and Environment, 95. https://doi.org/10.1016/j.trd.2021.102849