Lived Experiences of Transport Poverty in a Montreal Suburb: A Case Study of

Saint-Jean-Sur-Richelieu

by

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A Thesis Submitted in Partial Fulfilment of the Requirements for the Degree of B.A. Honours

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April 2023

ACKNOWLEDGEMENTS

I would first like to acknowledge my supervisor Professor Kevin Manaugh for his continued support and guidance. This project could not have been possible without my supervisor's trust, and I am truly grateful for everything I have learned from him. I would also like to thank my reader Professor Mylène Riva. I would also like to thank the honour's coordinators, Professor Sarah Turner and Professor Benjamin Forest, for their support and feedback.

This thesis concludes three years of hard work, which I would not have been able to achieve without the continued support from the McGill Geography community, my fellow students, professors, the GIC, and our academic advisor Michelle Maillet.

I am also grateful for all the support from my friends and family. I would not be where I am today without my parents, who have always believed in me and encouraged me to pursue an honour's thesis.

I would also like to thank my participants, without whom this research would not have been possible. Thank you for taking time out of your day to share your important experiences with me.

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ABSTRACT

Access to adequate transportation and mobility is crucial to one's life. However, not everyone has access to adequate transportation within their financial means, leaving them transport poor. This research investigates the lived experiences of people living in transport poverty within Saint-Jean-Sur-Richelieu, a suburb of Montreal. Using semi-structured interviews, I give a qualitative account of the consequences and coping mechanisms used to live with transport poverty as well as its impact on people's risk of social exclusion and on well-being. I conclude that people living with transport poverty struggle with a variety of difficulties, mainly surrounding affordability and transit services resulting in forgone trips, reduced spending, lost time, and forced car ownership. Travel behaviours used to cope included planning ahead, trip grouping, and using other modes. I found that transport poverty has large impacts on social exclusion but mixed impacts on well-being.

CHAPTER 1: INTRODUCTION

Transportation and mobility are important part of people's lives and can have far-reaching impacts ranging from employment opportunities to social support. However, many people do not have access to adequate means of transportation due to external factors such as the local transport system or personal characteristics such as income. These conditions are conceptualized as transport poverty which can be succinctly described as "the compounded lack of ability to travel to important destinations and activities" (Allen & Farber, 2019, p.3) and also includes spending an unreasonable amount of one's income on transportation (Currie, 2011). This is a very important topic that deserves further exploration because the literature has already identified many adverse consequences of transport poverty such as lower access to employment, missed opportunities, and many more. Moreover, already marginalized groups such as lower income groups and communities with lower public transit service are more vulnerable to transport poverty, thus more attention should be paid to this issue. Transportation also has important links to social exclusion and subjective well-being which has not seen extensive research especially through qualitative methods (Awaworyi Churchill & Smyth, 2019). Thus, my research seeks to fill the gap in the literature by providing a qualitative account of transport poverty to share these important stories.

Furthermore, I have chosen to look at transportation in a suburb Montreal, Canada because suburbs are often characterized by low density, poor walkability, and lower public transit services. This creates a landscape which makes driving a car a necessity for many to be able to have full mobility. These in combination with growing suburban poverty make suburbs vulnerable to transport poverty, especially for those without cars (Allen & Farber, 2019, 2021). My chosen case study of Saint-Jean-Sur-Richelieu is a city with a car-centric landscape with expensive public transit. Moreover, most transportation research has focused on large cities metropolitan areas which Saint-Jean-Sur-Richelieu is not a part of. Thus, my research seeks to shed light on suburban transport poverty.

1.1 Research questions

This research aims to investigate the lived experiences of people living in transport poverty in the Montreal suburb of Saint-Jean-Sur-Richelieu by answering these three research questions:

Research Question 1: What are the consequences of living in transport poverty on people's daily lives?

Research Question 2: What are the travel behaviours, if any, used to cope with transport poverty?

Research Question 3: Does transport poverty affect social exclusions and well-being? If so, in what ways?

1.2 Structure of the thesis

In Chapter 2, I review the literature on transport poverty and its links to social exclusion and well-being. I first lay out important concepts, definition, factors and cause, and consequences of transport poverty found in the literature. I then examine the conceptual frameworks and themes that link transport poverty to social exclusion and well-being. Chapter 3 provides context for the case study of Saint-Jean-Sur-Richelieu and examines the local transportation context. In Chapter 4, I outline the methodology used in this research including the semi-structured interviews, travel diaries, and sampling methods. Chapter 5 presents the results and analysis of the interviews to answer my three research questions. I identify key difficulties, consequences, coping strategies, and social and well-being impacts. I conclude in Chapter 6 by discussing the implication of these results, limitations, and directions for future research.

CHAPTER 2: LITERATURE REVIEW

In this chapter, I review three bodies of literature to ground my research in important definitions, concepts, and dimensions of transport poverty. Firstly, I review the literature on transport poverty and define it using frameworks and sub-concepts followed by a review of identified causes, consequences, and coping strategies of transport poverty. Secondly, I review the literature linking transport poverty to social exclusion. Thirdly, I review the body of literature on well-being and its links to transport. Reviewing these bodies of literature is important to have a comprehensive understanding of the topic to inform my methodology and analysis.

2.1 Transport poverty

2.1.1 Definition and sub-concepts

To begin, I review the literature on transport poverty and the multiple definitions and sub-concepts that encompass this broad phenomenon. Transport disadvantage emerged as a concept and concern by researchers and policy makers around the 1990 and 2000s particularly in the UK (Lucas, 2012). Whereas transport poverty is a newer concept without a clear, agreed upon definition. Transport poverty is also hard to isolate and define by itself, it is multidimensional and a result of the interaction of many different factors (Currie & Delbosc, 2011). In the literature, authors reference some parts of transport poverty using different terms such as mobility poverty, transport exclusion or transport disadvantage (Currie & Delbosc, 2011). While existing scholarship defines transport disadvantage as a broader concept similar to transport poverty (Currie & Delbosc, 2011), scholars also conceptualize transport poverty as a combination of transport disadvantage and social disadvantage (Allen & Farber, 2019, 2021; Lucas, 2012). Given the lack of a clear definition and differentiation between these nuanced terms, Lucas et al., (2016, p. 356) have outlined a lexicon to outline these sub-concepts with transport poverty as a "broad, overarching notion" comprising of four defined and separate concepts: mobility poverty, accessibility poverty, transport affordability, and exposure to transport externalities. The authors then define a working definition of transport poverty. Thus, an individual is transport poor if they meet one or more of the following conditions: there is no transportation option available given their physical capabilities, transport options do not reach destination necessary to fulfil their daily needs, the amount of money spent on transport leaves them with residual income below the poverty line, excessive amount of time is spent on

transportation leading to time poverty or social isolation, travel conditions are unsafe, dangerous, or unhealthy (Lucas et al., 2016). Allen & Farber (2019, p.3) sum up transport poverty as "the compounded lack of ability to travel to important destinations and activities". Additionally, forced car ownership, defined as "households with a limited capacity to afford car use but where no mobility alternatives are available" (Currie & Delbosc, 2011, p. 22) or "owning a car despite having limited economic resources" (Vermesch et al., 2021, pp.590) can be encompassed in transport poverty because it fulfills the transport affordability sub-concept described in Lucas et al.'s (2016) lexicon.

2.1.2 Factors and causes

Next, I outline the variety of factors and causes of transport poverty. In the literature there has been a separation and comparison of external/environmental factors which are commonly associated with transportation systems and the urban form, and personal or social factors of the user (Currie & Delbosc, 2011; Lucas et al., 2018). Built environment factors such as street connectivity, location and number of bus stops, and neighborhood safety have been found to have an impact of the number or trips and their length (Lucas et al., 2018). Moreover, Currie & Delbose (2011) summarize several external factors that impact risk of transport poverty such as dispersed services, reduced supply of transport services, variation overtime of services, variation in accessibility of transport modes, institutional barriers, cost of transit, and barriers in the built environment. These factors are sometimes described as transport disadvantage (Allen & Farber, 2019, 2021; Lucas, 2012) which can combined with social disadvantage (described below) to create transport poverty.

These external and environmental factors are often contrasted with personal or social factors associated with individuals. These can be used to understand what groups of people are more vulnerable to transport poverty. These causes can include broader elements such as socio-economic status (Allen & Farber, 2019; Lucas et al., 2016) but also specific demographic elements such as gender or age (Currie & Delbosc, 2011; Lucas et al., 2018). It is also important to note that transport poverty is assessed on an individual level since household composition does not reflect equal access to transportation or means (Lucas, 2012). Currie & Delbosc (2011, p.20) present a summary table of personal factors that can make individuals more vulnerable to transport poverty found in the literature. Groups identified to be more vulnerable to transport

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poverty include women, seniors, youth, single parents, ethnic minorities, students, and people with disabilities.

Additionally, lack of access or ownership of a car is one the most common factors associated with transport poverty (Currie & Delbosc, 2011). In the literature, depending on different conceptualization of transport poverty, lack of a car is categorized in either external and environment causes (Allen & Farber, 2019) or personal factors (Currie & Delbosc, 2011). This highlights that while separation of personal and environmental factors is useful to conceptualize and study transport poverty to inform policy decision, this separation can be artificial (Currie & Delbosc, 2011). As this section has outlined, transport poverty is a broad, multi-dimensional phenomenon that contains different elements that cannot be neatly categorized and are inevitably interlinked. Lucas et al. (2018, p. 632) found that the physical form of a location was more influential than personal characteristics, but this was at a micro-scale. They highlight that "both social and environmental factors are almost certainly at play in determining the travel behaviour outcomes of low-income households".

2.1.3 Consequences and coping mechanisms

One of the most prevalent consequences of transport poverty is its impact on employment both in accessing more employment opportunities but also accessing one's place of work on a daily basis. Allen & Farber (2019) even use low transit access to employment as a measure to asses transport poverty across Canada. Coren et al. (2022) found that transportation difficulties with transit schedule, security, and geographic distributions of jobs can lead to substantial obstacles to job access and missed opportunities in the Chicago area. Access to certain daily activities such as shopping and education are also limited for people experiencing transport poverty or more specifically, accessibility poverty (Lucas et al., 2016). Transport poverty is associated with fewer trips and participation in activities as well as increased cost of transportation which can lead to missed opportunities that can lead to social exclusion (Currie & Delbosc, 2011). Lack of transport affordability can also lead to reduced income for other necessary expenses (Lucas et al., 2016).

The scholarship has also identified multiple coping strategies used by people experiencing transport poverty. Households with a single car resort to altering family responsibilities, changing car use-arrangement, and modifying trip patterns (Currie & Delbosc, 2011). People

without cars cope by walking, cycling, relying on public transit, living closer to urban centers, and limiting long travel distances (Currie & Delbosc, 2011)

2.2 Transport and social exclusion

In this section I will review the theoretical background of social exclusion and how this interacts with transportation and transport poverty. Social exclusion is one of the most important consequences of transport poverty, and has been researched substantially particularly in the United Kingdom and Australia with more emerging research in Canada (Lucas, 2012) . The body of literature on this link has grown ever since the publication of "Making the connections: transport and social exclusion" by the Social Exclusion Unit of the UK government (J. K. Stanley et al., 2011; J. R. Stanley, 2011; Yigitcanlar et al., 2019) and there has been a proliferation of interest in the past 15 to 20 years (Lucas, 2019). This is sometimes referred to as transport related exclusion (Lucas, 2012), mobility-related exclusion (Kenyon et al., 2002) or transport-related social exclusion (TRSE) (Yigitcanlar et al., 2019). One of the most commonly cited definitions of TRSE is Kenyon et al.'s (2002 p.210) definition of mobility related exclusion (Lucas, 2012):

> The process by which people are prevented from participating in the economic, political, and social life of the community because of reduced accessibility to opportunities, services, and social networks, due in whole or in part to insufficient mobility in a society and environment built around the assumption of high mobility.

2.2.1 Social exclusion

Firstly, to understand how transport affects social exclusion, it is important to understand the theoretical concept of social exclusion. Social exclusion emerged in France in the 1970s and 1980s to describe people who were excluded from the state (Lucas, 2004; J. R. Stanley, 2011). Since then, the term has greatly evolved and become broader. Social exclusion, similar to transport poverty, does not have one single definition because it is highly multidimensional (Lucas, 2012; J. R. Stanley, 2011). Indeed, Kenyon et al. (2002, p.209) consider this multidimensionality in their definition of mobility-related exclusion:

> The unique interplay of a number of factors, whose consequence is the denial of access, to an individual or group, to the opportunity to participate in the social and political life of the community, resulting not only in diminished material and non-material quality of life, but also in tempered life chances, choices and reduced citizenship.

Many authors conceptualize social exclusion by identifying dimensions or factors that characterize it. One of the most common factors associated with social exclusion is economic status, income level, or poverty, which is also closely tied to unemployment (J. R. Stanley, 2011). According to Stanley (2011, p.31) "unemployment is almost always included in the definition of social exclusion". Additionally, Allen & Farber (2019) highlight that employment is a key factor to reducing the risk of social exclusion. Although Kenyon et al. (2002) emphasise that social exclusion and poverty are separate concepts that can overlap. The non-income related dimensions identified in the literature include: access to social services, political engagement, social network, personal, living space, temporal, mobility, and participation in leisure (Kenyon et al., 2002; J. K. Stanley et al., 2011b; J. R. Stanley, 2011). Lucas (2012) highlights how factors of the individual, the structure of the local area, and the global or national economy interact to create conditions for social exclusion or inclusion.

2.2.2 Links to transport

There is an important body of literature linking transportation to social exclusion and its many dimensions. Mobility and transportation is very relevant to social exclusion as Kenyon et al. (2002, p.212) describe " The primary function of mobility is to give access. Where mobility is inadequate, access can be denied and exclusion can occur." (J.K Stanley et al., 2011a; J. K. Stanley et al., 2011b) describe the importance of trip making and mobility to promote social inclusion. A number of authors (Lucas, 2012; Yigitcanlar et al., 2019) have built upon Church et al.'s (2000) conceptual framework that links transport and social exclusion. This conceptual framework describes seven dimensions of transportation's impact on social exclusion. Theses are physical exclusion that can limit accessibility, geographic exclusion, exclusion from facilities such as schools or shops, economic exclusion for example through job access, time-based exclusion which also affects employment, fear-based exclusion, and space exclusion which can prevent certain groups from accessing spaces. Church et al. (2000) also importantly point out that all these factors are very interrelated. However, Lucas (2012) criticizes this model because it is not useful for targeted policy interventions and highlights accessibility and time-geography perspectives as methods of analysis to remediate this issue. Some authors have slight variations in their thematic breakdown of transport and social exclusion which are closely linked to the seven outlined by Church et al. (2002) (Yigitcanlar et al., 2019). Indeed, information

accessibility for transportation is another dimension identified by Yigitcanlar et al. (2019) in their literature review.

The literature has also established a connection between transportation and social capital which is closely related to social exclusion. Social capital includes elements such as networks, trust, and reciprocity in your community (J.K Stanley et al., 2011a). These can be measured, for example, through the frequency with which people keep in touch with their network. J.K Stanley et al. (2011a) found that trip making was important to social capital which can reduce the risk of social exclusion. They describe a significant association between social capital and mobility. Additionally, living in car-dependent environments has been associated with lower social capital. Lucas (2012)'s diagram illustrating how all these elements interacts is useful to conceptualize transport-related social exclusion (Figure 2.1).
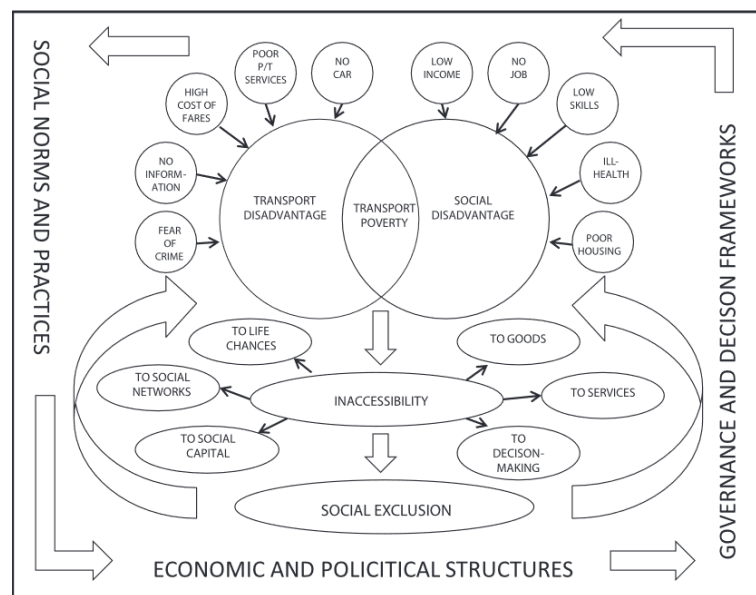
Figure 2.1 Relationship between transport disadvantage, social disadvantage, and social exclusion

2.3 Transport and Well-Being

Well-being is a less researched aspect of transport poverty that has been a growing topic in the literature over the last decade. Indeed, contrary to transport-related social exclusion, the impact of transport on well-being has not been fully understood (J. K. Stanley et al., 2011b) and Vella-Brodrick (2011, p.53) states that "Transport mobility is one such factor which has been largely overlooked by social scientists as being a conduit for well-being". The literature has mostly focused on travel satisfaction, travel behaviours, commuting, and mode choice when examining

well-being while little research has been done around transport poverty (Awaworyi Churchill &, 2019) This section defines well-being and its measures and outlies links between transport and well-being found in the literature.

2.3.1 Well-being

Vella-Brodrick (2011) describes how well-being is large and multifaceted which makes it hard to define. Still, common factors widely accepted and included in well-being are positive emotions, life satisfaction, life meaning, purpose and flourishing (Vella-Brodrick, 2011). The concept of subjective well-being (SWB) has been used in multiple studies to assess the impact of transport on well-being (Awaworyi Churchill & Smyth, 2019; J. K. Stanley et al., 2011b). Awaworyi Churchill & Smyth (2019, p.40) define subjective well-being as "judgments by an individual of his or her satisfaction with their life, feelings of happiness and sadness, as well as other negative and positive emotion" and used self-reported life satisfaction data as a proxy for subjective well-being. J.K Stanley et al. (2011b) use the Self-Determination theory and Ryff's (1989) framework which includes autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self acceptance to make links between subjective well-being and transport. Vella-Brodrick (2011, p. 46) also highlights these two understandings of well-being as being "prominent in the psychological literature". To measure this, J.K Stanley et al. (2011b) used the Personal Well-Being Index (PWI) that includes eight categories (standard of living, health, achieving in life, relationships, safety, community-connectedness, and future security) to assess on a Likert scale.

Well-being is a growing policy and research concern because it has been associated with a number of positive outcomes. These include: physical health, strong and positive personal relationships, improved productivity, engagement at work, increased sociability, better conflict resolution, development of skills, good mental health, and positive emotions (Awaworyi Churchill & Smyth, 2019; J. K Stanley et al., 2011a; Vella-Brodrick, 2011). Increased SWB is also beneficial to others around an individual through increased cooperation and charitability(Vella-Brodrick, 2011)

Important links between social exclusion and well-being have been made. In fact, J. K. Stanley et al. (2011b) includes social exclusion in well-being and have found that an individual's SWB measure through PWI is likely to increase if they have a lower risk of social exclusion.

Moreover, well-being and social exclusion have been studied together when exploring their links to transport (Currie et al., 2009; J. K. Stanley et al., 2011b)

2.3.2 Links to transport

A number of studies have found significant associations between subjective well-being and transport (Awaworyi Churchill & Smyth, 2019; Currie et al., 2009; J. K. Stanley et al., 2011b). For example, Awaworyi Churchill & Smyth (2019) found a negative association between transport poverty and SWB. Transport poverty can cause difficulties accessing employment, higher education, health services, social activities, social network which are associated with higher SWB (Awaworyi Churchill & Smyth, 2019). Transport unaffordability can also cause significant stress associated with reduced income to spend on other essentials (Awaworyi Churchill & Smyth, 2019). J. K. Stanley et al. (2011b) have found significant value added to well-being and social inclusion when making additional trips. This is also associated with higher participations in activities that help fulfill the dimensions of SWB outlined above. Transportation and mobility can also improved SWB through enabling more choices of when and where to go, providing the opportunity to meet others and maintain social bonds, building and exchanging necessary resources that can lead to achieving life-goals, reducing unemployment, increasing social interaction and community connectedness (Vella-Brodrick, 2011). Increased happiness can also lead to increase mobility which then contributes to well-being. Vella-Brodrick (2011, p.53) describes this as a "spiral of positivity".

2.5 Conclusion

In conclusion, there are clear consequences of transport poverty that directly or indirectly relate to social exclusion and well-being. While there is a significant body of literature on transport-related social exclusion and a developing scholarship on transport poverty, literature on well-being is still needed especially since it is of great importance to policy and research. Thus, my research aims to fill some of these gaps and to use qualitative methods to better contextualize these links and frameworks. Furthermore, I draw on this literature to frame my research and inform my methods and analysis.

CHAPTER 3: CONTEXT

3.1 Geographic context

This research takes Saint-Jean-Sur-Richelieu as a case study to investigate the lived experiences of transport poverty in a Montreal suburb. It is located in the Montérégie region on the South Shore of Montreal about 30 kilometres away from the Island of Montreal and 30 kilometres from the American boarder. It is the 11th largest city in Quebec with a population of 100 188(Ville de Saint-Jean-Sur-Richelieu, n.d.). While it is close to Montreal and surrounded by other suburbs, the city is not part of the Communauté métropolitaine de Montréal (CMM) and operates outside the Autorité régionale de transport métropolitain or the greater Montreal transit authority. It has a population density of 431.3 people per square kilometer compared to 4,833.5 people in Montreal (Statistics Canada, 2022). It has an average low-income percentage of 9.6 compared to Montreal's 17.4 (Statistics Canada, 2022)
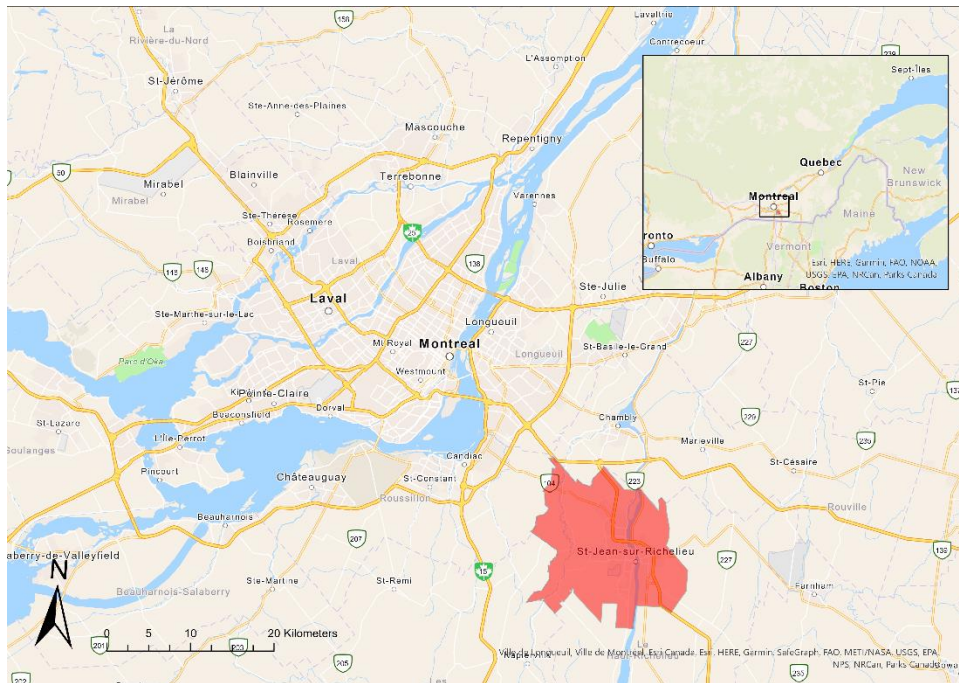
Map 3.1 Location of Saint-Jean-Sur-Richelieu

(Source: Partenariat Données Québec, 2023)

The city is comprised of 5 sectors (Saint-Jean-sur-Richelieu, Saint-Luc, Iberville, L'Acadie, and Saint-Athanase) that once were individual municipalities that merged together in 2001 to form

Saint-Jean-Sur-Richelieu (Ville de Saint-Jean-sur-Richelieu, n.d.). This created a large territory of 225 square kilometers. The Saint-Luc sector (in blue) on the northwest side of the city has seen recent development of residential homes and has higher incomes (see Map 3.3) In contrast. The Saint-Jean (in yellow) and Iberville (in red) sectors are older and comprise the historic centers of the city, including the historic military college, a symbol of its long military history. These sectors are also denser and have more commercial use than Saint-Luc (see Map 3.4). These three sectors are the most populus and where most of the public transit is located, the two other sectors Saint-Athanase (in green) and d'Acadie (in purple) are more rural.
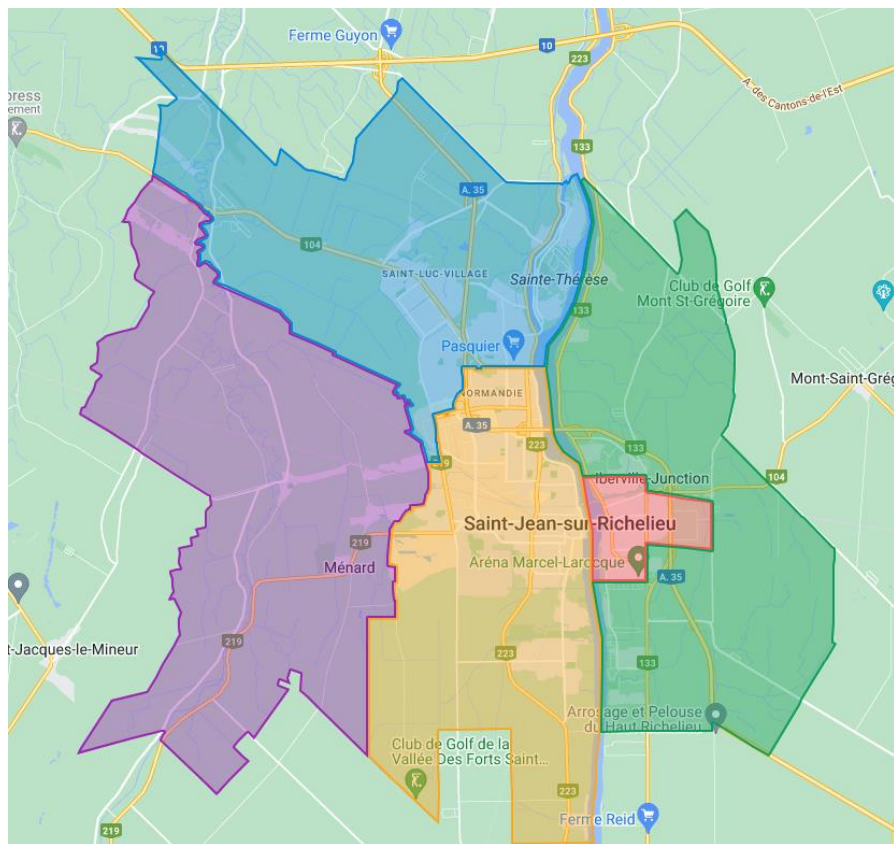
Map 3.2 Sectors of Saint-Jean-Sur-Richelieu

(Source: https://sjsr.ca/secteurs/)
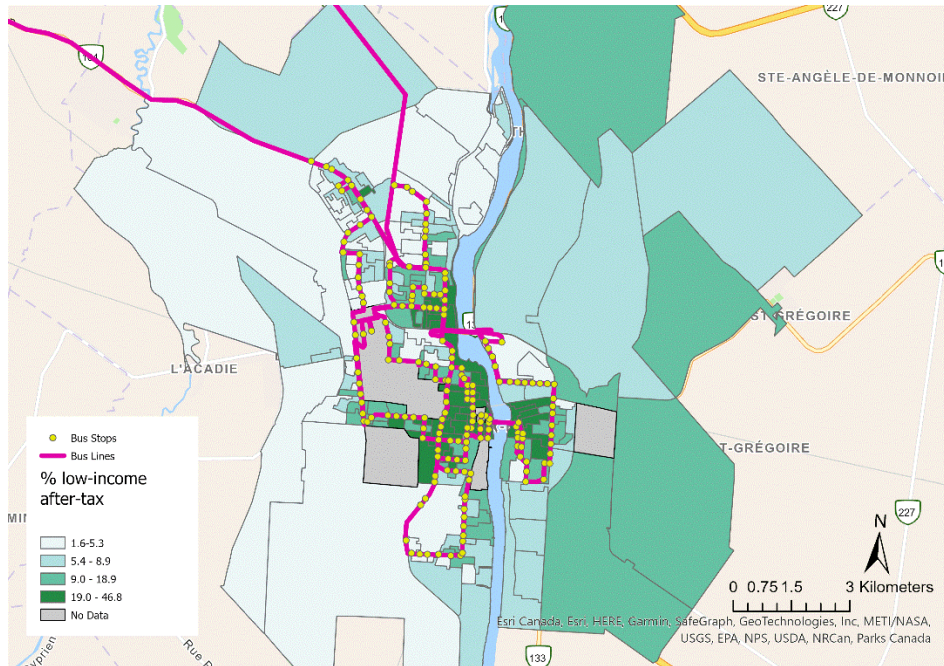
Map 3.3 Prevalence of low-income households based on the low-income measure, after tax

Data source: Statistics Canada, 2016 & Ville de Saint-Jean-Sur-Richelieu
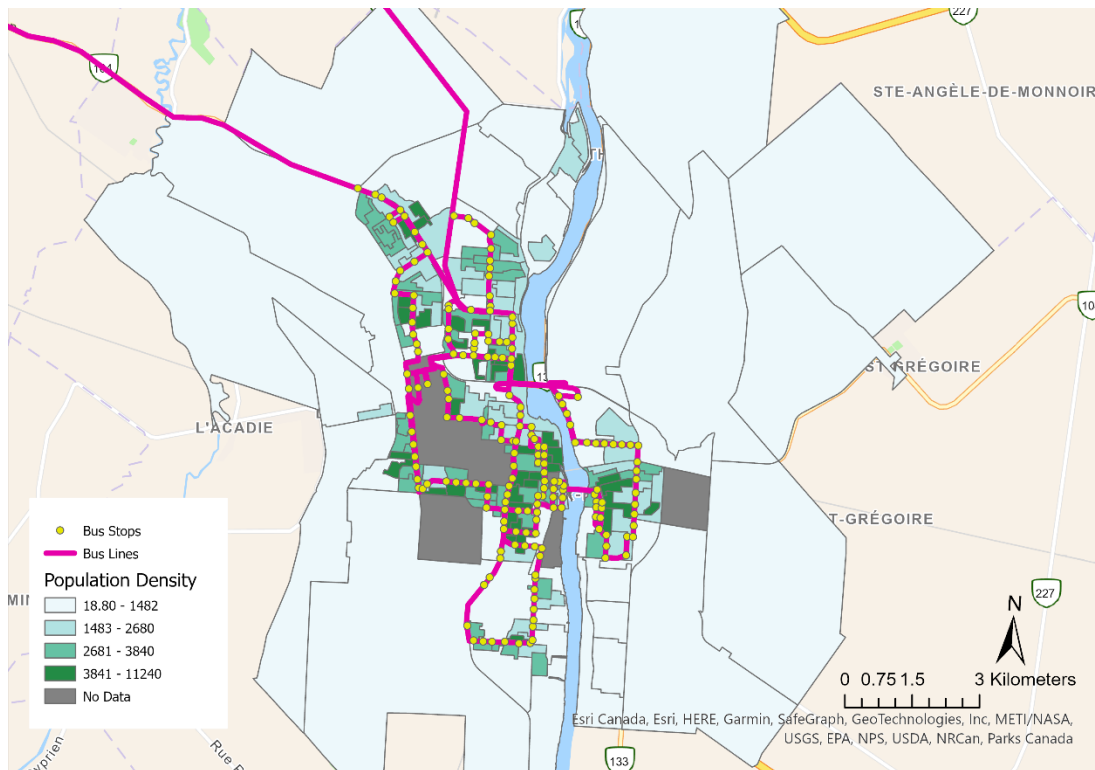
Map 3.4 Density per square kilometer

Data source: Statistics Canada, 2016 & Ville de Saint-Jean-Sur-Richelieu

3.2 Transportation

Saint-Jean-Sur-Richelieu has a transit service that includes buses, paratransit, and taxibuses. It operates it system differently than the Autorité régionale de transport métropolitain with its own fare and logistics system. The bus system comprises five bus routes with two almost overlapping ones in opposite directions that primarily serve the Saint-Luc, Saint-Jean, and Iberville sectors. There are also interurban lines that go to Montreal, Brossard, and La Prairie with four variations of the 96 lines. These nine individual bus routes combined generate 189 bus stops illustrated in Map 3.5 below. There are three fare zones numbered one through three with zone 1 being within the city's boundaries, zone 2 being within the South Shore and zone 3 going to Montreal. These fares are some of the most expensive in the Montreal region: single fare for zone 1 is $4.50, $7.25 for the South Shore, and $11.50 for Montreal. These fares have been revised and increased every January 1st. Therefore, the data and interviews collected for this research concerned the 2022 fares which were all $0.25 lower.

Saint-Jean-Sur-Richelieu's modal split for commuting is on average 85% for car and van drivers, 3.2% for car and van passengers, 5.5% for transit, 4.16% for walking, 1.01% for cycling, and 0.7% for other according to the 2016 census. The areas with the highest percentage of drivers are in Saint-Luc and Saint-Athanase with up 97% of commutes done by driving a car (see Map 3.6). On the other hand, use of transit is overall much lower in my case study and its use is mostly concentrated in the centre of the city in the Saint-Jean sector (see Map 3.7). Walking is also concentrated in the old Saint-Jean which is also an area of higher density (see Map 3.4). Thus, the great majority of commuting trips in my case study are done by cars or vans while only about 12.7 % are made with other modes. The areas with the fewer drivers and more people using transit or active transportation are also the dissemination areas with the highest percentage of people with low-income. This would make these areas more sensitive to transport poverty.
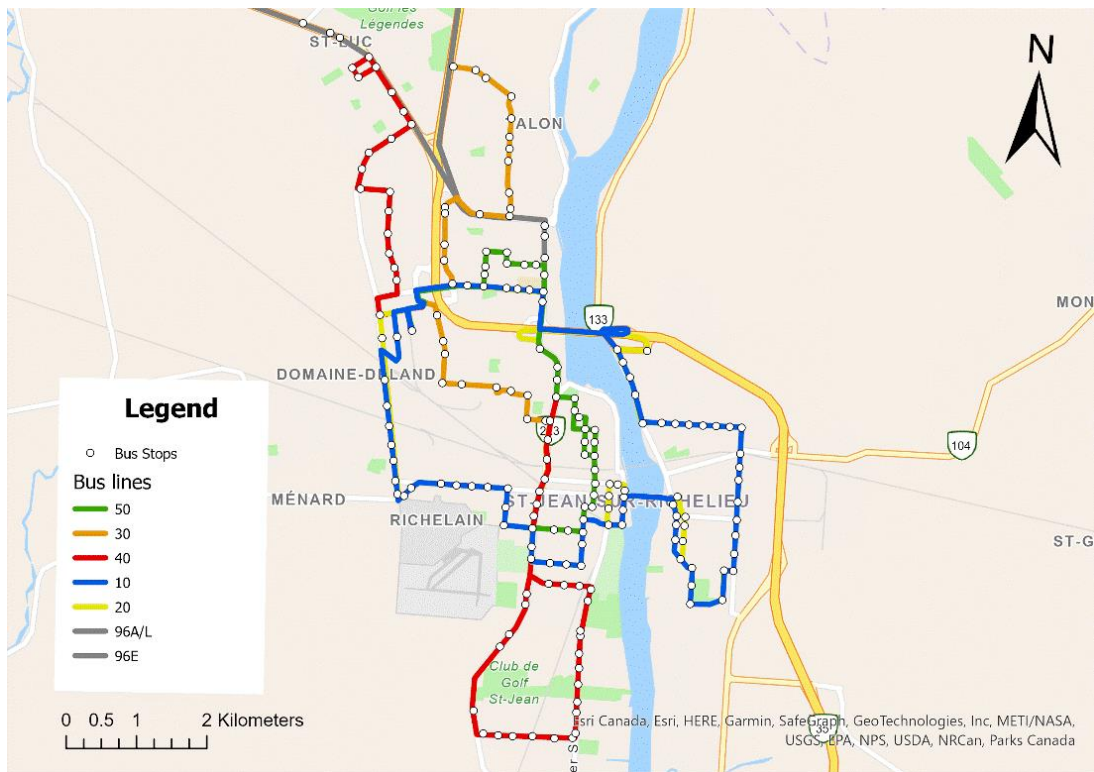
Map 3.5 Bus lines and bus stops of Saint-Jean-Sur-Richelieu
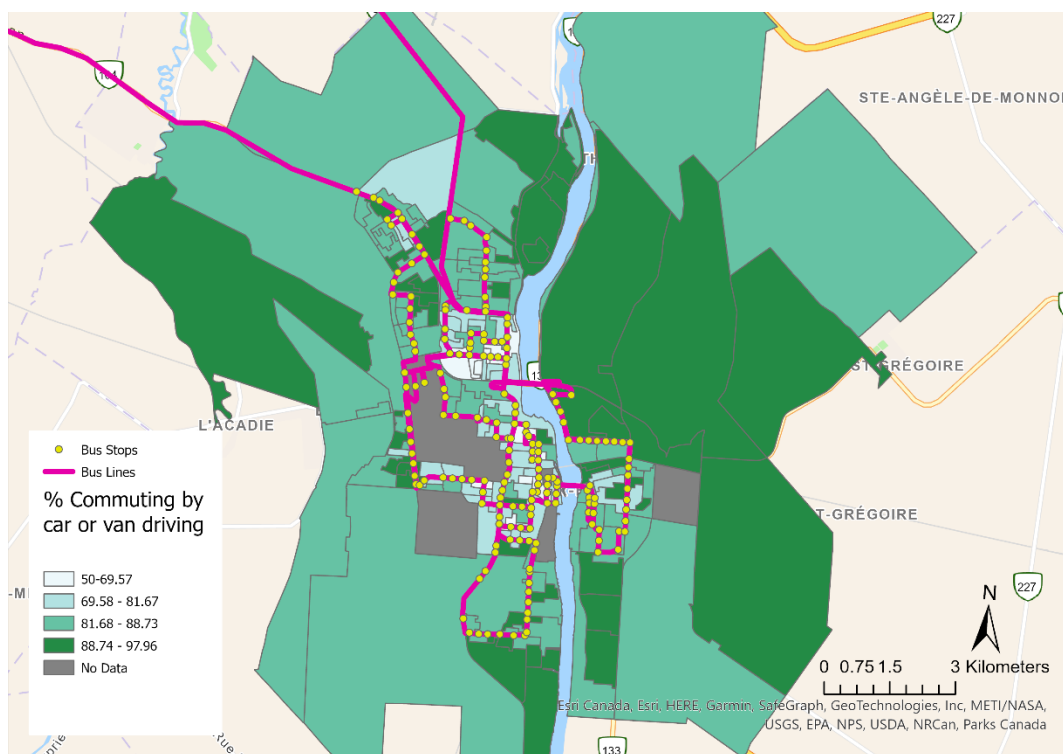
Map 3.6 Proportion of commuting by car of van driving

Data source: Statistics Canada, 2016 & Ville de Saint-Jean-Sur-Richelieu
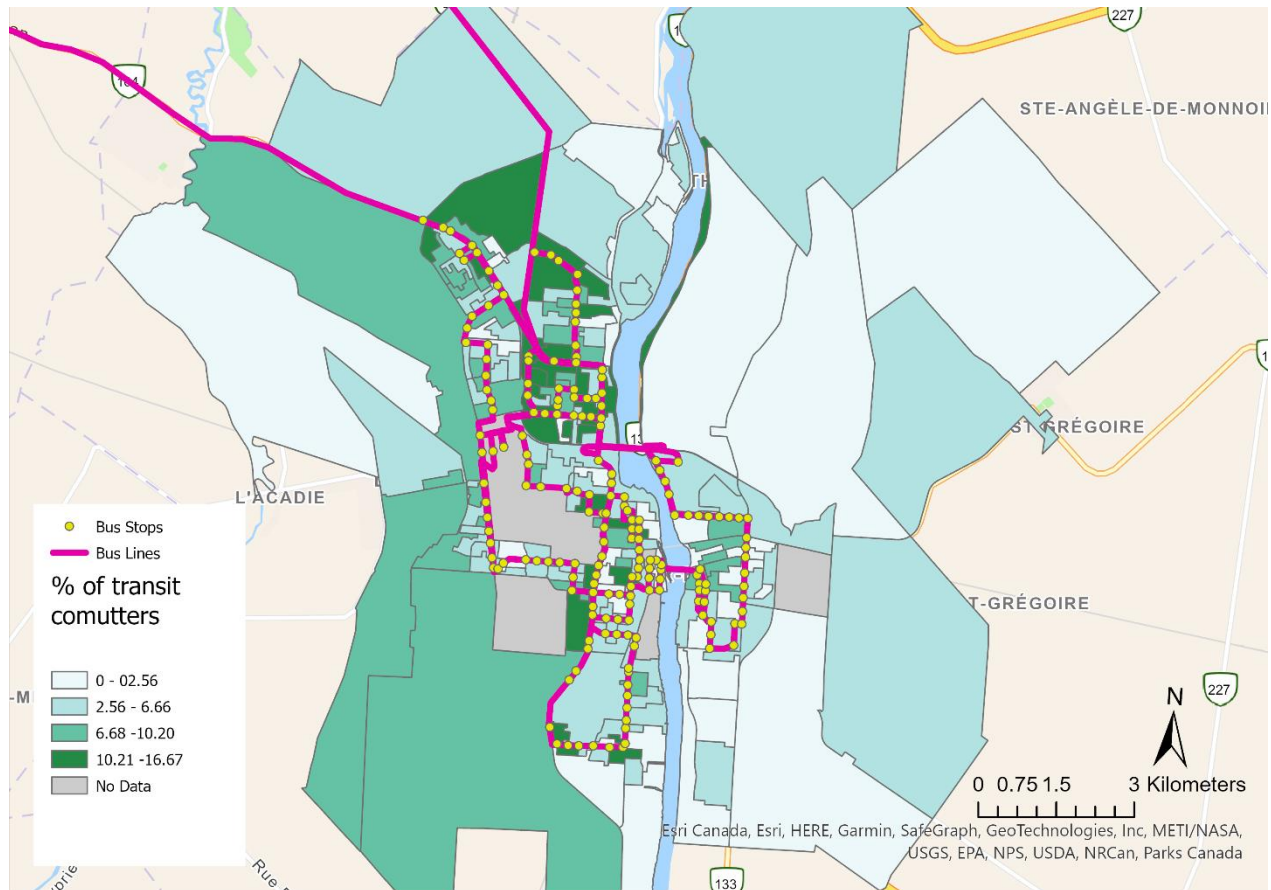
Map 3.6 Proportion of commuting by transit

Data source: Statistics Canada, 2016 & Ville de Saint-Jean-Sur-Richelieu

CHAPTER 4: METHODOLOGY

In this chapter, I outline the methodology that I used to complete my research. First, I describe how sampling and recruitment were conducted followed by an explanation of why my first method: semi-structured interviews was chosen and how it was conducted. Next, I discuss travel diaries and their usefulness in this case study and how participants were instructed to complete them. Subsequently, I detail how the analysis was conducted for both methods. Finally, I discuss my positionality and the considerations I took while conducting this research.

This case study consisted of qualitative methods which allowed me to gain more insight into people's lived experiences in transport poverty. Much of the literature focuses on quantifying or mapping transport poverty, thus, I seek to fill this gap in the literature with qualitative methods. Qualitative methods were used to gain a deeper understanding of the complexities of how people live and cope with transport poverty. The two methods that were used are travel diaries and semi-structured interviews.

Use of these qualitative methods required Research Ethics Board (REB) approval. The application for the REB was submitted on June 2nd, 2022 and was accepted on July 11th 2022. The REB file number is 22-06-009. All the data and interviews were collected in French. The REB application included both in-person an online interview method.

4.1 Sampling

Criterion sampling was used to interview specifically people living in transport poverty. Participants also needed to live in Saint-Jean-Richelieu, the case study site. This research only included adults in accordance with the regulations stipulated by REB-1 which I applied to. I recruited online through Facebook both with my own network and public Facebook groups specific to the Saint-Jean-Sur-Richelieu community. A Facebook post (see recruitment template Appendix A) was created outlining the details of the study in accordance with the REB's guidelines. I also conducted recruitment through my personal connections such as friends and through family. This was done both with the Facebook post previously mentioned and by word of mouth and through online messaging platforms such as Facebook Messenger. I was careful not to put pressure on friends and family to participate. To identify people living in transport

poverty, in my description of whom I was looking for I indicated people who self-assessed that they did not have access to adequate or affordable means of transportation (see recruitment template appendix A). This development of criteria was informed by literature and was written to be understandable by laypersons. Originally, this research also included participants who were in forced car ownership, thus the recruitment post also included this criterion. When contacting me, participants often included details about their transportation situation and if they did not or if it was not clear I would ask questions to ensure they met these criteria. Snowball sampling was also used; at the end of each interview, participants were asked if they knew people who would meet these criteria and be interested in participating. I emphasized that they were under no obligation to do this, and no pressure was put on participants.

4.2 Semi-structured interviews

Interviews were chosen because they allow for participants to tell their own experiences in their own words and allow for a deeper understanding and multilayered results (Valentine, 1997). Interviews also allowed me to gain more understanding of the motivations and feeling people had which I could not have achieved with a questionnaire or survey. Interviews are also a good choice because my research aims to investigate behaviours, for example travel patterns as well as motivations (Dunn, 2016). Semi-structured interviews lie between unstructured and structured interviews. Semi-structured interviews are a good method to explore the lived experiences of the participants as they allow a broader exploration of themes and conversations (Dunn, 2016). I chose semi-structured interviews over structured interviews to have more flexibility in the interviews to explore what the participants wanted to share. Semi-structured interviews also allowed me to build rapport with the participants, which was especially important due to the matter of the interviews which included personal experiences often depicting difficult situations. Structured interviews were not necessary because I did no rigid comparisons. An interview guide (Appendix B) was created with open-ended questions and subthemes that I wanted to ensure the participants touched on. The open-ended questions in the semi-structured interviews also gave more opportunities for participants to speak on the topics that were most important to them or ones I did not include in my interview guide.

I conducted a total of nine interviews, six online and three in person. These interviews lasted between 25 minutes and 45 minutes. Participants were asked to digitally sign the consent form (Appendix C) prior to the online interview and those who participated in person were asked to read and sign before starting. Firstly, I asked a series of short questionnaire-type questions (Appendix D) to assess their demographic background, for example their age, employment, and what neighborhood they live in, which could potentially affect their experience. Next, I used a guide of open-ended questions and themes to have a conversational interview about the participant's lived experience. The interview guide (Appendix B) was crafted to allow the participants to explain in depth what their experiences and opinions are. Thus, the questions remained broad to let the participants touch on what was important to them. Occasionally, the participants asked for clarifications or more specific questions. The guide also contains themes found in the literature, for example forgone trips. I remained flexible in the interview and follow-up questions were asked for clarification or when a participant brought up something new. Some questions were not asked if the participant had answered indirectly by answering a different one. The order of the questions and themes also varied according to what the participants wanted to touch on and how they described their experiences.

Participants were asked in the consent form if they consented to audio recording of the interview. All participants agreed. Seven interviews were recorded through the Teams software which provides a transcription in French. Two additional interviews were recorded on the student's phone which does not provide a transcription. Those were transcribed manually, while the transcripts provided by Teams were simply corrected. Once the interviews were transcribed and corrected all audio recordings were erased as per the REB application and consent form.

4.3 Travel diaries

The second method that was used is travel diaries. Diaries are a collection of notes about an aspect of a participant's life that are taken systematically for a specific period (Latham, 2014). Travel diaries focus on travel behaviours such as trips, mode, destinations, etc. (Prelipcean et al., 2018). They are "used to study how and when people move about cities." (Latham, 2014 p.99). Diaries are useful in urban research because they offer a view into everyday life and rhythms of urban life that only interviews cannot achieve (Latham, 2014). They are useful to document

mundane activities such as commuting which can be hard to recall. Thus, travel diaries were used to complement the interviews by gathering data difficult to obtain solely through interviews and by using them to help participants recall and reflect on seemingly mundane activities like transit. This research utilizes memory-based travel diaries and not automated diaries that are more costly and require software (Prelipcean et al., 2018).

The sample of the travel diaries was collected from the interview participants. Around half of interviewees (four) completed a memory-based travel diary either electronically or written manually prior to the interview. Participants were given instructions and asked to record all their trips for a day that represented a typical day in their life including general destinations, mode, time, and wait time (see appendix E). According to Latham (2014, p.104) travel diaries for a single day is sufficient "for high-quality quantitative analysis without placing an onerous burden on research respondents". Travel diary participants were also asked to sign another consent form (see appendix F) in addition to the one for the interviews. The participants were also asked in the interview to review and explain their travel diaries (see interview guide appendix B) to gain more insight in their day-to-day travel behaviours.

4.4 Analysis

4.4.1 Interviews

Analysis for the interviews was done using thematic coding (Auerbach & Silverstein, 2003). A codebook was developed using both deductive and inductive codes. Deductive codes were created using literature described above around previously identified consequences and coping mechanisms of transport poverty. Inductive codes were also created based on the themes present in the interviews such as Coren et al. (2022) have done. Larger group codes were identified to help categorize codes to better answer each of my research questions.

4.4.2 Travel diaries and tables

Participants submitted varied formats of travel diaries; some submitted a table while others submitted written paragraphs. While four interviewees completed a travel diary, the remaining participants (five) were asked a series of questions regarding their regular transportation behaviours in lieu of a formal travel diary (see interview guide appendix B). To simplify the

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data, I combined travel diary data and oral descriptions of travel behaviour from the interviews in a table along with descriptive variables of participants (see table 5.1). This table was then used in the analysis to contextualize participants' descriptions but was not sufficient to complement the interviews in the analysis itself.

4.5 Cartography

I created several maps to represent the context of the case study visually and geographically. I created my own shapefile of the bus routes and bus stops in Saint-Jean-Sur-Richelieu using ArcGis Pro based on the city's website (Ville de Saint-Jean-Sur-Richelieu, n.d.). I also used Statistics Canada 2016 census data obtained from the CHASS Data Center to illustrate mode split and low-income percentage by dissemination area.

4.6 Positionality

As a researcher, it is important to reflect on my positionality and the effect it will have on my interviewees and research. Although, when conducting interviews, I was a resident of Saint-Jean-Sur-Richelieu without a car and experiencing transport difficulties myself, I still benefited from privileges and was not living with low-income. This could have put me in a position of power over my participants. To avoid making my participants feel uncomfortable, I tried to put myself at an equal level to them and discussed some of my own experiences. I tried to be sensitive and compassionate when participants discussed difficult situations to make the interviews as comfortable as possible. While being an outsider, to a certain extent, I was careful to let interviewees discuss their experiences in as much detail as they wanted, and I did not impose my own view on what they were discussing. Since I am familiar with my case study, I was also able to relate to my interviewees about certain specifics. I used this as common ground to build rapport and stayed away from asking leading questions based on my own experiences and biases. However, my familiarity with the subject was useful when I was able to ask for better clarifications on specific bus routes or street names for example.

Furthermore, my positionality regarding my participants themselves is important. As explained above in sampling, some of my recruitment was done through friends and family. Thus, I knew some of my interviewees. I was especially careful to not put additional pressure on them to participate and explained that they could refuse to answer any questions just like all other participants. In the interviews, I also was careful when recording not to bring up anything

personal that would not be relevant to this study. These participants were interviewed in the same professional manner that other participants were, following the same procedures.

My positionality and biases can also impact my results and conclusions. Because I have experienced transportation difficulties in my case study, I was careful to not look for my own experience in the data. My positionality could make me expect certain answers from participants. To control this, I emphasized in the interviews that they could explain how they did not experience something and made sure to include these in the analysis chapter.

4.7 Conclusion

In this chapter, I have outlined my sampling methodology, my two methods: semi-structured interviews and travel diaries, their analysis method: coding, and my positionality as a researcher. This chapter describes the necessary methodological information to be able to contextualize the analysis and conclusions addressed in the following chapters.

CHAPTER 5: ANALYSIS

5.1 Introduction

This chapter aims to address my three research questions through an analysis of the nine conducted interviews that were thematically coded. The first section establishes the necessary context of participant's transport poverty and establishes their difficulties with different travel modes. The next sections each seek to address my research questions that are:

1. What are the consequences of living in transport poverty on people's daily lives?

2. What are the travel behaviours, if any, used to cope with transport poverty?

3. Does transport poverty affect social exclusions and well-being? If so, in what ways?

The interview data is presented through various themes and repeating ideas found through the interviews.

The sample consisted of people of various background with around half (five) the participants being under 25 years old and students or recently were students. Eight participants had lived in the Saint-Jean sector while one lived in the Saint-Luc sector. These eight participants lived in the areas at risk of transport poverty that have high transit use and high percentage of low-income households identified in Chapter 3. Seven participants did not own a car and two did. Table 5.1 outlines participants' characteristics and typical daily travel.

Table 5.1 Participants' characteristics

Participant	Age	Gender	Occupation	Household composition	Sector	Years lived in St-Jean	Consistent travel pattern	Mode(s) used	Time of commute	Number of Trips per day	Peak hour travel	Car ownership
Denis	38	Man	Warehouse worker	1 Adult	Saint-Jean	16	Yes	Bus, taxi, cycling	2 hours	2	Yes	No
Martine	46	Woman	Unemployed	1 adult, 2 children	Saint-Jean	4	no	Car, Taxi	N/A	N/A	N/A	Yes
Antoine	22	Man	Medical staff assistant (recently stopped school in Montreal)	4 adults	Saint-Jean	22	Yes	Walking, bus, taxi	45 minutes to 1 hour	2	Yes	No
Amanda	18	Woman	Student (in Montreal)	4 adults	Saint-Luc	17	Yes	Bus, metro, walking, car	1.5 hour	6	Yes	No
Jeanne	49	Woman	Bookseller	4 adults	Saint-Jean	28 years	Yes	Walking, bus, lifts	45 minutes	2	Yes	No
Mathieu	23	Man	Student (in Saint-Jean)	2 adults	Saint-Jean	0.25 (2 months)	Yes	Walk, taxi, bus	30 mins	2-4	Yes	No
Émilie	25	Woman	Student (in Montreal)	2 adults	Saint-Jean	25	Yes	Walk, bus, metro, cycling, lifts by car	1.5 hour	2	Both	No
Samuel	24	Man	Student (in Montreal)	6 adults	Saint-Jean	20	Yes	Bus, walking, car, car, lifts	1 hour	2-4	Yes	No
Jean-Pierre	89	Man	Retired	2 adults	Saint-Jean	2	yes	Paratransit and lifts by car	15 mins (1 hour wait time)	2	No	Yes

5.2 Transport poverty among participants

Considering the broad definitions and sub-concepts of transport poverty identified in the literature review, this section reviews the main difficulties and concepts of transport poverty experienced by the nine participants. This also highlights the main transport challenges in Saint-Jean-Sur-Richelieu. This section is divided into the three sub-concepts of transport poverty defined by Lucas et al. (2016): transport affordability, mobility poverty, and accessibility poverty.

5.2.1 Transport affordability

The most common difficulty among participants was the cost of travel. Six out of the nine participants described high cost as a barrier to their mobility. The cost of bus and metro fare was an important obstacle to their mobility. Denis described having to budget for transit and in some cases not being able to afford the bus at all and missing work.

> Tu sais j'ai pas le choix l'autobus, je n'ai pas le choix de le payer le 4.25$ mais là je vais m'arranger toujours avec mon budget. Je suis payé aux deux semaines aussi. [Donc]

si je ne regarde pas mes affaires je suis dans la merde ça m'est déjà arrivé de pas rentrer travailler deux jours parce que deux jours après c'est jeudi. Pas d'argent [donc] je ne travaille pas j'attends que le temps passe là. C'est arrivé deux fois parce que j'ai pas regarder mes affaires comme du monde.

He is also planning to buy a car in the next few months because of all the added costs of his commute that also include other fares in a different transit authority. Others also spoke out about the high and rising prices of the bus particularly of the interurban bus going to Montreal. Antoine, who used to study in Montreal and often goes for social activities described the high costs:

Mais ça augmente tout le temps (…), mettons l'inflation et toute la, mais ça augmente vraiment tout le temps. Puis là c'est rendu 11.25$ aller voir mes amis une journée, c'est en tout 3h de temps plus 22.50[$].

Interviewees also expressed how the compound costs of local and interurban buses combined with the additional metro or buses within a different transit authority added up to large sums that they had difficulty affording.

While most participants did not own a car and used transit as their main mode of transport, the one participant who used her own vehicle as her primary mode also expressed spending an enormous amount of money on transportation stating that it was higher than her mortgage. Martine explained "Mais j'ai pas de chiffres pour te dire combien ça a de l'impact, mais je te dirais que ma voiture plus le reste, ça me coûte plus cher que mon hypothèque." The high cost of cars was also one of the main reasons participants did not have cars yet, especially for students. Some were saving up to eventually buy a car later but were already struggling with the cost of transit.

Participants also highlighted the high costs of taxis which are often used as a coping mechanism to transport poverty, which is discussed in section 2.4. Martine who often had to complement her car usage with taxis because of her health conditions highlighted the rising prices of taxis: "Tu parlais de la voiture, mais moi je te parle du taxi là, mais on… on a fait le saut là, c'était c'est impressionnant comment ça l'a augmenté (…) ça a plus que doublé là. " Avoiding taxis all together because of the high cost was very common across participants both with students and non-students. Transport affordability is thus a significant issue within the sample where even the coping mechanisms were also very costly, further exacerbating their difficulties.

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5.2.3 Mobility poverty

Restrained mobility was also an important challenge faced by the participants. Their ability to travel and be mobile was also heavily influenced by the transit system present in Saint-Jean-Sur-Richelieu. Transit scheduling was a reoccurring issue participants had which limited their ability to travel at certain times. Multiple participants reported that the bus schedule did not meet their needs and noted that buses in Saint-Jean-Sur-Richelieu only ran during the day and stopped early in the evening, significantly limiting their mobility. Two participants described difficulties getting to the bus terminus from the interurban line in the evening and not being able to take a bus back home because their service had stopped. Antoine said "Ils finissent de passer à peu près à 10h mais à partir de 10h la fin de semaine, c'est sûr que tu marches ou tu prends un taxi parce que tu trouveras pas de bus fait que j'aurais aimé que les horaires ça se concorde un peu entre les 2". Samuel echoed those thoughts "Faut que tu planifies, mais tu peux y aller. Le problème c'est quand tu veux revenir d'un soir, Ben là t'es mort, tu trouves, il faut que tu reviennes soit vraiment tôt. (…) si tu veux tu peux prendre le bus de soir c'est (…) impossible." For some participants, the frequency and scheduling of buses was a major issue. The frequency of buses, which was for some participants every hour or two, severely limited and complicated their mobility. For Mathieu, who lives close to the CEGEP where many lines intersect, the bus schedule limited him a lot because they were all scheduled to pass at the same time and had very limited service outside that time. He says "Et en fait, je crois qu'il y a 4 lignes d'autobus et les 4 lignes autobus arrivent à peu près en même temps. Si je manque un bus, mais j'ai manqué les autres bus."

For some, physical ability was also a great mobility challenge. Martine described often not being able to drive or take other forms of transportation like buses because of her health condition. This made her have to often take expensive taxis and have a more expensive car suited to her needs thus making transportation unaffordable. Jean-Pierre at 89 also has a deteriorating health condition which has severely limited his ability to drive and his mobility. He also described accessibility to his paratransit hard because of the waiting conditions at the hospital. Jeanne also had difficulties getting to the stop because of a long walk and lack of a bus shelter which was harsh in the winters. Thus, even accessing modes that provide more mobility is a challenge.

5.2.4 Accessibility poverty

Not only is mobility a challenge but accessibility poverty or lacking access to important destinations within a reasonable time, ease, and cost is also experienced by participants in this case study. A great barrier to accessibility in Saint-Jean-Sur-Richelieu is the bus route. Many participants felt that there is not a bus route that meets their daily needs, and this limited their access to certain destinations. Certain neighborhoods are harder to access through transit and participants expressed simply not being able to go to these neighborhoods. Jeanne even described going to Iberville, on the other side of the Richelieu river, as a "projet de vie". Most of the identified insufficient bus routes were the ones located in the suburb itself. Additionally, participants access to destinations was hindered by long travel times with the bus even along very short distances within the city. Amanda described her bus rout to her local gym as unnecessarily long "Metton l'autre fois je voulais aller au gym, j'avais pas accès à l'auto. Okay? J'ai regardé le bus ça prenait 45 min aller au gym (..) en auto c'est 10 minutes. ". Antoine had a similar experience when going to work at the hospital "… en en gros là moi j'habite à peut-être 15 min de char de de l'hôpital (…) Puis, au final, je faisais 45 min de transport."

Accessibility difficulties to destinations outside of Saint-Jean-Sur-Richelieu were more focused on the long travel and delays. Émilie, a student at a Montreal university, has to travel 3h a day to simply go to school:

> " je compte à peu près que par jour, je reste environ 3h dans les transports en commun. Parce que c'est au moins 1h00 d'autobus après ça à peu près 15 minutes de marche métro, c'est matin soir peut être un 3 heures effectué, un 12 heures à la fin de ma semaine."

In sum, it is clear that transport poverty is present in Saint-Jean-Sur-Richelieu and that these study participants experience a multitude of difficulties under transport affordability, mobility poverty, and accessibility poverty.

5.3 Consequences of transport poverty

This section presents the findings to my first research question: What are the consequences of living in transport poverty on people's daily lives? The main consequences among participants were forgone trips and missed opportunities, reduced spending, lost time, and forced car ownership.

5.3.1 Forgone trips and missed opportunities

The most significant consequence of transport poverty among participants were forgone trips and missed opportunities. This theme was present in all nine interviews. Participants described not being able to go to certain destinations or deciding to forgo trips because of the difficulties described in the previous section. A common experience among participants was that they felt discouraged to make trips. Jeanne often decides not to go downtown or old Saint-Jean-Sur-Richelieu because the transit options, particularly the bus route, makes it too difficult for her

> Fait que ça, j'avoue que c'est un éteignoir. Tu sais, avant, j'allais souvent dans le centre-ville. Là, j'y vais pas. Si j'ai, si je dois prendre l'autobus, c'est plus compliqué. Ça m'a ça ça, ça peut m'empêcher d'y aller. Oui, parce que je suis rendu paresseuse.

Mathieu describes feeling constrained and wishing he had more mobilty to do activities "Ça me restreins à peut-être sortir un peu plus parce que je sais que je trouverai pas de bus. Donc, la plupart du temps, je reste chez moi." Antoine had a very similar experience

> Il y avait des journées, je restais à la maison mais qu'en vrai c'était juste parce que j'avais pas le goût de prendre le bus pour aller faire une activité que je voulais faire. Là, c'était, j'étais trop, c'est comme tu sais-je vais perdre 4h en tout, là tu sais, puis c'est pas des blagues.

Martine experienced such high difficulties that she was not even able to get proper groceries "il va me manquer quelque chose. Il va manquer du pain. Il va me manquer ci, il va manquer ça, puis j'irai pas."

Participants felt very constrained by their transit options which reduced their mobility and impacted their opportunities and trip making. Antoine even described the bus as shaping his whole existence " j'ai l'impression que le réseau de Saint-Jean a façonné mon existence dans la mesure, parce que toute ma vie s'est basé sur la ligne rouge." Amanda had a similar experience "il faut vraiment que je me fie à ça genre faut que je base toute ma journée avec l'horaire du bus".

The other main consequences closely related to forgone trips is missing opportunities and events because of transport poverty. Amanda missed a number of evening opportunities because she could not access adequate transportation.

> J'aime beaucoup aller à des concerts c'est surtout à Montréal, mais le problème, c'est que les concerts, il finit souvent tard, [donc] le truc, c'est que genre, vu que c'est tard,

y'a pas beaucoup de bus qui se rendent en banlieue aussi tard. (..) faut que tu cours pour te rends ton bus que si tu le manques faut que tu te trouves une autre, une autre alternative pour te rendre à la maison mais à une certaine heure y a plus d'autre alternative. Il y a beaucoup de truc. Ah j'ai pas le goût d'aller genre je sais que genre je peux manquer un bus genre il y a beaucoup d'évènements. J'aimerais ça y aller, mais genre je peux pas à cause que comme. Il a pas assez de bus

This was also an issue for Martine who could not go to medical appointments because of her disability and lack of transport options.

Missing work and school because of a lack of adequate transport options was a reoccurring experience in the student interviews. Missing classes or having to leave early was a common occurrence to deal with buses, in particular their scheduling. Samuel said he left classes early to make sure to catch the bus and to not have to wait an hour "je dois sortir plus tôt mettons d'un cours un 10 min plus tôt pour éviter d'attendre d'une demi-heure ou 1h". Transport poverty even impacted the overall education of Antoine who said the long transport time and lack of sleep was a major reason why he stopped going to school which was located in Montreal "Ça a été une des raisons majeures pour laquelle j'ai lâché l'école à ce moment-là, parce que c'était…j'avais juste pas de sommeil. J'avais j'avais juste pas de sommeil, ça, ça m'a, ça fonctionnait pas."

Another consequence of transport poverty present among my sample is limited access to job markets and limited work. Mathieu who is a student looking for a job, refused a job offer because of the transit available did not meet his needs "Vu que ça, le bus passe pas assez souvent que c'est quand même un bon peut-être 30-35 min en bus. Et vu que le bus passe pas assez souvent, mais ça m'a un peu découragé donc, j'ai refusé l'emploi." Jeanne also refused a job in Montreal because she didn't want to spend 3 hours in the bus everyday. Amanda also cannot access jobs in Brossard or Montreal because she does not have viable transport options "aussi dans le fond vu que j'ai pas d'auto, faut vraiment que je reste près de la maison mais on va dire genre le bus passe plus souvent, j'aurais pas ce problème la genre, je pourrais travailler comme à Brossard, Montréal, ce que je veux vraiment faire en ce moment." Participants also faced challenges in accessing their current jobs. Denis had to miss some days of work because he could no longer afford the transit fares before his next paycheck. Amanda expressed how the time she spends on transit reduces the time she can spend working which reduces her income "ça me coûte genre des journées que genre je pourrais travailler". Émilie who also studies in

Montreal explained how she might have to quit one of her jobs because of the time spent in transport

> Oui en fait ça va impacter justement parce qu'il faut que je monte 4 fois à l'université. J'abandonne un de mes 2 emplois. Probablement qu'il va falloir que j'en laisse tomber parce que là je vois pas tu sais, c'est 12h de mon temps donc c'est beaucoup de de temps qui est comme on pourrait dire perdu parce que c'était dans l'autobus et puis fait que c'est ça donc je vais peut-être devoir laisser passer un emploi, puis il revenir en en janvier prochain.

5.3.4 Reduced spending

Not only does transport poverty impact one's income through missed employment opportunities or work hours, but it also reduced one's remaining budget because of the high costs. Many participants had to cut costs elsewhere. Denis explained how he would try to reduce his consumption especially at the grocery store but had difficulty affording food because of the rising prices.

> Va falloir à un moment donné que mon boss me donne 25$ de l'heure et je vais pas être pas capable de l'avoir le 25$ de l'heure (…) C'est au niveau des consommations quand je vais à l'épicerie. C'est plus là-dedans que je vais couper que je vais faire ben attention

Martine also had to cut spending on other parts of the budget. She noted not being able to do as many activities with her children and not going on vacations but instead going camping.

> "Puis puis nécessairement, ça a un impact financier. C'est présentement en tout cas, moi, je suis pas dans le dans le luxe, tu sais je suis dans le besoin. Là on a besoin de manger, on a besoin de payer nos affaires (…) nos vacances, c'est le camping."

To try to deal with the high transportation costs some participants resorted to working more. Émilie said

> (…) j'essaie de travailler beaucoup pour essayer de compenser, parce que euh. Coupler le transport de Saint Jean plus Montréal, c'est à peu près 150$ si je me trompe pas au total fait…mais oui c'est je trouve, c'est quand même cher là 96,00$ pour l'autobus

5.3.4 Lost time

Participants also experience a lack of available time for other activities and rest due to the long amount of time spend travelling and dealing with scheduling. Seven of the nine participants reported experiencing some type of lack of time. Participants described having to leave home

early and get home late which resulted in a lack of sleep and rest time. This even took away time for daily activities like cooking for Denis who often would order food when coming home late. Lack of time in the morning lead to many participants, especially those commuting by bus outside city, having to wake very early, reducing their sleep. Participants often described their travel time as "lost" time or "perdu" in French. For Émilie, the time spent in the bus reduces the time she has to study:

> "Puis aussi, ça impacte aussi mon temps d'étude, parce que veux veux pas je compte à peu près que par jour, je reste environ 3h dans les transports en commun. Parce que c'est au moins 1h00 de autobus après ça à peu près 15 Min de marche métro, c'est matin soir peut être un 3h00 effectué un 12h à la fin de ma semaine."

For Jean-Pierre, the delays and waiting time related to his adapted transport led to his medical appointment being five hours instead of four which is time he could have used to rest at home with his wife.

5.3.5. *Forced car ownership*

While forced car ownership is often included in the definition of transport poverty, I found that many participants were about to be forced car owners as a consequence of transport poverty. While most participants did not own cars, many thought that it was very difficult to be mobile and live in Saint-Jean-Sur-Richelieu without owning a car. This echoes some of the criteria and the findings in the literature on forced car ownership (FCO). Amanda, a student saving up to buy a car, described the lack of transit options in the suburbs:

> Vu qu'on habite loin. C'est tout le temps mieux d'avoir une auto genre on va dire une auto tu en a pas de besoin en ville. Pourquoi? Parce que genre t'as accès au Bixi t'as accès au métro, accès au bus, t'a vraiment accès à tout, mais nous ici genre on a pas genre on a pas de métro, on n'a pas comme de truc de même en banlieue c'est plus facile d'avoir une auto que en ville, (…) je me sens genre obligé comme ok mais comme si je veux faire quelque chose, j'ai besoin d'une auto.

Denis is also getting a car and drivers licence before as he says, "I go crazy". This will allow him to see his mother more often and reduce his long commute which currently consists of three buses and two hours as opposed to a 30-minute car ride. He is also being pushed to buy a car because his transit and taxi expenses are very high. Mathieu who only moved to Saint-Jean-Sur-Richelieu two months prior to the interview said he is working more to buy a car to get out of transport poverty "Mais là, j'ai recommencé à travailler pour pouvoir me payer une voiture pour cet été parce que il me reste 2 ans. Je crois pas que je pourrais faire ça pendant 2 ans." Émilie

who can currently take the bus to her university in Montreal said she already knows that she will have to buy a car as soon as she graduates to be able to get a job.

Other participants also described Saint-Jean-Sur-Richelieu as a city where owning a car is the most convenient mode that you can take without being frustrated. Jeanne when describing the inconvenient bus route and schedule said "J'imagine que quelqu'un qui reste à Iberville qui va dans Saint Eugène d'après moi il prend son permis de conduire." because there are no adequate options to travel between these neighborhoods only a 10 minute drive from each other. Participants also felt that if they had a car their opportunities and mobility would drastically increase. Denis said "certain que ça va tout changer je vais pouvoir aller voir ma mère ça va prendre 30 minutes au lieu de prendre 3h". Amanda also said it would increase her opportunities to see friends, go to events and give her more liberty to leave and come back whenever she wanted.

5.4 Coping mechanisms and travel behaviours

5.4.1 Planning ahead

Many participants had to resort to planning ahead as a coping mechanism to be able to do as much as their daily activities while living with transport poverty. This was often the overarching strategy that participants used that some combined with other strategies described below. This coping strategy was mostly used to get around the difficulties associated with transit especially with its scheduling. Participants would often change their plans to have better transit options or plan around the transit by making sur they had some other means available. Amanda said she would ask her friends to change plans to make access to buses easier "…ouais, genre à place d'aller souper. Je m'en vais tout le temps diner avec mes amis à Montréal vu qu'à souper, je sais que je vais finir tard. Puis comme je veux pas revenir tard à la maison". Participants would also change the days they were planning to do errands and activities and planning them when there was a better transit schedule such as on weekdays. Mathieu said "J'essaie de prioriser la semaine et non la fin de semaine vu que le bus passent pas vraiment la fin de semaine, puis que les magasins ferment à environ à 5h, puis les bus à 7h, C'est fini, [donc] j'essaye de prioriser la semaine." Émilie and Jeanne would push their plans to when they would have access to a lift or a car to avoid having to use transit. Émilie said "je veux juste simplement reporter ou essayer de voir avec quelqu'un d'autre si je peux avoir du transport par voiture au lieu d'utiliser l'autobus."

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Samuel would often plan activities with his friends a week in advance, stating that planning is the key, to make sure they had a way to get back home which he described as a headache

> "…ça donne mal à la tête, faut que tu réfléchisses un peu, il faut que c'est comme je te dis, là c'est vraiment la planification, c'est la clé si tu veux t'en sortir, c'est c'est juste de savoir quel autobus tu vas prendre, est ce que t'as, est-ce que tu peux te permettre de le manquer ou pas?"

5.4.2 Cycling and walking

Participants used walking and cycling to cope with the lack of other available options. Participants often resorted to active transportation because there was no transit available or because it would have been too long. While active transportation is considered desirable because of its numerous health and environmental benefits, participants had to walk or cycle in unwelcoming environments over very long distances because they had no other options available. Émilie described having to walk 40 minutes to get to a medical appointment:

> …les autobus, il passe à peu près aux heures. Ça complique un peu les choses. Puis même une fois (…). Je devais aller à un rendez-vous dans une clinique médicale. Il y avait aucun autobus qui passait devant ma clinique, donc j'ai pris l'autobus qui se rendait le plus près. Puis j'ai marché à peu près 40 minutes pour me rendre.

Antoine had to walk great distances to work because there were no buses available, and taxis were too expensive "Puis le taxi je trouve ça coûte cher. C'est sûr que j'aurais pu dépenser pour un taxi, mais je décidais de marcher jusqu'à l'hôpital."

Similarly, cycling was also used by some participants to travel when other means were not sufficient. Cycling was an option for Émilie who cycled to work in the summer because the buses were too delayed "Pour me rendre à mon emploi en fait, j'ai 3 moyens de transport, en été je prends mon vélo parce que l'autobus c'est pas suffisamment. Euh à l'heure." She also described maximising her cycling to not have to use other strategies such as asking for lifts. Antoine also tried to cycle more because it was the best option in terms of scheduling. Denis frequently cycled over large distances because it is his only affordable transport option stating "j'ai pas l'argent pour payer le 4.25$ pour prendre l'autobus parce que sois dit en passant c'est rendu 4.25 [donc] souvent il faut que je me déplace en vélo" and later in the interview "je prends mon vélo c'est la seule affaire que j'ai pour me déplacer qui coûte pas cher". Interestingly, Mathieu noted that

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he would like to be able to cycle more but noticed there were only a few cycle lanes and wished there were more.

5.4.3 Trip grouping

Trip grouping was used by many participants to cope with limited transport options. This option was used to reduce the number of trips taken in order to maximize time and cost. Amanda would try to group as much as she could when going to Montreal "j'essaye de comme le plus possible de faire toute ce que j'avais besoin de faire Montréal des fois, genre comme je revenais plus tard à cause de ça, mais comme au moins genre je sais que j'ai toutes faites genre ça vaut la peine de payer." Émilie even described changing her class schedule to group all her classes in the same day to avoid paying for extra transit tickets.

> …j'essaie de grouper mes cours dans une journée fait que je vais essayer de maximiser le nombre de fois que je vais aller à Montréal fait qu'il y a des journées où que j'avais 3 cours ou 2 cours dans la même journée pour diminuer le nombre de fois, puis aussi en groupant un maximum de cours dans même journée ça me permet d'économiser parce que je peux m'acheter des billets à l'unité.

5.4.4 Lifts

Many participants asked friends and family for lifts to cope with transport poverty. This coping strategy was often used to deal with the insufficient bus schedule and long delays. Émilie explained that her partner drives her to work on weekends because of the unreliable bus "Et puis justement la fin de semaine parce que j'ai de la misère à me fier aux autobus, c'est pas rare qui sont trop en retard. Mon conjoint, il va venir me porter au travail." Jean-Pierre asks his wife to pick him up from his medical appointment every week because the paratransit bus arrives an hour or more after his treatment finishes "les 5 autres jours que je prend pas le chemin du retour là parce que j'accepte pas parce que c'est trop long. Ma femme vient me chercher mais elle est âgée et elle a des problèmes d'oreilles". Samuel frequently had to asks his friends with cars for lifts to go out in the evening because the bus service is not sufficient in the evenings. He described having to carefully plan how many people could come and how many cars to use. "Mais tu sais, c'est le, c'est toujours un casse-tête de s'arranger de qui déjà, qui est pas une qui ensuite à quelle heure, quand est-ce qu'on y va? Ah moi je suis au travail à tout à l'heure, mais [lui] travaille tout à l'heure."

5.4.5 Taxis

Participants used taxis to complement their transit options when no others were available. All participants who described using taxis occasionally or regularly complained about the cost and said they tried to use it as less as possible but were occasionally left with no other option. Jeanne sometimes has to use a taxi when her partner could not lift her and the bus stopped passing early in the evenings: "...ça peut m'arriver de prendre un taxi à l'occasion parce que les horaires des autobus, c'est ça, ça fini assez tôt dans la soirée, donc dans la semaine surtout fait que ça peut m'arriver de prendre un taxi parce que les autobus finissent trop tôt."

Using taxis to deal with poor bus scheduling was also something Mathieu did "Des fois, quand c'est que je vais être en retard, j'utilise le Uber, mais ça me coûte trop cher fait que j'essaie de prendre trop souvent". Denis also used taxis as a last resort when buses were not available at the end of his shift, and it was too rainy to cycle. However, this added another economic burden to his already high transit fares.

"[au] Barbies (the restaurant he works at) oui surtout les journées qui pleut quand qui pleut oublie ça je call le taxi ah ouais pis le taxi me connait fais toi en pas. Je les call 3-4 fois semaine. Quand je travaille au restaurant je fini à 10h moi ça me tente pas moi à 10h de commencer à pédaler en bicycle donc je call le taxi c'est 20 piasses c'est 17$ arrondi avec le tip c'est 20$."

5.5. Social exclusion and well-being

5.5.2 Social exclusion

Many participants, especially students, had difficulties maintaining relationships with friends and family because of their reduced mobility. Denis was restricted in his opportunities to see friends and family. Denis does not have access to a car and relies on public transit making accessing his social network in Longueil very difficult. He described going to see his mother with public transit as "Ouais ma mère elle reste à Longueuil et commencer à me rendre sur le boulevard Lafaillette seigneur je l'ai déjà fait une fois mais je vais pas la voir souvent". This transport poverty has also caused him to have very few contacts with his friends.

> Ouais ouais tu sais mes amis je les vois pu à cause de ça. Ben mes amis habitent tous à Longueuil c'est sûr je les vois plus. Au début ils venaient me voir ici avant ceux avec des voitures mais le temps a fait son œuvre depuis que je suis ici. À un moment donné ils sont venus me voir moins souvent.

Samuel also expressed difficulties in seeing friends. While he managed to see his friends in Montreal quite regularly, it required a large amount of planning of cars and transit. In some cases, this resulted in not everyone being able to go or some having to leave earlier.

Lost time due to transportation also impeded participants ability to spend more time with friends and family. Jean-Pierre explained that he spent less time with his wife and doing activities because he spent multiple hours a week waiting for paratransit. Amanda had reduced opportunities to see her social network because she was constrained to the bus schedule and had to leave her friends earlier:

> Genre comme exemple, euh. Mardi, je suis allé voir mes amis. Pis dans le fond eux ils était comme on reste, encore plus longtemps à Montréal, moi j'étais comme moi j'ai 1h de bus à faire, moi je vais partir tout de suite. Là tu sais genre c'est plate, parce que comme je peux pas passer autant de temps avec mes amis.

Not only does transport poverty affect participants ability to see their social network, but it also has impacts on their relationships. Amanda elaborated more on her difficulties in seeing her friends and stated that

> "…c'est genre difficile de maintenir des amitiés genre comme garder une relation avec quelqu'un genre c'est facile on va dire genre avec une amie par ici parce que là je peux la voir plus souvent parce que je peux me déplacer à pied ou des trucs de même, mais genre des amis en ville c'est plus difficile garder genre un lien"

Antoine also had a harder time maintaining relationships. He described transport being a large factor in the relationship he had with his girlfriend which he didn't see as much as wished. Another interesting finding that was not addressed in the literature was that having to ask for lifts or being late to activities can also impacts people's relationships. Antoine said that he did not feel comfortable asking people for lifts because he did not have a car. He said

> Ça pouvait devenir des fois des frictions avec certaines personnes parce que justement, c'est, c'est sûr, c'est sûr, je peux venir. Sauf que souvent, ben ça finit que les personnes viennent me chercher chez moi. Puis moi c'est gros guilt trip, là je me sens tellement mal quand les gens viennent me chercher.

Émilie also had a more distant relationship to her parents because it was difficult to go see them by transit. She expressed the lack of physical contact with them, but she compensated by calling them often "Ouais oui, mais le manque à gagner, je vais aller chercher en téléphonant aux gens mais donc je le compense. Mais le contact physique va manquer".

In sum, almost all participants (eight) had their social capital reduced because of transport poverty which puts them at a greater risk of social exclusion. Given the reduced opportunity to engage with their social network and maintain healthy relationship, this can impact their capacity to cope with the negative impacts of transport poverty on well-being explored below.

5.5.3 Stress

Stress was a factor that influenced some participants well-being. Many described their transportation to be a great source of stress especially with delays. Amanda said that

> "ouais, j'ai tout le temps comme un petit stress qui va avec ça parce que comme on va dire, je manque mon bus j'ai mon stress. Comme okay là je peux pas me rendre à mon cours. Puis, genre comme des accumulations, genre à la longue (…) c'est quand même un petit stress que j'ai à chaque fois je voudrais prendre le bus là c'est totalement imprévisible."

Antoine echoed this "Mais sinon du stress. Ben oui là, tous les jours, toute les jours, je j'étais stressée pour l'autobus, parce que c'était toujours en retard". Mathieu, another student, also expressed that the stress of transport poverty was adding on to his already stressful life which has an impact on his mental health.

Stress was also associated with frustrations that were present among participants. Antoine described it as "[quand tu prends] l'autobus aquarium tu reviens, puis tu sais que tu vas caller un taxi. C'est vraiment les pires moments de l'existence." Samuel also added "Les bus sont trop espacés, puis c'est trop compliqué à planifier fait que souvent ça te choque".

While many students expressed being stressed by the transportation system, scheduling and delays in particular, others described relaxing once on the bus. Denis, while he expressed being very frustrated by delayed buses, said that the bus can also be his moment of relaxation

> Non, ben moi je suis habitué mon autobus c'est ma vie. Mais quelqu'un qu'il a eu sa voiture je te dirais qu'il tombe à prendre l'autobus il va être stressé. Mais moi dans l'autobus j'en profite je dors ou je joue à mon petit jeu. Ça me détente et tout tant dis que chauffer t'es tout le temps alerte. Moi c'est quasiment un moment détente, il y a rien de stressant la dedans

5.5.4 Fatigue

The other significant impact that transport poverty has on participant's well-being was fatigue. Many participants, especially students lacked sleep because they had to wake up very early to

catch the bus. Antoine said getting the bus for an 8am class destroyed his sleep schedule " je me levais à 5h00, ça ça là, ça détruisait mon sommeil…." This sleep deprivation acccumulated for many students who felt fatigued througout the day such as Amanda "Oui comme je suis une personne qui a besoin d'énormément de sommeil mais je sais, j'en prends pas assez de sommeil fait genre avec l'accumulation de comme le bus, puis tout ça, ça peut vraiment m'affecter physiquement". This large excessive amount of time spent on transportation results in tiredness from Samuel who had to travel two hours for one hour of class. Émilie also described stress in combination with fatigue

> Ça me fatigue beaucoup, puis ça me stresse beaucoup. Ça c'est les 2 impacts de l'auto, du transport en autobus. Le, le stress, ça c'est sûr. Puis, euh aussi la fatigue là. Puis euh, tu sais, c'est c'est pas parce que t'arrive tu sais, mettons même les soirs, c'est pas parce que t'arrive à à Bonaventure qui a un autobus qui est déjà là, fait que souvent des fois on va même attendre 15-20 minutes en ligne pour que l'autobus arrive. Puis tu sais, il nous laisse pas nécessairement s'asseoir dans l'autobus parce que le chauffeur il quitte là en attendant, mais oui, c'est vraiment les impacts. Pour moi c'est c'est la fatigue."

Jean-Pierre also described feeling exhausted after returning home from medical treatments with the paratransit bus that he had to wait an hour for "je suis fatigué quand je vais à la dyalise le soir je suis exténué c'est rare que je dépasse le 8h".

While when asked if transportation affected their general well-being some said it really affected them and wished it could be better through, for example, getting a car, others said it was not a great factor in their well-being. The participants whose well-being was not affected by transport poverty were mostly the non-students who were able to relax in the bus such as Denis.

5.6 Conclusion

This chapter has presented the results from the semi-structured interviews to answer my research questions. Common transport difficulties among participants were affordability, scheduling, route, and disability. The most prevalent consequences of transport poverty were forgone trips and missed opportunities, lost employment opportunities, reduced spending, lost time, and forced car ownership. To cope with transport poverty and reduce these consequences, participants planned ahead, cycled, walked, grouped their trips, asked for lifts, and used taxis. Most participant's social capital was affected by transport poverty mainly because they could not access their loved ones as much. Transport poverty also affected their well-eing where some, but

not all, were very stressed because of transportation challenges. Fatigue was also a common issue among participants which decreased their well-being,

CHAPTER 6: DISCUSSION AND CONCLUSION

This final chapter identifies key takeaways to answer my research questions, implications of results, limitations, and future research.

6.1 Key takeaways

Using the case study of Saint-Jean-Sur-Richelieu, I have investigated transport poverty in the suburbs of Montreal through semi-structured interviews. This research identified key transportation challenges present in my case study which can put people at risk of transport poverty. These are affordability, scheduling, and the location of bus routes. Most of participants did not use a car as their main mode of transport which demonstrates that this was the main reason why they were living in transport poverty. This illustrates that the transportation system and built environment in this suburb do not allow for proper transportation without access to a car as one's main method of transportation.

I then explored how my participants experienced transport poverty to answer my first research question What are the consequences of living in transport poverty on people's daily lives? Through my interviews I found that the main consequences of transport poverty are forgone trips and missed opportunities, reduced access to job markets, reduced spending, time poverty, and forced car ownership. To answer my second question What are the travel behaviours, if any, used to cope with transport poverty? I found that to live with these important transportation challenges people developed coping methods such as planning ahead, cycling, walking, trip grouping, getting lifts and using taxis.

To answer my third research question: Does transport poverty affect social exclusions and well-being? If so, in what ways? I delved into some broader impacts of transport poverty in my interviews. Social exclusion risk was present for many participants particularly because maintaining relationships with friends and networks was more difficult. Moreover, I found that transport had mixed impacts on stress where some people are very stressed, especially with delays and scheduling while others could find time to relax in the bus. Finally, fatigue was a significant impact of transport on well-being caused by insufficient scheduling of buses and long travels, this was especially prevalent among students travelling to Montreal. Table 6.1 summarizes the key themes and findings from this research.

Table 6.1 Key Themes

Difficulties	RQ1: Consequences	RQ2: Travel Behaviours	RQ3: Social Exclusion and Well-Being
Affordability (cars, transit, & taxis)	Forgone Trips & Missed Opportunities	Planning Ahead	Reduced Access to Social Network
Scheduling	Reduced Spending	Cycling & Walking	Impact on Relationships
Bus Route	Lost Time	Trip Grouping	Stress
Long Travel	Forced Car Ownership	Lifts	Fatigue
		Taxis	

These findings shed light on the important impacts of transportation and on a topic that is not researched or discussed a lot in suburbs. While most of the trips in this suburb are made by cars, this research has shown the importance of not forgetting those who are more vulnerable, such as low-income groups but also students who often do not have the means to afford cars that would provide them with the mobility necessary to their daily lives. While more research is needed, this should be taken into consideration in local governance and transit agencies who hold a lot of power and potential for change that could drastically improve the lives and well-being of their residents. Offering longer operating hours, a more frequent schedule, expanding routes to lower serviced areas, and importantly lowering the cost of fares could go a long way to reducing transport poverty in Saint-Jean-Sur-Richelieu and potentially in other similar suburbs.

6.2 Limitations and Future Research

While this research provides a rich account of transport poverty lived experiences in Saint-Jean-Sur-Richelieu, there remains limitations and future research is important. The main limitation in this study is its small sample size. While I did have a significant number of students which meant I was able to reach saturation, the other participants were quite varied, and I cannot generalize their responses. The variety of degree of transport difficulty also varied a lot which can complicate the analysis and limit generalizations. A larger sample would allow for more categorization of individual characteristics and investigate the impact of personal and external

factors better. This research also initially included an analysis of travel diaries but the consistency and content of them was not high enough to successfully contribute to the analysis. Thus, further use of travel diaries in a more precise and larger scale manner should be explored to better understand travel patterns of those living with transport poverty.

To be able to take actions on these issues, further exploration of the topic of transport poverty in the suburbs is important. Estimating the prevalence of transport poverty through more quantitative analysis could help identify the intensity and geographic concentration of the issue. This could allow for more targeted action. This research consisted of a case study with a relatively small sample, therefore further research should examine other suburbs with additional interviews. A comparison of suburbs could also be interesting to be able to identify potential improvements in suburbs with similar land use patterns. This sample consisted of many students who experienced significant transportation challenges. More research should explore transport poverty in students and young people who have limited mobility despite potentially living in a higher income household.

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APPENDIX A: Recruitment Template

Bonjour,

Je suis une étudiante en géographie à l'université McGill et j'effectue de la recherche dans le cadre de ma thèse de fin de Baccalauréat sur l'impact des difficultés d'accès aux moyens de transport sur la vie des gens et leur bien-être.

Je suis à la recherche de participants pour effectuer une entrevue de 30 minutes avec la possibilité d'effectuer des journaux de mobilité. Je suis à la recherche d'adultes qui estime avoir de la difficulté à avoir accès à des moyens de transport adéquats et abordables (par exemple ne pas avoir de voiture) ainsi que des adultes qui possèdent une voiture même si cela leur cause des difficultés financières, car il n'y a pas d'autres alternatives possibles. Cette recherche est importante parce qu'elle servira à démontrer l'importance d'avoir de bons systèmes de transport et des conséquences importantes si ce n'est pas le cas. Il n'y aura pas de compensation financière pour votre participation, toutefois cette étude sera une façon de faire valoir vos opinions et vos expériences. Si vous êtes intéressé ou bien vous avez des questions, je serais heureuse de vous répondre par messenger ou bien par courriel au : rosalie.jolysimard@mail.mcgill.ca

Superviseur de thèse et chercheur principal : Kevin Manaugh kevin.manaugh@mcgill.ca

APPENDIX B: Interview Guide

<u>If travel diarires</u>

Décrivez-moi vos déplacements pour cette journée

Est-ce que cela représente une journée typique pour vous? Si non, élaborez sur ce qui est différent d'une journée typique

Est-ce que vous croyez que votre situation de transport a eu un impact sur vos déplacements? Si oui, comment?

Avez-vous manqué des opportunités ou bien un déplacement était-il impossible?

<u>If no travel diaries</u>

Décrivez-moi vos habitudes de transport au courant d'une journée ou semaine typique.

- Mode de transport principal
- Fréquence des déplacements
- Raison des déplacements

<u>Difficulties</u>

Décrivez-moi les difficultés que vous avez à faire vos déplacements quotidiens.

Qu'est-ce que vous trouvez le plus difficile à gérer?

- Horaires
- Tracés
- Accessibilité

Géographie/ aménagement urbain

<u>Impact</u>

Quels moyens utilisez-vous pour faire face à ces difficultés?

Comment est-ce que cela affecte votre vie quotidienne?

Modifiez-vous certains déplacements dû à vos opportunités de transport ? Comment?

Y-a-t-il des déplacements que vous n'effectuez pas, car il y a trop d'obstacles?

Si il y a lieu, pouvez vous me décrire des opportunité que vous n'avez pas pu prendre dû à vos difficultés de transport?

- Emploi
- Opportunités sociales
- Activités récréatives

<u>Well-being</u>

Comment est-ce que cela impact votre qualité de vie et votre bien être?

- niveau de stress / frustrations
- santé/bien être psychologique
- temps perdu

Comment est-ce que cela impact votre entourage et vos relations sociales?

- Difficultés à maintenir les relations
- Manquer des événements / visites

Quelle serait votre situation ou scénario idéal pour vos déplacements?

APPENDIX C: Consent Form for Interviews

McGill

Formulaire de consentement du participant

Chercheur:

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Chercheur principal : Kevin Manaugh, professeur agrégé département de géographie, Université McGill kevin.manaugh@mcgill.ca

Titre du projet : L'impact de la difficulté d'accès à des moyens de transport adéquats et abordables sur la vie quotidienne et le bien être des gens vivant en banlieue de Montréal.

Buts de la recherche : Vous êtes invité à participer à ce projet de recherche qui a pour but de comprendre l'effet de la difficulté à avoir accès à des moyens de transport convenables et abordables sur la vie des gens en banlieue de Montréal. Cette étude contribuera à démontrer l'importance et l'impact des transports sur la vie des gens ainsi que sur leur bien-être.

Procédures de recherche : Cette recherche consistera à une entrevue semi-structurée qui prendra place dans un lieu prédéterminé ou en ligne (par Microsoft Teams). Veuillez noter que malgré toutes les précautions, il reste possible que l'appel soit intercepté. Si vous le désirez, vous pouvez garder votre caméra fermée durant l'entrevue en ligne. Si vous consentez, cette entrevue sera enregistrée (enregistrement audio seulement) et puis transcrit afin d'être analysée. Cela permettra une meilleure fluidité à l'entrevue et de favoriser la collecte de donnés. L'entrevue comprendra majoritairement des questions ouvertes sur votre expérience avec le transport. Cette entrevue prendra environ 30 minutes.

Participation Volontaire : Votre participation est volontaire et vous pouvez décider de vous retirer de l'étude à n'importe quel moment durant l'entrevue quel que soit la raison. Vous pouvez refuser de répondre à n'importe quelle question. Si vous décidez de vous retirer durant l'entrevue, toutes notes, données et enregistrement seront détruites ou supprimées. Veuillez noter qu'une fois l'entrevue complétée, vous ne pourrez pas vous retirer de l'étude puisque l'information ne sera plus identifiable une fois l'entrevue terminée, car votre nom et autres identifiants ne seront pas demandés lors de l'entrevue.

Risques potentiels : Cette recherche pourrait entrainer des émotions négatives puisque vous serez demandé de discuter d'expériences potentiellement négatives. Ce risque sera minimisé par l'option de refuser de répondre aux questions. Si l'impact de l'entrevue ou de certaines questions sont trop négatifs, l'entrevue sera arrêtée ou bien la question sera ignorée. Il n'y a pas de risques économiques, politiques, physiques ou sociaux d'anticipés.

Avantages potentiels : Cette recherche n'aura pas d'avantage direct pour vous, cependant, cette recherche contribuera à une meilleure compréhension de l'expérience de personnes vivant des difficultés de transport ainsi que l'obligation d'avoir une automobile et de l'impact sur leur bien-être. Cette recherche sera aussi bénéfique pour démontrer l'importance d'un bon système de transport et du transport en commun.

Confidentialité : Il vous sera demandé de répondre à quelques questions, par exemple votre genre et occupation ainsi que des questions sur vos expériences par rapport au transport. Ces données ne seront pas assez pour être capable de vous identifier dans la diffusion des résultats. Des identifiants directs comme par exemple, votre nom ou adresse courriels de ne seront pas pris en notes durant l'entrevue. L'enregistrement audio de l'entrevue sera détruit une fois transcrit et ne sera pas diffusée et servira seulement dans l'analyse des entrevues. Toutes les données seront sauvegardées dans un ordinateur protégé par un mot de passe et seront seulement accessible par les chercheurs (l'étudiant et le superviseur).

Vous consentez à l'enregistrement audio de l'entrevue : OUI_____   NON____

　　　　Si non : Vous consentez à la prise de note durant l'entrevue OUI ____   NON__

Diffusion des résultats : Les résultats seront présentés sous forme de thèse de fin de Baccalauréat et présenté lors d'une présentation.

Questions

Si vous avez des préoccupations ou des plaintes d'ordre éthique concernant votre participation à cette étude et que vous souhaitez parler à quelqu'un qui ne fait pas partie de l'équipe de recherche, veuillez communiquer avec le directeur associé d'éthique de la recherche, au 514-398-6831 ou à lynda.mcneil@mcgill.ca en citant le numéro de dossier du comité d'éthique de la recherche 22-06-009.

Consentement écrit

Veuillez signer ci-dessous si vous avez lu les informations ci-haut et si vous acceptez de participer à cette étude. Le fait d'accepter de participer à cette étude ne renonce à aucun de vos droits et ne dégage pas les chercheurs de leurs responsabilités. Pour s'assurer que l'étude est menée correctement, des personnes autorisées, comme un membre du comité d'éthique de la recherche, peuvent avoir accès à vos informations. Une copie de ce formulaire de consentement vous sera remise et le chercheur en conservera une copie.

Nom du participant: _

Signature du participant: ____

Date:

APPENDIX D: Pre-Interview Questionnaire

1.Quel âge avez-vous?

2.Quel est votre genre?

3.Quel est votre occupation?

4.Quel est la composition de votre ménage (nombre d'enfant et d'adultes)?

5.Dans quel secteur de St-Jean habitez-vous?

6. Depuis combien d'années vivez-vous à St-Jean ?

APPENDIX E : Travel Diary Instructions

Pour une journée de déplacement typique :

Inscrire la date (ne pas inscrire votre nom)

Prenez en notes tous vos déplacements que ce soit en autobus, voiture, à pied, ou à vélo, etc.

Prenez en note l'heure d'arrivé et de départ, le temps d'attente (s'il a lieu) et le temps de déplacement

Prenez aussi en note vos destinations en termes généraux ex : chez un ami, épicerie, gym, travail, etc.

APPENDIX F: Consent Form for Travel Diaries

![McGill logo]

Formulaire de consentement du participant

Chercheur:

Rosalie Joly Simard, étudiante au Baccalauréat, département de géographie Université McGill

rosalie.jolysimard@mail.mcgill.ca

514-974-4130

Chercheur principal : Kevin Manaugh, professeur agrégé département de géographie, Université McGill

kevin.manaugh@mcgill.ca

Titre du projet : L'impact de la difficulté d'accès à des moyens de transport adéquats et abordables sur la vie quotidienne et le bien être des gens vivant en banlieue de Montréal.

Buts de la recherche : Vous êtes invité à participer à ce projet de recherche qui a pour but de comprendre l'effet de la difficulté à avoir accès à des moyens de transport convenables et abordables sur la vie des gens en banlieue de Montréal. Cette étude contribuera à démontrer l'importance et l'impact des transports sur la vie des gens ainsi que sur leur bien-être.

Procédures de recherche : Cette recherche utilisera des journaux de mobilité pour comprendre l'impact du manque d'accès à des moyens de transport adéquats sur les comportements de déplacement. Vous serez demandé de prendre en notes vos déplacements au courant d'une journée qui représente une journée typique pour vous. Cela inclue vos destinations en termes généraux, mode de transport utilisé, temps d'attente et autres informations similaires. Cela devrait prendre quelques minutes à chaque déplacement ou bien environ 15 minutes pour prendre en notes tous vos déplacements pour la journée complète.

Participation Volontaire : Votre participation est volontaire et vous pouvez décider de vous retirer de l'étude à n'importe quel point durant l'entrevue quel que soit la raison. Veuillez noter qu'une fois le journal remis, vous ne pourrez pas vous retirez de l'étude puisque votre nom et autres identifiants ne seront pas pris en notes.

Risques potentiels : Il n'y a pas de risques d'anticipés pour votre participation.

Avantages potentiels : Cette recherche n'aura pas d'avantage direct pour vous, cependant, cette recherche contribuera à une meilleure compréhension de l'expérience de personnes vivant des difficultés de transport ainsi que l'obligation d'avoir une automobile et de l'impact sur leur bien-être. Cette recherche sera aussi bénéfique pour démontrer l'importance d'un bon système de transport et du transport en commun.

Confidentialité : Aucun identifiant direct ou indirect sera pris en notes dans le journal de mobilité. Une fois reçu, tout identifiants, comme votre adresse courriel, seront effacés. Toutes les données seront sauvegardées dans un ordinateur protégé par un mot de passe et seront seulement accessible par les chercheurs (l'étudiant et le superviseur).

Diffusion des résultats : Les résultats seront présentés sous forme de thèse de fin de Baccalauréat et présentés lors d'une séance présentations.

Questions

Si vous avez des préoccupations ou des plaintes d'ordre éthique concernant votre participation à cette étude et que vous souhaitez parler à quelqu'un qui ne fait pas partie de l'équipe de recherche, veuillez communiquer avec le directeur associé d'éthique de la recherche, au 514-398-6831 ou à lynda.mcneil@mcgill.ca en citant le numéro de dossier du comité d'éthique de la recherche 22-06-009.

Consentement écrit

Veuillez signer ci-dessous si vous avez lu les informations ci-dessus et si vous acceptez de participer à cette étude. Le fait d'accepter de participer à cette étude ne renonce à aucun de vos droits et ne dégage pas les chercheurs de leurs responsabilités. Pour s'assurer que l'étude est menée correctement, des personnes autorisées, comme un membre du comité d'éthique de la recherche, peuvent avoir accès à vos informations. Une copie de ce formulaire de consentement vous sera remise et le chercheur en conservera une copie.

Nom du participant: ﹍

Signature du participant: ﹍﹍

Date: