

**Assessing Transportation Disadvantage and Public Transportation
Opportunities in Rural Ontario: A Case Study of Huron County**

by

Eric Marr

**A Thesis
presented to
The University of Guelph**

**In partial fulfilment of requirements
for the degree of
Master of Science
in
Rural Planning and Development**

Guelph, Ontario, Canada

© Eric Marr, September, 2012

ABSTRACT

ASSESSING TRANSPORTATION DISADVANTAGE AND PUBLIC TRANSPORTATION OPPORTUNITIES IN RURAL ONTARIO: A CASE STUDY OF HURON COUNTY

Eric Marr
University of Guelph, 2012

Advisor:
Professor John FitzGibbon

In virtually all rural areas in Ontario the limited transportation alternatives means that rural residents without access to a personal vehicle are at great risk of transportation disadvantage. The primary research method for this research involved testing a transportation disadvantage framework using fourteen Key Informant Interviews undertaken with service providers operating within the case study of Huron County. The research found that residents within five demographic groups are at risk of transportation disadvantage within Huron County: older adults, those with physical or mental disabilities, youth, low-income households, and women. The research confirmed that transportation disadvantage exists on a continuum with some groups more disadvantaged than others, but also within groups with some accessibility needs more attainable than others. The research concludes with suggestions for a public transportation system to improve unmet transportation needs in Huron County along with recommendations for improving transportation access within the county.

ACKNOWLEDGEMENTS

There are several people that I would like to acknowledge who contributed to the completion of this research. First, I would like to thank my supervisors Professor John FitzGibbon and Professor Wayne Caldwell for their feedback and contributions over the course of my research. I would also like to thank Sandra Weber at the County of Huron for her feedback, local knowledge, and interest in seeing this work completed.

I would like to thank Jay Nuttall at the Ministry of Transportation for introducing me to the study of transportation and sparking my interest in the topic of this thesis. I would also like to thank him for his continued moral support and expertise all these years later.

I would like to acknowledge my friends and classmates who have always been there to remind me that this research is important and to contribute their own ideas and experiences. I would like to thank Michaela especially for always being there for support as well as providing her own expertise in research methods and editing.

Finally, I would like to thank all of my interview participants for taking the time out of their busy schedules and away from their important work to speak with me about this issue. This research could not have happened without your contributions. From a more personal perspective, the people I met and the stories I heard reminded me that there are many people working tirelessly to provide essential services to those most in need.

Table of Contents

ABSTRACT.....	ii
ACKNOWLEDGEMENTS	iii
Index of Tables	viii
Chapter One: Introduction	1
1.1 Introduction.....	1
1.2 Background	2
1.3 Research Statement	3
1.4 Goals and Objectives	3
1.5 Scope.....	4
1.5.1 Why Public Transportation?	5
1.5.2 Alternatives to Public Transportation	6
Chapter Two: Literature Review	9
2.1 Introduction.....	9
2.1.1 Methodology	9
2.1.2 The Rural Transportation Problem	10
Part 1: Needs and Opportunities	12
2.2 Accessibility Needs.....	12
2.2.1 Social Inclusion.....	13
2.2.2 Access to Supplies	14
2.2.3 Access to Essential Services	15
2.2.4 Access to Training, Education, and Employment.....	17
2.3 Mobility Limitations	17
2.3.1 Older Adults.....	18
2.3.2 Physical or Mental Disability.....	23
2.3.3 Youth.....	25
2.3.4 Low-Income Households and Individuals	28
2.3.5 Women.....	31
2.4 Opportunities.....	33
2.4.1 Mitigation of Greenhouse Gas Emissions.....	33
2.4.2 Alleviate Issues Associated with Increasing Fuel Prices	34

2.4.3 Reduce Instances of Impaired Driving	36
2.4.4 Macroeconomic Advantages.....	37
2.4.5 Cost Savings in Social Services.....	38
Part 2: Public Transportation Models for Rural Areas	39
2.5 Conventional Transportation Model	39
2.6 Flexible Transportation Model	41
2.7 Community Transportation Model	42
2.8 Private Taxi Model	45
2.9 Mixed-Services Model.....	46
2.10 Summary	48
Chapter Three: Methodology	49
3.1 Literature Review.....	49
3.1.1 Transportation Disadvantage Framework.....	50
3.2 Secondary Data	50
3.3 Previous Survey Findings	51
3.3.1 Huron Transportation Taskforce Survey (2008).....	51
3.3.2 Huron County Transportation Demand Management Study (2011).....	51
3.4 Key Informant Interviews	52
Chapter Four: Case Study: Huron County, Ontario.....	55
4.1 Background and Context.....	55
4.2 <i>Rurality</i> of Huron County	57
4.3 Transportation in Huron County	58
4.3.1 Drivers in Huron County	58
4.3.2 Personal Vehicle Ownership.....	59
4.3.3 Travel Patterns in Huron County	60
4.3.4 Transportation Mode in Huron County.....	60
4.3.5 Existing Intra-Community Public Transportation Services	63
4.3.6 Specialized Transportation in Huron County	63
4.4 Recognized Transportation Issues in Huron County	65
Chapter Five: Transportation Disadvantage in Huron County	67
5.1 Older Adults.....	67

5.1.1 Mobility Limitations of Older Adults	70
5.1.2 Accessibility Needs of Older Adults.....	74
5.1.3 Trends	77
5.1.4 Design Characteristics	80
5.2 Physical or Mental Disability.....	83
5.2.1 Mobility Limitations of those with Physical/Mental Disabilities	85
5.2.2 Accessibility Needs of those with Physical/Mental Disabilities.....	87
5.2.3 Trends	93
5.2.4 Design Characteristics	93
5.3 Youth.....	97
5.3.1 Mobility Limitations of Youth.....	99
5.3.2 Accessibility Needs of Youth	103
5.3.3 Trends	109
5.3.4 Design Characteristics	111
5.4 Low-Income.....	113
5.4.1 Mobility Limitations of Low-Income Households/Individuals	116
5.4.2 Accessibility Needs of Low-Income Households/Individuals.....	120
5.4.3 Trends	128
5.4.4 Design Characteristics	128
5.5 Women.....	131
5.5.1 Mobility Limitations of Women	133
5.5.2 Accessibility Needs of Women.....	135
5.5.3 Trends	138
5.5.4 Design Characteristics	139
5.6 General Considerations	141
5.6.1 The Car Culture of Huron County	141
5.6.2 Liability and Regulatory Limitations.....	141
5.6.3 Mandates and ‘Territory’	142
5.6.4 Residents Unconnected to Service Providers	143
5.6.5 The Question of <i>Needs</i> and <i>Responsibility</i>	143
5.6.6 The Theory of Planned Behaviour	144

Chapter Six: Applicability of Transportation Models	145
Chapter Seven: Discussion and Recommendations	150
7.1 Discussion	150
7.2 Recommendations	154
Chapter Eight: Future Research	158
Work Cited.....	160
Appendix A: Transportation Adequacy Framework.....	167
Appendix B: Guiding Questions Used in Key Informant Interview Process	168
Appendix C: Demographic Graphs for Huron County	169
Appendix D: Map of Huron County, Ontario	170

Index of Tables

Table 1: Vehicle Population Totals for Huron County, Ontario

Table 2: Where, and how often do you travel to/from most?

Table 3: How often do you use the following transportation options to reach your destination?

Table 4: Mode of transportation to work, Huron County

Table 5: OneCare Huron Trip Purpose

Table 6: What do you think are barriers to available transportation options in Huron County?

Table 7: In your opinion, what are the top three transportation improvements in Huron County that you would like to see?

Table 8: Older Adults in Huron County (Aged 65-84)

Table 9: Population Projections for Older Adults in Huron County (Aged 65-84)

Table 10: Older Adults in Huron County (Aged 85 and older)

Table 11: Population Projections for Older Adults in Huron County (Aged 85+)

Table 12: Incidence of Disability by Age Group

Table 13: Population with Participation and Activity Limitations, Huron County

Table 14: Youth in Huron County

Table 15: Prevalence of Low-Income Classification in Huron County

Chapter One: Introduction

1.1 Introduction

Access to transportation is essential for almost every facet of our everyday lives. Whether it is going to work; getting groceries and other supplies; participating in the community or civic functions; seeking entertainment or social inclusion; accessing healthcare or other social services; among other essentials for maintaining quality of life. Nevertheless, in rural communities transportation options are generally limited with very high reliance on personal vehicles. Indeed, as E.B. White once put it, “Everything in life is somewhere else, and you get there in a car” (E. B. White, 1940). This is particularly true of rural areas where opportunities for active transportation are limited and general use public transportation is rare.

This raises the question of how rural residents are to get around if, for any number of reasons, personal transportation is not available. Those without access to personal transportation can be described as being *transportation disadvantaged* as they lack the mobility necessary to access services and activities essential for quality of life. Furthermore, in virtually all rural areas in Ontario the limited transportation alternatives means that rural residents without access to a personal vehicle are at great risk of transportation disadvantage.

Moreover, public transportation in rural Ontario is very rare and where it does exist it is usually confined to a specialized transportation service for older adults, those with physical mobility limitations, or school transportation for youth. Therefore, this situation excludes public transportation access for the general public in rural communities and particularly for groups such as low-income individuals who are often in particular need of transportation. Finally, trends in Ontario, such as demographic changes and increasing fuel prices, may suggest an increased need for public transportation in the future.

Therefore, this research has two purposes relating to transportation in rural Ontario. First, it provides a framework for identifying transportation disadvantage that was tested, through the use of Key Informant Interviews, within Huron County representing a case study of a rural area in the province. Second, this research provides general use, intra-community public transportation models that may be appropriate for addressing transportation disadvantage in rural Ontario.

1.2 Background

Fundamentally, the issues of transportation disadvantage in rural areas stems from the long distances that rural residents must travel in order to access their needs. Indeed, Statistics Canada defines *rurality* as a factor of both distance and population density (Bollman & Prud'homme, 2006). This means that rural residents must travel longer distances than their urban counterparts in order to access equivalent services. As well, low population densities often mean that some services are not available locally and rural residents will need to travel to larger centres to access these requirements. Overall, these factors result in a context where active transportation (walking/cycling) is often not a viable mode of transportation as distances are too long to be practical. Therefore, motorized transportation is often the only option for rural residents to access their needs, and due to a lack of public transportation service, this generally equates with personal vehicle access.

This scenario raises questions about accessibility in rural areas. Indeed, everyone needs to travel in order to have quality of life and participate in society. Nevertheless, in rural areas there are groups who cannot travel due to mobility limitations thereby reducing their ability to access these needs. Chapter 2 will provide a look at these accessibility needs as well as the groups that are unable to access them in rural areas due to mobility limitations.

1.3 Research Statement

Throughout much of Ontario a personal vehicle is the only transportation option available, which severely restricts the mobility of those that cannot drive. Particularly in rural areas where transportation alternatives are rare, those residents who do not have reliable access to a personal vehicle in order to access quality of life essentials are put at great risk of transportation disadvantage. This research will develop and test a transportation disadvantage evaluation framework in a case study in Ontario, specifically Huron County. The anticipated outcome of this research is an evaluation method that may be applied elsewhere in Ontario, and Canada, for identifying transportation disadvantaged groups as well as options for addressing this issue through a general use, intra-community public transportation service.

1.4 Goals and Objectives

The first goal of this research is the development of a framework for identifying transportation disadvantage within the context of rural Ontario. This was achieved by reviewing the literature to determine demographic groups residing in rural areas that are found to have mobility limitations for physical, legal, economic, or social reasons. These factors were reviewed alongside the accessibility needs that these groups must reach in order to maintain quality of life. The framework was then applied to the case study of Huron County to determine its applicability within the context of a rural area in Ontario.

A second goal of this research was to identify options for addressing transportation disadvantage within the context of rural Ontario. Specifically, the options for a general use, intra-community public transportation service were evaluated using literature and case studies.

This research strove to meet four objectives:

- 1) Present a comprehensive look at the issue of transportation disadvantage in rural areas and the demographic groups most at risk.
- 2) Develop a framework for identifying transportation disadvantage in rural Ontario.
- 3) Apply/test the framework in Huron County as a case study representing a rural Ontario municipality.
- 4) Present options for public transportation models applicable for addressing transportation disadvantage in the rural Ontario context.

1.5 Scope

It is important to note the scope of this research to ensure a clear understanding of what this research does, and does not, address. First, this research does not address opportunities to shift transportation modes in rural areas away from personal vehicles. That is to say, it does not address transportation for those who already have access to a personal vehicle. While there are reasons for encouraging this shift, such as environmental, energy, and health considerations, it is often found that the deterrents do not presently exist to make it achievable. Indeed, deterrents such as congestion, inadequate parking, and road pricing do not exist to enough of a degree in rural areas to actually deter driving and initiate a shift to alternative transportation modes (Cullinane & Stokes, 1998). Thus, this research will only deal with accessibility for those who are without reliable transportation options.

A second clarification comes with the terms ‘general use’ and ‘intra-community’ transportation systems, which are the focus of this research. Quite simply, general use systems are available to everyone whereas specialized transportation systems are available only to certain groups and/or for certain purposes. One drawback of much of the literature on transportation disadvantage in rural areas is that most sources concentrate on specific groups, which is then translated into practice with most existing rural transportation services in Ontario, Canada, and

elsewhere being specialized to meet the needs of specific demographics. A key goal of this research is to look at transportation disadvantage in rural areas cumulatively and then present public transportation models which may meet the mobility needs of several demographic groups.

The term *intra*-community refers to a system operating within a given community that may act as a collector system bringing passengers into a town or as a feeder system bringing passengers to an inter-community transit service. In contrast, an *inter*-community service transports passengers between different communities, such as a coach bus or train service, generally without stopping in between. This research will not address inter-community transportation services as they meet different transportation needs and use different public transportation models than intra-community systems. For the purposes of the case study, Huron County will be considered to be a single community.

1.5.1 Why Public Transportation?

While public transportation is the method for addressing transportation disadvantaged emphasised in this research it should be noted that it is not always accepted as being viable within rural communities due to their inherently low populations, low population densities, and long distances between people and services. For instance, the 2011 *Transit-Supportive Guidelines* prepared by the Ontario Ministry of Transportation suggests that the minimum density to support a basic transit service is 22 units per ha or 50 residents and jobs combined (MTO, 2011). While not a standard, this suggested threshold does exclude most rural areas from considerations of public transportation service.

Nevertheless, this opinion is not universally accepted and as shown in Part 2 of Chapter 2, models and cases from Europe and North America demonstrate that certain public

transportation designs and models are viable in rural areas with low population densities. Further, Paul Mees argues in his 2011 book *Transport for Suburbia* that the use of population density as the basic indicator for transit viability is fundamentally flawed and goes so far as to state that “density is not the main barrier to providing public transport that offers a real alternative to the car; rather, it is a rationalization for inaction.” The opinion that public transportation is far more viable in rural areas than is often perceived has been found to be common throughout the literature on the topic.

1.5.2 Alternatives to Public Transportation

Another important consideration to note is that public transportation is not the only method for addressing transportation disadvantage in the rural context. Indeed, Transportation Demand Management (TDM), active transportation, and land-use planning all play a role in addressing mobility and accessibility needs. However, individually none of these options can meet the needs of rural residents completely.

Transportation Demand Management (TDM) attempts to manage why, when, where, and how people travel (Transport Canada, 2010). A key element of TDM is the opportunity to reduce the need to travel in order to access services, employment, and other needs. For instance, the delivery of services online or workplaces offering telecommuting can be considered TDM tools to reduce the absolute need to travel.

However, an important consideration for tools such as these is that for some needs travel will always be essential. As an example, accessing health services or supplies, such as groceries, will generally require travel for either the provider or the client. Therefore, while TDM is an

important element of addressing transportation disadvantage in rural communities it cannot be the sole method used.

Another alternative to public transportation meeting the same end is active transportation. Active transportation can be used to describe any mode of human-powered transportation and generally refers to walking or cycling. This is another important element of a complete plan for addressing transportation disadvantage but again cannot stand alone in a rural area. Indeed, as Cullinane & Stokes (1998) describe “walking and cycling could probably have a larger impact in rural areas than many imagine” however they go on to qualify this by stating that “many rural journeys could never easily be transferred to walking and cycling due to long distances, harsh weather conditions, or hilly terrain.”

Similarly, travelling for supplies, such as groceries, could not always be undertaken by rural residents due to the practical obstacle of carrying them home, even if they were in walking distance. Furthermore, rural residents with physical mobility limitations may be unable to make use of active transportation at all as described by Sherwood & Lewis (2000) with the statement “six miles is not far, but, for many, particularly those with physical limitations, it is too far to walk.”

A third alternative to public transportation is that of land-use planning. Again, this method plays an important role in addressing transportation disadvantage but has limitations, particularly in a rural context. Opportunities to utilize land-use planning as a means to address transportation disadvantage generally stem from planning principles such as mixed-use developments, intensifying settlements, clustering services, directing growth to settlements,

among other attempts to reduce distances and thereby the need for automobiles to meet travel needs.

However, while these principles are certainly applicable in rural settlements, those living outside settlement areas will still require transportation to meet their needs. Another argument presented by Mees (2011) is that the built form changes very slowly and that issues of transportation disadvantage and automobile dependence cannot be put off for decades while communities are re-built. This may be especially true in rural areas where growth is particularly slow and re-development and intensification is less common when compared with cities, which often rely on these methods, having exhausted their land supply.

To conclude this section, it is clear that none of the four methods presented here (public transportation, TDM, active transportation, and land-use planning) can solve the issue of transportation disadvantage alone in the rural context. Instead, they should be considered together in any comprehensive transportation plan being implemented within a community.

Chapter Two: Literature Review

2.1 Introduction

Access to transportation is an essential element of ensuring quality of life in our society. Particularly in rural areas where few alternatives exist, lacking access to transportation prohibits residents from availing themselves of the services, interaction, and activities necessary for meeting their basic needs. Indeed, there is a considerable body of research on the transportation disadvantage of rural residents and the limitations imposed by personal vehicle reliance and limited alternatives. Moreover, a parallel body of research provides information on public transportation models available for meeting these transportation needs, which are designed specifically for the conditions of rural areas.

2.1.1 Methodology

This section provides the results of a review of the literature on the topic of transportation disadvantage and public transportation models in rural communities. The literature review is broken into two distinct sections each with differing goals. The first section provides findings on transportation disadvantage as well as opportunities associated with public transportation provision within rural areas. The second section provides findings on public transportation models as well as their applicability in rural settings and ability to meet the transportation needs of rural residents.

A review of the literature identified that much of the writings on public transportation in rural areas comes from jurisdictions outside of Ontario or Canada. Therefore, while an emphasis was placed on identifying sources pertaining specifically to the context of Ontario and Canada it was accepted early on that this would provide an insufficient look at the considerable literature

on the topic. Therefore, this literature review will often refer to findings from outside Canada, specifically from the United States, Australia, and Europe.

This should not pose a problem as the transportation needs for rural residents within each of these jurisdictions will be largely the same. While definitions of *rural areas* vary, on the subject of transportation each will share similar characteristics. Indeed, Nutley (1996) describes the rural environment of developed ‘western’ countries as sharing a number of characteristics including:

an absence of significant congestion, parking and pollution problems, higher car ownership rates due not to wealth but to greater need and lack of alternatives, much lower levels of public transport due to the economic problem of serving a highly dispersed pattern of demand, longer distances to middle- and high-order centres of economic activity, and a greater social gulf between car owners and non-car owners with the latter possibly exhibiting problems of isolation and hardship.

Similarly, while transportation models may not be directly transferrable between each of these jurisdictions, at the conceptual level they are relevant to consider.

A final note is that the resources for this literature were obtained from a variety of sources including academic, government, and ‘grey’ literature. It was deemed important from the outset that each of these sources be considered due to the applied nature of the topic of public transportation thereby making findings from practitioners and community groups highly relevant.

2.1.2 The Rural Transportation Problem

Before delving into a discussion of the transportation needs and opportunities present within rural areas it is important to first define the fundamental transportation problem inherent within most rural contexts in the western world. In basic terms, the rural transportation problem can be described as the fact that everyone needs mobility of some form in order to access their

basic needs and in a rural context, where distances are long and people and services spread out, this means that transportation of some form is essential.

In most rural areas reliable alternatives do not exist and therefore transportation access directly equates to personal vehicle access or ownership. Indeed, Gray et. al. (2001) raise the

The Rural Transport Problem:

- Most rural households are dependent on the car.
- Alternatives to the car are poor or non-existent.
- Rural drivers do more driving and spend more on fuel than urban drivers.
- Fuel is more expensive in rural areas.
- Households will struggle to cope with the effects of rising fuel prices.
- Rising motoring costs will undermine the sustainability of rural communities and lead to increased social exclusion.

Adapted from: (Gray, 2000)

important distinction between the “absolute *need* for a car to maintain mobility when no other option is available (for example, disabled people or rural populations); and the *perception* of reliance on a car, without actively considering the alternative.” They refer to this distinction as structural dependence (absolute need) and reliance (perception of need) and determine that most rural residents of rural areas can be described as structurally dependent on a personal vehicle.

This structural dependence on personal vehicles in rural areas leads to an additional issue referred to as *transportation disadvantage*. The term *transportation disadvantage* has been defined as “the inability to travel when and where one needs without difficulty. Transport disadvantage, as a concept, exists on a continuum, with some more transport disadvantaged than others” (Denmark, 1998). Indeed, for physical, legal, economic, or social reasons some groups within rural areas are unable to make use of a personal vehicle and are therefore described as being transportation disadvantaged. Further, it is important to note that transportation disadvantage is a function of both *accessibility* and *mobility* (Cullinane & Stokes, 1998; Kamruzzaman & Hine, 2011).

Quite simply, *accessibility* can be described as the degree to which services and activities can be reached (Gray, Shaw, & Farrington, 2006). While often this means physically moving to reach a service this does not have to be the case (Cullinane & Stokes, 1998). For instance, services may be brought to residents in the form of deliveries, homecare, or online services. Nevertheless, many accessibility needs must still be accessed in person requiring the corresponding concept of *mobility*.

The concept of *mobility* can be described as the ability to physically move around and to make trips or journeys (Cullinane & Stokes, 1998). As a standalone subject, mobility is not very important as people do not need mobility for its own sake; however, when combined with *accessibility* it becomes very important. Indeed, rural residents often need mobility in order to access the necessities of life and in most cases mobility requires transportation as walking or home deliveries are unavailable. Therefore, those without mobility are described as *transportation disadvantaged* as they are unable to access the essentials of life. In recognition of both the accessibility and mobility aspects of transportation disadvantage the following section will be divided between the accessibility needs and mobility limitations of rural residents.

Part 1: Needs and Opportunities

2.2 Accessibility Needs

The quality of human life depends on the amount of access we have to one another. We must have contact to exchange goods and services as well as joys and sorrows. People need to be brought together to take advantage of the economies of scale in industry (Schaeffer & Sclar, 1980).

Within our society we require access to a range of activities, interactions, events, and services in order to maintain quality of life. However, in order to access these essentials, we require mobility of some form and in most rural areas this means access to a personal vehicle. This section will present findings from the literature relating to the needs that rural residents

must access in order to maintain quality of life while the proceeding section will present findings on why some groups face limitations in reaching them. The key accessibility needs arising from the literature that will be discussed here are social inclusion; access to supplies; access to essential services; and access to training, education, and employment.

2.2.1 Social Inclusion

Inclusion in society is essential for all people in order to ensure quality of life. Indeed, *social inclusion* includes access to such activities as: visiting friends and family; attending cultural or religious events; participating in civic functions; participating in recreational or leisure activities; among others. Overall, it is necessary for social purposes and to combat issues of isolation and loneliness. However, rural residents are at particular risk of social exclusion due to their dispersed population and the long travel distances associated with these areas. Indeed, without transportation access rural residents are particularly at risk of social exclusion as many are forced to stay home rather than participate in activities, attend events, or visit each other (Bailey, 2004; Hall, Havens, & Sylvestre, 2003; NACA, 1993; Site & Salucci, 2006).

The linkage between transportation access and social inclusion has been made quite frequently in the literature, particularly from the United Kingdom (Gray, et al., 2006; Halden, Farrington, & Copus, 2002; Kamruzzaman & Hine, 2011; Nutley, 1996; SEU, 2003). Indeed, the literature from the United Kingdom and elsewhere typically identifies specific groups residing in rural areas as being particularly at risk of social exclusion due to mobility restraints. For instance, one source from the European Union found that social exclusion was greatest amongst the unemployed and older adults due to access problems (Site & Salucci, 2006). Particularly for older adults, similar findings have been made in the United States (Bailey, 2004) and Canada

(Gallagher, Menec, & Keefe, 2008; Hall, et al., 2003; NACA, 1993; Scott et al., 2009; Senate of Canada, 2008).

However, other groups have been found to face issues of social exclusion in rural areas due to accessibility problems. For instance, the United Kingdom's *Social Exclusion Unit* identified youth, the disabled, the unemployed, and families with young children as being at particular risk (SEU, 2003). Indeed, this report provides an example pertaining to youth where "a comprehensive school with a large isolated rural catchment area found that 40–45 per cent of pupils were missing out on after-school activities due to transport constraints" (SEU, 2003). Findings from a study of rural youth in Ontario demonstrate a similar connection between transportation access for youth and social inclusion and found that "activities that were considered to present transportation challenges were getting to social activities, to visit friends and to attend sports/recreation events" (Herold & Kaye, 2001).

Further, some women residing in rural Northern Ontario were found to be socially excluded as they did not have adequate access to transportation (O'Leary, 2008). Similarly, findings from Grey, Bruce, and Huron Counties found that "the isolation caused by the lack of transportation and inability to access needed services has a direct impact on women's mental health" (Purdon, 2002).

2.2.2 Access to Supplies

Another key accessibility need for all people is to access the supplies we need for survival. In particular, the availability of groceries is frequently cited in the literature as an accessibility need. In rural areas this may pose an obstacle for those without access to transportation. Indeed, home visits, such as the milkman, are essentially non-existent today and

even small town grocery stores are closing in favour of large scale stores centralized in urban areas with larger populations (Schaeffer & Sclar, 1980). Within the United Kingdom this was presented as an issue by the *Social Exclusion Unit* which made a connection between the centralizing of food retailers, lack of transportation, and a resulting poor access to healthy and affordable food (SEU, 2003). It should be noted that, in recent years the private sector has attempted to fill this gap with food delivery services, such as the *Grocery Getters* home delivery service operating in the predominantly rural Municipality of Chatham-Kent in Southwest Ontario (Grocery Getters, 2012). Nevertheless, as these services are profit based, they will always require a premium on grocery costs and therefore raise questions about affordability for those most at risk of transportation disadvantage.

2.2.3 Access to Essential Services

The literature on rural accessibility often cites the need to access essential services such as social programs, pharmacies, banking facilities, post offices, and in particular the need to access health services. While many of these services are now offered online through advancing telecommunications technology, a parallel trend in Canada is that services are being centralized in urban centres thereby making any need to travel to such services increasingly difficult (Senate of Canada, 2008; Transport Canada, 2006).

A key set of services in which physical attendance is almost always necessary are the health services with one source stating that “without transportation, even a short distance to care can become an insurmountable problem. The opportunity for health care consumers to have a vehicle to transport them to a practitioner or facility is especially important in rural settings

where distances are relatively great, roads may be of poor quality, and public transportation is seldom available” (Arcury, Preisser, Gesler, & Powers, 2005).

Indeed, there is substantial literature on the need to access health services and the obstacles faced by rural residents with one source referencing “the growing evidence demonstrating an inverse relationship between the distance from a health care facility and its use” (Sherwood & Lewis, 2000). This situation has been found to be accurate in a recent article covering the situation of rural Canada (Pong et al., 2011).

Another study from rural North Carolina found that transportation was a major impediment to healthcare access (Arcury, et al., 2005). This study found that “those who had a driver’s license had 2.29 times more health care visits for chronic care and 1.92 times more visits for regular checkup care than those who did not” and that “respondents who had family or friends who could provide transportation had 1.58 times more visits for chronic care than those who did not” (Arcury, et al., 2005). Further still, this study found that the individuals with the greatest need for healthcare and public transportation as well as a recognized inability to drive themselves were older adults, more likely female, and in poorer physical and mental health (Arcury, et al., 2005). Finally, this study concluded that “it is the elderly who have the greatest limitations in the use of personal transportation (driving a car) as well as a great need for health care” (Arcury, et al., 2005).

Several additional studies have found a particular need for healthcare access among older adults residing in rural areas and issues of accessibility due to limited transportation availability. Such findings come from rural Vermont (Nemet & Bailey, 2000), the United Kingdom

(Sherwood & Lewis, 2000), Australia (Broome, Worrall, McKenna, & Boldy, 2010), and rural Manitoba (Hall, et al., 2003).

2.2.4 Access to Training, Education, and Employment

The final accessibility need for rural residents which will be discussed here is that of access to training, education, and employment. Indeed, the literature on the topic often identifies the need for transportation to access opportunities associated with training and education as well as the need to access employment for livelihood. The literature also identifies obstacles imposed upon several groups residing in rural areas due to their limited transportation options thereby inhibiting their access to these opportunities and essentials (Burkhardt, Hedrick, & McGavock, 1998; Cartmel & Furlong, 2000; Fletcher, Garasky, Jensen, & Nielsen, 2010; Site & Salucci, 2006).

In particular, within Canada low-income people, women, and youth residing in rural areas have been found to be at particular risk of being unable to access training, education, and employment opportunities due to transportation limitations (Garven & Associates, 2005; O'Leary, 2008; Senate of Canada, 2008). For instance, one study from rural Ontario found that 48 per cent of rural youth could not access employment due to transportation limitations (Herold & Kaye, 2001).

2.3 Mobility Limitations

“If one does not get around, then one is not normal in rural areas. One does not have a normal life if one cannot get around. It is essential to be able to get around for accessing all the normal things in life.” – Anthony Fuller, Professor, School of Environmental Design and Rural Development, University of Guelph (testifying as an individual), Evidence, October 31, 2006 (Senate of Canada, 2008).

A review of the literature on the topic of mobility limitations in rural areas identifies several demographic groups who often have unmet transportation needs thereby inhibiting the

mobility and accessibility necessary for quality of life. Indeed, for many rural residents the lack of mobility is synonymous with lacking or limited access to a personal vehicle, which for many groups presents a serious obstacle. This section will provide findings on the key demographic groups in rural areas identified as being transportation disadvantaged due to limitations on their mobility. The key question that this section hopes to answer is why certain groups are at risk of transportation disadvantage and face limitations in their ability to access the quality of life essentials presented in the previous section.

2.3.1 Older Adults

Probably the most recognized demographic group at risk of transportation disadvantage is older adults residing in rural areas. Older adults are typically presented as those 65 years of age and older with particular limitations arising around the age of 80-85 years (Rosenbloom, 1999). For a variety of reasons this group has been found to have mobility limitations resulting in restricted access to services, activities, and events. For instance, one finding from the United States indicates that “compared with older drivers, older non-drivers in the United States make: 15% fewer trips to the doctor; 59% fewer shopping trips and visits to restaurants; [and] 65% fewer trips for social, family and religious activities” (Bailey, 2004).

There is a considerable amount of research from Europe, Australia, the United States, and Canada on the limitations faced by older adults residing in rural areas, the unique transportation needs of these residents, as well as the looming challenges of aging populations alongside aging-in-place policies and preferences.

As people age they tend to face a number of limitations to their mobility including physical, mental, social, legal, and economic hurdles. These limitations also tend to be

exacerbated in rural areas where personal vehicles are the primary, if not only, mode of transportation. Indeed, while less common in rural areas, where general use public transportation does exist in a rural or small town setting, older adults are frequently found to be heavy users (CUTA, 2003; Transport Canada, 2006; P. White, 2011).

An unfortunate yet accepted fact is that as we age our physical and mental capabilities will diminish. This may be the result of natural causes, medical conditions, or even side-effects of medication (Owsley, 1999). Common issues include declining: eyesight, motor skills, reflexes, memory, and cognitive abilities (Owsley, 1999; Sylvestre, 2001). As well, in Canada the prevalence of such conditions is quite high, with one source stating that “23 percent of seniors 65 to 74 years old have a mobility-related disability, as do 43 percent of those older than 75” (CUTA, 2003). The result of such conditions may be an inability to operate a vehicle with one study from within the Canadian context, finding that “while declining health contributes to the loss of automobility, the percentage of drivers tends to decline rather slowly with age up to 85 years, with a substantial drop afterward” (Scott, et al., 2009). This finding was echoed in another study on older adults in rural Manitoba where “the cessation of driving due to health problems was reported to be a problem of particular significance” (Hall, et al., 2003).

A corresponding issue is that of older adults continuing personal vehicle operation when it is unsafe to do so. In rural areas, this situation is particularly problematic where few alternatives exist and where “older drivers who may not be physically or mentally fit to drive but, out of necessity, do so to satisfy personal and social needs” (Scott, et al., 2009). For instance, it has been found in a rural Canadian example that “the lack of public transportation (or a convenient alternative) was identified by service providers as the reason for seniors continuing to drive for longer than was safe to do so” (Gallagher, et al., 2008).

In addition to the physical and mental limitations resulting from aging, older adults in rural areas also often face social limitations which inhibit necessary mobility. Once older adults can no longer drive, or give up their license (voluntarily or otherwise) they become reliant on active transportation, public transportation, or rides from friends and family (Arcury, et al., 2005; NACA, 1993; Schaeffer & Sclar, 1980). However, for many older adults in rural areas public transportation is not available and active transportation is not an option due to distance or physical ability (Sylvestre, 2001). Indeed, older adults in rural areas are sometimes referred to as ‘transport dependent’ due to their high reliance on others in order to meet their transportation needs (Sylvestre, 2001).

Nevertheless, older adults residing in rural areas are subject to social limitations for accessing transportation. Findings from the United States have identified that many older adults are unwilling to ask for rides due to self-consciousness, feelings of dependency, or concerns over imposing on others (Bailey, 2004). This issue of dependency has also been identified in the rural Canadian context (Gallagher, et al., 2008; Hall, et al., 2003). For others, declining social ties have been found to reduce the availability of rides from friends and family. For instance, the dispersed nature of many families means that children often do not live in proximity to their parents as they have left the rural area to seek educational or employment opportunities elsewhere (Nemet & Bailey, 2000; Senate of Canada, 2008). Similarly, older adults often have different transportation needs that prevent them from accessing rides from volunteers. For instance, older adults often need transportation during the day for shopping or medical appointments (Gallagher, et al., 2008).

A third key transportation limitation for rural older adults comes in the form of legal constraints. As mentioned earlier, it is common for older adults to voluntarily give up their

license due to recognized limitations in physical or mental abilities. However, as also mentioned earlier, many older adults in rural areas continue driving out of necessity even when it is no longer safe to do so. This creates issues of driver safety and many sources (though not all) find that older adults are more prone to driving-related accidents (Scott, et al., 2009). In an effort to resolve this issue some jurisdictions have made efforts to revoke licenses from drivers deemed to be unable to maintain adequate road safety. For instance, in Ontario the *Senior Driver Renewal Program* was created due to safety concerns and requires that drivers 80 years of age and over undertake testing in order to renew their licence every two years (MTO, 2010c). However, such programs provide an issue for rural drivers who are dependent on their personal vehicles due to a lack of alternatives. Indeed, Schaeffer and Sclar (1980) state that revoking a driver's license means that a person is "legally prevented from going to work, shopping and generally taking care of personal business, unless a relative or friend who can drive is available." This same concern was found in older adults within the rural Canadian context in multiple studies and reports (Gallagher, et al., 2008; Hall, et al., 2003; Scott, et al., 2009).

The final key limiting factor for transportation access in older adults is economic barriers. Many older adults rely on limited or fixed incomes to meet their financial responsibilities. In some cases this means that the cost of owning and operating a personal vehicle is no longer affordable. Particularly in rural areas the inability to afford a personal vehicle has been shown to be a major cause of transportation disadvantage for some people within this demographic group (Scott, et al., 2009; Senate of Canada, 2008; Sylvestre, 2001).

2.3.1.1 Challenges

A key challenge associated with the transportation needs of older adults is the aging ‘Baby Boomer’ population currently being experienced by most ‘Western’ countries. The impacts of this trend can be particularly observed in rural areas which often have higher proportions of their populations in the eldest cohorts when compared to their urban counterparts. As described in the preceding sub-section, many rural areas will be faced with an increasing number of older residents who are unable to utilize personal transportation in order to meet their mobility needs. This raises questions about how these needs will be addressed with one potential method being public transportation provision.

While little has been written explicitly on this topic, several sources were identified that mentioned it as an emerging concern (Bailey, 2004; Transport Canada, 2006; TRB, 1999). For instance, one Canadian source states that mobility “issues related to aging will become more acute as it is projected that the national proportion of persons 65 and over will increase to 22.6% by 2041” (Sylvestre, 2001). This source goes on to emphasize the concern being that “the most rapidly growing segment of the senior population will be those over 80, [when] issues of mobility will become increasingly important due to the growing number of frail elderly requiring greater support”(Sylvestre, 2001). This trend may be particularly problematic for rural areas of Canada which presently have higher proportions of their population 65 years of age and older and are aging more rapidly than urban areas in the country (Dandy & Bollman, 2008).

Within the context of Ontario we see these national trends echoed. Indeed, the most recent Ontario Ministry of Finance population projects demonstrate that “the number of seniors aged 65 and over is projected to more than double from 1.8 million, or 13.9 per cent of

population, in 2010 to 4.1 million, or 23.4 per cent, by 2036” (MOF, 2011). Similar to Canada overall, those areas outside the Greater Toronto Area were also found to have higher proportions of their population 65 years and older (MOF, 2011).

Corresponding to the trend of a rapidly aging population in Canada is another trend towards ‘aging at home’ as opposed to aging in long-term care facilities. Indeed, Ontario has seen much discussion surrounding this option and has created its own *Aging at Home Strategy* (MOHLTC, 2010). This interest in encouraging aging at home is at least partly driven by economic considerations, with Canadian findings demonstrating that aging at home is a less costly alternative to conventional residential care for older adults (Laviolette, 2010).

However, in order to take advantage of the benefits of an aging in place strategy, transportation options must be available for those older adults who are still predominantly independent but who cannot drive for any reason, with one option being new or expanded public transportation service (Laviolette, 2010; Transport Canada, 2006). Indeed, one source reiterates the importance of available transportation and states that “what drives the aged finally to move to old-age homes or to their children’s home is frequently their inability to perform the local trip-making that is required to maintain a household” (Schaeffer & Sclar, 1980).

2.3.2 Physical or Mental Disability

Another key group at risk of transportation disadvantage are those with physical or mental disabilities. Indeed, the obstacles faced by this group are somewhat similar to older adults in that physical or mental conditions prevent the operation of a motor vehicle; licensing; or in some cases the use of conventional public transportation. The actual conditions that prohibit mobility and contribute to transportation disadvantage are quite varied and may be permanent,

life-long conditions, or temporary afflictions. The Canadian Medical Association lists the following medical categories which may result in an inability to operate a vehicle: diseases of the nervous system, sleep disorders, metabolic diseases, cardiovascular diseases, cerebrovascular diseases, peripheral vascular diseases, limited vision or hearing, respiratory diseases, renal disease, musculoskeletal disabilities, effects of anesthesia or surgery, and other general debilities (CMA, 2000).

In Ontario every driver must meet certain medical standards in order to be licensed for motor vehicle use. Indeed, Ontario Regulation 340/94 (s. 14) states that any applicant for, or a holder of, a driver's licence must not “suffer from any mental, emotional, nervous or physical disability likely to significantly interfere with his or her ability to drive a motor vehicle of the applicable class safely” (MTO, 2010a). Furthermore, Section 203 of the *Highway Traffic Act* states that:

Every legally qualified medical practitioner shall report to the Registrar the name, address and clinical condition of every person sixteen years of age or over attending upon a medical practitioner for medical services, who, in the opinion of such medical practitioner is suffering from a condition that may make it dangerous for such person to operate a motor vehicle. (MTO, 2010b)

This may result in the revocation of a license until the condition is reviewed by the *Medical Advisory Committee*. The following table presents the more common conditions that are to be reported to the Ontario Ministry of Transportation (MTO) for review by the *Medical Advisory Committee*.

Alcohol Dependence	Visual Field impairment
Drug Dependence	Diabetes or Hypoglycemia-Uncontrolled
Seizure(s)-Cerebral	Other metabolic diseases
Seizure(s)-Alcohol related	Mental or Emotional Illness-Unstable
Heart disease with Pre-syncope/Syncope/Arrhythmia	Dementia or Alzheimer's
Blackout or Loss of consciousness or Awareness	Sleep Apnea-Uncontrolled
Stroke/TIA or head injury with significant deficits	Narcolepsy-Uncontrolled
Both Visual Acuity and Visual Field Impairment	Motor Function/Ability Impaired
Visual Acuity Impairment	
Source: (MTO, 2009)	

As this group has a physical, and generally legal, inability to operate a motor vehicle, it should be quite clear why they would be at risk of transportation disadvantage while residing in rural areas. However, it is important to keep in mind that conditions may not be as apparent as one might assume. For instance, many conditions will allow for regular involvement in society, including employment, but may prohibit the use of a motor vehicle either permanently or temporarily. An example might include an injury or temporary mental condition which may not impact one's everyday life, but may make an individual unable or unfit to drive. This may cause considerable hardship in maintaining one's lifestyle and livelihood if transportation alternatives do not exist.

2.3.3 Youth

"Dependent always on some adult to drive them, children are unable to practice being adults. They cannot run so simple a household errand as picking up a carton of milk. They cannot bicycle to the toy store and spend their money on their own. They cannot drop in on mother at work. Most cannot walk to school. Even pickup baseball games are a thing of the past, with parents now required to arrange car-pooling with near-military precision, to transport the children at the appointed times. Children are frozen in a form of infancy, utterly dependent on others, bereft of the ability to introduce variety into their own lives, robbed of the opportunity to make choices and exercise judgement." - Andres Duany, Elizabeth Plater-Zyberk, Jeff Speck cited in (Gilbert & O'Brien, 2005).

Youth residing in rural areas are another group often at risk of transportation disadvantage due to both *de jure* and *de facto* conditions. Indeed, the prevalence of school bus

service in Canada demonstrates recognition that this group should have access to educational opportunities, nevertheless additional mobility needs have been found in the literature to be largely unmet for rural youth. For instance, several studies have identified that a lack of transportation is a major obstacle for rural youth and their ability to access social activities, employment, volunteering, after-school activities, as well as recreation and sports (Cartmel & Furlong, 2000; Cullinane & Stokes, 1998; Fuller & O'Leary, 2008; Gilbert & O'Brien, 2005; Herold & Kaye, 2001; SEU, 2003).

Various sources also demonstrate the very high reliance that rural youth have on alternative transportation including active transportation where it is feasible (CUTA, 2004). Youth have also been found to be very high users of public transportation where it is available (CUTA, 2004; P. White, 2011). Nevertheless, most rural youth still rely on other drivers, generally parents, to meet their transportation needs with one source stating that “youngsters below driving age have little independent mobility, but must rely on their parents to chauffeur them. In the one-car family they must wait until father is home from work so that he or mother can chauffeur them” (Schaeffer & Sclar, 1980).

The definition of *youth* does vary in the literature with different age cohorts experiencing different levels of transportation disadvantage. For instance, one source from Ontario presents independent travel as becoming important between the ages of 12-15 years and particularly important between the ages of 16-19 years of age (Gilbert & O'Brien, 2005). However, another source from Ontario made use of the United Nations' definition of youth, being 15 to 24 years of age (Herold & Kaye, 2001). This distinction is important as in Ontario driver licensing begins at 16 years of age and therefore those below this age are legally prohibited from driving. Nevertheless, it is also important to consider that even once a driver's license is acquired

obstacles still exist associated with license conditions, vehicle access, and affordability. Thus, regardless of the definition of youth, those in this group are often at risk of transportation disadvantage and reliant on alternatives to the car where they exist (CUTA, 2004).

The first issue inhibiting the mobility of rural youth can be found in driver licensing. In Ontario a system of graduate licensing exists with the first stage, referred to as a G1, being available at 16 years of age. However, a report by Herold & Kaye (2001) found that even once a driver's license is obtained, there are still several obstacles associated with the conditions of the graduated licensing system, particularly for rural youth where few alternatives exist. For instance, G1 conditions limit the time of day that youth may drive as well as the types of roads which they may utilize (i.e. no expressways) (Herold & Kaye, 2001). Nevertheless, the key condition under the G1 license is the requirement that the holder be accompanied by a fully licensed driver with a minimum of 4 years experience (Herold & Kaye, 2001). This severely restricts the independence of the youth as well as doing little to circumvent the issues of relying on others for a ride as the youth is tied to the availability of another driver. In order to progress to the G2 level youth must hold the G1 license for 1 year or 8 months if they participate in certified driver's education; assuming this is affordable and accessible (Herold & Kaye, 2001). At this time a driving test is taken, and if passed, the holder may drive independently and with fewer restrictions with the G2 license.

Therefore, until at least 17 years of age, rural youth in Ontario are heavily reliant on others in order to meet their transportation needs. Indeed, until age 16 rural youth require access to vehicles and drivers in order to be chauffeured to their destination. Even at the age of 16 when rural youth may drive themselves, they remain reliant on the availability of a car and driver-as-passenger effectively providing little improvement to their transportation access. Further still,

even after obtaining a G2 license many rural youth are still unable to afford the high costs of vehicle ownership thereby maintaining their reliance on a family vehicle, albeit no longer on an additional driver. Indeed, this has been a point raised in the literature that a one or even two-car household may not be meeting the transportation needs of its residents particularly if there are driver age children in the family (Schaeffer & Sclar, 1980).

A particular limiting factor for youth with G2 driver's licenses and above is the high cost of car ownership. Indeed, findings from one study of youth aged 15 to 24 residing in rural Ontario found that only 13 per cent owned a vehicle (Herold & Kaye, 2001). This makes the vast majority of youth completely reliant on a family vehicle being available at the times that they need it. As well, this source provides qualitative findings from youth indicating that the inability to afford the high cost of vehicle ownership is part of a vicious cycle and linked to the inability to access employment due to limited or unreliable vehicle access (Herold & Kaye, 2001).

2.3.4 Low-Income Households and Individuals

Another key group at risk of transportation disadvantage are members of low-income households residing in rural areas. In Canada, low-income is generally determined using one of three methods: Low Income Cutoffs (LICOs), the Low Income Measures (LIMs) or the Market Basket Measure (MBM) (Giles, 2004). Each measure incorporates different indicators and utilizes a different methodology. While the LICO measurement has been most commonly used it has also been criticised for underestimating the extent of low-income households in rural areas as it does not take transportation costs into account (Senate of Canada, 2008).

Nevertheless, while the definitions of *low-income* will vary between contexts the conditions of low-income households can be expected to be similar enough for comparison.

Indeed, this group may have difficulty affording the high costs of vehicle purchase and operation and therefore may be deprived of transportation for financial reasons. For instance, one study found that low-income households exhibit a “range of transportation problems that reflect a lack of driving skills, inability to obtain a valid driver’s license, lack of access to consumer credit, as well as the high costs of insurance, maintenance, and repairs” (Fletcher, et al., 2010).

In Canada, recent estimates state that operating and owning a car costs approximately \$8,883.85 per year (CAA, 2011). For rural Ontario, Statistics Canada states that as of 2009 and utilizing the Market Basket Measure thresholds for a reference family of two adults and two children a household making \$28,775 or less is considered low income (Statistics Canada, 2011). This means that a low-income family residing in rural Ontario would be spending approximately 30 per cent of their income on transportation alone. This figure might actually be higher when considering that in rural Canada “travel costs (for fuel and repairs) tend to be higher than in urban parts of the country” (Senate of Canada, 2008).

Moreover, some sources have found evidence that low-income households may still operate a vehicle they cannot actually afford thereby reducing the financial resources required for other necessities (Gray, 2000; Gray, Farrington, Shaw, Martin, & Roberts, 2001; Pucher & Renne, 2005). This also suggests that if alternative transportation were available in rural areas many low-income households would not operate personal vehicles (Gray, 2000).

It is also important to note that the transportation needs of a household may not be met by a single car. This means that low-income households who struggle to afford a single car likely have unmet transportation needs in their household, particularly for women or youth who may not have preferential access (Senate of Canada, 2008). Further still, sources have found that out

of necessity this single car may actually be older and less reliable thereby increasing maintenance costs and possibly increasing the risk of losing transportation access (Fletcher, et al., 2010; O'Leary, 2008).

A lack of access to transportation is a major issue for low-income households in rural areas. Indeed, studies consistently demonstrate the connection between transportation access and employment with one study from the United States finding that welfare recipients consistently mention access to transportation as a key barrier to employment (Fletcher, et al., 2010). Indeed, this study found “a positive correlation between car ownership and employment” with additional studies reinforcing causation (Fletcher, et al., 2010). Research from the United Kingdom shows similar findings (Cullinane & Stokes, 1998). Moreover, access to transportation is essential for finding employment as well as maintaining it with one source stating that “in job hunting a car is far more necessary than in holding a job” (Schaeffer & Sclar, 1980).

Finally, the literature on the topic also presents the increasing rates of personal vehicle ownership and assumptions of universal personal vehicle access as issues for low-income households residing in rural areas. While increased overall mobility may be expected to be a benefit for all rural residents, it has been argued that it may actually put low-income residents who cannot afford a personal vehicle at a greater disadvantage. Indeed, rural areas have seen a decline in local services with centralization in larger centres often only accessible by personal vehicles (Stokes, 2002). This is often not seen as a problem due to the assumption of near universal access, nevertheless those that cannot afford a vehicle are put at a greater disadvantage (Stokes, 2002).

2.3.5 Women

The final demographic group at risk of transportation disadvantage that will be described here is that of women residing in rural areas. While it would be inaccurate to suggest that all women living in rural areas are at risk of transportation disadvantage research has found that women living in non-car or single-car households often are (Cullinane & Stokes, 1998; Fuller & O'Leary, 2008; Garven & Associates, 2005; O'Leary, 2008; Purdon, 2002; Senate of Canada, 2008). In particular, sources assert that mothers with young children are at particular risk of transportation disadvantage (Gray, et al., 2001; Higgs & White, 1997).

The cause of transportation disadvantage among some rural women is that of a lack of access to a personal vehicle. Unlike older adults, youth, and the mobility impaired, rural women may be able to drive in legal and physical terms but lack the access to a vehicle in order to do so. For instance, one study undertaken in rural Ontario found that 65 per cent of women had normal access to a motor vehicle whereas 35 per cent had poor (intermittent) or no access to a motor vehicle (Fuller & O'Leary, 2008). This was found to be particularly true among low-income and unemployed participants who often reside in non-car or single-car households (Fuller & O'Leary, 2008). Similarly, research undertaken on women in Northern Ontario found that 47 per cent of respondents identified that transportation was a problem for them (O'Leary, 2008). This was found to be particularly true amongst those with incomes less than \$20,000 per year (O'Leary, 2008).

Moreover, it is often emphasised that women residing in one-car households may have unmet transportation needs with one author stating that “in households where a vehicle is shared, women may be considered to have the same transport options as a household without any cars”

(O'Leary, 2008). The rationale behind this perspective is that in one-car households the primary wage-earner is often the man thereby making the transportation needs of other family members secondary (O'Leary, 2008). While this traditional household structure is changing, it is still quite common and contributes to transportation disadvantage among women without transportation alternatives (Rosenbloom, 2004).

The issue of transportation disadvantage for women is often framed around access to employment, training, and education particularly due to the linkages between low-income and transportation disadvantage among this group. Indeed, findings from the United Kingdom indicate that rural women without reliable and consistent access to transportation alternatives are unable to access these services or must limit employment searches in terms of time or distance (Cullinane & Stokes, 1998). This limits the opportunity of these individuals to meet their economic potential and personal objectives.

Similarly, research from Ontario has found that access to transportation is a major obstacle for rural women in accessing employment, training, or education (Garven & Associates, 2005; O'Leary, 2008; Purdon, 2002). Again, this limits the income potential of some women and may thereby perpetuate the cycle of poverty (Garven & Associates, 2005; O'Leary, 2008; Purdon, 2002).

An additional, albeit less researched, issue for transportation disadvantaged women in rural areas is domestic violence. Indeed, multiple sources specific to rural Canada and Ontario have raised the linkage between lacking transportation access and increased risk of domestic abuse (Purdon, 2002; Senate of Canada, 2008; Stone, 2010). The linkage is explained by the fact that

without access to transportation women and children may be physically unable to leave abusive households and thereby remain stuck in an abusive relationship.

2.4 Opportunities

While there are several demographic groups in rural areas who often have unmet transportation needs there are also a few issues in rural areas that public transportation may help mitigate as well as provide community benefits. Indeed, the literature demonstrates that for rural communities, public transportation need not be seen as the last resort for those in need, but also as an opportunity to address existing or emerging issues.

2.4.1 Mitigation of Greenhouse Gas Emissions

The concern about overall greenhouse gas emissions has risen to the forefront in recent years with increased research and societal acceptance of climate change and its causes. Indeed, the transportation sector is commonly seen as a major contributor to greenhouse gas emissions due to the internal combustion engine releasing airborne pollutants such as: carbon dioxide, lead, carbon monoxide, nitrogen oxides, volatile organic compounds (VOCs), particulates, and sulphur dioxide (Cullinane & Stokes, 1998).

In particular, personal vehicles have been seen as a key contributor as well as an opportunity for reduction due to the prevalence of long commutes, congestion, and single-occupant vehicles. Within the rural context there is some disagreement over the contribution of personal vehicle use and greenhouse gas contribution. Overall, rural areas have a smaller population than urban areas and thereby, in absolute terms, contribute less greenhouse gas emissions. Rural areas also generally do not experience the same level of congestion as urban

areas which should result in fewer emissions as vehicles use less fuel per kilometre in uncongested conditions (Mees, 2010).

However, in per-capita terms there are questions surrounding the contribution of rural residents. For instance, Cullinane and Stokes (1998) state that:

Contrary to popular assumptions, vehicle use in rural areas does contribute considerable emissions on a per capita basis. In at least one study from the UK it was found that on a per capita basis rural residents actually contributed more emissions from transport than those in urban or intermediate areas with almost all of this resulting from personal vehicle use.

The authors explain this situation by stating that “while rural residents do not suffer the same congestion as their urban counterparts, they do tend to drive long distances at speeds above the optimum speed for car travel” (Cullinane & Stokes, 1998). Additional findings from the United Kingdom indicate that “people residing in rural areas on average produce nearly 50% more CO₂ from travelling than the national average” and that rural residents were “identified as those with the highest CO₂ per person per year, in particular for travel by car (as driver), which accounted for just under 2,000kg CO₂ per year” (CRC, 2008). Therefore, there may be a role for public transportation to play in improving the efficiencies of transporting rural residents and thereby reducing greenhouse gas emissions.

2.4.2 Alleviate Issues Associated with Increasing Fuel Prices

It can be argued that households in the most isolated areas, who are structurally dependent on the car (as opposed to merely reliant on it), who have a high annual mileage, and who may be among middle to low income groups could struggle to absorb the additional cost [of fuel] in the short to medium term, and face a reduced quality of life in the long term. This would involve enduring greater financial hardship, or disposing of a necessary vehicle with associated concerns for mobility, employment, housing and overall quality of life. (Gray, 2000)

The combination of increasing fuel prices and potential future fuel scarcity is an emerging issue within rural communities. This issue will have serious implications for the

sustainability of rural communities as well as the *price of rurality*. Indeed, rurality is defined by distance and population density and therefore, an increase in the price of distance will result in an increase in the price of rurality (Bollman & Prud'homme, 2006). In Canada, the price of transporting people has been rising over time driven largely by increases in fuel costs (Bollman & Prud'homme, 2006). Rural drivers face not only long distances but often pay more for fuel than in the urban parts of the country (Senate of Canada, 2008).

Findings from the United Kingdom reinforce the impact that increasing fuel prices have on rural communities with one source stating that “it has become accepted wisdom that rising fuel prices will have a devastating effect on rural communities” (Gray, 2000). Indeed, in a similar source Gray, et al (2001), investigated the incremental taxation system known as the *fuel duty escalator*, which increased the cost of fuel, through taxation, incrementally over time. The findings from this source indicate that this increasing fuel cost would bring significant impacts on the affordability of transportation in rural areas, and particularly for low-income households who were already making sacrifices to own and operate a vehicle (Gray, et al., 2001).

The role of public transportation in mitigating these impacts is currently not clear with little research on the topic. Indeed, in Ontario rural residents appear to be absorbing the recent increases in fuel prices, with the possible exception of low-income households however the evidence is scarce. Nevertheless, at least one study undertaken in rural and small towns in the Mid-Western United States found that “increasing fuel prices does have an impact on transit ridership though there is uncertainty over its long-term versus short-term impact as well as the degree to which people change their habits” (Mattson, 2008). Similar findings on increased ridership associated with increasing fuel prices come from the urban United States (Lane, 2010) and the United Kingdom (Cullinane & Stokes, 1998).

Irrespective of what evidence on past experience may tell us about the role of public transportation in alleviating the impacts of increasing fuel prices we may expect that it will play a much larger role in the future. This is particularly true when considering the possibility of much more rapidly increasing fuel prices or even the possibility of future fuel scarcity. Indeed, Cullinane and Stokes (1998) point out the flaws of assuming that technology will resolve these issues without changes in travel behaviour or mode. As well, in terms of energy efficiency, public transportation is a much better choice than personal vehicle use and may therefore be more favourable, if not necessary, in the future.

2.4.3 Reduce Instances of Impaired Driving

It is generally accepted that the rural areas of Canada have higher rates of impaired driving when compared with urban areas. For instance, a study from Alberta found that “impaired driving citations are issued at a three-fold higher rate in rural (versus urban) areas” (Kmet & Macarthur, 2006). As well, this source elaborates by stating that “given the low probability of encountering a police officer while driving, impaired driving citations likely underestimate the true impaired driving rate, and such underestimation is probably greater in remote rural areas compared with urban areas” (Kmet & Macarthur, 2006). A recent, albeit simple, analysis undertaken in rural Ontario found similar findings and states that “there were 2.4 convictions for 1,000 drivers. But in urban and suburban areas, where there is better access to public transportation, the rate was substantially lower, at 1.7 per 1,000. Indeed, the data suggests a strong link between impaired driving convictions and accessible public transit” (McGregor, 2011).

Another large study was undertaken in Atlantic Canada and provides further insight into the impaired driving behaviour of rural residents. Indeed, this study concentrated on youth and found that rural residence was an independent risk factor for riding with a drunk driver (Poulin, Boudreau, & Asbridge, 2006). This study further explains that:

Rural residence may be a structural determinant of adolescents' choosing to be a passenger with an alcohol impaired driver, due to the mechanism of having little if any access to public transportation, particularly at weekends and at night. In Canada, rural residence has also been found to be associated with a higher prevalence of drinking among adolescent males (Poulin, et al., 2006).

Again the issue of lacking public transportation in rural areas is raised. However, it should be noted that this link between impaired driving and a lack of public transportation is speculative as questions emerge as to whether impaired drivers would actually make use of this service. Indeed, the explanations for this situation are varied including social acceptance and, longer distances between home and establishments, in addition to a lack of transportation alternatives.

2.4.4 Macroeconomic Advantages

An additional opportunity associated with public transportation that has been raised in the literature is macroeconomic advantages. Indeed, some sources have mentioned the big picture advantages associated with enabling individuals to access training, education, and employment alongside the personal benefits associated with these opportunities. For instance, Cullinane and Stokes (1998) discuss the macroeconomic benefits of rural residents attaining their full productivity potential and state that:

Human resources cannot be used efficiently if individuals are constrained in economic terms by their lack of mobility and accessibility. If an individual with a particular skill does not use that skill because he cannot get to a workplace to apply that skill, besides being of concern to the individual in terms of their own income and fulfilment, it is inefficient from an economic point of view (Cullinane & Stokes, 1998).

Similarly, additional studies go further in an attempt to demonstrate benefits to employers, local business, as well as less tangible considerations such as costs of unmet social or health needs (Burkhardt et al., 1969; Burkhardt, et al., 1998; Harmon, 1995).

2.4.5 Cost Savings in Social Services

The final opportunity to be discussed here is the possibility of cost savings in service provision for social service agencies through the provision of public transportation. While little has been written on this topic explicitly it has shown through in some sources. For instance, as mentioned earlier there may be an opportunity to allow for a greater proportion of older adults to age at home if they are able to access their transportation related needs without a personal vehicle. As well, one study from Ontario suggests an opportunity to decrease healthcare expenditures for rural residents through the following findings:

The patterns with respect to risks of physician visits and hospitalization in Ontario were fairly consistent: rural residents, regardless of sex, were generally less likely to visit a physician than their urban counterparts, though they were more likely to be hospitalized for the same disease categories and for injuries and poisonings (Pong, et al., 2011).

This suggests that rural residents make use of less preventative or primary care and wait longer to seek medical attention, until it is too late and costly hospitalization is required. At least one other source confirms this situation (Gamm, Hutchison, Bellamy, & Dabney, 2002). Pong, et al (2011) elaborate on the causes of this issue with the following statement:

Variations in access to and utilization of health services may be a function of many things, not just the unavailability of services or resources in local areas. For instance, lack of means of transportation could deter some rural residents from seeking care that is available only in distant urban centres. Thus, solutions to the problem of lack of access do not reside exclusively in the health care domain and improving transportation services could be just as important (Pong, et al., 2011).

Furthermore, a study undertaken in rural North Carolina found that utilization of healthcare services may actually be influenced more by access to transportation rather than distance from the service (Arcury, et al., 2005). Therefore, while it is quite controversial, this suggests that centralization of social services may not be as problematic for rural residents as is commonly expected as long as adequate transportation alternatives are provided. Nevertheless, this is not an opinion commonly held in the literature.

Part 2: Public Transportation Models for Rural Areas

Part 1 of this literature review presented, in some detail, the issue of transportation disadvantage in rural areas. In this section, various models of general-use public transportation systems will be presented, which may be appropriate for addressing transportation disadvantage in a rural setting. While there are numerous models, and considerable literature on the topic, this section will present only a high-level description of the models. Their applicability for addressing specific transportation needs will be addressed elsewhere in this thesis.

2.5 Conventional Transportation Model

The *Conventional Transportation* model is also sometimes referred to as *Fixed-Route* and is the model generally found in urban centres. The overarching term *Conventional Transportation* covers such modes as rail, subway, trams, and full-size buses with fixed-routes (Cooper, Nelson, Wright, MacInnes, & Edwards, 2006). Indeed, this is reflected in a simple definition of Fixed-Route Transit as follows “this is the familiar ‘bus route’ in which a vehicle, usually a bus, travels a consistent path, stopping at specific locations at scheduled times one or more days each week. This model can be efficient in communities with dense populations and large numbers of people who have easy access to routes” (RTC, 2007).

In a rural setting, conventional transportation relating to intra-community transportation is less common due mainly to long distances and low ridership thereby making this model financially unviable or inefficient for most rural communities. However, examples from Canada do exist where inter-community transportation services will pick up passengers along their routes between urban areas creating a quasi intra-community transportation system serving rural areas. Examples of this include Chatham-Kent Transit Conventional Bus Service in Ontario and the often referenced Kings Transit in Nova Scotia. Nevertheless, there are some examples of true intra-community conventional transportation services within rural areas.

Sogn og Fjordane County, Norway

Sogn og Fjordane fylkeskommune is a rural county located in Western Norway. The county has a population of 108,124 and a land area of 17,676.11 km² resulting in a population density of 6.12 persons per km² (SSB, 2011b, 2012).

The county is responsible for the delivery of public transportation and operates buses and ferries through the public corporation *Fjord1*. The intra-community transportation offered within the county can be categorized as conventional as it makes use of full-size coach buses, is available to the general public, and has fixed-routes with regular stops along the way. Indeed, employees of the County of Sogn og Fjordane anecdotally stated that 80 per cent of their population was within a ‘short walk’ from a bus stop. Overall, the service resembles an urban public transportation service transplanted into a rural setting.

While the public transportation service in Sogn og Fjordane is available to anyone, there is a clear emphasis on youth. This includes a specific emphasis on access to education, including the local college. In addition, the county offers a program called “Safe home for a 50 crown bill” intending to deter impaired driving among youth by providing a safe and affordable alternative (Ness, 2010).

Nevertheless, while public transportation within this county is quite comprehensive, discussions with county employees found that the county may actually be over serviced by the bus system they have. Indeed, it was stated that buses often had few or no riders on some of their routes indicating that they were too large and/or too frequent to justify the population they served. Findings from Statistics Norway reinforce this observation being that the average bus size in the county is 42 seats while only 22 per cent of the system’s capacity is being used (SSB, 2011a).

2.6 Flexible Transportation Model

When compared with the Conventional Transportation model the Flexible Transportation model is considered to be more appropriate for rural areas. Indeed, this is reflected in the prevalence of this model in rural areas where public transportation exists (P. White, 2011). The term *flexible transportation* can be used to broadly cover a range of public transportation systems that do not use fixed routes and/or schedules.

The style most often associated with flexible transportation is Demand-Responsive Transportation, also referred colloquially as *dial-a-ride* transit. A basic definition of Demand-Responsive Transportation is provided by the United States' Federal Transit Administration which describes it as “a transit mode comprised of passenger cars, vans or small buses operating in response to calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations” (Ellis & McCollom, 2009). White (2011) expands upon this definition with the following:

Demand-responsive (DR) services, whose routing is varied according to passenger demand within a specified area. A typical form is the “many to one” operation in which a focal point such as a small market town, is served, with flexible routing within a catchment area around it. This could consist of wholly flexible patterns, in which the vehicular journey varies according to passenger demand, or a semi-flexible pattern, in which a loop route might be followed with variations, or a route between two fixed points with variations between them. The fixed point may also act as a transfer point to fixed-route interurban services providing links to larger centres.

Overall, the actual design of the service is quite flexible and can be adapted to meet the needs of rural residents and the context in which it operates.

While the feasibility of conventional transportation systems is often questioned, it has been argued that flexible transportation is actually becoming increasingly viable with advancements in transport telematics/Intelligent Transport Systems (ITSs) (Mulley & Nelson,

2009). Indeed, this new technology has overcome many of the issues with routing as well as time delays between booking and accessing transportation.

Connect2Wiltshire: Wiltshire, United Kingdom

While there are many examples of flexible transportation systems in operation across Europe and North America one of the most established examples is the Connect2Wiltshire system operating in Wiltshire, United Kingdom (Enoch, Ison, Laws, & Zhang, 2006). Connect2Wiltshire was initiated in 1998 by the local government with the original name *Wigglybus* and operates a range of services across the dispersed rural areas of Wiltshire (Enoch, et al., 2006). The service has been succinctly described as “a conventional hourly circular route bus service with a booking service and defined drop-off provision. The bus operates along a pre-defined route but ‘wiggles’ off to pickup passengers that have booked. All pick-up and drop-offs must be within the defined operating area” (DfT, 2010).

The Connect2Wiltshire system is divided into zones each with their own timetables, fares, and reservation requirements. For instance, the amount of time that a user must call ahead, or go online, to book a pickup will vary by zone ranging from 20 minutes to 24 hours ahead of time (Wiltshire Council, 2011).

According to the Department for Transport (2010) the aims of the service are to:

- provide an attractive transport alternative for those who already own a car;
- support social inclusion in rural areas for those without a car;
- prevent unsustainable and environmentally damaging patterns of travel in rural areas, especially faster than average traffic growth; and
- support local economic and social activity and regeneration in the countryside.

2.7 Community Transportation Model

Another important model is that of *Community Transportation* which is a broad term covering many forms of less formal public transportation provision generally offered by non-profit organizations, community groups, charities, or volunteers (Cullinane & Stokes, 1998).

Some forms of community transportation could include the following adapted from Cullinane and Stokes (1998):

- *Community Buses*: Systems resembling formal public transportation (conventional or flexible) however run by volunteers on a non-profit making basis.

- *Voluntary car schemes*: Transportation provided by residents making use of their own cars. These drivers may be reimbursed for the cost of gas or mileage. Examples might include coordinated volunteers providing rides for frail older adults; car pool coordination; or car sharing programs.
- *Free shoppers' buses*: Large retail outlets may provide free buses (shuttles) to some rural communities to transport shoppers to their outlets.

The level of government involvement will vary considerably depending on the style and context. For instance, governments may provide ongoing funding, start up funds, marketing support, in-kind support, or have no involvement at all.

Within the rural context community transportation is relatively common, however its presence has been described as an indicator of a failure of formal services to meet the needs of rural residents (Cullinane & Stokes, 1998). Indeed, community transportation can suffer from inconsistent funding or volunteers and may not meet all of the needs of rural residents on a consistent basis. This has been described in the United Kingdom where committed individuals from a previous generation are retiring with little interest in uptake from younger residents thereby making volunteer drivers hard to find in some cases (Cullinane & Stokes, 1998).

Another issue associated with community transportation is limitations imposed by regulatory, insurance, and liability concerns (Senate of Canada, 2008). Indeed, the high cost of insurance as well as regulatory constraints on organizational mandates has been found to be a serious limitation on community transportation service in rural Canada (Senate of Canada, 2008).

Bancroft Community Transit: Bancroft, Ontario

Bancroft Community Transit is a non-profit transportation service operated by volunteers and servicing the community of Bancroft, Ontario. Drivers are reimbursed for their mileage and riders, or sponsoring agencies, pay based on trip distance (BCT, n.d). The program is supported by the United Way, the Ontario Trillium Foundation, and the County of Hastings Social Services.

Bancroft Community Transit does not have a set catchment area for picking up or transporting passengers. Instead it is based on a range of organizations covering different populations in the Bancroft area. Based on a catchment area of Hastings County it can be estimated that Bancroft Community Transit services a population of 134,934 residents covering a land area of 6,103.48 km² resulting in a population density of 22.1persons per km² (Statistics Canada, 2012a).

The service offers door-to-door transportation based on passenger bookings which must be made at least 24 hours ahead of time (BCT, n.d). These appointments may be made using an online form, via email, or by telephone.

However, it is important to note that this service is not technically a general-use service as there are certain limitations on users and trip purposes. Nevertheless, these are quite broad and will cover a wide range of mobility and accessibility needs. For instance, due to the existence of other senior transportation Bancroft Community Transit is not available to those over the age of 55 (BCT, n.d). As well, it is only available to those registered with certain organizations, although the listing of eligible organizations is quite comprehensive and would cover each transportation disadvantaged group. Furthermore, according to the Bancroft Community Transit website the service is only available for the following purposes:

- legal appointments
- special programs
- counseling appointments
- medical appointments
- day care
- work placements
- necessities of life

Once again these eligibility requirements are quite broad and will incorporate most accessibility needs while reducing unnecessary mobility.

2.8 Private Taxi Model

The private taxi model pertains to the familiar service of a privately operated, and commercially motivated, service responding to clients' requests for transportation to a specific destination. Private taxis are very common in the urban areas of Canada and have a presence in rural areas, although are far from being uniformly available to rural residents across the country (Senate of Canada, 2008).

While private taxis are very flexible and generally feasible in areas with lower densities they still do require economies of scale in order to justify operations. Further, due to long distances in rural areas, taxi fares may be found to be too expensive for some groups (Mott MacDonald, 2008). Therefore, a mixed approach including privately operated taxis with subsidization from a local authority provides an opportunity to expand taxi service into areas generally considered financially unfeasible. This option has been found to commonly be used in Europe (CfIT, 2008; Mott MacDonald, 2008).

In terms of financial viability, sources have found that private taxis are often the best choice for low density areas where conventional or demand-responsive services cannot be justified (CfIT, 2008; Mott MacDonald, 2008; Mulley & Nelson, 2009; Site & Salucci, 2006). It should also be noted that the private taxi model can be adapted or mixed with other services with numerous cases from North American and Europe demonstrating innovation building from this model (CfIT, 2008).

Taxi Voucher or Subsidized Taxi Service

There are two primary models for delivering public transportation through the use of private taxis. First is the *taxi voucher* option where groups deemed to be in need of transportation are provided vouchers by a public agency which may be exchanged for private taxi service (CTAA, 2008). The goal of such programs are to provide incentives to private taxi providers to enter low-demand markets as well as to assist those with limited income in accessing transportation (CTAA, 2008).

An example of such a program can be found in the City of Olathe's Taxi Coupon Voucher Program in Kansas. This program offers vouchers to older adults, those with physical mobility limitations, and low-income individuals to be used for rides with private taxi companies. The program also divides trips into different trip purposes (employment, medical, groceries) each with varying costs which riders must contribute ranging from \$1.00 to \$3.00 per voucher (City of Olathe, 2012). The vouchers may then be claimed by the taxi companies for reimbursement by the city.

An alternative to taxi vouchers is subsidizing the taxi service itself rather than the riders. Under this option agencies seek tenders for private taxi companies to provide transportation services. The agency then provides some degree of funding to the private taxi service to reduce rates and/or provide services to areas they would not otherwise. An example of this model can be found in the Highland Council of Scotland where a range of private taxi operators exist with public subsidies to provide services within the context of a small and dispersed population (Highland Council, 2012).

2.9 Mixed-Services Model

A final, albeit least discussed, option for public transportation in rural areas is that of mixing services which already operate in these areas such as school buses and mail delivery. First, there has been recognition that school buses already operate a specialized public transportation service in rural areas which could be expanded. For instance, in Chesterfield County, North Carolina (APTA, 2007) and in Mason County, Washington (KFH Group, 2001) the school bus mandate was expanded to allow adults to utilize this existing service. Similarly, in Ystad, Sweden the *Byabussen* service was founded on a school bus service which was expanded into a general use public transportation service (Svanfelt, Morin, Fredriksson, & Andersson, 2006).

Moreover, the recent Transportation Demand Management Plan conducted for the County of Huron identified the opportunity to utilize school buses outside of school hours in order to address the transportation needs of the general public (MMM Group, 2011). Nevertheless, attempts to achieve this mixed-service model have met considerable obstacles from regulations and public opposition to students and adults riding together (Burkhardt, Nelson, Murray, & Koffman, 2004).

A second opportunity for mixing services in rural areas comes from combining passenger transportation with mail delivery. This model is generally referred to as a *Postbus* and has been utilized in the United Kingdom and Switzerland (P. White, 2011). The concept behind this option is quite simple in that mail delivery already takes place in most rural areas and an opportunity exists to increase the size of vehicles in order to accommodate passenger transportation. This could be in the form of transporting passengers between collection and sorting locations (inter-community) or along with the actual delivery of mail thereby resembling a fixed-route service (intra-community) (P. White, 2011).

Postbus: United Kingdom and Switzerland

The PostBus model has been implemented to some degree by several countries with varying success. For instance, the United Kingdom has seen a considerable decline in postbuses and today Royal Mail operates only a few lines with infrequent scheduling (Royal Mail, 2012). Overall, Royal Mail (2012) states that today they transport only 50,000 passengers per year across the entirety of the UK. Two key reasons for the decline in Postbus use in the United Kingdom are deregulation of public transportation as well as user dissatisfaction with very slow and indirect services (P. White, 2011).

Probably the most successful postbus service can be found in Switzerland. Indeed, PostBus Switzerland Ltd is the largest public transportation operator in Switzerland transporting more than 300,000 each day as well as winning tenders to operate public transportation in neighboring countries (PostBus, 2012). Nevertheless, while still associated with Swiss Post, the PostBus passenger transportation service is now largely separated from mail delivery.

A similar service, known as *Bussgods*, exists across Sweden and Finland which transports parcels and passengers in a shared vehicle (Bussgods, 2012).

2.10 Summary

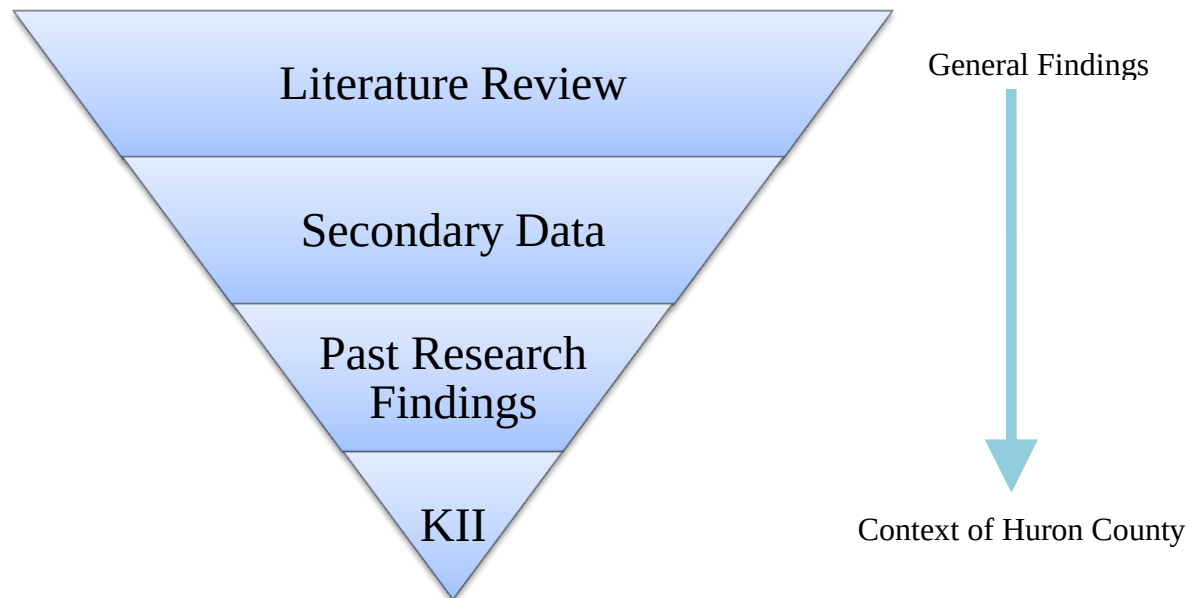
The following table provides a simple summary intended for comparison between each of the models discussed here. This table is based on observation and not a thorough evaluation of cases or the literature and is merely intended to provide a basis for further considerations.

Moreover, it should be noted that these are general observations on each model and that in practice each model is highly variable and can be adapted to meet the contexts and needs of their environment.

Public Transportation Model	User Considerations				Government Considerations		
	Frequency	Coverage	Cost (Fare)	Accessibility	Cost	Involvement in Delivery	Flexibility
Conventional	Medium-Low	Medium-Low	Medium-High	Low	High	High	Low
Flexible	Varies	Medium-High	Medium-High	High	High	High	High
Community	Varies*	Varies*	Medium-Low	High	Low	Varies	High
Private Taxi	Varies	High	High	Medium-High	Low	Low	High
Mixed-Services	Low	Low	Low	Medium-Low	Low	High	Low
* Community transit can take many forms ranging from coordinated volunteers to a fixed-route bus service.							

Chapter Three: Methodology

This study makes use of four separate research methods in order to develop and test a transportation disadvantage framework within the rural context. The four methods may be seen as an inverse pyramid with each level down becoming more context specific to the situation of Huron County.



3.1 Literature Review

The first method used for this research is that of a comprehensive literature review presented in Chapter 2. The methodology used for this undertaking was presented at the beginning of the previous chapter.

The purpose of the literature review is to provide a comprehensive look at past research on the topic of transportation disadvantage; underlying trends and considerations; and a high level overview of public transportation models available for addressing rural mobility needs. Resulting from this literature review was the transportation disadvantage framework which was

applied to the Huron County case study to evaluate the presence of transportation disadvantaged groups within this locale.

3.1.1 Transportation Disadvantage Framework

	Key Accessibility Needs					
		Social Inclusion	Access to Supplies	Access to Essential Services	Access to Training, Education, and Employment	Access to Shelters and Support
Transportation Disadvantaged Groups	Older Adults	✓	✓	✓		
	Physical or Mental Disability	✓	✓	✓	✓	
	Youth	✓			✓	✓
	Low-Income Households	✓	✓	✓	✓	
	Women	✓	✓	✓	✓	✓

3.2 Secondary Data

The second method utilized in this research was the collection of existing demographic data for Huron County. This was collected from Statistics Canada using the 2006 Census of Population as 2011 Census of Population data was not yet adequately available. Data on transportation related indicators was also collected from the Ontario Ministry of Transportation and existing transportation service providers located within Huron County. The purpose of this data collection was to provide context as well as the degree to which groups at risk of transportation disadvantage are present in the County.

3.3 Previous Survey Findings

This research incorporates findings from previous surveys undertaken in Huron County relating to transportation disadvantage. Individually, none of these studies have enough respondents to be statistically representative so, their results were only used to supplement the other findings of this research. Nevertheless, their findings are relevant and contribute to a more complete view of transportation disadvantage in Huron County.

3.3.1 Huron Transportation Taskforce Survey (2008)

Concluding on May 5th, 2008 the Huron Transportation Taskforce undertook a questionnaire based survey of service providers within Huron County. The task force distributed questionnaires to Nursing Home facilities, Long term care facilities, Employment Agencies, Social Service Agencies, Food banks and Learning Centres resulting in 256 responses returned from 12 agencies. This survey provides a look at transportation needs in the County through the lens of service providers rather than users.

3.3.2 Huron County Transportation Demand Management Study (2011)

MMM Group recently undertook a Transportation Demand Management (TDM) study on behalf of the County of Huron. This study utilized two research methods to gather public input on transportation in Huron County and the findings will be incorporated into this research. First, a questionnaire was available to the public online along with paper copies distributed at public information sessions. The survey was completed in May 2011 with 142 respondents.

Second, the TDM study undertook two public information sessions with the first being held on November 1, 2010 at the Rural Energy Expo and the second being held on March 25, 2011 at the Contactor's Expo in the Knights of Columbus Community Hall with 32 attendees.

The public information sessions provide qualitative findings in the form of comments from Huron County residents.

3.4 Key Informant Interviews

The final method utilized for this research is that of Key Informant Interviews (KII). These were undertaken with representatives of organizations working with each of the demographic groups deemed to be at risk of transportation disadvantage. A conscious attempt was made to have each demographic group equally represented by the participants resulting in each group being described by at least two participants that worked predominantly with these clients; in the end 14 key informant interviews were conducted. Due to the confidential nature of the interviews the organizations and individuals will not be named in this research and instead a general description of each participant is described in the following table.

	Primary Client Group(s)	Primary Service Category	Description
Participant 1 (P1)	Older Adults	Access to Essential Services (primarily health)	Participant 1 provides predominantly health related services to older adults in Huron County. This organization does provide its own formalized transportation for its client group.
Participant 2 (P2)	Low-Income Households	Access to Supplies	Participant 2 is a food bank located in Huron County. This organization does not provide transportation for its clients.
Participant 3 (P3)	Low-Income Households	Access to Training, Education, and Employment	Participant 3 provides services primarily to low-income households in order to help them access training, education, and employment at multiple locations in Huron County. This organization does not provide formal transportation for its clients.
Participant 4 (P4)	Older Adults; Physical or Mental Disability	Various (primarily health)	Participant 4 provides transportation for older adults and those with physical or mental disabilities in order to reach a range of destinations. However, the organization has an emphasis on health services.

Participant 5 (P5)	Various (Focus on older adults, youth, and low-income households)	Various	Participant 5 supports the delivery of a wide range of services primarily to older adults, youth, and low-income households. This organization does not provide transportation for its clients.
Participant 6 (P6)	Youth	Access to Shelters and Support	Participant 6 provides support and shelter to youth, specifically in their upper teens, in Huron County. This organization provides transportation as a last resort for medical appointments or other essential services on a case-by-case basis.
Participant 7 (P7)	Physical or Mental Disability	Various (essential services, employment, social inclusion)	Participant 7 provides a range of support for those with developmental challenges residing in the southern half of Huron County. This organization provides formal transportation for its clients to access its services as well as other needs.
Participant 8 (P8)	Physical or Mental Disability	Various (essential services, employment, social inclusion, supplies)	Participant 8 provides various services for those with mental illness residing in the southern part of Huron County. This organization provides transportation formally to access its own services and informally in few cases for external services.
Participant 9 (P9)	Youth	Social inclusion	Participant 9 provides social inclusion opportunities particularly through the form of recreation. This organization works with youth particularly 10 years and older with clients across Huron County. This organization does not provide any transportation assistance to its clients.
Participant 10 (P10)	Low-Income Households	Essential Services; Access to Training, Education, and Employment	Participant 10 provides financial assistance to low-income households throughout Huron County as well as support in accessing training, education, and employment. This organization provides transportation for its clients to access medical appointments and some employment, education, and training purposes.
Participant 11 (P11)	Physical or Mental Disability	Various (essential services, employment, social inclusion, supplies)	Participant 11 provides various services for those with mental illness residing anywhere in Huron County. This organization provides

			transportation formally to access client needs where necessary. However transportation is not a major, or advertised, component of their service delivery.
Participant 12 (P12)	Youth	Social inclusion; Skills training	Participant 12 provides social, recreational, and learning opportunities for young children (under 10) as well as skills training and other learning opportunities to their parents. This organization does not provide transportation but does conduct its services throughout Huron County in an effort to bring the service closer to rural clients.
Participant 13 (P13)	Women	Access to Shelters and Support	Participant 13 provides access to shelters and support services for a range of clients but with an emphasis on women. For those facing domestic abuse, Participant 13 provides transportation for a range of purposes including access to shelters and counselling, among other support services.
Participant 14 (P14)	Women	Access to Shelters and Support	Participant 14 provides access to shelter and support. This organization operates a women's shelter in Huron County as well as providing a crisis line; counselling; advocacy; housing search support; among other supports for women facing a crisis of any kind. This organization provides transportation in order to access their own services as well as for accessing health and other essential services for their clients.

The purpose of these interviews was to test the transportation disadvantage framework with context specific information and the experience of service providers. The interviews also helped to provide qualitative information to supplement the demographic data and past study findings.

Chapter Four: Case Study: Huron County, Ontario

The transportation disadvantage framework presented in the previous chapter will now be tested in Huron County, Ontario. This section will begin with a description of Huron County, followed by a presentation of overall transportation indicators before finally addressing the mobility limitations and accessibility needs of specific demographic groups.

4.1 Background and Context

Huron County is located in Southwest Ontario along the shore of Lake Huron (see map in Appendix D). As of the 2006 Census of Population Huron County has a total population of 59,325 and an area coverage of 3,396.68 km² resulting in a population density of 17.5 persons per km² (Statistics Canada, 2010). Appendix C also presents graphs depicting the age structure of the county's population in 2006 as well as projections for 2036. These images show that Huron County presently has a large portion of its population in the elder cohorts; moreover projections demonstrate an aging population.

In terms of economics, Huron County is widely recognized as an agriculturally based community, which is reinforced by the significant employment presence of residents in the agricultural sector (Statistics Canada, 2010).

The population of Huron County is also quite dispersed as opposed to a few major settlements containing the majority of the population. Indeed, the settlement pattern of Huron County is similar to other agricultural areas of Southern Ontario where populations are not concentrated solely in settlements but also dispersed across farms and small hamlets. Correspondingly, due to the timing and style of development in Southern Ontario, Huron County is based on a concession system resulting in a grid pattern of lots and roadways. Nevertheless,

residents of Huron County do travel frequently to the larger urban centres of Stratford and London which are approximately a 20-30 minute drive from the border of the county (see Appendix D). The interviews reinforced that residents frequented these locations with much higher populations in order to access higher order services, such as complex medical procedures, or in some cases for employment.

The Huron Transportation Task Force Report estimates that of Huron County's 59,325 residents, 20,500 (35%) reside in towns while the remaining 38,825 (65%) live in one of the villages or countryside areas (Croteau, 2008). The 2011 Census of Population identifies the seven *population centres* of Huron County as being Brussels (1,157), Clinton (3,114), Exeter (4,785), Goderich (7,521), Hensall (1,173), Seaforth (2,627), and Wingham (2,875) (Statistics Canada, 2012c). These communities are the most densely populated settlements in the county and will therefore contain the majority of higher order services. Below these population centres Statistics Canada defines *designated places* as being Bayfield (1,023), Blyth (1,005), and Zurich (865) (Statistics Canada, 2012b).

This is the lowest geographical level that Statistics Canada provides; nevertheless the County of Huron Official Plan identifies numerous hamlets and villages present in the county with the terminology of secondary and tertiary settlement areas (County of Huron, 2010). Examples of secondary settlements include Dashwood, Belgrave, and Egmondville while examples of tertiary settlements include Belfast, Henfryn, and Nile (County of Huron, 2010). Little information is available on these smaller communities however they are important for consideration as they may contain lower order services meeting some needs of local residents, such as a post office, a small food retailer, or a church. As well, in discussions of a transportation network in the county these dispersed hamlets and villages may serve as collection points for a

feeder system serving their periphery and coinciding with an inter-community service linking these smaller settlements to the larger population centres.

Overall, these are important considerations for transportation within Huron County as the dispersed nature of the population results in long travel distances thereby limiting non-recreational opportunities for active transportation modes. Therefore, the dispersed settlement pattern results in a significant portion of the population living outside of the main settlements (approximately 65%), where most services will exist. This large share of the population can be expected to be structurally dependent on personal vehicles due to a lack of alternative transportation options.

4.2 *Rurality of Huron County*

Regardless of the definition used, Huron County can be classified as a *rural area*. In Canada there are three main methods of classifying *rural areas*: the Metropolitan Influence Zone (MIZ) typology, the Census rural population, and the OECD Regional typology. According to the MIZ typology Huron County is classified as a rural area with a weak MIZ meaning that more than 0 per cent but less than 5 per cent of the employed labour force living in the County works in an urban core (CID, 2011; du Plessis, Beshiri, Bollman, & Clemenson, 2002). Similarly, Huron County is considered to be a predominantly rural area through the Census definition, which states that 60 per cent of Huron County's population resides outside centres of 1,000 or more inhabitants and outside areas with a population of 400 or more inhabitants per square kilometre (CID, 2011; du Plessis, et al., 2002). Finally, according to the OECD Regional typology Huron County is classified as a rural non-metro-adjacent region (CID, 2011).

Furthermore, an additional rural classification is used by the Government of Ontario referred to as the *OMAFRA Working Definition of Rural*. Quite simply, this definition identifies rural areas as being all of Ontario outside the Province's nine largest urban areas (OMAFRA, 2009). Once again, Huron County would be identified as rural when using this definition. Overall it is clear that Huron County is a *rural area* and therefore presents a valid case study of a rural Ontario jurisdiction for this research.

4.3 Transportation in Huron County

This section will provide a look at the existing transportation situation for Huron County. It includes information on vehicle ownership, mode usage, and existing alternative transportation options. Overall, it clearly demonstrates that the residents of Huron County are structurally dependent, as opposed to merely reliant, on personal vehicles in order to meet their transportation needs.

4.3.1 Drivers in Huron County

Information on the number of licensed drivers within Huron County is unfortunately not available. Nevertheless, the number of prospective drivers is available using 2006 Census of Population data. Indeed, considering the age at which drivers may obtain a license where they can drive alone (17 in Ontario) and the age at which drivers are expected to be less safe, and thereby tested for capabilities (80 in Ontario), a range of 17-79 years of age can be expected. Therefore, it can be estimated that, as of 2006 data, there are 45,253 residents of Huron County within the eligible age range for driver licensing (Statistics Canada, 2006b).

4.3.2 Personal Vehicle Ownership

The accompanying Table 1 presents the vehicle population totals for Huron County as provided by the Ontario Ministry of Transportation. When considering non-recreational personal transportation vehicles (passenger, motorcycles, and mopeds) it is found that Huron County contains 32,379 personal vehicles.

One way of contextualizing this information is through the use of the personal vehicle saturation level which, when reached, means that “all those aged between 17 and 75 who are likely to want, or be able to use, a car actually have one” (Cullinane & Stokes, 1998). The

personal vehicle saturation level is measured as a rate per 1000 and is generally accepted to be between 600 and 700 personal vehicles per 1000 inhabitants within the European and North American contexts (Christidis, Hidalgo, & Soria, 2003).

However, one source estimates the personal vehicle saturation level for Canada specifically at 845 per 1000 (Dargay, Gately, &

Sommer, 2007). Nevertheless, given the figures for Huron County it is found that the ownership rate is only 546 per 1000 residents.¹ This is well below the anticipated saturation levels, and given the limited transportation alternatives present within Huron County, may indicate an unmet transportation need.

Table 1 Vehicle Population Totals for Huron County, Ontario (31 December 2011)	
Passenger	30,775
Motorcycles	1,590
Mopeds	14
Commercial	14,559
Buses	80
Trailers	21,890
Snow Vehicles	3,355
Off-Road	3,441
Source: Brazier, T. (email correspondence with MTO: Licensing Services Branch, February 17, 2012).	

¹ Note that this number may be skewed by farm vehicles being registered as commercial but also used for passenger transportation.

4.3.3 Travel Patterns in Huron County

The previously completed TDM Study (2011) survey identified some basic travel patterns among respondents in Huron County. Table 2 indicates, as can be expected, survey respondents travel internally within Huron County very regularly and outside the county much less frequently. This suggests that Huron County residents would benefit most from an intra-community transportation system based on their regular travel patterns.

Table 2						
Where, and how often do you travel to/from most?						
Answer Options	Every day	A few times a week	A few times a month	A few times a year	Never	Response Count
Within my neighbourhood	112	20	0	0	0	132
Within my town/village	100	30	1	0	1	132
Within Huron County	59	52	28	4	0	143
Outside of Huron County	11	30	72	20	2	135
<i>answered question</i>						147
<i>skipped question</i>						2
Source: (MMM Group, 2011)						

4.3.4 Transportation Mode in Huron County

4.3.4.1 Mode of Transportation Overall

According to findings from the TDM Study (2011) survey, respondents from Huron County were very reliant on personal vehicles to meet their transportation needs. The survey indicated that the vast majority of respondents drove a vehicle daily to reach their destinations while almost none used public transportation or taxis to meet their transportation needs.

“I’ve started walking and people stop because they assume my car must have broken down. It doesn’t look like something people would naturally do in the country” (Interview Participant 12).

A significant number of respondents did walk to reach their destinations however it may be

expected that these respondents lived in settlements which are inherently more walkable than the countryside areas of the county. The remainder of the findings are presented in Table 3.

Table 3 How often do you use the following transportation options to reach your destination?						
Answer Options	Every day	A few times a week	A few times a month	A few times a year	Never	Response Count
Drive a vehicle	104	28	4	2	5	143
Carpool or vanpool	2	8	23	33	51	117
Ride a bike	4	31	26	31	31	123
Walk	33	43	31	16	10	133
Passenger in a vehicle	5	44	47	24	8	128
Transportation service (such as Town and County Support Services)	0	3	1	4	112	120
Taxi	1	2	3	23	94	123
Other						9
<i>answered question</i>						147
<i>skipped question</i>						2
Source: (MMM Group, 2011)						

4.3.4.2 Mode of Transportation to Work

The following table provides figures obtained from the 2006 Census of Population detailing the mode of transportation used to access work. These figures provide some insight into the transportation mode used by residents of Huron County, as well as the availability of alternatives. However this indicator does have important drawbacks. For instance, it does not account for those without employment, such as some youth, older adults, mobility impaired individuals, or some low-income households; all of which are deemed to be at particular risk of transportation disadvantage. Similarly, it only accounts for those able to reach employment through some transportation mode and does not account for those unable to gain employment

due to a lack of transportation. Therefore, it should not be considered to be a proxy for transportation availability for all residents within the County.

Table 4						
Mode of transportation to work, Huron County (2006)						
	Total		Male		Female	
	#	%	#	%	#	%
Total employed labour force 15 years and over with a usual place of work or no fixed workplace address	25,820	100.00	13,740	100.00	12,075	100.00
Car, truck, van, as driver	20,735	80.31	11,300	82.24	9,435	78.14
Car, truck, van, as passenger	1,815	7.03	855	6.22	960	7.95
Public transit	65	0.25	30	0.22	40	0.33
Walked or bicycled	2,900	11.23	1,370	9.97	1,530	12.67
All other modes	300	1.16	185	1.35	115	0.95
Source: (Statistics Canada, 2010)						

The preceding table demonstrates that the labour force of Huron County is heavily reliant on the personal vehicle for accessing employment. Indeed, 87 per cent of those employed in Huron County use a personal vehicle, as driver or passenger, in order to reach their workplace; whereas, only 0.25 per cent made use of public transportation. Therefore, given the limited alternatives available within the County it is reasonable to surmise that the majority of the labour force of Huron County is structurally dependent on personal vehicles in order to access employment.

Another point relevant for consideration is the differentiation between male and female transportation modes. Indeed, these findings demonstrate that females employed within Huron County made less use of a personal vehicle as a driver and instead were more often passengers or utilized alternatives such as public or active transportation when compared with males. This

suggests that females working within the County may have less access to a personal vehicle when compared to males.

4.3.5 Existing Intra-Community Public Transportation Services

Huron County presently has very few transportation alternatives to the personal vehicle.

In terms of general use, intra-community transportation there are only private taxi companies with varying degrees of coverage and availability. According to the recently completed TDM Plan for Huron County, the

“There is no public transit in the county so we have a joke that you stand on the corner a long time in Huron County waiting for a bus”
(Interview Participant 12).

County has nine taxi companies with the following characteristics:

Of the nine companies, one (Huron Taxi) operates 24 hours, but only serves Clinton and its surrounding area. Another two companies (Star Taxi and Goderich Taxi) operate county-wide, 6:30 AM to 11:00 PM, Sunday through Thursday, extending their hours to 1:30 AM on weekends. Exeter Taxi serves the urban area of Exeter and operates from 7:00 AM to midnight Mondays through Thursdays, extending hours until 3:00 AM on weekends, and reducing hours on Sunday to 10:00 AM to midnight. B&B Taxi operates in Goderich from 6:45 AM to midnight, Mondays through Thursdays, extending its hours to 2:00 or 3:00 AM on weekends. Finally, A1 Taxi operates within Huron County and outside the County’s boundaries, making trips as far as Toronto between the hours of 7:00 AM (6:00 AM in St. Mary’s) to midnight Mondays through Thursdays, extending its hours to 2:00 or 3:00 on weekends. (MMM Group, 2011)

The report also comments on gaps in the taxi service relating mainly to limited coordination of the various independent companies as well as issues of affordability for groups at risk of transportation disadvantage.

4.3.6 Specialized Transportation in Huron County

While general use, intra-community transportation service is limited within Huron County, there are specialized transportation services in operation that provide important services to specific demographic groups. The first service is that of *Huron Perth Student Transportation*

Services, which provides transportation specifically to youth for the purpose of attending primary or secondary school within the Avon Maitland District School Board or the Huron-Perth Catholic District School Board.

In addition to the school bus service provided for youth, specialized transportation also exists within Huron County for older adults and those with disabilities. Indeed, the *EasyRide* service represents a partnership of six community support agencies from Huron and Perth Counties that provides demand-responsive service for older adults and those with disabilities (OneCare, 2012a). EasyRide provides door-to-door transportation through volunteer drivers, wheelchair accessible vehicles, as well as vans, cars and

Table 5 OneCare Huron Trip Purpose April 1 – December 31, 2011		
	#	%
Total	3,262	100.00
Adult Day Care	1,654	50.71
Medical	629	19.28
Shopping/Errands	363	11.13
Dialysis	154	4.72
Social	383	11.74
Source: Orchard, W. (email correspondence with ONE CARE Home and Community Support Services, March 05, 2012).		

taxis which are coordinated through a central dispatcher (OneCare, 2012a). The purpose of the service is to provide transportation for older adults and those with disabilities in order to access appointments, shopping, errands or social activities, as presented in Table 5. EasyRide will also provide transportation to health services for individuals in the Ontario Works program or the Ontario Disability Support Program (ODSP).

However, it should be noted that a report undertaken by Dillon Consulting in 2010 found that the level of service provided in Perth County was much higher than in Huron County, which is reflected in the number of trips made in each county. Indeed, this report found that 12,326 (0.21 per capita) trips were made in Huron County annually whereas 59,984 (0.81 per capita) were made in Perth County (Dillon, 2010). The report concluded that this suggests an unmet transportation demand within Huron County.

Furthermore, it is important to note that OneCare, the lead agency of EasyRide, also offers homecare services to older adults and those with disabilities thereby reducing the need to travel for some accessibility purposes (OneCare, 2012b). According to the OneCare website these services include:

- In-Home Personal Support: Personal care is provided by certified Personal Support Workers.
- Home Support/Home Help/Respite: Assistance with household chores and daily tasks. Respite care when the family care-giver needs a break.
- Meals on Wheels: Delivery of nutritious, affordable hot and frozen meal programs.
- Reassurance: A volunteer checks in regularly (in-person or by telephone) to ensure all is well.
- Home at Last: (HAL) A free service to help aging adults and those with special needs to settle in at home safely and comfortably after a stay in hospital.

While not transportation services, these are important considerations as they allow for accessibility without personal mobility for older adults and those with disabilities.

4.4 Recognized Transportation Issues in Huron County

Past reports undertaken in Huron County have regularly identified that transportation is an issue for some residents. For instance, the *Community Priorities Initiative* undertaken in 2006 by the Huron United Way identified that personal transportation was a key area of concern among participants. In particular, the study's survey found that a lack of public transportation was identified as being the second most significant problem facing the respondents' community behind only the issue of finding a doctor. The issue of access to personal transportation also regularly arose during focus groups and town hall meetings undertaken throughout the county as part of this study.

Similarly, the recently completed TDM Study (2011) found that transportation was an issue for survey respondents. For instance, Table 6 presents some particular issues surrounding the presently available transportation options within Huron County.

Table 6 What do you think are barriers to available transportation options in Huron County? (Check all that apply).		
Answer Options	Response Percent	Response Count
The cost	73.7	84
Limited service area/distance between home and destinations	64.0	73
Lack of options/services available	72.	83
Limited hours of service	46.5	53
Limited knowledge of the options available	37.7	43
Other (please specify)		6
<i>answered question</i>		114
<i>skipped question</i>		35
Source: (MMM Group, 2011)		

Moreover, this study found that respondents often stated that the option for public transportation provision was a valued improvement to the transportation system. This is demonstrated in Table 7 derived from an open-ended question in the TDM Study (2011) survey.

Table 7 In your opinion, what are the top three transportation improvements in Huron County that you would like to see?		
Ranking	Answers Relating to Public Transportation	Total Responses
1	42	109
2	33	89
3	23	70
<i>answered question</i>		109
<i>skipped question</i>		40
Source: (MMM Group, 2011)		

Chapter Five: Transportation Disadvantage in Huron County

This chapter presents the results of the case study research intending to test the transportation disadvantage framework presented in Chapter 3 (page 50). The results are presented according to each of the demographic groups found to be at risk of transportation disadvantage by assessing the mobility limitations of these groups as well as their accessibility needs specific to the context of Huron County. Moreover, each section will present findings relating to trends within the county which may be expected to impact personal transportation. Finally, necessary design characteristics for a potential transportation service will be discussed based on the unique needs and capabilities of each demographic group.

5.1 Older Adults

Like much of rural Ontario, Huron County has a relatively large proportion of its population in the eldest age cohorts. As described in Chapter 2, in discussions of transportation it is relevant to consider two distinct groups of older adults. The first are those aged 65 to 84 years of age who often face mobility limitations and those aged 85 years and over who are most at risk of transportation disadvantage.

With regard to those 65 to 84 years of age Huron County has a relatively high proportion of its population within this cohort. As presented in Table 8, Huron County had 15.43 per cent of its residents within this cohort in 2006, notably higher than the province of Ontario overall. As well, it is apparent that the proportion of this age cohort is increasing in both the province and Huron County.

Table 8: Older Adults in Huron County (Aged 65-84)						
	1996		2001		2006	
	# aged 65 - 84	% aged 65-84	# aged 65 - 84	% aged 65-84	# aged 65 - 84	% aged 65-84
Huron County	9,275	15.40	9,180	15.38	9,155	15.43
Ontario	1,209,195	11.24	1,322,095	11.59	1,457,370	11.98
Source: Statistics Canada, Census of Population (1996, 2001, 2006)						

Furthermore, population projections produced by the Ontario Ministry of Finance demonstrate that the population of Huron County aged 65 to 84 is expected to increase significantly in the near future. Table 9 demonstrates that this age cohort is expected to increase to a considerable proportion of the population in Huron County as well as within Ontario overall. Nevertheless, Huron County is expected to see a rapid increase in this age cohort rising from 18.47 per cent of the total population in 2016 to 27.31 per cent in 2031.

Table 9: Population Projections for Older Adults in Huron County (Aged 65-84)								
	2016		2021		2026		2031	
	# aged 65 - 84	% aged 65-84	# 65 - 84	% aged 65-84	# aged 65 - 84	% aged 65-84	# aged 65 - 84	% aged 65-84
Huron County	11,110	18.47	12,950	21.53	14,990	24.91	16,370	27.31
Ontario	1,948,700	13.73	2,335,460	15.50	2,799,600	17.53	3,241,070	19.21
Source: (MOF, 2011)								

Similar findings are identified for the 85 years and older age cohort residing within Huron County. As shown in Table 10, the proportion of older adults aged 85 and older is not significant, nevertheless is growing rapidly in Huron County increasing from 1.71 per cent of the total population in 1996 to 2.47 per cent in 2006. As well, the proportion aged 85 and older residing in Huron County remains higher than in the province overall and is increasing significantly faster. This is important to note as those within this age group typically exhibit the greatest need for mobility support as well as healthcare access.

Table 10: Older Adults in Huron County (Aged 85 and older)						
	1996		2001		2006	
	# aged 85+	% aged 85+	# aged 85+	% aged 85+	# aged 85+	% aged 85+
Huron County	1,030	1.71	1,205	2.02	1,465	2.47
Ontario	124,910	1.16	150,075	1.32	191,810	1.58
Source: Statistics Canada, Census of Population (1996, 2001, 2006)						

Furthermore, Table 11 demonstrates that the 85 and older age cohort is projected to increase at a considerable rate as a proportion of Huron County's population. Indeed, these Ministry of Finance projections show that this age cohort is expected to increase from 2.91 per cent in 2016 to 4.22 per cent in 2031. While these proportions are smaller than in Ontario overall they remain considerably high in Huron County and can be expected to have a significant impact on transportation within the county due to the needs of this age group.

Table 11: Population Projections for Older Adults in Huron County (Aged 85+)								
	2016		2021		2026		2031	
	# aged 85+	% aged 85+	# aged 85+	% aged 85+	# aged 85+	% aged 85+	# aged 85+	% aged 85+
Huron County	1,750	2.91	1,870	3.11	2,150	3.57	2,530	4.22
Ontario	478,430	3.37	530,210	3.52	644,160	4.03	845,100	5.01
Source: (MOF, 2011)								

The following sub-sections will assess the degree to which older adults in Huron County experience transportation disadvantage. The key source of information is the interviews conducted in Huron County with service providers working with older adults. In particular, Participants 1, 4, and 5 provided the most relevant information for this demographic group. A summary of these organizations is provided in the following table:

	Primary Client Group(s)	Primary Service Category	Description
Participant 1 (P1)	Older Adults	Access to Essential Services (primarily health)	Participant 1 provides predominantly health related services to older adults in Huron County. This organization does provide its own formalized transportation for its client group.
Participant 4 (P4)	Older Adults; Physical or Mental Disability	Various (primarily health)	Participant 4 provides transportation for older adults and those with physical or mental disabilities in order to reach a range of destinations. However, the organization has an emphasis on health services.
Participant 5 (P5)	Various (Focus on older adults, youth, and low-income households)	Various	Participant 5 supports the delivery of a wide range of services primarily to older adults, youth, and low-income households. This organization does not provide transportation for its clients.

5.1.1 Mobility Limitations of Older Adults

“Huron has so many pockets of small towns and villages. There are people who live way up in North Huron who are half an hour or more from the nearest grocery store and have always lived on the same farm and we get clients in their 80’s who say ‘my husband and I own this farm and we’re not moving but we don’t have a car’. You hear more and more of this, it’s not stopping, it’s not a need that’s diminishing.” (P4)

Within Huron County it is widely accepted that older adults experience mobility limitations for a variety of reasons. This research identified that older adults residing in Huron County faced mobility limitations due to physical/mental conditions; social reasons; legal restrictions; financial barriers; and other practical reasons.

Probably the best known mobility limitation for older adults is that of physical or mental conditions which can inhibit the use of an automobile. Indeed, Table 12 demonstrates that much of Huron County’s older adult population has some form of disability with 33 per cent of those aged 65 to 74 and 56.3 per cent of those 75 and older being found to have some form of

disability. This issue also arose during the key informant interviews, for instance, Participant 1(P1) noted that many of their older clients had visual impairments or were wheelchair bound due to deteriorating health. Similarly, both P1 and P4 mentioned that they had older adult clients with deteriorating mental health such as Alzheimer’s disease or dementia that prevented them from operating a vehicle. Finally, Participant 5 stated that even in walkable communities older adults are often unable to walk to destinations due to physical inabilities.

Table 12: Incidence of Disability by Age Group (2006)	
Age Group	Percent of Total Population with Disabilities
0 – 14 years	3.7
15 – 64 years	11.5
65 – 74 years	33.0
75+ years	56.3
Total Population	14.3
Note: Disability is defined as “a condition that limits everyday activities because of a condition or health problem” Source: (Dillon, 2010)	

In addition to physical and mental disabilities, seniors residing in Huron County can also face limitations for social reasons. For instance, both P1 and P4 raised the concern that older adults were not utilizing their service due to the unavailability of transportation and an unwillingness to ask for help due to pride or valuing independence. Indeed, Participant 4 stated that “Some people just want to be independent. They’ve never relied on anyone their whole life and they don’t want to start now.”

Similarly, declining social ties can impact the mobility of older adults due to their reliance on “internal support networks (family and friends)” (Dillon, 2010). This is emphasised in the following statement from Participant 4:

“Rurally everyone used to be dependent on your family. You had 6 kids and they all lived within 3 miles and they kind of took turns helping you get to where you needed to be. But now tons of

people don't have anybody in Huron County or if they do they are not able to be there all the time. So what can you do if you need to go and you don't have friends or family available?" (P4)

This quote depicts a changing social structure where the dispersed nature of many families means that children often do not live in proximity to their parents as they have left the rural area to seek educational or employment opportunities elsewhere. It also reiterates the issue around the time of day that older adults require transportation, which is generally during the day when family or friends may be unavailable.

A further limitation for the mobility of older adults is legal, particularly in the form of licensing. Indeed in Ontario the *Senior Driver Renewal Program* requires that drivers 80 years of age and over undertake testing in order to renew their licence every two years (MTO, 2010c). This means that older adults residing in Huron County may be legally prevented from operating a vehicle having lost their license which was identified as an issue by Participant 4:

"Some have physical issues or mental health issues and certainly financial issues. As far as our senior population goes they may call and say 'I just lost my license' or in some cases have never driven and lost their husband who always drove." (P4)

This quote depicts two interrelated issues for older adults in Huron County. Indeed, it not only references the loss of a driver's license but also that some people, particularly women, from this generation never obtained a license. This becomes an issue if the household driver loses their license, their ability to drive, or is deceased.

Another key mobility limitation for older adults in Huron County is financial. This research found that some older adults are unable to afford to purchase and maintain a vehicle or use existing transportation services which was raised by Participants 1, 4, and 5. Indeed, each of these interview participants raised the high cost of taxis and the long distances that need to be travelled by rural residents as being prohibitively expensive for use by older adults.

As well, when discussing the existing transportation service for older adults Participant 1 stated “I think there are a lot of clients who can’t afford the service.” Similarly, Participant 5 provided the following statement:

“Even the transportation services that exist, EasyRide for example, they are still fee for service which is subsidized yet the cost is still out of reach for some people. You could argue that transportation is available to everyone but it is certainly not accessible to everyone.” (P5)

While transportation is available for older adults in Huron County through the EasyRide service and taxi companies, these operate on a per kilometre rate and therefore increase in cost with rurality.

A final mobility limitation that came through in the interviews is that of practical barriers that older adults in Huron County face. For instance, Participant 1 raised the concern that while some older adults may be able to drive a car, they may not be capable of shoveling their driveway in the winter thereby isolating them. While mostly speculative, this warrants particular attention in rural areas where laneways are often long and for Huron County which, as participants stated, receives significant snowfall.

5.1.2 Accessibility Needs of Older Adults

“Our agency has a big chunk which is actually in-home services. That is for delivering health services or personal support for those who have just been released from hospital. Every service we provide involves transportation whether we’re transporting the client; volunteers are using transportation; PSW’s are using transportation; meals are being transported; transportation is just huge for everything we do. Even though we have these services that are not transportation the reality is that transportation is a part of all of them.” (P4)

Primary Accessibility Needs					
	Social Inclusion	Access to Supplies	Access to Essential Services	Access to Training, Education, and Employment	Access to Shelters or Other Support Services
Older Adults	✓	✓	✓		

As presented in the preceding excerpt from the research framework, older adults typically require access to social inclusion, access to supplies, and access to essential services. Within Huron County this research found that the framework was accurate. Indeed, interview participants described specific services falling into these categories including: dining programs, grocery shopping, adult day care, exercise/wellness programs, social events, meals-on-wheels, telephone reassurance, personal support services, and particularly healthcare appointments.

Interviews with service providers also identified a clear emphasis on allowing for older adults in Huron County to age at home and the provision of services to meet this goal. The rationale for this direction is largely due to the high cost and limited availability of space in long-term care facilities. This is particularly important to consider given that long-term care facilities are actually a means to provide accessibility without requiring mobility. Nevertheless, Participant 1 stated that long-term care facilities in Huron County have “huge wait times”. As well, Participant 5 provided the following statement:

“Seniors are another example. They are living in their place of residence their whole life and how long can they actually afford to stay? It may be out of their reach to even consider moving to an assisted living facility at the rates that they charge, \$3000, \$4000, \$5000, \$6000 per month. Lots of people can’t even dream of affording that but they paid for their house 25 years ago and as long as they can stay there they are ok. But when the next step comes it’s really difficult.” (P5)

This emphasises the high cost of long-term care facilities and the financial requirement to age at home for some older adults.

Overall, it was found that older adults had good access to each service category, even without access to a personal vehicle. The research found that service providers recognized the mobility limitations of older adults and delivered services accordingly. In particular, due to the aging at home strategy, service providers have emphasised home-care in the delivery of many services whether it be in the form of personal support workers going to client’s homes or food delivery through the meals-on-wheels program.

Nevertheless, home-care is not appropriate or feasible for the delivery of every service. In these cases transportation is required for older adults to meet their needs. However, this is also recognized by service providers and therefore transportation support is generally provided. For instance, Participant 1 described an adult day care program that provided transportation for older adults specifically to access this service. This participant also described a dining program which provides transportation while also being geographically dispersed in churches and halls across the county.

Moreover, the existing transportation service for older adults (EasyRide) was generally discussed as being available for meeting each accessibility need, with Participant 1 stating that the service was available for “everything: grocery shopping, hair appointments, the airport,

family visits, anything.” While the primary mandate of the service is healthcare, it was noted that transportation to other services was generally available when clients requested:

“Medical trips are always our number one priority. So say there are 80 people in Huron County and we’ve only got X number of drivers available and someone wants to go out shopping and pick up cat food or go to the bank while another needs to see their family doctor we’ll say ‘hey Mrs. Smith can you get your cat food Thursday instead of Wednesday?’ So I wouldn’t say we turn people down but there are times we need to rearrange schedules.” (P4)

This indicates that while the service is available for a range of purposes on paper, in practice it does also seem to be available for these non-health related purposes when older adults require it.

Nonetheless, while the availability of the service was found to be quite good it was found that the primary obstacle to its use is financial. While a subsidized service it was still found that the cost may still be out of reach for some older adults, particular to rural residents due to the per kilometre rate. A particular example was dialysis patients as described by Participant 1 who stated “I honestly don’t know how dialysis patients afford it” (P1). The explanation provided for this statement is that dialysis patients have regular appointments, multiple times per week in some cases, and “there is a huge wait list in Goderich to get dialysis so they are having to go down to London” (P1). For perspective, this means that a trip from Goderich to London and back for a medical appointment would cost \$90.00 based on a distance of 200 KM and a cost of \$0.45 per KM.

It should be noted that financial assistance is available for older adults that qualify through a financial assessment. Nevertheless, as stated by Participant 1:

“How much does an agency have to put out of pocket for financial support? It could drain you if you did it all. I think that is one thing that when we look at funding for programs they really need to take into consideration the people that don’t ask for support, and some people don’t access it because they know they cannot afford it. So if there was more money given to look at that financial piece that would be helpful.” (P1)

This is emphasising that the financial resources are not available to subsidize the costs for each older adult. As well, it was stated that “I believe there are a lot of people who are home bound in Huron County because the fact that they are too proud to ask for financial assistance” (P1). In contrast, Participant 4 raised the following observation:

“It’s mostly about perception. These people lived through the depression and World War 2 and it’s sometimes a question of whether they really cannot afford it or they think they cannot afford it. They are concerned about whether they are spending all their money while not making any money and whether it will run out. And they are just frugal from living through periods when there was nothing.” (P4)

Indeed, this participant also observed that some clients do not fully appreciate the cost of vehicle ownership, particularly less obvious costs such as maintenance and insurance, and therefore perceived that this service was more expensive than using a personal vehicle.

5.1.3 Trends

During the interview process participants were asked about current trends that may impact the way their service is delivered in the future. In particular, participants were asked about the aging population and increasing fuel prices. On the topic of older adults, participants identified that each of these trends would have an impact, or were already impacting, their service delivery.

It was found that the aging population would impact the participants in the demand for their services as well as their ability to supply them. Indeed, both Participants 1 and 4 were highly reliant on volunteers, particularly for the delivery of transportation. It was also noted that most volunteers were older adults themselves, with Participant 4 estimating that “about 75-80 per cent are between 60 and 80 years of age.” Moreover, due to the fact that older adults require

transportation during the day, for instance to medical appointments, retiree volunteers are particularly needed.

However, as the population ages and people are retiring later it was observed that Participant 1 was not getting as many volunteers at prime volunteering age, stated as being between 55 and 60 years of age. As well, Participant 4 noted that while they have volunteers well into their 90's, they did not generally have drivers over the age of 80. Further, both Participant 1 and 4 speculated that the culture of volunteering was changing and questioned whether the 'baby-boomer' generation would give back as much as the previous generation. For instance, Participant 4 provided the following statement:

"I think it's a changing demographic. I think that people that are now 70 or 80 retired and took the time to give back to their community. I don't think baby-boomers will be the same. Partly because a lot of our volunteers are a couple and they volunteer as a couple. They raised their kids and the kids are gone. The female spouse started to volunteer and then he retired and then they did it together and it's just a different demographic now so when they retire they will want some time for themselves first. So we're not really sure what will happen. We think it will be different but we don't know how different. But it is a concern because the hours our volunteers contribute to our services is huge." (P4)

While mostly speculative and based on observation this statement does raise questions about cultural changes and the ability to provide a service based on volunteers in the future. Overall, Participant 4 stated that "with the baby-boomers aging the number of people requiring transportation services is going up, up, up and available drivers is going down, down, down."

The impact of increasing fuel prices is quite similar due to the high reliance on volunteers. Indeed, Participant 1 stated that:

"Now our dining programs, they actually get a ride free to the program. So we have generous volunteers who drive clients for free to the dining programs. Those are becoming fewer as they are a harder volunteer to find. The price of gas is really killing us right now, big time." (P1)

Similarly, the reimbursement of volunteers for their mileage is complicated as it is a set rate yet fuel prices are highly variable. This means that the cost incurred by volunteers has been rising but their compensation has not. Participant 1 described the impact saying that “we’ve had a couple volunteers quit actually. They said it was coming out of pocket now and they just cannot afford it.” This was reiterated by Participant 4 who stated that “there have been a couple [volunteers] that have retired from driving because of increasing costs....it’s up and down all the time so it’s not something we can keep adjusting our costs.” However, it was again raised that this has a great deal to do with the perception that the cost of driving is increasing more rapidly than it actually is. This is due to the visibility of gas costs rather than the inherent costs of ownership such as insurance, maintenance, and vehicle purchase.

A final trend relating to older adults is that of residents leaving rural communities for larger centres once they reach the eldest ages and living independently is no longer feasible. Indeed, if the necessary services are not present within the community older adults will be unable to age at home and will be forced to move to a more age-friendly, often urban, community. One such service is transportation with a previous report indicating some recognition of this issue by stating that “several Huron County councillors have expressed a concern about the lack of transportation in their communities resulting in seniors leaving the County” (Dillon, 2010). This is of particular concern in Huron County due to the presence of *amenity migrants* retiring in rural areas, particularly in lakeside communities. While in the earlier years of their retirement these migrants can be expected to contribute to population growth and the local economy it also raises questions around population stability once these older adults reach the age where they can no longer reside in these communities due to limited service availability.

5.1.4 Design Characteristics

This research identified several design characteristics important for a potential transportation service within Huron County. These come predominantly from the interview participants who were asked specifically about the needs of their clients. One key characteristic of older adults is that they require services during the day in order to meet their needs, particularly around medical appointments.

The interviews also identified that a service would need to be door-to-door as Participant 1 described:

“If you get someone with a walker and they are trying to meet a bus way down the street and thinking ‘I hope I make it’ or ‘I get there in time’...Plus people are scared of missing it...in this area we’re not used to that kind of transportation. We’re not from Toronto or London where you have to hit a bus; we’re not used to it. It’s the fear of it too. I remember when I went away to school and trying to figure out the buses. I didn’t like it and I was young. I can’t imagine being elderly and trying to walk my walker down to the corner. It would freak me out.” (P1)

This indicates that in order for a service to be useful for older adults in Huron County it would need to be demand responsive or a similar variant rather than a conventional transportation service. Furthermore, the requirement for individualized support was raised by participants and identified as a key drawback of the existing taxi service. For instance when discussing the benefits of volunteer transportation Participant 1 states that “the volunteer will stay there with them so it’s not like they are getting out there on their own. Taxis just drop them off and move on to the next person.”

Another key design consideration is the destinations of older adults. As Participant 1 describes:

“We don’t have a lot of people going to the same place at the same time. So you’re picking someone up in Fordwich and going to Exeter. You really need something like a taxi service that is door to door because realistically you are not going to be able to fill a bus since it is so rural.” (P1)

Participant 4 provided a similar statement:

“There isn’t the volume. There’s somebody here that needs to go there and someone over here that needs to go there it’s just pockets of people. Maybe something like dial-a-ride would work.” (P4)

This reality has important implications for service design particularly around routing and the size of vehicles. However it is important to consider that this relates to a specialized transportation service for older adults and does not consider other groups which may have similar origins and destinations.

Another unique design consideration was provided by Participant 1 regarding the physical capabilities of older adults. Indeed, in a discussion of a potential shuttle service for older adults to access medical appointments the following statement was provided:

“Those poor elderly people have to sit until all the others get their dialysis done. There’s incontinence issues, there’s diabetes and they need to eat at particular times so you need to consider their whole physical health.” (P1)

This is a very important consideration as it may seem logical to bring groups of older adults from a similar origin to a similar destination, in this case being medical. However it may not be practical, or useful, for this demographic group.

A final design characteristic emphasised by participants was the value of volunteer transportation. As mentioned, Participants 1 and 4 felt that volunteers provided the affordable and individualized support that older adults required. The key issue mentioned by these participants was adequate reimbursement while maintaining affordability for their older adult clients. Further, Participant 1 provided the following statement about volunteers in Huron County:

“Rural volunteers have an understanding of what it is like to live in a rural area because they struggle with it themselves. They are just able to get to their appointments on their own. There seems to be a family attitude in rural areas. They are very supportive of their folks.” (P1)

This observation clearly indicates that this participant felt that the needs of older adults are best met through a volunteer service for a range of reasons including the culture and values of Huron County residents.

In conclusion, when applying the section of the research framework relating to older adults it is found that while older adults have mobility limitations, service providers in Huron County have found alternative means to meet their needs. These have been in the form of in-home delivery of services or through transportation provision. While access to transportation for the needs of older adults seems quite good, the affordability of the service is brought into question. This is particularly concerning in the face of trends such as the aging population and increasing fuel prices which are expected to increase the demand for transportation services but may reduce the ability of agencies to supply it. Finally, the unique needs of older adults must be considered in the design of a transportation service with participants favouring community transportation in the form of volunteer drivers.

Summary of Gaps in Access for Older Adults:

- Affordability of existing transportation services
- Increasing demand from an aging population
- Homebound older adults who do not seek help due to feelings of pride and independence

5.2 Physical or Mental Disability

Similar to older adults, those with physical or mental disabilities are often found to experience transportation disadvantage and for similar reasons. Indeed, those with physical or mental disabilities have been found to be limited in their mobility due to physical, legal, or financial reasons. Moreover, those with disabilities often require regular access to health services due to their conditions. This section will assess the mobility limitations and needs of individuals with physical or mental disabilities within the context of Huron County.

The terms *physical disability* and *mental disability* can apply to a wide range of conditions. One definition of physical disability is provided in the following excerpt:

Physical disabilities are long lasting physical impairments that significantly impede a person's ability to function. Common physical disabilities include: visual impairments (such as blindness); hearing impairments (such as being deaf or hearing impaired); injuries of the skeletal system including muscles, joints and ligaments (such as being quadriplegic or paraplegic); birth and hereditary disorders such as cerebral palsy, spina bifida and cystic fibrosis. (eMentalHealth, 2012)

As well, a definition of mental disability, or mental illness, is provided by the Canadian Mental Health Association (CMHA) which states that “mental illnesses can take many forms, just as physical illnesses do” and describes such issues as Anxiety Disorders; Attention Deficit Disorders (ADD); Bipolar Disorder; Depression; Eating Disorders; Mood Disorders; Psychosis; Schizophrenia; and Self-Injury (CMHA, 2011b). Further, some individuals may have both physical and mental disabilities and are termed as ‘dual diagnosed’.

Nevertheless, it is difficult to estimate the presence of individuals with physical or mental disabilities in Huron County due to the broad range of conditions, the temporary nature of some conditions, as well as the reality that some remain unreported. While information for mental

disabilities is not available specifically for Huron County, at the scale of Canada overall the Canadian Mental Health Association (CMHA) estimates that:

One in five Canadians will experience a mental health issue in their lifetime. In 2003, an estimated 1.9 million adults in Canada had a mental disorder diagnosis and 1.6 million reported symptoms but were not treated. Mental health is one of the six major chronic diseases in Canada with an estimated economic burden of \$51 billion in 2003. One-third of hospital stays in Canada are due to mental health disorders in whole or in part. (CMHA, 2011a)

With regard to the presence of physical disabilities the *Participation and Activity Limitations* term is used by Statistics Canada and provides some information as shown in Table 13. Using this broad definition it is found that within the Huron County Health Unit area 30.1 per cent of those 12 years and older experienced limitations in 2005. However, it is important to differentiate between those 65 and older who would be classified as older adults and thereby covered in the previous section. Indeed, when considering only those between the ages of 12 and 64 years it is found that 23.8 per cent of residents experienced participation or activity limitations in 2005.

Table 13: Population with Participation and Activity Limitations, Huron County Health Unit (2005)				
Age Group	Total Population		With Limitation	
	#	%	#	%
12 years and older	51,972	100	15,659	30.10
12 - 64 years	42,116	100	10,030	23.82
Note: Participation and activity limitation is defined as an individual “whose day-to-day activities may be limited because of a condition or health problem.”				
Source: (Statistics Canada, 2006c)				

The following sub-sections will assess the degree to which those with physical or mental disabilities residing in Huron County experience transportation disadvantage. The key source of information is the interviews conducted in Huron County with service providers working with clients with physical or mental disabilities. In particular, Participants 7, 8, and 11 provided the

most relevant information for this demographic group. A summary of these organizations is provided in the following table:

	Primary Client Group(s)	Primary Service Category	Description
Participant 7 (P7)	Physical or Mental Disability	Various (essential services, employment, social inclusion)	Participant 7 provides a range of support for those with developmental challenges residing in the southern half of Huron County. This organization provides formal transportation for its clients to access its services as well as other needs.
Participant 8 (P8)	Physical or Mental Disability	Various (essential services, employment, social inclusion, supplies)	Participant 8 provides various services for those with mental illness residing in the southern part of Huron County. This organization provides transportation formally to access its own services and informally in few cases for external services.
Participant 11 (P11)	Physical or Mental Disability	Various (essential services, employment, social inclusion, supplies)	Participant 11 provides various services for those with mental illness residing anywhere in Huron County. This organization provides transportation formally to access client needs where necessary. However transportation is not a major, or advertised, component of their service delivery.

5.2.1 Mobility Limitations of those with Physical/Mental Disabilities

Those with physical or mental disabilities residing in Huron County generally face mobility limitations. These individuals generally lack access to their own transportation, in terms of personal vehicles, due to physical, legal, and financial limitations. Indeed, when discussing their own clients with physical disabilities, Participant 7 stated that none of their clients had access to a personal vehicle with similar responses from Participants 8 and 11.

Perhaps not surprisingly those with physical or mental disabilities are often physically unable to operate a personal vehicle due to limited motor skills, cognitive abilities, or other physical characteristics. For instance, Participant 8, who works with clients with mental illness, estimated that over half of their clients could not drive for physical reasons and stated that: “there are a very small number that could [operate a vehicle]. There are others that just due to the complex mental health issues or physical issues just do not have the capability” (P8). Participants 7 and 11 provided similar findings.

Another key mobility limitation for those with physical or mental disabilities is licensing. Participants 7, 8, and 11 who work exclusively with these groups each indicated that few of their clients had licenses due to eligibility or financial reasons.

Indeed, when asked about licensing Participant 11 stated that “if you don’t have money, are you even going to think about having a vehicle” (P11). This leads to the key issue raised by interview participants; that of limited financial resources inhibiting mobility.

“In this day and age there is still difficulty for people to get from point A to point B and some people are unaware of that.” (P8)

The key mobility limitation faced by those with physical or mental disabilities was found throughout the research to be financial resources. Indeed, Participant 7, who works with individuals with physical disabilities, provided the following statement:

“Unless they are living at home they cannot get driver’s licenses. Secondly, they don’t have a lot of money. In fact, most of the clients we support would probably be considered living at the poverty level. They make about \$900 per month which pays for rent, food, clothing, and other expenses which doesn’t leave much room for spending money.” (P7)

Similarly, Participant 11 provided a corresponding statement for those with mental illness:

“The thing is that most of the clients will be low-income, most are in receipt of provincial disability benefits, ODSP, or they are on Ontario Works waiting for ODSP eligibility. Most would not have vehicles, in fact very few would have vehicles, so that’s the characteristics of our clients.” (P11)

Each of the participants reiterated the high cost of vehicle ownership as the primary reason that their clients did not have their own transportation.

While many could not drive anyway for licensing or physical reasons it was found that those with the capability to drive were prevented for financial reasons. Indeed, the point was raised that disabilities come in a variety of forms with varying ability to drive as well as work. For instance, conditions such as anxiety or depression may impact one’s ability to work but not their ability to drive. Thus, those reliant on financial assistance, such as the Ontario Disability Support Program (ODSP), would have difficulty affording a vehicle and therefore lack access to their own transportation.

5.2.2 Accessibility Needs of those with Physical/Mental Disabilities

“Transportation is the number 1 issue. It prevents them from getting jobs, getting to programs, getting to appointments. There would be a number of people out there that probably are not even hooked up to [our service] yet or another agency to help them figure it out.” (P8)

Primary Accessibility Needs					
	Social Inclusion	Access to Supplies	Access to Essential Services	Access to Training, Education, and Employment	Access to Shelters or Other Support Services
Physical or Mental Disability	✓	✓	✓	✓	

The literature review conducted prior to this research indicated that those with physical or mental disabilities required access to social inclusion opportunities; supplies; essential services; as well as training, education, and employment. This research found these accessibility needs to be accurate however the actual ability to access these needs did vary within the county.

Similar to older adults, the interviews identified a clear emphasis on independent living amongst those with physical or mental disabilities with the option to move into a care facility being a last resort. Service providers also acknowledged the mobility limitations of their clients and adjusted their delivery accordingly. For instance, Participant 11 provided the following statement:

“The model of service is to go to where people are. I think that we also realize that, if you look at the geography of the communities in the Huron-Perth area, think of all the offices you would need to have; Clinton, Wingham, Seaforth, Goderich, and on and on. And wherever you place an office, you still wouldn’t get people because there are a lot of people who may be close to Mitchell or Seaforth but they’re actually in the little dots of places in-between or really living in the country. So our model is that our workers go to see people where they are and we do that even in Goderich.”
(P11)

In contrast, Participants 7 and 8 do offer their services from a central location and therefore provide transportation for those that need it.

Overall, the service providers felt that they were meeting their clients’ needs to the best of their ability. Indeed, each of them offered elements of the aforementioned accessibility needs and provided ways to reach them. For instance, Participant 8 described one aspect of their services as follows:

“With the lunch program we probably have some people who would otherwise just sit at home and wouldn’t socialize and probably wouldn’t get a whole fair meal. A lot of them don’t eat breakfast so they come here and get a really good lunch and then they go home and have a small meal. So here you’re looking at their nutrition and healthy eating...They get involved in the program to

socialize to get exercise, there's group learning here. There may be art classes plus some vocational and peace work happening.” (P8)

This quote relates to social inclusion and access to supplies (food) with similar findings from Participants 7 and 11. Similarly, each participant supported their client's access to education/training, particularly around life-skills, as well as access to employment either by providing it directly or mediating between clients and employers.

Nevertheless, there were some service gaps identified by interview participants and particularly around their geographical coverage, their differing mandates, and obstacles associated with the existing transportation services. In terms of geographical disparities it was found that Participant 7 covered only

“We don't leave anybody. If they want to get here we're going to figure out a way to get them here. Which does limit a lot of things. We don't have buses. We do have taxi cabs but the cost is quite high.” (P8)

the southern half of the county and the comparable organization covering the north half did not offer a comprehensive transportation service. Similarly, while Participant 8 and 11 each worked with those with mental illness they did not offer identical transportation service with Participant 8 providing more transportation but only within a small geography in the south of Huron County.

Another gap in the service availability was raised in regard to the organization's mandates. Indeed, Participant 7 provided comprehensive transportation for its physically disabled clients in order to meet each of their accessibility needs and even stated that “our people are well looked after. It's the people that don't drive, those that are too poor to own cars or too old to be able to drive, those are the ones who have problems in Huron County” (P7). However, Participants 8 and 11, each working with clients with mental illness, could not meet some accessibility needs. For instance, Participant 11 provided transportation on limited occurrences

and described the destinations as primarily “medical. It might also be anything related to finances, they might need to go to the ODSP office to verify income. There are groups offered at hospitals that are educational in nature, coping with depression for example...and not just psychiatric appointments but also physician appointments” (P11). However, when asked about access to supplies, such as groceries, Participant 11 stated: “no, we don’t do that. Again this is based on the philosophy of wanting people to be independent...They might if the person is not getting proper nutrition, but more around helping them choose what food to buy, but not as the transportation source” (P11).

The third and final gap identified in the interviews relates to the existing transportation services, particularly around cost and availability. For instance, each participant raised the high cost of taxi services in relation to their clients’ limited financial resources with Participant 8 stating:

“We have used the taxi, which again is pretty phenomenal for the cost. For some people in town, because of the distance, we do provide transportation to get to the drug stores to get their medications with the van or they come here and we get them back home should they choose to use the taxi. Again it could be \$15 just to get their medication plus any over and above fees for that.” (P8)

Similarly, the cost for clients to access the EasyRide service was raised by interview participants. Indeed, it was stated that while EasyRide would provide transportation for those with physical or mental disabilities Participants 4 and 8 noted that provincial assistance would only cover the costs for medical appointments. For instance, Participant 8 provided the following statement:

“I know of people that aren’t hooked up to agencies that need services in other areas. How do they get there? If it isn’t a medical need Ontario Works and ODSP don’t cover it. It could be a learning skills group, how do they get there?” (P8)

Participant 8 also noted that while EasyRide can conduct financial assessments, which may lead to financial assistance in the form of cost sharing, this participant questioned whether this was adequate in terms of the number of clients who receive assistance as well as the degree to which they are subsidized. This participant also raised the issue that available financial assistance for transportation often operates through a reimbursement method with considerable paperwork that this participant identified as complex for those living with mental illness. Nevertheless, for those that can access the service it was identified by Participant 8 to be quite comprehensive and stated that they “will pick them up at the door and take them to the bank, to the drug store, to the grocery store and will help them get their stuff inside too” (P8).

In addition to the cost of existing transportation services, the issue of the availability of these services was raised. While Participant 7 felt that they were adequately available to meet the needs of their clients with physical disabilities, Participants 8 and 11 each noted that, while they did their best, they did have limitations. Participants 8 and 11 both noted that they were not fundamentally transportation services and merely provided transportation in cases where their clients had no other options. The result is that their transportation is operated on a more *ad hoc* basis where their staff will drive clients if necessary but do not advertise that such a service exists.

For perspective, Participant 11 estimated that providing transportation would constitute 75 per cent of their staff’s available time were they to provide it wherever it was requested. This participant also provided the following statement about their transportation service:

“This is the challenge for the case manager. You could use all your time being a driving service but that’s not our primary function. You’ve got 20 clients you’re trying to provide support to and you can suck up a lot of time by driving people. So they will drive but they’re going to look for volunteers first. The other thing that we find is that our staff are quite resourceful, so they’ll say

‘they’ve got to go once a week to employment’ so they look to friends or family and as a last resort the case manager will provide the transportation.” (P11)

Participant 8 provided a similar statement regarding their transportation role:

“Staff do attend medical appointments but only if they need support during those meetings. Otherwise we would run into the problem of just going from medical appointment to medical appointment like a taxicab. We do try to limit that as staff timing and the amount of clients we have are increasing and so are the demands of the more complex clients that we are getting.” (P8)

As these quotes demonstrate, Participants 8 and 11 are not in the business of providing transportation but due to the needs of their clients and the availability of alternatives will do so when necessary. The result is that they are unable to meet all the needs of their clients due to limited time and resources.

A final point raised by Participant 8 is that of stigma and those living with mental illness but not seeking assistance from their organization. This participant provided the following quote on this topic:

“The stigma of mental illness is still out there and our referrals are increasing. If you take a look at the economics of what’s going on today and the rising costs of things and the cutbacks that are happening there’s more and more people out there I’m sure that have some form of illness that haven’t come forth due to the stigma that is there...for example someone who just lost their job and is suffering from anxiety might not come forth due to pride and we might not even know about it.” (P8)

This participant speculates that there are individuals residing in Huron County who need transportation but, due to the stigma or mental illness, do not seek it. Assuming this is an accurate assessment, this means that if a general-use transportation system existed those who need transportation, but are unwilling to be identified as mentally ill, would use the service.

5.2.3 Trends

The interview participants also provided some observations around existing trends that may impact their clients or services in the future. In particular, increasing fuel prices were considered a concern by both Participants 8 and 11. The limited and inflexible budgets of these organizations made the increasing and variable cost of fuel an issue.

Moreover, Participant 8 raised the issue of the economic recession and the impact that has had on their organization. Indeed, this participant raised the connection between job loss, or other causes of stress, exacerbating mental illness or bringing it to the forefront; with specific mention of anxiety and depression. This participant noted a recent increase in the number of clients coinciding with the economic recession and described the parallel issues of an increasing number of clients, constricting budgets, and increasing fuel costs as a concern for their service delivery in the future.

5.2.4 Design Characteristics

Throughout the interviews participants identified a range of design characteristics necessary for a successful transportation service to meet the needs of those with physical or mental disabilities. In some ways the needs of older adults are quite similar to those with physical or mental disabilities however there are key differences which will also be identified here.

The first thing to note when discussing the needs and capabilities of those with physical or mental disabilities is that they are highly variable. Indeed, Participant 11 noted that:

“The thing to keep in mind when you’re talking about mental illness is that it isn’t cognitive disability. Generally the folks that we’re working with are very intelligent and capable from that standpoint it’s not a developmental disability.” (P11)

However, when asked about the ability to use a conventional transportation system Participant 7 stated that some of their high functioning clients could use a service but most could not as they require personalized support. This means that some of those living with physical or mental disabilities in Huron County could make use of a conventional transportation service but many would require individualized support in order to meet their transportation needs.

Another important consideration for a transportation system is the frequency that those with physical or mental disabilities require transportation. It was identified by Participants 7 and 8 that their clients require their service on a daily basis during the week as well as having other transportation needs in the evening and weekends. For instance, Participant 8 stated that

“I know there is some socialization that goes on after [we are] closed. And because of certain health needs some people cannot get around...How do they get involved in that group that runs specifically at night and it’s a 3 block walk and they cannot walk it?” (P8)

Nevertheless, due to hours of operation it was noted that most of their clients required transportation on a 9 to 5, Monday to Friday basis.

Furthermore, when considering the design of a transportation service it is important to note where those with physical or mental disabilities are residing. The interview participants stated that their clients were residing throughout Huron County as well as not being concentrated in the main settlement areas. Indeed, Participant 11 stated that:

“If you were to create a graph of where people’s locations are they’re all over and not most of them living in the main communities...They might prefer to live in [a major centre] but they can’t afford to live there because it’s going to cost more.” (P11)

However, Participant 8 did note that a transportation system did not need to perfectly meet each of their clients' needs in order to be useful. Indeed this participant noted that if a system did exist case managers could work with clients to determine appropriate routes and schedules to meet their needs. As well, it was mentioned that this organization could better fill the gaps between client needs and an existing transportation system rather than attempting to cover complete trips and being overburdened, as is currently the case.

A final, yet very important consideration when designing a transportation service to meet the needs of those with physical or mental disabilities is the role of volunteers. Quite unlike transportation provided to older adults, the participants working with those with physical or mental disabilities rarely, if ever, made use of volunteers. Instead, transportation was provided by staff trained to meet the unique needs of this group. Indeed, the limited role of volunteers is partly due to the need for training in order to work with some people with special needs. However, the issue was also raised that there is a stigma around people with disabilities that deters the use of volunteer transportation and, as stated by Participant 8, "mental illness frightens people" (P8).

This is a very important consideration as the needs of older adults were being reasonably well met through the use of volunteers. However, for real or perceived reasons volunteers do not seem to be comfortable working with those with physical or mental disabilities. For instance, Participant 1 stated that:

"One thing we ran into with our volunteers, especially when it comes to mental health, and again you cannot discriminate, so we were transporting clients who were unstable. Kind of going into a department store and having a major [issue] and because most of our volunteers are seniors, they're elderly folks, and they don't have a hand for it... You have to protect your volunteers." (P1)

Participant 4 provided a similar statement regarding their transportation for health purposes:

“We do most of our transportation with volunteers so it’s maybe not always appropriate to match a client we aren’t familiar with but we know there are mental health issues. Our comfort level with putting that individual in a volunteer’s car, where that volunteer is willing to drive, but that volunteer is not trained to handle situations. It’s not fair to our volunteers. We can’t put them in situations that they do not feel they are in control of.” (P4)

Indeed, these participants clearly indicated that they did not feel comfortable transporting people with mental illness using volunteers and instead use trained staff or even taxis (P1 and P4). This raises questions around stigma for those with mental illness and the perception of unsafe conditions for volunteers. It also raises questions around the willingness of volunteers to transport those with physical or mental disabilities and a potentially selective volunteer base more interested in working with specific demographic groups.

To conclude, this research found that when applying the section of the research framework relating to Huron County residents with physical or mental disabilities it is found that these individuals often experience mobility limitations as well as varying access to necessary services/activities. Indeed, it was found that access varied based on geography, with those in the south of the county being better served than those in the north. Similarly, it was found that those with physical disabilities had better transportation provision than those with mental illness due to the differing capabilities and mandates of the organizations serving each group. It was also found that existing transportation services may be unaffordable for some individuals or only meet specific needs, in particular healthcare access. Finally, when designing a transportation service it is important to consider the needs of those with physical or mental disabilities as well as the practicality of certain models, with particular concern over the use of volunteers.

Summary of Gaps in Access for those with Physical or Mental Disabilities:

- Access to supplies (i.e. food)
- Cost of existing transportation services
- Geographical variance in access (south of county appears to be better served than north)
- Those with physical disabilities appeared to have better access to transportation than those with mental disabilities (specific mention of access to social inclusion and training, education, and employment)
- Those with disabilities that do not seek help due to stigma (specific mention of mental illness)

5.3 Youth

Youth residing in rural areas are typically found to experience transportation disadvantage typically due to legal restrictions, vehicle access, and financial limitations. The degree to which youth are transportation disadvantaged varies greatly between youth depending on their location, financial resources, age, and household characteristics. Indeed, some youth may be able to walk or bicycle to all their needs while others may be too remote to do so. Similarly, some youth may have their own license and reliable access to a vehicle where another may be below licensing age and reside in a non-car family. Therefore, it is important to consider that being designated as a youth does not equate with transportation disadvantage, nevertheless there are obstacles that are unique or exacerbated for those within this age group.

When discussing the transportation needs of youth we can consider two distinct groups each with particularly different transportation needs and capabilities. Indeed, there are those youth that are at the age where independent transportation is important, which has been defined as between the ages of 12 to 19 by one author (Gilbert & O'Brien, 2005) or between the ages of 15 to 24 by another (Herold & Kaye, 2001). In contrast, youth in the younger age cohorts will

require transportation along with their parents/caregivers who may be transportation disadvantaged themselves, thereby making them disadvantaged by proxy. The total number of youth residing in Huron County in 2006 based on each definition is presented in Table 14.

Table 14: Youth in Huron County by Varying Definitions (2006)		
	#	%
12 to 19	7,140	11.65
under 12	8,548	13.95
15 to 24	8,319	13.57
under 15	11,177	18.24
Source: (Statistics Canada, 2006b)		

Another important note is that youth may be living in very different living situations, which adds to the complexity of the needs of this group. For instance, interview participants discussed youth living on their own as well as youth living in family units. Similarly, participants mentioned the issue of homelessness with Participant 6 stating that:

“In rural communities it is absolutely hidden. I can tell you that in the past there have been youth that have slept in parks for weeks on end. Right now there are young people that are couch surfing from place to place and have no idea where they are going to go next” (P6).

It is also important to note that participants mentioned the mobility limitations of parents with young children but also the additional limitations placed on young parents, still considered youth themselves, with young children. Overall, it is important to keep in mind that, like with all groups, the issue of transportation disadvantage exists on a continuum, with some youth more disadvantaged than others.

The following sub-sections will assess the degree to which youth residing in Huron County experience transportation disadvantage. The key source of information is the interviews conducted in Huron County with service providers working with youth. In particular,

Participants 6, 9, and 12 provided the most relevant information for this demographic group. A summary of these organizations is provided in the following table:

	Primary Client Group(s)	Primary Service Category	Description
Participant 6 (P6)	Youth	Access to Shelters and Support	Participant 6 provides support and shelter to youth, specifically in their upper teens, in Huron County. This organization provides transportation as a last resort for medical appointments or other essential services on a case-by-case basis.
Participant 9 (P9)	Youth	Social inclusion	Participant 9 provides social inclusion opportunities particularly through the form of recreation. This organization works with youth particularly 10 years and older with clients across Huron County. This organization does not provide any transportation assistance to its clients.
Participant 12 (P12)	Youth	Social inclusion; Skills training	Participant 12 provides social, recreational, and learning opportunities for young children (under 10) as well as skills training and other learning opportunities to their parents. This organization does not provide transportation but does conduct its services throughout Huron County in an effort to bring the service closer to rural clients.

5.3.1 Mobility Limitations of Youth

“A car is seen as a necessity in this area rather than a luxury even though if you talk to people at Queen’s Park they’ll say that a car is a luxury” (P12).

Youth residing in Huron County generally face mobility limitations due to legal restrictions, limited vehicle access, few financial resources, as well as often overlooked practical

limitations. Interview participants working with youth indicated that their clients generally walked to destinations if possible, relied on others to drive them, or even hitchhiked. Within the most rural parts of the county where active transportation is not an option, parents were generally relied upon for transportation, however it was also noted that they were not always willing or available to provide transportation for every destination. This puts youth in a difficult situation, particularly due to their somewhat unique limitations which will be discussed here.

As described in Chapter 2 of this thesis, youth in Ontario may obtain a G2 license at age 17 (or slightly sooner with driver's education training). This means that anyone below age 17 is completely reliant on others to meet their mobility needs either as drivers or passengers.² For instance, Participant 9 stated that their youth clients began accessing their services independent of their parents at age 10 and those within walking distance regularly did so. However, this participant also noted that those outside walking distance were completely reliant on others to drive them between the ages of 10 and 16.

An additional consideration around the issue of licensing is that of youth at licensing age being unable to obtain one due to financial or vehicle access issues. Indeed, in order to obtain even the most basic driver's license youth require a vehicle to undertake testing. Participant 6 raised this issue and states that:

“For some of the young people that live independently we do our best through donations to provide them with their G1 to increase their employability. So for some young people we are able to do that if they are living on their own and don't have any other resources” (P9).

² Within the Ontario Driver Licensing system those holding a G1 may drive but only with fully licensed driver who has at least four years driving experience.

This indicates that for youth living independently, or in low-income households, access to a vehicle and financial resources can restrict the ability to obtain a license even once licensing age is reached.

In addition to licensing restrictions, youth residing in Huron County also face mobility limitations due to limited vehicle access. There are two aspects to this issue that have similar results. Indeed, youth without a driver's license will require someone to transport them to their destination whereas youth with a driver's license, but who do not own transportation, generally rely on family vehicles. In each case youth face limitations in vehicle access either due to vehicles being in-use or drivers being unavailable. During the interview process Participant 9 commented on the particular limitations of youth relying on transportation from others in obtaining mobility:

“Definitely in the youth there are a lot of rural members and a lot of their parents are farm parents and they're not going to be able to drive their kids in all the time and then pick them up. So there is a challenge in getting those kids in here. Now the older ones that can drive on their own we see and the younger ones, say those in swim lessons, parents tend to get the mentality that if there is a scheduled event they'll bring their kids. But just to bring them for the evening to hang out or go swimming we see less of that” (P9).

This participant observes that youth relying on others for transportation are particularly limited in their mobility with specific mention of the busy lives of parents. Participant 9 went on to note that they felt the long distances that parents had to drive youth also deterred them from providing transportation to non-vital destinations.

However, it is also important to keep in mind that some youth residing in Huron County are in one-car or no-car households. This issue was raised by Participants 6 and 12 who noted that youth may not have access to a vehicle at all or will have secondary access to their parents' vehicle. For instance, with regard to young children Participant 12 stated that for some one-car

families “the vehicle was being used for work and that leaves the other partner at home. So they may have a vehicle but they don’t have transportation outside of work hours and that creates isolation for a lot of families” (P12).

An additional mobility limitation for youth in Huron County is a lack of financial resources. This issue was frequently raised with regard to youth and their families by interview participants. For instance, when asked why transportation was a difficulty for their youth clients Participant 6 stated that:

“It’s definitely financial. Their only option would be a cab and they simply cannot afford that. And not just for the youth that I work with but their families as well. We’ve encountered families that are in financial distress and they can’t even get to their Ontario Works appointments either to apply or meet the requirements of every 3 months checking in” (P6).

Similarly, Participant 5, who works with youth as one of several client groups, stated that:

“They may be too young to drive, they may not have parents at home to drive them, they may be old enough to drive but not have a license, or they might not have a car because insurance is so expensive especially for young males and young people more generally... Taxis are expensive and they really could be spending on something else, especially for young parents. If they’re trying to live on their own and they don’t have family support and they’re trying to buy their own food that can be a huge barrier as well” (P5).

In each of these quotes we see that financial resources are a major obstacle for youth and their mobility. Indeed, this applies to youth living with their parents, families with young children, and youth living on their own.

The final mobility limitation to be discussed here is practical obstacles to youth mobility which are often not considered in discussions of transportation. For instance, when discussing parents with young children Participant 12 noted that:

“Even if they tried to share vehicles, you have a mom with two or three kids and she wants to share a vehicle with another mom and they want to come to the programs together there isn’t enough room in the vehicle for carseats” (P12).

While this may seem like a minor point it may very well be a reality for many families and a significant limitation to their mobility. This quote provides an example of a practical mobility limitation however there are likely many others that must be recognized when considering transportation disadvantage within the county.

5.3.2 Accessibility Needs of Youth

“We’re running a parenting program in the evenings from the office here and a mom in Goderich would come, it’s not that far, but has no transportation to get here so she misses out. We offer some of the things as a group to make it more cost effective but it still means that some people can’t participate” (P12).

Primary Accessibility Needs					
	Social Inclusion	Access to Supplies	Access to Essential Services	Access to Training, Education, and Employment	Access to Shelters or Other Support Services
Youth	✓			✓	✓

Within the literature on transportation disadvantage, youth are generally considered to be in need of social inclusion; access to training, education, and employment; and access to shelters or other support services. The interviews conducted as part of this research reaffirm these findings however also add additional needs not originally considered.

The interviews conducted with service providers in Huron County working with youth found that these organizations recognized the mobility limitations of their clients and, in two of three cases, made efforts to mitigate them. Indeed, Participant 6 who provides access to shelters and support services for youth does not have a central office and instead goes to each client individually to provide their services. Participant 6 noted that:

“We meet with young people primarily in their schools, in their family homes, in coffee shops or restaurants wherever the young people are...This is on our opinion the best way to supply the service to young people” (P6).

This service design was created out of a recognition that youth are often without transportation in Huron County and particularly low-income youth which make up the majority of this organization’s clients. While very costly for the organization, by going directly to youth this organization eliminates the need to travel in order to access their service. Furthermore, when asked if they provided transportation for youth themselves Participant 6 stated that:

“We do transport young people as well. For example if they require an Ontario Works appointment or a doctor’s appointment there are times that we would transport and times we would send them in a cab... The odd time we’ve helped out with transportation to and from work but that is very unusual circumstances. It’s not something we can make a habit of based on our budget. So when I say absolutely not, there are sometimes that we make a decision that it’s in their best interest for that to occur but it depends on each individual. But we’re not going to take them on an hour long ride to go hang out with friends on a Friday night and we have had requests for that” (P6).

Like many organizations in Huron County, Participant 6 provides transportation on an *ad hoc* basis out of necessity due to the needs of their clients and the lack of alternatives. However, as stated, these are almost exclusively for financial assistance appointments or medical purposes.

The other organization that has made efforts to mitigate the mobility limitations of its clients was Participant 12. This organization does have a home office but conducts the vast majority of its service delivery throughout the communities of Huron County. Indeed, Participant 12 states that:

“In some places we do lending and programming. So we have qualified staff to do child programs for these kids in their community rather than have them travel to bigger centres to get that early education or just that play experience... [We] generally take our programming out to the community because of the transportation issues. Most of the people we work with are lower income families some may have vehicles and if they do have vehicles it costs a lot to insure them and put gas in them so they have to be very careful about where they go” (P12).

Again, Participant 12 recognizes the mobility limitations of their clients, in this case parents and young children, and states that “if we didn’t go out probably no one would benefit from the programs” (P12). However, unlike Participant 6, this organization does not, generally, go directly to the homes of clients and rather reduces the distance that they need to travel by providing programs in smaller communities. This organization recognized that some families may still be unable to participate due to their inability to make it from their homes to these smaller centres. Also unlike Participant 6, this organization does not provide transportation services themselves.

Therefore, we see that between these two organizations the need for access to shelter and other support services is reasonably well addressed within the county. Similarly, efforts have been made to provide improved access to social inclusion and parenting skills training to young children and their families in the most rural parts of the county. However, the interviews did identify gaps in accessibility needs for youth in the county, particularly around access to social inclusion/recreation for all age groups and for access to employment.

The need to access social inclusion and recreational opportunities is essential for the development of youth of all ages. However, the interviews identified that there was no opportunity for rural youth to access these services if they did not have their own transportation or someone available to drive them. For instance, Participant 6 states that:

“Those that are attending school do have the ability to be bused to and from so that is helpful. But again there are limits. So they get picked up at quarter to 9:00 in the morning and need to be on the bus by 3:15 so no extracurricular activities and no opportunities for employment” (P6).

This quote refers to the inability of rural youth attending primary or secondary school to participate in sports teams, clubs, social activities, or other ‘in-town’ events or activities if they cannot secure a reliable ride home.

This issue was reinforced by Participant 9 whose organization works with youth by providing access to social inclusion and recreational opportunities. This participant stated that:

“The people that we miss based on transportation the most would be 10 to 13 year olds that don’t live close enough to walk and the people that don’t necessarily have special needs and aren’t affiliated with any community groups” (P9).

This participant went on to elaborate the following about this observation:

“I think that a key thing would be that we don’t have a lot of programs for people that fall in between. Meaning that we have a lot of programs for people that have either physical or financial difficulties and those people seem to be able to get access. And the people that seem to be doing well and have time and disposable income seem to be able to get access. It’s the people in between that we don’t seem to have any programs for. It’s those people that I would say if you focus in those areas they would have the most impact. The regular middle income people where money might be a little tight but not enough that they qualify for social programs. Those are the people that have the most potential to come” (P9).

This is referencing the gap whereby youth without access to transportation and who are also not recognized as in-need by another service group may be excluded from participating in this organization’s activities. During the interview Participant 9 provided the following case, which reinforces the view that youth would be interested in attending their service were they physically able to reach it:

“This year we have kind of a unique situation in town...now they found mold in one of the rural schools last year and since they had recently closed a school in town the school board decided to move those [rural] children into that other [closed] school in town. So the kids are mostly rural kids out in the country. And one of the anomalies that happened because of that is now we have all these rural kids in town and we offer free skates a couple days of the week and we started seeing 20 or 30 kids from that school who would come over after school to go skating because for them it was always an hour bus ride and then they would go home and do their farm chores or just sit there and they didn’t have a lot of opportunity to do those kinds of things. So those kids are now close

enough where their parents feel comfortable with them walking over with their skates and doing activities on their own...It's a unique situation and a good example of youth that wouldn't normally have access to the facility. And we have seen more of them engaged in activities because they are in town and close enough where they can just walk over here" (P9).

This story provides a very interesting case of a group of rural students suddenly being provided access to this facility and their significant uptake. It suggests that the obstacle to their participation is their limited mobility, not limited means or interest.

Participant 9 also raised another issue for social inclusion and access to recreation, at least within the context of their organization. While Participant 9 provided a generous financial assistance program for youth unable to afford membership costs it did not provide any transportation for low-income youth. This suggests that were youth able to physically reach the facility they may be able to afford the membership costs due to this reduced rate, however this gap has not been addressed.

In addition to access to social inclusion and recreation for youth, the need to access training, education, and employment is not entirely addressed within the county. Within the county the school bus service guarantees all youth access to primary and secondary school. As well, there are no postsecondary institutions in the county; nevertheless there are opportunities for online degrees, which reduce or eliminate the need to travel for this level of education. However, the interviews frequently cited the issue of youth being unable to access employment due to mobility limitations. For instance, Participant 12 stated that:

"If you live in this community and you don't have a car it is impossible to find a job. Often a lot of the jobs, except the very low paying ones, anticipate that you'll be driving. If you take a look at the job ads around Huron County they will say 'your own reliable transportation is required' because you aren't going any place in any other way. So the expectation is that people have those basics even before employment" (P12).

Participant 6 made a similar statement around access to employment for youth:

“It is difficult to find employment if they cannot find employment in their local community. So if they are living in a place like Brussels, they don’t have any employment options outside of their community unless they can find transportation. It is difficult to find someone who is willing to make that kind of commitment to get them to and from. So there are definitely barriers around employment opportunities” (P6).

Because youth often do not have access to their own transportation, maintaining employment commitments is a major obstacle. If finances are the main obstacle, which they often are, it may also lead to a vicious cycle of not having access to employment resulting in an inability to afford a personal vehicle resulting in an inability to obtain employment.

A final consideration around accessibility needs raised in the interviews was the issue of youth living independently outside of a family unit.

When discussing youth we often assume that those within this age group are living in their family home and are reliant on parents or caregivers in order to meet their basic needs, such as food and shelter. However this is not the case for all youth residing in the county.

Indeed, some youth have decided to live independently

“There are some young people that, for a variety of reasons, are living completely independently. And those are the ones that require the most support. What happens is that they move to rural areas due to the affordability of rent. So often these are old farmhouses in the middle of nowhere and once there it really limits their ability to access any kind of resources” (P6).

voluntarily while others have had to live alone due to family conflicts among other drivers. For youth living in these situations the mobility limitations will be largely the same as other youth, however the accessibility needs will be expanded. In practice, it may be expected that these youth have limitations and needs more similar to those with low-income than with youth residing in family units.

5.3.3 Trends

The interviews conducted as part of this research identified several trends which may be expected to impact the mobility and accessibility needs of youth in Huron County. While often speculative, due to their experience as service providers it is worth noting their observations and to consider what impacts these trends may have on rural youth.

The interview participants each regularly referenced the economic crisis and the issues for mobility and accessibility needs this has caused. For instance, Participants 6 and 12 who provide services mainly to low-income households each noticed an increase in demand in recent years while, Participant 9 who provides social inclusion and recreation saw a decline in enrollment. On a similar note Participant 6 stated that the Goderich tornado also exacerbated this existing trend:

“We’ve never had a shortage of young people. The numbers keep increasing every year and the needs of the young people keep increasing. We’ve seen a huge impact after the tornado. At first we thought it would be a small trend but we’ve got families with unresolved trauma and grief, which is impacting the entire family dynamic and there’s been job losses and people have been displaced from their homes. So I don’t foresee a shortage of need” (P6).

While not necessarily a trend, the results of the tornado in Goderich may be expected to be felt for years to come due to the loss of homes and livelihoods somewhat similar to the effects of the economic recession.

Another trend found to be impacting the delivery of services and their youth clients is the increasing cost of fuel. Both Participants 6 and 12 demonstrated a concern relating to their ability to meet the needs of their clients due to the fact that they deliver their services in the community and already spend a considerable amount of their budgets on transportation. Indeed, when asked about the impact of the increasing cost of fuel Participant 12 provided the following:

“I think for sure that has impacted us in two ways. First is that of participants coming to the program so if it means groceries that week or driving to the program we’re not going to have them show up. But for us too we really need to think about where we are going to offer programs. So it’s sort of like putting a puzzle together, we can run programs over here by having them all in one area but maybe the real need is over there. So do you sacrifice the three programs you can run cost effectively or do you go to another area in need?” (P12).

This suggests that these service providers will have difficulty keeping up with the demand for their programs due to the dual issue of increasing fuel costs and stable or declining budgets.

In addition to the issues of the economic recession and increasing fuel prices, participants also touched on the issue of youth out-migration and the role of transportation availability. In particular, Participant 12 stated that:

“Demographically the smallest proportion of people living in Huron County are those between the ages of 16 and 25...most of them have transportation of some kind. Those that don’t are generally living in the towns or have more incentive to leave” (P12).

While perhaps based on speculation, this does provide an interesting consideration around what drives youth to leave rural areas. Indeed, if a young person is unable to afford a vehicle but has the option to move to a larger centre which is more walkable or has a public transportation service they may be more inclined to leave their rural community.

A final trend mentioned by interview participants is that of increasing activity levels in youth and reducing childhood obesity. Only Participant 9 raised this issue in connection with transportation access however this individual did provide an interesting observation:

“In my era, when I was a child, children played on their own. We organized baseball games in their own backyards or in the field and said ‘I’ll meet you on Saturday’ but that’s not the way it works anymore. Everything is scheduled. We schedule a playdate and kids used to just play. That’s typically the way it works here. If mom and dad know that Thursday night is the night they like to go to the gym then they bring their kids. But if it’s not scheduled they don’t feel it is something they need to do. Children are driven by their parents’ need to have everything scheduled” (P9).

Again this is speculative, however is based on years of observation and experience in the field of child development and recreation. If accurate, it would suggest that in order to combat obesity and increase youth activity in rural areas access to organized sports or recreation facilities (such as gyms or skating rinks) is becoming increasingly necessary.

5.3.4 Design Characteristics

Interview participants also provided ideas and issues around the design of a potential transportation service meeting the needs of youth in the county. For youth in school it is quite clear that these individuals require transportation after school, on weekends, and in the summer whereas those outside of school may require transportation at any point in the day. However, the issue was also raised by Participant 12 that the use of volunteers for transportation within their organization is complicated by liability concerns as well as questions around the appropriateness for youth to ride alone with adults. Therefore, the use of volunteers may only be appropriate for parents riding along with their children or possibly for older teens, although questions were raised around whether a volunteer base existed interested in transporting teenagers to their various destinations.

The most commonly raised option for transporting youth throughout the interview process was expanding the role of school buses. For instance, Participant 9 stated that:

“If you think about it, all the kids that go to rural schools get picked up on a bus. So in theory if you had enough people interested in the programming, it would be no different to run a bus to pick them up and bring them to [their destinations]...typically those are the times of the year when the bus companies are available and not using those big yellow school buses. So the opportunity would be there. The challenge is organizing it and making it cost effective” (P9).

Participants 6 and 12 provided similar comments on the opportunity to better use the school buses for non-school purposes. However it was noted that it may not be adequate for those outside of school who may require transportation when the school buses are in use.

Furthermore, interview participants provided their ideas on routing and destinations.

Participant 6 stated that:

“I think that some sort of regular busing that would hit every community on the way and come to a larger centre. For example in Exeter if they had a Huron Park stop and a Hensall stop and I think that would be utilized by every population” (P6).

Participant 12 provided a similar statement:

“It would be wonderful if you had a transportation system that connected Seaforth, Wingham, Exeter, Goderich and brought people on a regular basis. That would certainly address some of the needs of our at-risk families” (P12).

While merely the opinions of these two service providers these statements do provide a starting point for considering where those in need reside and where they are trying to reach.

In conclusion, this research found that youth residing in Huron County experience mobility limitations as well as restrictions in their ability to meet their accessibility needs. While there is a clear spectrum of risk of transportation disadvantage within those defined as youth, those residing in rural areas will almost always be reliant on others to meet their transportation needs. Moreover, Huron County has very few transportation options for youth. Indeed, this research found that youth had good access to education, at least until the end of secondary school, through the school bus service. As well, it was found that access to shelters and other support services was available to youth as service providers delivered this service to youth wherever they were located. Similarly, for young children and their families, social inclusion and parenting skills training was available within smaller communities meaning they would not have to travel to major centres to reach this service.

The key gaps were identified as being access to employment and access to social inclusion and recreation opportunities for youth, particularly beginning around the age of 10 where independence becomes important. For these accessibility needs there is no transportation service available, aside from potentially taxi services which are very costly. Finally, it was identified that some youth are living independently and therefore require access to additional needs such as food or shelter.

Summary of Gaps in Access for Youth

- Access to social inclusion opportunities such as sports, social gatherings, clubs, etc.
- Access to employment
- Access to basic needs for youth living independently

5.4 Low-Income

The issue of transportation disadvantage among individuals and households classified as low-income is widely recognized and has been a key finding in past reports within Huron County. The most obvious reason for this is, of course, financial and the ability to afford reliable transportation. Indeed, those residing in Huron County and unable to afford a personal vehicle are generally reliant on active transportation modes (where feasible), rides from friends or families, or transportation support from service providers where it is within their mandate to provide it. This research found that interview participants unanimously agreed that mobility was an issue for their low-income clients however there was a clear difference of opinion around the issue of accessibility and whether certain accessibility needs were actually unreachable by this group.

When discussing those classified as *low-income* we can use several different measures to determine whether an individual or household would be classified as low-income. While the Market Basket Measure (MBM) is preferable in discussions of transportation in rural areas, data for Huron County could not be identified. Therefore, for the purposes of this section the Low-Income Cut Off (LICO) measure will be used as presented in Table 15. It is also important to note that while often used interchangeably, the terms low-income and unemployed are not synonymous. Those deemed to be *underemployed* and working few hours or for low pay may be expected to experience the same level of transportation disadvantage as those without employment as the financial threshold for reliable car ownership is quite high, and rising with the increasing cost of fuel.

Table 15: Prevalence of Low-Income Classification in Huron County: Low-Income Cut Off Measure (2005)		
	Total Number (#)	Low Income After Tax (%)
Total economic families	16,900	3.3
Couple economic families	15,120	2.5
Male lone-parent economic families	415	2.4
Female lone-parent economic families	1,235	13
Total persons 15 years and over not in economic families	6,555	15.5
Males 15 years and over not in economic families	2,950	16.1
Females 15 years and over not in economic families	3,605	15
Total persons in private households	57,845	4.8
Total persons less than 6 years of age	3,745	8.5
Total persons 65 years of age and over	9,600	0.8
Source: (Statistics Canada, 2006a)		

As demonstrated in the preceding table, as of 2005 Huron County had 16,900 economic families of which 3.3 per cent were classified as low-income as well as a total of 57,845

residents of which 4.8 per cent have low-income. It is important to note that within those living in economic families, female lone-parent families had a much higher proportion of households with low-income at 13 per cent. Similarly, children less than 6 years of age also had a higher presence of low-income classification with 8.5 per cent. This is of particular concern as women with young children are at a heightened risk of transportation disadvantage, as discussed in the previous section on Youth in Huron County.

For those outside of economic families Table 15 demonstrates that, as of 2005, a total of 6,555 residents were not in an economic family of which 15.5 per cent were considered low-income. This is considerably higher than those within economic families. When broken down by males and females it is found that the percentages are much the same.

The following sub-sections will assess the degree to which low-income households in Huron County experience transportation disadvantage. The key source of information is the interviews conducted in Huron County with service providers working with those classified as low-income. In particular, Participants 2, 3, and 10 provided the most relevant information for this demographic group. A summary of these organizations is provided in the following table:

	Primary Client Group(s)	Primary Service Category	Description
Participant 2 (P2)	Low-Income Households	Access to Supplies	Participant 2 is a food bank located in Huron County. This organization does not provide transportation for its clients.
Participant 3 (P3)	Low-Income Households	Access to Training, Education, and Employment	Participant 3 provides services primarily to low-income households in order to help them access training, education, and employment at multiple locations in Huron County. This organization does not provide formal transportation for its clients.

Participant 10 (P10)	Low-Income Households	Essential Services; Access to Training, Education, and Employment	Participant 10 provides financial assistance to low-income households throughout Huron County as well as support in accessing training, education, and employment. This organization provides transportation for its clients to access medical appointments and some employment, education, and training purposes.
-----------------------------	-----------------------	---	--

5.4.1 Mobility Limitations of Low-Income Households/Individuals

As mentioned earlier, those considered to be low-income households or individuals are widely recognized as having mobility limitations when residing in rural areas. While this is mostly tied to the high cost of vehicle purchase and ownership, this research also found that licensing was often an issue for this group. Indeed, Participant 2 states that in order to reach their service this organization's clients "bike, walk, hitch a ride or get a ride with a friend or family, maybe they get a [case manager] worker, or they pay for a cab" (P2).

"There are a lot of more rural people who can't just walk or ride their bike in. So we see people hitchhiking. They hitchhike into town for different things and definitely hitchhiking goes on" (P2).

With regard to the issue of licensing, Participant 3 provided the following statement around the legal barriers that their clients face in obtaining mobility through the use of a personal vehicle:

"For the majority of my clients in Huron they just don't have a license. So whether they have access to a vehicle through a friend or family member or not it's not having their license. A lot of it is that they've had their license and then they've lost it and the fines have built up from lack of payments where its \$7,000 or \$8,000 and they can't afford to get it back" (P3).

Participants 10 and 2 provided similar statements with Participant 2 providing the following:

“Lots and lots of our clients do not have transportation. They just don’t have enough money to have a car or they’ve lost their license and don’t have money to get it back. People have ID issues where they cannot collect back the ID they need. They don’t have enough money to pay the fees required. So for whatever reason the majority of our clients do not have transportation” (P2).

The interview participants also noted that addiction was often an issue amongst their clients and that having clients who lost their license due to driving under the influence (DUI) charges was common. This situation made it difficult for their clients to leave the circle of poverty if they did not have transportation access.

Nevertheless, the main mobility issue for low-income households or individuals residing in Huron County is the inability to afford a personal vehicle. Participants noted that there were a range of issues preventing their clients from purchasing a vehicle including the initial cost, maintenance, insurance, and fuel. For instance, Participant 2 stated about their own clients that:

“They cannot afford the insurance and they don’t have the money up front to get one. But then to keep the vehicle on the road for most people, no. There are some clients that have them, and they’ve had whatever happen to them, like a medical problem, but they’ve managed to maintain their vehicle and keep it running and it has been a priority for them. But for most people, like if you’re on Ontario Works, to get a vehicle, I don’t know how you would” (P2).

Participant 3 reiterated this issue by stating that “for someone that is on Ontario Works and living on \$600 or \$700 per month even if you own a car once you pay for the insurance that’s such a large portion of your cheque gone it’s just not feasible for a lot of them without employment” (P3).

However, going beyond the actual ownership of a vehicle, Participant 10 went on to discuss the issue of having a *reliable* vehicle. On this issue Participant 10 provided the following statement:

“So there’s owning a vehicle, in which you are looking at maybe 10% to 15% [of clients] if you’re lucky and when I say owning a vehicle it can be the junker sitting in the side yard. And then you’re looking at people that have access and that might be friends or family” (P10).

This issue was echoed by a service user in the recently completed transportation study undertaken in Huron and Perth Counties entitled “The Road Ahead”:

“I live in fear of something going wrong with the car there’s no way I can afford to get it fixed. So I’m pretty careful about how I use it and how much. Sometimes I give my friends a lift and they help me with the gas. And sometimes they gift me a lift, too” (Lynn Bowering Consulting, 2012).

Participant 10 expanded on this point with the difference between owning a vehicle, and owning a safe vehicle for both their clients and other drivers. Indeed, for the safety of other drivers on the road, Participant 10 stated that:

“If you did have a vehicle the challenge becomes upkeep, your challenge becomes your license every year, and the challenge, especially in a rural community this is huge, is insurance. So you opt not to have insurance, which isn’t something that is monitored, but happens a lot within our client base” (P10).

Here this participant is describing the situation where their clients cannot afford insurance, but due to the necessity of vehicle ownership, illegally drive without it. Similarly, this participant described the issue of driving unsafe vehicles with the following quote:

“I would say the majority had vehicles before they came on assistance. So [the vehicles] may not be new. Quite often there are issues around whether they are [government] safetied, and can be safetied. I’ll give you an example: a wonderful woman had been abused but has all the services around her now, her partner is in jail, her problem now is safety. She insists on living in a rural farmhouse and has three children, older, but have medical issues. So she has an old junker, \$900 to fix the vehicle, but you invest the \$900 and tomorrow something else could go wrong. If she invests the \$900 then she doesn’t have the money to keep up the insurance and to keep up the licensing. So it becomes a Catch 22. Within our policy we do have the ability to fund minor repairs, but what becomes minor? To me that’s needing a new tire, or the water pump’s gone, or something, but it has to be to a vehicle that tomorrow something else isn’t going to go. And that is a challenge” (P10).

Here this participant is describing the issue of low-income individuals driving unsafe cars because they cannot afford to make repairs or purchase a new vehicle.

Nevertheless, participants also reiterated that their clients were often able to obtain mobility through rides from friends or family. Indeed, Participant 10 stated the following:

“So you have a unique situation in Huron County where family generally helps family. Or you get pockets of individuals that are on assistance that support each other. So one of them has a car and you kind of lean heavily on that person and that increases the numbers [with access]. So I think everyone on social assistance would say they don’t necessarily have reliable transportation but the problem solving skills to find transportation to get where they need to be for appointments is there for probably 75% of our clients. That’s just a rough guess. But I would say probably [the other] 25% are either new to the county and haven’t build the friendships or don’t have relatives to support them, or have burnt bridges” (P10).

Participant 5, who also works with low-income households and individuals, provided a similar statement:

“Sometimes we get really down on this issue and we forget there are lots of good people providing rides to their neighbours, their friends, or their relatives. Imagine if that wasn’t happening. But it’s really the people who don’t have that relational safety net around them that are in the most trouble when they don’t have the connections. They don’t know their neighbour or they don’t have strong relationships in their community” (P5).

Overall, the participants agreed that the role of friends and family was key to providing mobility to their low-income clients. However, it was also frequently noted that these rides were not always available, particularly for time-sensitive destinations such as employment or reaching the food banks during their operating hours.

5.4.2 Accessibility Needs of Low-Income Households/Individuals

“I would argue that people who most need our services have the least access to them due to a lack of transportation. So if they cannot afford \$2.50 for the [Stratford] bus then they may not be able to get across town in time for their appointment. If they have children they may not be able to afford childcare. So it really is the most vulnerable people that need the services but cannot access them due to transportation availability” (P5).

Primary Accessibility Needs					
	Social Inclusion	Access to Supplies	Access to Essential Services	Access to Training, Education, and Employment	Access to Shelters or Other Support Services
Low-Income Households/ Individuals	✓	✓	✓	✓	

Those considered to be low-income are expected to be in need of social inclusion opportunities; supplies; essential services; and training, education, and employment.³ While low-income households and individuals are often seen as unable to meet these accessibility needs due to a lack of mobility, this research found that the ability to access these needs varied greatly depending on what low-income households or individuals are attempting to reach. In particular, it was found that support existed in reaching medical, financial assistance, and employment related services however there was no transportation support provided to reach supplies (specifically food) or social inclusion opportunities.

³ That is not to say that they do not require access to shelters and support services but rather this is not inherent in residing in a low-income household.

With regard to social inclusion opportunities, this research did not identify any transportation support for low-income households or individuals. As mentioned in the preceding section on youth, Participant 9 provides financial assistance to low-income families in order to gain access to social inclusion and recreation opportunities. However, it was noted that there was not transportation support available and therefore the majority of those taking advantage of this program were within walking/bicycling distance. Nevertheless, it was mentioned by one participant that there may be transportation for social purposes provided by faith based organizations however specific examples were not identified. Overall, it was found that very little, if any, transportation support was available for those with low-income in order to provide access to social inclusion opportunities including attending civic functions, voting, and recreation, among other social inclusion needs.

“We do get some from those underlying areas. For our service, if transportation is a problem for them, Ontario Works will usually pay for a cab to get to appointments. But I mean, as far as their daily activities go, grocery shopping and that kind of stuff, it’s not available” (P3).

This research also identified that access to supplies was sometimes an issue for those with low-income due to limited mobility. Of course, access to food is essential for everyone however those with low-income require access to affordable groceries or food banks. With regard to affordable groceries, Participant 10 stated that “where the difficulty is, is with the [clients] that are in smaller locations like Brussels, Blyth, Bayfield where you don’t necessarily have a cost effective grocery store. If you have one, prices are going to be high” (P10). The issue of heightened food prices in rural areas was also raised by other participants during the interview process.

Moreover, access to food banks is a particular accessibility need for some of those with low-income. This research found that food banks generally recognized the mobility limitations of their clients and did their best to reduce the need to travel by providing food bank locations across the county. However, one food bank, Participant 2, also recognized that they did not have the resources to provide transportation for their clients which left some needs unmet. Indeed, this participant stated the following:

“We don’t have a lot of volunteers who do driving for us [specifically a total of 2 volunteers driving 3 clients]...but it’s not a service I can offer either as delivery or a volunteer driver. There have been situations where I have been very concerned about someone walking with the amount of groceries or their health and I have cabbed them home. But I can’t do that on an ongoing basis, we don’t have the funding to cab people to the food bank and back every time they come” (P2).

Like many organizations in Huron County, Participant 2 did provide transportation or delivery in rare cases on an *ad hoc* basis. However, due to limited resources this is not a service they can advertise. Moreover, Participant 2 went on to emphasise the inability, and in some ways inappropriateness of providing deliveries for their clients to eliminate the need for mobility to access this service:

“I have on rare occasions delivered. Mostly around Christmas time. Just kind of trying to make it work out for someone at the last minute. But generally I can’t really be delivering. The other thing is that people that come here choose their own food...so they like to come in and see what there is, what they want, and what they will use” (P2).

The issue was also raised that even for people who could walk to the food bank it was not necessarily practical. Participant 2 provided the following statement around that issue:

“In the two towns where we have family services offices or food banks people can walk there if they are well enough. They use grocery carts or bikes and a bag or they just carry the food home. But sometimes that’s really hard. I mean, that’s a lot to carry on a bike. So they might make two trips and if they’re in town that’s ok. Some may be lucky enough to have someone who can drive them, making sure it coincides with the time we are open. People, if they don’t have a ride, are usually walking. But if they are not well, or it’s very hot or very cold, that’s worrisome” (P2).

Participant 2 also noted that for people outside the settlement areas access was even more of an issue due to the increased cost of using a cab and the inability to walk or cycle to the food bank.

This participant provided the following quote around that issue:

“I think in the city it would be reasonable to pay a couple of bucks and hop on a bus and go to the food bank and back. It would still be money out of their limited amount if you think about someone on Ontario Works but it’s worth it because you’re going to get this amount of food. But to justify a \$20 cab ride you just can’t do it” (P2).

Overall, it was found that access to food was an issue for those with low-income in Huron County and particularly for those outside the main towns due to the increased cost of groceries and the difficulty of reaching food banks.

Another need for those with low-income is access to essential services, such as healthcare or financial assistance programs. Within this accessibility need interview participants generally agreed that transportation was available to ensure mobility for low-income households and individuals. In terms of access to healthcare services, interview participants noted that Ontario Works provided transportation, in the form of financial reimbursement, taxis, or EasyRide, in order to access medical appointments. Participant 10 expanded on this point to note that transportation was also provided in order to access psychologist appointments with the following statement:

“We have a psychologist that provides cognitive assessments for us on various clients. Since her time is worth a lot of money we taxi people, even if they have a vehicle, to ensure that they get to the appointment” (P10).

Similarly, it was found that access limitations are also considered when delivering financial assistance. Participants 3 and 10 noted that Ontario Works has a mandatory 3 month check-in with their clients which are conducted over the phone if their clients are unable to reach it in person. However it was also noted that the initial appointment to apply for Ontario Works had to

be conducted in-person and transportation was not provided for this purpose. Overall, it was found that access to essential services was placed as a priority for these organizations and that this accessibility need seemed to be well met.

Probably the most unique accessibility need for those with low-income is access to training, education, and employment. With regard to access to training and education, participants did not raise this as an issue, likely due to the limited availability of postsecondary institutions within Huron County. Indeed, Participant 3 stated that if their clients wished to pursue postsecondary education they generally had to leave the county and therefore their jurisdiction. Nevertheless, it was noted that Ontario Works would provide transportation for clients wishing to reach educational or training opportunities on a case-by-case basis as well as access to the training workshops they provide within the county.

When discussing the need to access employment this topic garnered some polarization of opinion over whether this need was adequately met. Indeed, this differing of opinion seemed to arise from different organizational values and particularly around the question of choices and the personal responsibility of their clients. When discussing this topic we can see two connected issues, that of accessing employment counselling, job search tools, interviews and other activities in the *pre-employment* stage and secondly accessing a workplace on a regular basis to attend employment in the *post-employment* stage.

Within the pre-employment stage, participants recognized the limitations for their clients and made efforts to work within them. For instance, Participant 3 noted that their funding is only provided if clients go to them in person thereby reducing their ability to provide home visits to their clients without transportation. Similarly they noted that many of their clients did not have

access to a computer or the internet at home thereby reducing their ability to provide online services to their clients in the place of physical visits. Instead, this organization provided the following statement around their service delivery model:

“I would say half, if not more, of my case load at least doesn’t have internet and in a lot of cases even a computer. As far as we go, we set up locations throughout Huron in: Exeter, Goderich, Clinton, and Wingham. We try to do the best we can to get to the different main areas to see them so they don’t have to try to find transportation and so they aren’t coming from Clinton to Goderich every time to meet with us” (P3).

While not a perfect system for those living outside these settlement areas, this model does at least reduce the distance they will need to travel.

With regard to accessing interviews and other pre-employment stages, participants noted that they also provided transportation for these purposes. Indeed, Participants 3 and 10 each provided transportation in order to obtain employment with Participant 3 stating:

“In the case of our clients, if they need to go meet with an employer and they don’t have transportation I will take them to meet with their employer to have an interview or deliver their resume” (P3).

However, once employment was obtained it was found that little transportation support existed. Participants 3 and 10 noted that transportation support from Ontario Works was available for the first week of employment (depending on the first pay period) however even at this point those with low-income were unlikely to be able to purchase a vehicle and gain their own transportation.

The interviews found differing opinions as to whether this lack of transportation support provided in the *post-employment* stage was actually an issue. For example Participant 5 stated that:

“I would argue that transportation is a barrier also to employment which creates a larger dependency on those services. So if someone needs to get a job out of town because there is nothing in the community they are living in then they are going to have an issue getting to the interview and the job every day. The nature of the jobs that are available to some of the people in those circumstances aren’t very high paying so the idea of them even being able to afford transportation even with a job is unrealistic” (P5).

Nonetheless, this was not necessarily seen to be a problem by Participants 3 and 10. This is where the question of choice and personal responsibility was raised by participants reflecting an organizational value. For instance, Participant 3 stated that:

“I think people make choices to live where they live and lots of people we see have opportunities for employment in other areas but they refuse to move. So the opportunities are there, they’re choosing not to take them. It runs into a Catch 22 as well, because a lot of clients for us live in Clinton because the Vanastra area is cheap housing but there’s no employment. So it’s cheap housing with low employment and a lack of transportation or having a job and living in a more expensive area” (P3).

Participant 10 provided a similar statement:

“The assumption is that you have choices when you take a job. If it is outside of your community you either find someone that is working in that organization coming from your community and you get a ride or you move” (P10).

These quotes demonstrate a very clear position from these service providers that if one does not have the transportation to access employment then they have the choice to move or decline the position. Recognizing the other perspective, Participant 10 provided the following statement:

“If your doctor’s here, your family’s here, your support system is here, there’s services you go to here, all that. [Moving is] not something people will do. It’s hard to get a doctor and there are people that need their support system in their life whether it’s their friends or family a professional or whatever. They aren’t going to move away from that because all the other issues in their life could deteriorate” (P10).

This participant presents the opposing case that community supports may be important for those with low-income and outweigh the benefits of employment. This suggests that the position that those with low-income should merely move to find work where available is not realistic nor necessarily in the best interest of low-income households and individuals.

However, Participant 3 in particular did not see this position manifesting in a loss of opportunity. This participant noted that their clients had creative ideas when it came to accessing the services they wanted or needed and that they had never heard of a client losing their job because they did not have access to transportation. In fact, this participant went on to discuss how they felt the lack of transportation was

“We don’t see it as a big issue because it’s always been what we’ve worked with. I think people we are working with who don’t have a car say ‘oh my God I can’t get there’ but when you start talking with them about options and different things they could do it opens things way up” (P3).

sometimes used as an excuse by their clients who did not wish to find employment and provided the following statement:

“There’s people that say they can’t come because they can’t afford the gas but you know that’s probably not true, they pissed it away on something else. Right? They use that as an excuse because they just don’t want to see you” (P3).

This participant also noted that some clients perceived that they were unable to access employment due to a lack of transportation, but again this participant saw this as an excuse.

Around this issue Participant 3 provided the following example:

“So I have a client who we have been working with for a long time, a middle-aged man, and we were helping an employer do some hiring by having aptitude tests done by about 400 people. He had one of the highest scores of those 400 people and got offered an interview but it was not within the town that he lived in. Because he just lived in a small place and he would have had to move to Listowel. So because the job was in Listowel, he totally sabotaged the interview. And he’ll say he can’t get anywhere because he doesn’t have a vehicle...So he sabotaged it because he doesn’t want to have to leave and go somewhere else” (P3).

Through this research it is difficult to say how much of the issue of transportation access for employment purposes is a reality and how much is perceived. Indeed, Participant 3 in particular felt that public transportation could be *beneficial* for their clients in accessing employment but it was not a *necessity*.

5.4.3 Trends

The participants in this research identified two trends as impacting their service delivery to low-income households and individuals in Huron County. The first trend was the economic recession and recent closures of major employers which was increasing their case loads but reducing their available funding. The second key trend put forth to participants was that of increasing fuel prices. This question garnered differing responses. Indeed, Participants 3 and 10 felt that it did not impact their clients very much as very few of them drove anyway. However, it did impact their own service delivery as it increased their costs for providing transportation to these clients. In contrast, Participant 2 did feel that it impacted their clients indirectly with the following statement:

“For clients coming in I would definitely say that the days where you could give someone \$5 to drive you to the food bank are over. People are a lot more reluctant to do driving favours because of the cost of gas” (P2).

As an indirect impact this observation may, or may not, also hold true for other organizations but has not yet been recognized.

5.4.4 Design Characteristics

This research also identified several important considerations for a potential transportation service in order to meet the needs of those with low-income. For this group it is important to keep in mind that individuals may require transportation at any point in the day. Indeed, they may require transportation for medical appointments or access to the food bank during the day whereas they may also need transportation in the evening for social inclusion or employment purposes. It is also important to note that, inherently, this group is without much

disposable income and therefore fares would need to be kept low or financial assistance programs made available to those in need.

When discussing transportation options, interview participants provided a few of their own ideas or observations. For one, it was noted by Participant 10 that volunteer drivers would probably not be appropriate for the needs of this demographic group. While it may be appropriate for other groups, it was observed by this participant that their low-income clients often faced stigmas in the population and that volunteer drivers wishing to transport this group were hard to find. Participant 10 provided the following statement related to this situation:

“A lot of the volunteer base is seniors. And that is wonderful having a senior driving a senior or driving someone who is very sick or has a sick child and that works very well. Within the social assistance realm, people that have been longer term unemployed there seems to be a high rate of alcoholism and drug addiction...So looking at clients for probation, the court system, or even a general medical appointment there is a level of, maybe this isn't the right word, but *risk* involved...It just takes that one incident to put the flags up to say, do you want a senior who is a volunteer to be put at risk to provide that service? So it's kind of stigma but it's kind of a reality” (P10).

This participant reiterated that for most of their clients it would not be a risk to have volunteers providing transportation, but also that they are not in a position to decide who is a risk and who is not. For this reason, it is deemed inappropriate, and likely unrealistic, to expect a volunteer driver to provide transportation for their clients.

Instead, Participant 10 favoured a formal transportation service and suggested the following design as a starting point:

“The transportation service could start by connecting the towns, and whether that is hospital to hospital for a starter or whether it is to the core of each town. And regular, two or three times a day, so there is a time schedule” (P10).

This participant felt that this would begin to meet the needs of their clients but also allow them to reduce the amount of public money they spend on transporting people their entire route and allow them to instead fill the gaps by transporting their clients to hubs which connect with buses.

Furthermore, like many other participants, Participant 3 favoured an expanded use of the school bus system. Indeed, Participant 3 states that:

“We do have buses driving through the county every morning and every afternoon that are half empty. The school buses are half empty, why can’t they be utilized better? They are going anyway; there would be no additional cost to filling it up....Offer people \$10 to get on the bus. They have a set schedule and you know what you are getting” (P3).

In a similar vein, Participant 10 favours the use of school bus companies, but not necessarily school buses, as existing transportation companies which already have expertise in rural transportation.

In conclusion, it is found that those with low-income residing in Huron County are at risk of transportation disadvantage. This research identified multiple factors that may limit this group’s mobility, as well as gaps in their ability to reach their accessibility needs. In particular, the interview process found that access to social inclusion and supplies (i.e. food) may be difficult for low-income individuals and households that lack their own mobility.

Correspondingly, the interview process found that transportation assistance did exist to support those with low-income in accessing essential services (i.e. healthcare), education and training, as well as pre-employment support. However, a key gap emerged with regard to post-employment access to workplaces on a regular basis. Nevertheless, while the gap in transportation support existed, this accessibility need was questioned by some participants as to whether or not it was a problem.

Summary of Gaps in Access for Low-Income Households and Individuals

- Access to social inclusion opportunities (including civic functions)
- Access to supplies (particularly affordable groceries and food banks)
- Reliable access to workplaces once employed (debated as an issue)

5.5 Women

Women residing in rural areas are often considered to be at a heightened risk of transportation disadvantage. However, this is a complicated discussion as women have no inherent reason to be transportation disadvantaged and it is impossible to say that every woman residing in a rural area will be at risk. The recent Huron and Perth Counties transportation study provides a good description of why women's transportation needs and limitations differ from men's:

“Many women in rural areas are consistently without access to transportation. Even more are without full access to a personal vehicle. Women's access to personal vehicles may be affected by their status in the household and by their income level. In many cases, men control the use of the household vehicle, making women dependent on alternative forms of transport, if available. Women are often at a disadvantage in securing personal transportation because they generally earn less than men, making vehicle ownership difficult. Women's transportation needs are also different, because they are often responsible for maintaining the household and spend more time in caring roles, requiring them to travel to different places at different times than men” (Lynn Bowering Consulting, 2012).

Indeed, the issue of transportation disadvantage among women cross-cuts each of the demographic groups presented in this chapter. While women have essentially the same mobility limitations and accessibility needs as men, it is generally found that these are exacerbated within each demographic group. For instance, older women may not have a license or have less experience driving due to the social expectation of men being the drivers in the household. Similarly, parents with young children are often found to be at risk of transportation

disadvantage, which in practice tends to be mothers. This issue has been raised within each section and therefore this section will concentrate on an issue faced mostly by women, that of domestic violence.

While men are not immune to being the victims of domestic violence, in most cases women (and children) are the victims. It is particularly around this issue that women have a unique risk in the ability to reach shelter or support services. Therefore, while not the only transportation issue faced by women, this will be the focus of this section. The content for this section came primarily from two sources working with domestic abuse among women:

	Primary Client Group(s)	Primary Service Category	Description
Participant 13 (P13)	Women	Access to Shelters and Support	Participant 13 provides access to shelters and support services for a range of clients but with an emphasis on women. For those facing domestic abuse, Participant 13 provides transportation for a range of purposes including access to shelters and counselling, among other support services.
Participant 14 (P14)	Women	Access to Shelters and Support	Participant 14 provides access to shelter and support. This organization operates a women's shelter in Huron County as well as providing a crisis line; counselling; advocacy; housing search support; among other supports for women facing a crisis of any kind. This organization provides transportation in order to access their own services as well as for accessing health and other essential services for their clients.

5.5.1 Mobility Limitations of Women

More generally, women may have mobility limitations for any number of reasons and, for the most part, can be expected to have the same mobility opportunities and limitations as men. Nevertheless, when compared with men, women do face social or cultural obstacles which may reduce their mobility. Participant 14 in particular argued that there are socio-cultural expectations and *gender socialization* that unevenly distributes access to mobility among men and women. This participant went on to describe their observation:

“I think there is still, even though we are in 2012, a truth that for men and boys getting a driver’s license and having a car is seen as a rite of passage and so the likelihood that would happen in your teenage years is probably heightened for boys. That doesn’t mean that it doesn’t happen for girls, but it isn’t the same rite of passage, it’s not tied to your gender identity in the same way if you are a girl, it’s very tied to gender identity if you are a boy. So that then translates to the likelihood that you are going to get to be 19, 20, or 22 years old and not have a license. There will be more of those women that do not have a license than boys and men” (P14).

While such an observation is difficult to prove conclusively, it is an important consideration for the mobility limitations of women. Especially since, as Participant 14 observes, “I think in a rural community those rigid gender roles are more firmly held” (P14).

Moreover, when discussing domestic violence this research found two key mobility limitations for women in abusive households; finances and control. This research found agreement between Participants 13 and 14 that most of their clients in Huron County who were victims of domestic violence had low-income. Participant 14 specifically provided the following quote around the issue of finances:

“Some women that come to us are working but it’s a truth that shelters provide support to a skewed population. Abuse happens in all socioeconomic groups however those that would choose to use a shelter would be those in the lowest socioeconomic group because they would not have other resources” (P14).

This is an issue for women in low-income households as they may live in a one-car or no-car household making it very difficult to escape an abusive situation using their own transportation.

Participant 14 also noted the socio-cultural element in this issue of vehicle access:

“Anecdotally, I would suggest that certainly if you are a one car family the likelihood that the man of the household would be deemed to have a greater need for the car would be a truth. For women who are living in abusive relationships their ability to negotiate the use of the car would be diminished” (P14).

This observation suggests that even for women living in a household with a vehicle she may not have access to it as her access may be considered secondary.

Another key consideration for women in abusive households is that of control of transportation. This is an issue that is rarely considered as it is less tangible; nevertheless the reality for women in abusive households may very well be that there are one, or even two, vehicles ‘available’ however she may not have the ability to use them. The interview participants provided more specific explanations around this issue, particularly in a rural context. For instance, Participant 13 stated that:

“It’s also about safety too. Often times, for women abuse, what will happen is their abusive partner will isolate them. So they will get them into the country where there is nobody around them. And even if they have the means to have a vehicle, they’ll take it to work. And if they have the means for two vehicles, they’ll take the keys to the second vehicle to isolate her. So if something happens and she doesn’t have a vehicle to get into and escape, she’s at risk” (P13).

Participant 14 provided a similar description around their experience with control:

“The central thing about abuse is control and so partners who are controlling always control access to vehicles and transportation. So that would be one of the highest reasons that women would not have access to a vehicle, or have access but not be able to use it because they couldn’t explain, or it would be dangerous to say ‘I went to Wingham to meet with a councillor’” (P14).

These participants raised an important issue about the mobility of women from abusive households. Indeed, it suggests that their mobility limitations may go beyond access to a vehicle

to practical obstacles such as not having the keys to use them or psychological barriers such as the fear of using a household vehicle.

5.5.2 Accessibility Needs of Women

“A huge piece of what the Victim Quick Response program does is offer transportation. So that sort of links in to what we do, because that is something that, just due to our rural-ness, for people to get to any type of support service, or counselling, or medical, I have a long list of stuff, transportation is a huge roadblock” (P13).

Primary Accessibility Needs					
	Social Inclusion	Access to Supplies	Access to Essential Services	Access to Training, Education, and Employment	Access to Shelters or Other Support Services
Women	✓	✓	✓	✓	✓

Women, of course, require access to a range of services and activities with few differences from the needs of men. The previous sections in this chapter have addressed more specific sub-populations such as women with low income, older women, or women with young children. Therefore, this section will concentrate on a key accessibility need that does differ from men; access to domestic abuse shelters and other support services.

Within Huron County service providers working with victims of domestic abuse recognize the mobility limitations of their clients. For example, Participant 14 provided the following statement about how the support side of their service is provided:

“We work really hard, recognizing the limitations of the lack of transportation, to take our services to the community” (P14).

“We have an outreach councillor advocate, and I believe this speaks highly in terms of a rural response, because we recognize that women may not have any transportation or even if she has a car she would not be able to explain to somebody why she has used the gas or used the car. And so sometimes it’s important for a woman to be able to access our services in her own hamlet or village. So what we have created is a network of places to meet for women in virtually every hamlet and village in Huron County. The way we are able to do this, with a very limited budget, is that we have partnered with churches who give us space free of charge. However, in the rural context it’s important to recognize that, generally speaking, everybody knows what everybody does all of the time. And if you are in an abusive relationship, disclosing that puts in a much higher risk category... So women can decide for themselves which is the most appropriate place to meet based on their access to transportation, or lack thereof, and their need for confidentiality or anonymity” (P14).

This quote demonstrates that Participant 14 is well aware of the mobility limitations of their clients as well as the issue of confidentiality and anonymity associated with their service which must also be met.

Moreover, Participant 14 provided a crisis telephone line, which does somewhat reduce the need to travel for some of their clients. However, this participant also explained why they did not offer support services directly in the homes of clients:

“What we don’t do, is we do not go into individuals homes. We don’t do that because always when someone is living in an abusive relationship they are living with some level of denial about the danger in which they are living. If we go into that home we are colluding with her in terms of saying ‘it isn’t dangerous’, when we know it actually is so we would not put her or our staff member at risk by doing that” (P14).

This is another important consideration as we often assume that the best way to deliver a service to the client would be to go directly to where they are and eliminate their need to travel.

According to this participant that is not always an appropriate route.

When it comes to accessing shelters women in abusive households must find a way to reach these destinations. Within Huron County it was found that both Participants 13 and 14 provided transportation for this purpose. Indeed, Participant 13 states that they provide transportation using volunteers:

“The volunteers are driving people if they need to get to the women’s shelter, or to go stay with family, or they need to be put up in a hotel for the night...anything that the victim needs in that moment we will provide transportation for” (P13).

This participant expanded upon the transportation support to discuss other needs associated with domestic abuse beyond shelters and support:

“If we’ve supported somebody and they call our office and they are down-and-out without any money to get food and her husband is in jail and he isn’t allowed to have contact with her, that’s a pretty common call, what we would do is we would pay for a taxi to get to the food bank” (P13).

Participant 14 provided a similar transportation service for their clients; however they do not use volunteers and instead rely on taxis:

“We use taxi cabs. That is not an ideal response as you can well imagine. Again, issues of confidentiality and anonymity although we certainly have met with the cab companies and some of their drivers and we’ve asked them to be confidential. We don’t feel as though we have a lot of control over that. So it’s not an ideal situation...Cabs run very limited hours, generally they stop running at 11 or midnight on weekdays and 2 am on weekends and so we had to enter into a contract with cab companies so that they would be willing to be on call for us 24/7...but this is still precarious as they could change their mind if it no longer seemed to be a good business practice” (P14).

Also similar to Participant 13, this participant provides transportation to other services for their clients beyond just access to the shelter itself:

“A good portion of women that come in initially come in a cab. Often if police have intervened and they’ve told her to call the shelter, a cab is sent to get her...we also use cabs for services, like if a woman needs to go to the hospital or to a doctor’s appointment. If there are safety issues about she or her children going someplace in the world, children to school for instance, it is not safe for them to walk because we fear parental abduction. Then we use cabs for all that as well. We have a pretty hefty cab bill” (P14).

As demonstrated here, service providers working with women who are victims of domestic abuse do provide transportation for their clients. While costly from an organizational perspective, from a user’s perspective the county seems to be well served by the current system.

Nevertheless, it should be noted that Participant 14 did provide one gap in their service delivery which should be noted:

“I think there are unmet needs. I think we’ve done some really good creative work historically to put these systems in places in recognition of the rural-ness of the community and the lack of transportation. But there are certainly pockets where we don’t have a lot of contact with people. The Northern part of the county, in the Wingham area, we seem to have less referrals or self-referrals. Is that a transportation issue? Probably it is one of the factors” (P14).

This observation suggests that access may be unequally available for women based on geography, with those in the Northern part of the county experiencing a particular limitation in mobility and access. Nevertheless, overall access was found to be available for most women in the county whenever needed.

5.5.3 Trends

The interview participants for this research did not identify many trends associated with their clients’ ability to access transportation. However, one trend that emerged was the economic recession. Indeed, Participant 14 observed the following:

“Certainly we know that in Huron County the economic drivers have been leaving the community. Three years ago the closing of Champion, 500 really well paid jobs. The recent closing of the airport the recent closing of the Bluewater Centre again 200 jobs, some of the best paid jobs, that you’d find anywhere in the province. I understand Zellers is closing so again another collection of jobs...so as the economics lower in the community, people’s access to transportation is going to be lowered, in terms of their own ability to have their own transportation and to the best of my knowledge there is no public system that is going to jump up and take its place” (P14).

This participant observes that the economic recession may be reducing the availability of transportation for the lowest socioeconomic groups. This participant went on to describe the issue of stress and their observation that job losses and the recent Goderich tornado had resulted in increased stress and that this has increased the demand for their service. The reason for this

observation was explained as: “there is a truth that, while not a cause of abuse, when there are further stressors it can be a trigger” (P14).

5.5.4 Design Characteristics

“I think that a transportation service would meet a lot of the needs for women that are in our programs. It may actually act as a preventative too...if there was a regular kind of transportation system women may more readily find each other, find supports, and we know that when women have more education and more access to better financial lives the likelihood that they will leave an abusive relationship is increased” (P14).

As discussed here, both interview participants working with women who were victims of domestic violence provided transportation. However, they both recognized that there were limitations associated with their services. Indeed, Participant 13 relied heavily on volunteers which brought its own limitations. For instance, they depended on the goodwill of their volunteers and recognized that this organization could not afford to adequately reimburse them for their mileage. In fact, this participant admitted that if every volunteer claimed their total mileage the organization did not have the funds to reimburse them therefore counting on volunteers to absorb their transportation costs themselves. Nevertheless, this participant felt that the service worked reasonably well and that they had not been experiencing any loss of volunteers due to increasing fuel prices or the aging population.

In contrast, Participant 14 did not make use of volunteers due to the sensitivity of client needs and the immediate response required in crisis situations. Instead, this organization made considerable use of taxis in order to meet the transportation needs of their clients. This participant noted that the use of taxis was very costly for their organization however did seem to meet the needs of their clients.

Overall, both participants agreed that a public transportation service would be useful in meeting some of the needs of their clients; however they both also agreed that it would not meet all of them. Indeed, Participant 13 noted that they did not expect that their volunteers would use a public transportation service in order to reach a client in immediate need of support, nor would that client be expected to ride a transportation service in order to reach their support services; particularly as they are often in a state of grief or shock when access is required. Similarly, Participant 14 explained that their clients may need immediate access to a shelter at any time of night if a crisis situation occurs and therefore a 24/7 cab system would still be required to meet their needs. Thus, in the case of women who are victims of domestic abuse, a public transportation service would likely not be able to meet all of their transportation needs although it may meet some.

Summary of Gaps in Access for Women:

- Access to education and employment to pre-empt domestic violence.
- Secondary access or lack of control over existing vehicles.
- Geographical variation in access (observation of less access to shelters/support in North of county).
- Overall, access to shelter and support seems to be available for women in Huron County.

5.6 General Considerations

This research identified several considerations for transportation in Huron County which cross-cut the demographic groups presented in this chapter. This section will briefly mention these issues as they are important to consider when discussing transportation issues and options in the county.

5.6.1 The Car Culture of Huron County

The participants in the interviews conducted as part of this research often mentioned the *car culture* of Huron County as being an obstacle to implementing a successful transportation service. Indeed, the data presented earlier clearly

demonstrates that residents are structurally dependent on their vehicles and shifting the mindset to using a public transportation option may

“We ‘drive to the fridge for a beer.’ I mean we drive for everything that’s what you do in the country”
(Interview Participant 12).

take time. For instance, one participant raised the issue of stigma around using a public transportation service and the concern that even those that need the service may not use it for this reason.

5.6.2 Liability and Regulatory Limitations

The issue of liability and regulatory requirements limiting the ability of organizations to provide public transportation is often raised as an obstacle and therefore interview participants were asked about their experience with this potential issue. Responses to this question were varied. For those participants who already offered transportation, they generally did not feel it would be a problem for them to transport people outside their mandate. However for those organizations that did not provide transportation, they often mentioned that the cost of insurance

would likely prove to be an obstacle. Moreover, one participant explained their opinion as to why the issue of liability and regulation is generally raised in discussions of public transportation:

“That’s an excuse. They may not want to pick up the general public because it is not within their mandate. They may be getting finances to help mental health patients, or those with Alzheimer’s, or people with cystic fibrosis [and their funders say] ‘that’s your mandate and we’re paying you to do that and you don’t help other groups’ ...I think a lot of that is self-imposed” (P7).

While this is merely the opinion of one participant, this comment does raise questions of how real the issue of liability and regulatory restrictions is, and how much it is used as an excuse. This leads to another issue raised by participants: that of strict mandates and organizations ‘protecting their territory’.

5.6.3 Mandates and ‘Territory’

Another issue raised by participants is the issue of strict mandates and organizations wishing to ‘protect their territory’ thereby complicating opportunities to coordinate and leading to overlaps in service. For instance, Participant 1 provided the following statement around this issue:

“So how do you have all these agencies who need transportation work together in a partnership to use all those resources? Rather than together saying ‘this is ours, this is ours, and nobody can use it’. That’s what ends up happening because people become very territorial asking ‘well if we don’t do it, is our funding going to be cut?’ So in my eyes when it comes to an especially rural area you have to start looking at what resources are out there and how do we access them all fairly. And it’s all for the client need” (P1).

Participant 4 provided a similar statement around this issue of mandates:

“We get called from a number of clients who may not be seniors, but they don’t have cars and they live out in the middle of nowhere...seniors are our mandate and if they are not on ODSP or Ontario Works but they just don’t have money that is not our mandate and we do not have the resources to provide transportation. We recognize they have needs, but we just don’t have the solutions” (P4).

This is another issue that must be considered when discussing a potential transportation service as it may seem logical to combine existing services however conflicts of mandates and territory may arise to complicate the process. This suggests that a neutral third party, such as a government department, would be required to coordinate the service.

5.6.4 Residents Unconnected to Service Providers

A further consideration that was raised during the interview process was that of residents of Huron County needing transportation assistance but not being connected to a service provider. For instance, one participant working with youth observed that those with physical or mental disabilities may actually have better transportation access than those without, due to the eligibility requirements of existing transportation supports. This situation suggests that a general use transportation service may be most appropriate for meeting the needs of these residents rather than specialized transportation services with eligibility requirements.

5.6.5 The Question of *Needs* and *Responsibility*

One consideration that was raised throughout the interviews is the question of what is a *need* and whose *responsibility* is it to provide it? This is an important consideration when discussing transportation disadvantage, though a difficult one to conclusively address. Indeed, this question relates to individual values and will vary from person to person as to what a *need* is. For instance, while most would agree that healthcare access is a necessity, some would question whether social inclusion exists on the same plane or whether a hierarchy of needs exists with some more essential than others. While a valid question, it is too value based to be conclusively addressed here and will vary with each individual's perspective. Nevertheless, it is a question that underlies this research and therefore should be raised for consideration.

A similar question arises with that of responsibility and the question of personal and public responsibility. This is the question of who should provide transportation for any given destination. For example, for those wishing to access social or recreational events, is it the responsibility of the public to provide transportation or is it the responsibility of the individual? Similarly, when questions are raised about access to employment and education, is it up to the individual to find transportation or are these 'public goods' that warrant public transportation? Again, this philosophical question is answered based on individual values but nevertheless underlies this research and should be raised for consideration.

5.6.6 The Theory of Planned Behaviour

A final consideration raised in the research, but not by interview participants, is the *Theory of Planned Behaviour*. Quite simply, this theory describes the link between intentions to perform a given action and actual behaviour (Ajzen, 1991). Cullinane and Stokes (1998) apply this issue to rural transportation and state that:

The intention to change mode to walking or cycling from the car is as much influenced by '*perceived behavioural control*' over the ability to change (their perceived ability to change mode in practical terms), as by '*subjective norm*' (what they thought others would think), or their own '*attitude towards the behaviour*'. In addition they cite 'habit' as being a strong determinant of a lack of intention to change mode. This implies that attitudes may need changing to change behaviour, but also services need to improve and people need to believe they can change (Cullinane & Stokes, 1998).

This important theory needs to be considered in discussions of transportation anywhere, and for the purposes of this research the key consideration is that individuals may favour a transportation service, claim that they will use it, but they may not actually change their behaviour and do so.

Chapter Six: Applicability of Transportation Models

In addition to assessing the presence of transportation disadvantage within Huron County, this research also intended to provide options for addressing the transportation needs of residents through a general use, intra-community public transportation system. In practice, the varying needs of the residents of Huron County make it very difficult to adequately recommend a single appropriate model within the scope of this research. As such, this chapter will provide ideas, insights, and observations around public transportation models that may provide a basis for further research on feasibility, but not a single recommendation for which option should be pursued.

The conventional model of public transportation was the most recognizable for most of the interview participants but also the least likely to be appropriate for the needs of the county. The conventional model is inflexible and therefore could not make the door-to-door journeys that are required by older adults, parents with young children, and those with physical or mental disabilities. Due to the differing times that transportation is needed by residents of Huron County it is unlikely that, in present conditions, a fixed-route service could be scheduled frequently enough to be financially viable while also meeting the needs of residents. Nevertheless, it was found that a service between the settlement areas in the county could help to meet some transportation needs of residents. However another service would be required in order to bring those in small settlements and the countryside to these larger towns.

The flexible transportation model of public transportation is likely more appropriate for the needs and realities of Huron County. In fact, the EasyRide service follows a mix between this model and the community transit model by providing door-to-door service where clients call ahead (ideally with 24 hour notice) in order to reserve a pick-up. However, this service is also

specialized with little opportunity for the general public to make use of it. Moreover, it is based on a per kilometre fare system which is very costly for users and inherently costs more with increased rurality (distance from destinations). The existence, and apparent success, of this service suggests that with the right financial resources this could be expanded to meet the needs of numerous groups, were it affordable and had an increased rider capacity. However, a key weakness of the service would be those needing regular transportation, such as to employment, where a rigid service schedule is beneficial and where flexibility is less viable.

The third model to be discussed here is that of the community transportation model. This research found that there is considerable opportunity for this transportation model and that several organizations were already using it, in some form, through the use of volunteer drivers. For some groups in Huron County the use of volunteers works well, for instance service providers working with older adults were found to have success with finding volunteers available during the times that older adults require service. However, for most other groups the use of volunteers was either not appropriate or available to meet their needs. For instance, for some of those with physical or mental disabilities a volunteer is not appropriate due to the level of personal support required. Similarly, it was not likely appropriate for youth to ride alone with adult drivers. Correspondingly, it was found that volunteers were not always available for groups such as those with mental illness or those with low-income who often face stigma in the community.

A secondary option within the community transportation model, along with volunteer drivers, is that of a community bus. There appears to be significant opportunity for service providers representing various groups to come together to create a formalized transportation service. Indeed, the research found that service providers were already spending a significant

amount of resources (human and financial) on transportation for their clients or by bringing their services to their clients. There may be an opportunity to pool these resources to create a new service, or expand an existing one, to meet the needs of various demographic groups and their accessibility needs. The issue is overcoming disputes over territory, mandates, and funding obligations which lend credence to the important role of local government in coordinating and facilitating such a project.

“If you could take all of the agencies and all those pots of money and pool them together, what could you do with that?” (P10).

A fourth public transportation model is that of private taxis and opportunities for vouchers or subsidization. This research found that Huron County is well covered by taxi companies, which run at most times of the day. It was also found that service providers made considerable use of taxis to provide transportation to their clients. Due to the coverage of taxis, their lack of eligibility requirements, and their (almost) complete flexibility in terms of origins and destinations it can be said that taxis are available for most anyone for any purpose. However, while available, taxis are also not affordable for many people due to their high per kilometre rates which, again, increases their cost with rurality. Therefore, in order to better meet the needs of residents, the cost of taxis would need to be lowered either through the issuing of vouchers or a subsidization of the service. For instance, vouchers could be issued to those in need of transportation requiring them to provide a reduced flat rate in order to access a specific service with the issuing authority covering the remainder. In contrast, a municipality or collection of service providers could supply funds to taxi companies in exchange for a lowered rate, potentially through a tender

“Providing a taxi ride is very expensive for the tax payers. So if you look at it from an accountability standpoint, it’s not appropriate. Does it work at the moment? Yes, but it’s an expensive option. So how can we move people cost effectively around the county?” (P10).

process. Theoretically, either option could work in order to make taxis more financially feasible for those in need of transportation.

The final public transportation model to be discussed here is that of the mixed services model. Within Huron County there are two key rural services that could theoretically be expanded to accommodate general ridership: school buses and mail delivery. This research found that the opportunity to make better use of the existing school buses was recognized by several interview participants. The recent “The Road Ahead” study undertaken in Huron and Perth Counties also recommended that the opportunity to use buses in off-peak hours be explored. The use of school buses during the day, in the evening, and in the summer is an opportunity worth exploring. For some residents this may meet some of their needs, however not for all. For instance, those needing transportation for work purposes may very well require transportation when the buses are in use transporting students. Nevertheless, many services are only available during the day, such as medical appointments or food banks, which could be useful for some residents. Similarly, for youth in school evenings and summers are when transportation is most necessary for social inclusion, recreation, and employment purposes.

Thus, the use of school buses outside of school purposes is worth considering, however perhaps most useful is the fact that school bus companies are a local resource specializing in rural transit. Indeed, these organizations already have the knowhow and infrastructure to provide transportation in a rural context and therefore would be worth considering as service providers or partners under any public transportation model.

In conclusion, it is difficult to explicitly say which model is most appropriate to meet the needs of Huron County’s residents. Indeed, each model has benefits and drawbacks making it

appropriate for some groups or purposes but perhaps not others. This suggests that a mix of services may be the most appropriate to meet the needs of those without transportation access. While volunteer drivers may not meet the needs of those with low-income or youth, they may remain the appropriate mode for older adults and those with physical or mental disabilities. Similarly, we know that for women or children in abusive households, taxis are likely the only mode that can provide the immediate response needed in a crisis situation. Overall, it is important to consider what mix of modes is feasible for the community that also meets the needs of as many groups and accessibility needs as possible.

Chapter Seven: Discussion and Recommendations

7.1 Discussion

The primary goal of this research was the development of a framework for identifying transportation disadvantage within the context of rural Ontario and the subsequent testing of this framework within the context of Huron County. In order to achieve this, 14 key informant interviews were conducted with service providers working with 5 demographic groups generally found to be at risk of transportation disadvantage: older adults, those with physical or mental disabilities, youth, those with low-income, and women. Moreover, it should be noted that the purpose of this research was to assess the *breadth* of transportation disadvantage but cannot speak to the *depth* of its presence in the county.

The term *transportation disadvantage* as used in this research is defined as “the inability to travel when and where one needs without difficulty. Transport disadvantage, as a concept, exists on a continuum, with some more transport disadvantaged than others” (Denmark, 1998). This research strove to identify why certain groups were unable to travel (mobility) and what they needed to reach (accessibility). The research found that transportation disadvantage did indeed exist on a continuum within Huron County with certain groups more able to access transportation supports or alternatives than others. However, the research also identified that transportation disadvantage existed on a continuum not only *between* groups but *within* groups depending on the accessibility need wishing to be reached. For instance, youth are provided with transportation in order to access education until the end of secondary school; however transportation is not available for social inclusion or employment purposes. Therefore, youth

wishing to access education are not considered to be at risk while those wishing to access other accessibility needs would be.

In addition, it was found that transportation disadvantage was compounded by those belonging to multiple groups. For instance, low-income youth or older women generally faced additional limitations. This clearly arose during the research however was not explicitly accounted for in the framework. In fact, only the older adult and youth descriptors were mutually exclusive with the remainder being available in any combination. It is expected that with each additional descriptor an individual would face compounded limitations in their mobility and ability to reach their accessibility needs.

Overall, the issue of transportation disadvantage is highly complex and summaries of the gaps in access for each group are provided in their dedicated sections in Chapter 5. Nevertheless, it is possible to provide some degree of a summary here to identify which groups are most at risk of transportation disadvantage. In order to assess transportation disadvantage it is important to consider the difference between availability and adequacy. Indeed, in Huron County the private taxi service is *available* for essentially any purpose; however it is certainly not *affordable* for every group and accessibility need. Instead, in Huron County it is possible to use a simple framework for determining *transportation adequacy* provided by the Victoria Transport Policy Institute (VTPI, 2012):

- *Affordability* – Whether transportation options have financial costs within the targeted users’ budget.
- *Availability* – Whether transportation options exist at the location and time users require.
- *Accessibility* – Whether transportation options accommodate users’ physical and mental abilities, including the total journey experience (i.e., door-to-door).
- *Acceptability* – Whether transportation options are considered suitable to users.

These four essential elements must be available in a transportation option in order to be considered adequate. For example, within Huron County older adults may access social inclusion opportunities using the EasyRide service. Unlike for healthcare access, for social inclusion purposes this service is not subsidized, thus while for this purpose transportation would be available, it would not be considered affordable and therefore inadequate for some older adults. A generalized assessment using this framework is provided in Appendix A based on each demographic group and accessibility need.

Based on this assessment it is possible to identify particular gaps in access for groups residing in Huron County. As mentioned, the private taxi service is theoretically available for any group or purpose, however due to financial limitations it is likely unaffordable for most individuals within the demographic groups at risk of transportation disadvantage. With this in mind, affordability comes into question and where supports do not exist, we can expect that certain accessibility needs are out of reach for some groups. Below is a summary of the key accessibility gaps identified in this research:

- Older Adults
 - Affordability of existing transportation services, particularly for social inclusion purposes
- Physical or Mental Disabilities
 - Access to social inclusion opportunities (particularly for those with mental illness)
 - Access to training, education, and employment (particularly for those with mental illness)
 - Access to supplies (i.e. food)
- Youth
 - Access to social inclusion opportunities such as sports, social gatherings, clubs, etc.
 - Access to employment
 - Access to basic needs for youth living independently
- Low-Income Households
 - Access to social inclusion opportunities (including civic functions)
 - Access to supplies (particularly affordable groceries and food banks)

- Reliable and affordable access to workplaces once employed
- Women
 - Access to social inclusion opportunities
 - Access to supplies (i.e. food)
 - Access to training, education, and employment

Nevertheless, it is important to note that this summary is quite simplified and that the individual sections provided in Chapter 5 will provide a much more thorough picture of why, how, and for who the issue of transportation disadvantage manifests within the county.

Overall, it can be concluded that members of each demographic group can be considered to be at risk of transportation disadvantage depending on what they are attempting to access. One method to address this is the creation of a new public transportation system or the expansion of an existing one. It is outside the scope of this research to provide a feasibility assessment of any particular service. Instead, Chapter 6 provides ideas and observations, but intentionally stops short of a recommendation, to help guide future research on a feasible transportation service.

For other municipalities or researchers wishing to conduct a similar study, the framework used for this research proved to be a good starting point for assessing the presence of transportation disadvantaged groups. Nevertheless, it was found to truly be a starting point and that once interview participants got into depth on any particular group or accessibility need the framework was too simple to provide a complete picture of the issue. Moreover, it was found that most descriptors cross-cut groups as well as service providers. For instance, individuals may belong to multiple groups (i.e. low-income and older adult) and often did. Similarly, service providers often worked with multiple groups with similar issues, such as with older adults and those with physical or mental disabilities. In future use of the framework it may be worthwhile to consider ways to account for the compounding issues of belonging to multiple groups.

7.2 Recommendations

This section will provide some recommendations arising from the research on transportation disadvantage undertaken within Huron County. As mentioned, it is outside the scope of this research to recommend a specific public transportation model that should be pursued. Instead, these recommendations address transportation in the county more generally and are directed at service providers and municipal governments alike. Moreover, these recommendations could be applied to other rural counties in Ontario with similar characteristics.

Recommendation 1: Consider how residents will access new or existing services and activities.

Everyone providing services to Huron County residents should ask themselves ‘how are people going to access this service?’ This should apply to new services, programs, or events as well as existing ones. If the answer to that question is ‘only through the use of a personal vehicle’, options should be considered for those that do not have access to their own transportation. This may include transportation support, such as financial aid or direct transportation provision, or options to reduce the need to travel, such as online delivery or decentralized locations. Often we assume that everyone has access to their own transportation, which this research found to be highly inaccurate. It is important that everyone operating within a rural setting keep in mind that vehicle access is not universal and that transportation is a real problem for some residents.

Recommendation 2: Seek out opportunities to pool resources and coordinate transportation delivery across service providers.

While few of the organizations participating in this research self identified as transportation service providers, in reality many of them were out of necessity. Indeed, due to the lack of transportation options faced by their clients most service providers were offering either

formalized or *ad hoc* transportation or reducing the need to travel by going out into the community or to the homes of clients to provide their service. Overall, this meant that service providers were spending a considerable amount of their limited resources (financial and human) on transportation, whether they considered themselves a transportation provider or not. Similarly, due to limited coordination and communication, a duplication and overlap of services emerged where service providers transported only their clients to specific destinations. The current uncoordinated and individually provided transportation service within the county already costs considerable public funds while being offered inefficiently due to duplication and overlap.

In the end, it was found that while Huron County does not have a public transportation system, in practice a large number of specialized transportation services are being offered by specific service providers. As an example, while the Corporation of the County of Huron would not describe themselves as providing public transportation, the 2012 County Budget indicates that the Social Services department is spending \$160,000 in 2012 on medical transportation alone (County of Huron, 2012). Consider if all of the various organizations pooled their resources to provide a general-use public transportation service meeting all of their clients' needs, as well as currently unmet needs within the county? This is an opportunity that should be pursued further.

Recommendation 3: The Corporation of the County of Huron should take an active role in public transportation.

The county government should take an active role in public transportation within the county, which could range from offering a public transportation service, providing support to existing services, or merely coordinating the creation of a community transportation service. As mentioned earlier, service providers operating within the county often face obstacles in

coordination and cooperation due to their strict mandates and concerns with protecting their ‘territory’. As the upper-tier level of government, the Corporation of the County of Huron represents all of the county’s residents and therefore can intervene as an impartial coordinator. The county government should take a lead role in any discussions around coordinating services, sharing resources, and providing services to the general public rather than merely to specific groups. Moreover, the Corporation of the County of Huron operates at the appropriate geographic scale to provide a new public transportation service, were this deemed a feasible option.

Recommendation 4: Start small and build a system over time.

It is unlikely that a comprehensive transportation service would be feasible or appropriate for meeting the current capabilities and needs of Huron County’s residents. Therefore, it is recommended that a small scale service be implemented, perhaps as a pilot project, to set the foundation for public transportation in the county. Indeed, it will take time to build ridership in a rural area, particularly among those that are unfamiliar with public transportation service. It takes time to create a cultural shift, particularly amongst such a car dependent population.

Moreover, when discussing public transportation in Ontario people tend to envision a Toronto style service and discount it as infeasible in a rural area. However this is not the reality. Indeed, if the ridership potential of a rural community cannot justify a large bus operating on a regular schedule, consider a small bus or van operating on a flexible route a few times per day; or even only in response to client requests (dial-a-ride). Overall, it is very difficult to change a community to make public transportation viable, but it is much easier to adapt a public transportation service to meet the conditions of the community.

Recommendation 5: Do not wait until it is too late.

A successful public transportation system cannot be created overnight. Nonetheless, the corresponding trends of the aging population and increasing fuel prices can be expected to result in an increasing demand for public transportation in rural communities. It is recommended that Huron County, and rural communities everywhere, consider these long term trends and what options can be put in place today to mitigate their impacts. Indeed, rural municipalities in Ontario should consider their options and start small with opportunity to expand as the capacity to operate a successful public transportation system must be fostered over time, not when it is too late.

Chapter Eight: Future Research

There is considerable opportunity to continue research on transportation disadvantage and public transportation opportunities in rural Ontario. To date, very little has been written within the context of rural Ontario with most literature coming from the United Kingdom, mainland Europe, and the United States. On the topic of transportation disadvantage, this research took the ambitious approach of looking at the issue comprehensively rather than individual groups. This type of research should be continued in order to see a more complete picture of community needs. Indeed, research on the needs of individual groups may be one reason for the existence of specialized transportation which overshadows the needs of other groups within rural areas. If more comprehensive studies were undertaken we may find that a general-use service would not only be necessary, but would also have the ridership to justify a public transportation service.

Moreover, on the topic of rural public transportation, when compared with Europe, Canada has very little public transportation in rural areas, even in the densely populated communities in Southern Ontario. This begs the question of *why* and whether the argument that it is unfeasible due to population density is actually an excuse, especially if compared with communities in Scotland, Norway, and other jurisdictions with similar population densities but much more public transportation presence.

Within the context of Huron County research is needed to look at opportunities to address the presence of transportation disadvantage demonstrated by this study. There are two key elements of this. First, it would be valuable to comprehensively look at available public transportation models and evaluate their applicability within the needs and capabilities of Huron County. This research laid the groundwork for this however it warrants a dedicated study. A second element of this research should include opportunities to utilize existing resources to

improve transportation options within the county. This too has been mentioned in this research, however it would be valuable to know where exactly existing services are traveling, how much they are spending, and how they could be combined or more efficiently delivered. This may be an opportunity to reduce the need for new public investment by better using existing public resources.

Finally, this study addressed the *presence* of transportation disadvantage in Huron County but not the *depth* of the issue. Indeed, we can say that some individuals within Huron County are at risk of being unable to reach accessibility needs due to transportation limitations, however we cannot speak to how many are in need. This suggests that a full-scale survey of residents would be beneficial to determine the depth of the issue and the potential ridership of a service. Nevertheless, there are warnings that come along with such a suggestion. This research found that numerous groups are in need of transportation which may not fill out surveys due to ability or access; for instance youth, frail older adults, those with mental illness, among others. It is important to consider ways to reach these individuals in any future studies which may warrant a mix of interviews and surveys or questionnaires targeted at specific sub-groups generally found to be at risk. Overall, it is important to consider that just because the majority of those answering a general survey state that transportation is not an issue, does not mean it is not a problem for some people. Instead, consider who did not, or could not, respond to that survey and whose issues are not being adequately represented. This goes well beyond a future study in Huron County and is a word of warning for all future transportation needs assessments.

Work Cited

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Croteau, A. (2008). Huron Transportation Task Force Report: Huron Community Matters.
- APTA. (2007). Public Transportation: Benefits for the 21st Century. Washington, DC: American Public Transportation Association (APTA).
- Arcury, T. A., Preisser, J. S., Gesler, W. M., & Powers, J. M. (2005). Access to Transportation and Health Care Utilization in a Rural Region. *The Journal of Rural Health*, 21(1), 31-38.
- Bailey, L. (2004). Aging Americans: Stranded Without Options. Washington, DC: Surface Transportation Policy Project.
- BCT. (n.d). Bancroft Community Transit Retrieved February 24, 2012, from <http://www.bancroftcommunitytransit.com/index.html>
- Bollman, R. D., & Prud'homme, M. (2006). Trends in the prices of rurality. *Statistics Canada: Rural and Small Town Canada Analysis Bulletin*, 6(7), 1-25.
- Broome, K., Worrall, L., McKenna, K., & Boldy, D. (2010). Priorities for an Age-Friendly Bus System. *Canadian Journal on Aging*, 29(3), 435-444.
- Burkhardt, J. E., Eby, C. L., Abert, J. G., Lago, A., Hedrick, J. L., & Spittel, L. A. (1969). The Transportation Needs of the Rural Poor. Washington, DC: Federal Highway Administration.
- Burkhardt, J. E., Hedrick, J. L., & McGavock, A. T. (1998). Assessment of the Economic Impacts of Rural Public Transportation *Transit Cooperative Research Program (TCRP)* 34. Washington, DC: Transportation Research Board.
- Burkhardt, J. E., Nelson, C. A., Murray, G., & Koffman, D. (2004). Toolkit for Rural Community Coordinated Transportation Services *Transit Cooperative Research Program (TCRP)* 101. Washington, D.C: Transportation Research Board (TRB).
- Bussgods. (2012). Om oss (About us) Retrieved February 28, 2012, from <http://www.bussgods.se/pages.asp?PageID=680&MenuID=627>
- CAA. (2011). Driving Costs 2011. Ottawa: Canadian Automobile Association (CAA).
- Cartmel, F., & Furlong, A. (2000). Youth unemployment in rural areas. York, UK: Joseph Rowntree Foundation.
- CfIT. (2008). A New Approach to Rural Public Transport. London, UK: Commission for Integrated Transport.
- Christidis, P., Hidalgo, I., & Soria, A. (2003). Dynamics of the Introduction of New Passenger Car Technologies. Seville, Spain: European Commission, Joint Research Centre (DG JRC): Institute for Prospective Technological Studies.
- CID. (2011). Community Information Database. *Government of Canada's Rural Secretariat* Retrieved March 02, 2012, from <http://www.cid-bdc.ca/>
- City of Olathe. (2012). Taxi Coupon/Voucher Program Retrieved February 28, 2012, from <http://www.olatheks.org/HT/TransportationPrograms/TaxiCouponProgram>
- CMA. (2000). Determining medical fitness to drive: A guide for physicians. Ottawa: Canadian Medical Association (CMA).
- CMHA. (2011a). Integrating Needs for Mental Well-Being into Human Resource Planning. Ottawa: Canadian Mental Health Association.
- CMHA. (2011b). Understanding Mental Illness Retrieved June 11, 2012, from <http://www.cmha.ca/mental-health/understanding-mental-illness/>

- Cooper, J., Nelson, J. D., Wright, S. D., MacInnes, K., & Edwards, R. (2006). *Community-based flexible transport as a method for addressing community inclusion: developing and evaluating specialist DRT in Highland Scotland*. Paper presented at the European Transport Conference 2006, Strasbourg, France.
- County of Huron. (2010). Huron County Official Plan. Goderich, Ontario.
- County of Huron. (2012). 2012 Budget: Approved April 11, 2012. Goderich, Ontario: Corporation of the County of Huron.
- CRC. (2008). Thinking about rural transport: Contribution to sustainable rural communities *CRC WEB 30*. Cheltenham, United Kingdom: Commission for Rural Communities (CRC) and the Transport Research Laboratory (TRL).
- CTAA. (2008, January). Resources on Transportation Voucher Programs. *Community Transportation Association Joblinks Employment Transportation Initiative* Retrieved February 28, 2012, from http://web1.ctaa.org/webmodules/webarticles/articlefiles/Voucher_Resources_Aug_08.pdf
- Cullinane, S., & Stokes, G. (1998). *Rural Transport Policy*. Amsterdam: Pergamon.
- CUTA. (2003). Better access through mobility: Getting ahead with public transit. Toronto: Canadian Urban Transit Association (CUTA).
- CUTA. (2004). Transit's Next Generation: Working with Canada's Youth. Toronto: Canadian Urban Transit Association (CUTA).
- Dandy, K., & Bollman, R. D. (2008). Seniors in Rural Canada. *Statistics Canada: Rural and Small Town Canada Analysis Bulletin*, 7(8), 1-56.
- Dargay, J., Gately, D., & Sommer, M. (2007). Vehicle Ownership and Income Growth, Worldwide: 1960-2030. Leeds, UK: Institute for Transport Studies, University of Leeds.
- Denmark, D. (1998). The Outsiders: Planning and Transport Disadvantage. *Journal of Planning Education and Research*, 17, 231-245.
- DfT. (2010, June 02). Case Study: Wiltshire Wigglybus. *Department for Transport* Retrieved February 28, 2012, from <http://www.dft.gov.uk/itstoolkit/CaseStudies/wiltshire-wigglybus.htm>
- Dillon. (2010). Assessment of Community Transportation Service Expansion in Huron County: Dillon Consulting Limited.
- du Plessis, V., Beshiri, R., Bollman, R. D., & Clemenson, H. (2002). Definitions of "Rural" *Agriculture and Rural Working Paper Series Working Paper No. 61*. Ottawa: Statistics Canada.
- Ellis, E., & McCollom, B. (2009). Guidebook for Rural Demand-Response Transportation: Measuring, Assessing, and Improving Performance. Washington D.C: Transportation Research Board (TRB).
- eMentalHealth. (2012, June 06). Physical Disabilities : Services, Help and Support in Huron County, ON Retrieved June 11, 2012, from <http://ementalhealth.com/Huron-County/Physical-Disabilities/index.php?m=heading&ID=283>
- Enoch, M., Ison, S., Laws, R., & Zhang, L. (2006). Evaluation Study of Demand Responsive Transport Services in Wiltshire. Leicestershire, UK: Loughborough University.
- Fletcher, C. N., Garasky, S. B., Jensen, H. H., & Nielsen, R. B. (2010). Transportation Access: A Key Employment Barrier for Rural Low-Income Families. *Journal of Poverty*, 14(2), 123-144.

- Fuller, T., & O'Leary, S. (2008). The Impact of Access to Transportation on the Lives of Rural Women. Guelph, Ontario: Rural Women Making Change: University of Guelph.
- Gallagher, E., Menec, V., & Keefe, J. (2008). Age-Friendly Rural and Remote Communities: A Guide: Healthy Aging and Wellness Working Group of the Federal/Provincial/Territorial Ministers Responsible for Seniors.
- Gamm, L., Hutchison, L., Bellamy, G., & Dabney, B. J. (2002). Rural Healthy People 2010: Identifying Rural Health Priorities and Models for Practice. *The Journal of Rural Health*, 18(1), 9-14.
- Garven & Associates. (2005). Rural Women's Needs Assessment Study: Wellington County & Ontario: Training and Adjustment Board: Waterloo and Wellington.
- Gilbert, R., & O'Brien, C. (2005). Child and Youth Friendly Land-Use and Transport Planning Guidelines: Ontario: The Centre for Sustainable Transportation at the University of Winnipeg.
- Giles, P. (2004). Low Income Measurement in Canada. Ottawa: Statistics Canada.
- Gray, D. (2000, 11-12 September). *Does Scotland have a rural transport problem?* Paper presented at the European Transport Conference, Cambridge, UK.
- Gray, D., Farrington, J., Shaw, J., Martin, S., & Roberts, D. (2001). Car dependence in rural Scotland: transport policy, devolution and the impact of the fuel duty escalator. *Journal of Rural Studies*, 17, 113-125.
- Gray, D., Shaw, J., & Farrington, J. (2006). Community transport, social capital and social exclusion in rural areas. *Area*, 38(1), 89-98.
- Grocery Getters. (2012). The Grocery Getters Retrieved August 08, 2012, from <http://www.thegrocerygetters.ca/>
- Halden, D., Farrington, J., & Copus, A. (2002). Rural Accessibility *Transport Research Series*. Edinburgh: Scottish Executive Central Research Unit.
- Hall, M., Havens, B., & Sylvestre, G. (2003). The Experience of Social Isolation and Loneliness Among Older Men in Manitoba *Aging in Manitoba Study*. Winnipeg: University of Manitoba.
- Harmon, R. (1995). Transportation and rural revitalization. Washington, DC: Community Transportation Association of America.
- Herold, M., & Kaye, K. (2001). Rural Youth and Mobility: An Emerging Rural Transportation Issue *Rural Transportation Series*: University of Guelph.
- Higgs, G., & White, S. D. (1997). Changes in Service Provision in Rural Areas. Part 1: The Use of GIS in Analysing Accessibility to Services in Rural Deprivation Research. *Journal of Rural Studies*, 13(4), 441-450.
- Highland Council. (2012, February 16). Subsidised Taxis. *The Highland Council* Retrieved February 28, 2012, from <http://www.highland.gov.uk/yourenvironment/roadsandtransport/publictransport/subsidisedtaxi.htm>
- Kamruzzaman, M. D., & Hine, J. (2011). Participation index: a measure to identify rural transport disadvantage? *Journal of Transport Geography*, 19, 882-899.
- KFH Group. (2001). Guidebook for Change and Innovation at Rural and Small Urban Transit Systems *Transit Cooperative Research Program (TCRP) 70*. Washington, D.C.: Transportation Research Board.

- Kmet, L., & Macarthur, C. (2006). Urban–rural differences in motor vehicle crash fatality and hospitalization rates among children and youth. *Accident Analysis and Prevention*, 36, 122–127.
- Lane, B. W. (2010). The relationship between recent gasoline price fluctuations and transit ridership in major US cities. *Journal of Transport Geography*, 18, 214–225.
- Lavolette, M.-J. (2010). Aging in Place: Promising Practices for Municipalities. *Alberta Association, Canadian Institute of Planners (AACIP) Planning Journal*(4), 14-16.
- Lynn Bowering Consulting. (2012). The Road Ahead: A study of transportation needs across Huron and Perth Counties. Stratford: The Social Research & Planning Council.
- Mattson, J. (2008). Effects of Rising Gas Prices on Bus Ridership for Small Urban and Rural Transit Systems: Small Urban and Rural Transit Center, Upper Great Plains Transportation Institute: North Dakota State University.
- McGregor, G. (2011, December 17). Rural Ontario residents have higher impaired driving rates than those in cities, *The Ottawa Citizen*.
- Mees, P. (2010). *Transport for Suburbia: Beyond the Automobile Age*. London: Earthscan.
- MMM Group. (2011). Transportation Demand Management Plan. Goderich, Ontario: Corporation of the County of Huron.
- MOF. (2011, June 01). Ontario Population Projections Update Retrieved February 01, 2012, from <http://www.fin.gov.on.ca/en/economy/demographics/projections/#s3e>
- MOHLTC. (2010, November 23). Ontario's Aging at Home Strategy Retrieved February 01, 2012, from http://www.health.gov.on.ca/english/public/program/ltc/33_ontario_strategy.html
- Mott MacDonald. (2008). The Role of Taxis in Rural Public Transport. London, UK: Commission for Integrated Transport.
- MTO. (2009, April). Medical Condition Report Retrieved February 03, 2012, from [http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/GetFileAttach/023-SR-LC-097~1/\\$File/SR-LC-097.pdf](http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/GetFileAttach/023-SR-LC-097~1/$File/SR-LC-097.pdf)
- MTO. (2010a, December 21). Medical Review Section. *Ontario Driver Licensing* Retrieved February 03, 2012, from <http://www.mto.gov.on.ca/english/dandv/driver/medical-review/standards.shtml>
- MTO. (2010b, December 21). Physicians' Duty to Report Patients. *Ontario Driver Licensing* Retrieved February 03, 2012, from <http://www.mto.gov.on.ca/english/dandv/driver/medical-review/physicians.shtml>
- MTO. (2010c, August 05). Senior Drivers in Ontario Retrieved January 25, 2011, from <http://www.mto.gov.on.ca/english/dandv/driver/senior/index.shtml>
- MTO. (2011, October 13). Section 1.1 Community Structure. *Transit-Supportive Guidelines* Retrieved April 03, 2012, from <http://www.mto.gov.on.ca/english/transit/supportive-guideline/community-structure.shtml#rural-settlement-areas>
- Mulley, C., & Nelson, J. D. (2009). Flexible transport services: A new market opportunity for public transport. *Research in Transportation Economics*, 25, 39–45.
- NACA. (1993). Aging in Rural Communities and Small Towns. *Expression: Newsletter of the National Advisory Council on Aging*, 9(1), 1-8.
- Nemet, G. F., & Bailey, A. J. (2000). Distance and health care utilization among the rural elderly. *Social Science & Medicine*, 50, 1197-1208.

- Ness, A. (2010, September 16). Department of transport services. *Sogn og Fjordane fylkeskommune* Retrieved February 23, 2012, from [http://www.sfj.no/cmssff/cmspublish.nsf/\\$all/C53157625AB28200C12577960035447E](http://www.sfj.no/cmssff/cmspublish.nsf/$all/C53157625AB28200C12577960035447E)
- Nutley, S. D. (1996). Rural transport problems and non-car populations in the USA: A UK perspective. *Journal of Transport Geography*, 4(2), 93-106.
- O'Leary, S. (2008). *The Economic Disadvantage of Transportation for Women in Northern Ontario*. Master of Science, University of Guelph, Guelph, Ontario.
- OMAFRA. (2009, August 12). OMAFRA Working Definition of Rural. *Ontario Ministry of Agriculture, Food, and Rural Affairs* Retrieved March 03, 2012, from http://www.reddi.gov.on.ca/insight_ruralontarioprofiles.htm
- OneCare. (2012a). EasyRide Retrieved March 03, 2012, from <http://www.onecaresupport.ca/easyride.html>
- OneCare. (2012b). Our Services Retrieved March 05, 2012, from <http://www.onecaresupport.ca/ourservices.html>
- Owsley, C. (1999). *Driver Capabilities Transportation in an Aging Society: A Decade of Experience*. Washington, DC: Transportation Research Board.
- Pong, R. W., DesMeules, M., Heng, D., Lagacé, C., Guernsey, J. R., Kazanjian, A., et al. (2011). Patterns of health services utilization in rural Canada. *Chronic Diseases and Injuries in Canada*, 31(1), 1-44.
- PostBus. (2012). Overview of PostBus Switzerland Ltd Retrieved February 28, 2012, from <http://www.postauto.ch/en/pag-startseite/pag-ueberuns/pag-portrait.htm>
- Poulin, C., Boudreau, B., & Asbridge, M. (2006). Adolescent passengers of drunk drivers: a multi-level exploration into the inequities of risk and safety. *Addiction*, 102, 51-61.
- Pucher, J., & Renne, J. L. (2005). Rural mobility and mode choice: Evidence from the 2001 National Household Travel Survey. *Transportation*, 32, 165-186.
- Purdon, C. (2002). *Rural Women Speak about the Face of Poverty: The Rural Women and Poverty Action Committee*.
- Rosenbloom, S. (1999). *Mobility of the Elderly: Good News and Bad News Transportation in an Aging Society: A Decade of Experience*. Washington, DC: Transportation Research Board.
- Rosenbloom, S. (2004). *Understanding Women's and Men's Travel Patterns: The Research Challenge*. Paper presented at the Research on Women's Issues in Transportation Conference, Chicago, Illinois.
- Royal Mail. (2012). Postbus Retrieved February 20, 2012, from <http://www.royalmail.com/you-home/your-community/postbus>
- RTC. (2007, February). *Models of Rural Transportation for People with Disabilities: Rural Practice Guideline* Retrieved February 14, 2011, from <http://rtc.ruralinstitute.umd.edu/Trn/models.htm>
- Schaeffer, K. H., & Sclar, E. (1980). *Access for All*. New York: Columbia University Press.
- Scott, D. M., Newbold, K. B., Spinney, J. E. L., Mercado, R., Paez, A., & Kanaroglou, P. S. (2009). New Insights into Senior Travel Behavior: The Canadian Experience. *Growth and Change*, 40(1), 140-168.
- Senate of Canada. (2008). *Beyond Freefall: Halting Rural Poverty: Standing Committee on Agriculture and Forestry*.
- SEU. (2003). *Making the Connections: Final Report on Transport and Social Exclusion*. London, UK: Office of the Deputy Prime Minister: Social Exclusion Unit.

- Sherwood, K. B., & Lewis, G. J. (2000). Accessing health care in a rural area: an evaluation of a voluntary medical transport scheme in the English Midlands. *Health & Place*, 6, 337-350.
- Site, P. D., & Salucci, M. V. (2006). Third Annual Thematic Research Summary – Rural Transport *Transport Research Knowledge Centre*: European Commission's Directorate General for Energy and Transport
- SSB. (2011a). Table: 06669: Public transport by bus. Intra-county routes. Key statistics. *Statistics Norway* Retrieved February 23, 2012, from http://statbank.ssb.no/statistikkbanken/Default_FR.asp?PXSid=0&nvl=true&PLanguage=1&tilside=selectvarval/define.asp&Tabellid=06669
- SSB. (2011b). Table: 09280: Area of land and fresh water (km²) (M). *Statistics Norway* Retrieved February 23, 2012, from http://statbank.ssb.no/statistikkbanken/Default_FR.asp?Productid=01.01&PXSid=0&nvl=true&PLanguage=1&tilside=selecttable/MenuSelP.asp&SubjectCode=01
- SSB. (2012). Population per 1 January 2012 and population changes during 4th quarter of 2011. Sogn og Fjordane. *Statistics Norway* Retrieved February 23, 2012, from http://www.ssb.no/folkendrkv_en/2011k4/kvart14-en.html
- Statistics Canada. (2006a). Prevalence of low income in 2005 (Huron CD) 2006 Profile of Census Divisions / Cumulative Profiles - 20% sample data *2006 Census of Population: CANSIM*. Ottawa.
- Statistics Canada. (2006b). Table 510052 - Estimates of population by census division, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2006, annually (Persons) *2006 Census of Population: CANSIM*. Ottawa.
- Statistics Canada. (2006c). Table 1050417 - Participation and activity limitation, by age group and sex, household population aged 12 and over, Canada, provinces, territories, health regions (June 2005 boundaries) and peer groups, every 2 years *Participation and Activity Limitation Survey (PALS): CANSIM*. Ottawa.
- Statistics Canada. (2010, June 12). Community Profile: Huron, Ontario. *2006 Census* Retrieved March 02, 2012, from <http://www12.statcan.ca/census-recensement/2006/dp-pd/prof/92-591/index.cfm?Lang=E>
- Statistics Canada. (2011, August 23). Market Basket Measure thresholds for reference family of two adults and two children, by MBM region Retrieved February 06, 2012, from <http://www.statcan.gc.ca/pub/75f0002m/2011002/tbl/tbl04-eng.htm>
- Statistics Canada. (2012a, February 02). Census Profile: Hastings, Ontario. *2011 Census* Retrieved February 24, 2012, from <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>
- Statistics Canada. (2012b, January 19). Population and dwelling counts, for Canada, provinces and territories, and designated places, 2011 and 2006 censuses Retrieved March 31, 2012, from <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/hlt-fst/pd-pl/Table-Tableau.cfm?LANG=Eng&T=1302&SR=1&S=51&O=A&RPP=25&PR=35&CMA=0>
- Statistics Canada. (2012c, January 18). Population and dwelling counts, for Canada, provinces and territories, and population centres, 2011 and 2006 censuses Retrieved March 31, 2012, from <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/hlt-fst/pd-pl/Table-Tableau.cfm?LANG=Eng&T=802&PR=35&S=51&O=A&RPP=999>
- Stokes, G. (2002). *Reducing Reliance on the Car in Rural Areas*. Paper presented at the European Transport Conference 2002, Homerton College, Cambridge.

- Stone, C. (2010). Rural Outreach: Helping People, Saving Lives. *Municipal World*(December), 11-12.
- Svanfelt, D., Morin, E., Fredriksson, L., & Andersson, P. (2006). Integrated rural public transport – part one: Evaluation of ‘Byabussen’ in Ystad. Lund, Sweden: Trivector Traffic.
- Sylvestre, G. M. (2001). Mobility for Older Adults in Manitoba. Winnipeg, MB: Manitoba Association on Gerontology.
- Transport Canada. (2006). Sustainable transportation in small and rural communities (Issue Paper 61) *Urban Transportation Showcase Program*. Ottawa: Transport Canada.
- Transport Canada. (2010, February 17). TDM Definition, Overview and Rationale Retrieved April 03, 2012, from <http://www.tc.gc.ca/eng/programs/environment-utsp-tdmintro-1039.htm>
- TRB. (1999). *Transportation in an Aging Society: A Decade of Experience*. Bethesda, Maryland: Transportation Research Board.
- VTPI. (2012, 30 May). Equity Evaluation: Perspectives and Methods for Evaluating the Equity Impacts of Transportation Decisions Retrieved 31 July, 2012, from <http://www.vtpi.org/tdm/tdm13.htm>
- White, E. B. (1940). 'Fro-Joy' *One Man's Meat*: Harper & Brothers.
- White, P. (2011). Equitable Access: Remote and Rural Communities ‘Transport Needs’ (Vol. 19): International Transport Forum: OECD.
- Wiltshire Council. (2011, November 10). About Connect2Wiltshire Retrieved February 28, 2012, from http://www.bookaride.net/index.php?option=com_content&view=article&id=119&Itemid=54

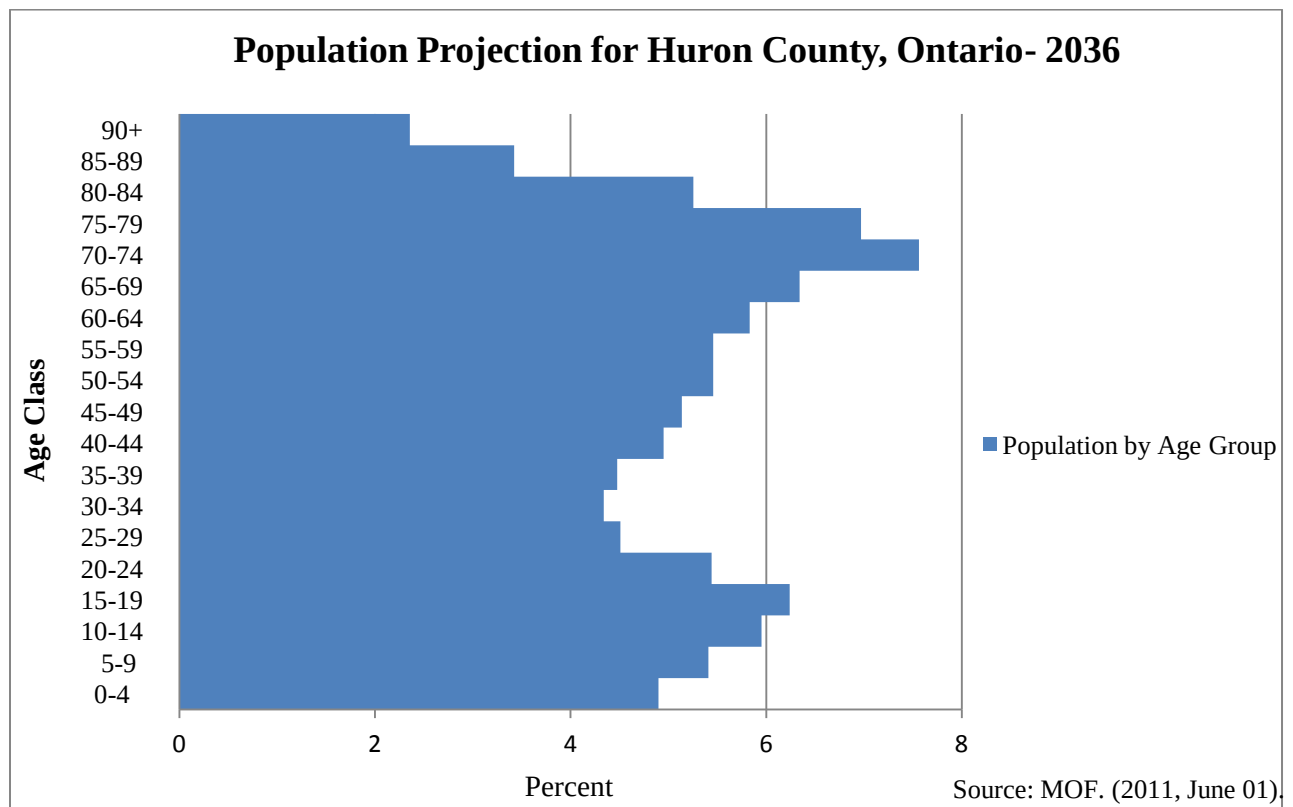
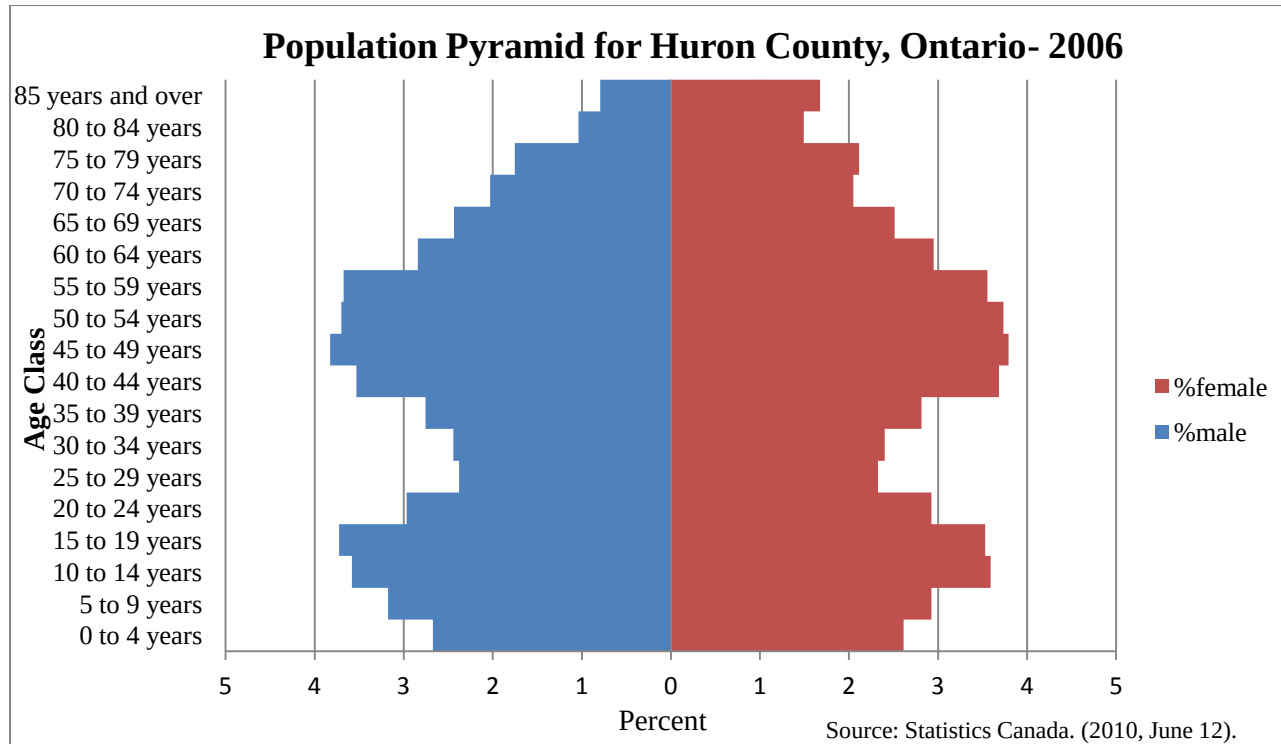
Appendix A: Transportation Adequacy Framework

	Affordability	Availability*	Accessibility	Acceptability**
Older Adults				
<i>Social Inclusion</i>		✓	✓	?
<i>Access to Supplies</i>	✓	✓	✓	✓
<i>Access to Essential Services</i>	✓	✓	✓	✓
Physical or Mental Disability				
<i>Social Inclusion</i>		✓	✓	?
<i>Access to Supplies</i>		✓	✓	?
<i>Access to Essential Services</i>	✓	✓	✓	✓
<i>Access to Training, Education, and Employment</i>		✓	✓	?
Youth				
<i>Social Inclusion</i>		✓	✓	?
<i>Access to Training, Education, and Employment</i>		✓	✓	?
<i>Access to Shelters and Support</i>	✓	✓	✓	✓
Low-Income Households				
<i>Social Inclusion</i>		✓	✓	
<i>Access to Supplies</i>		✓	✓	
<i>Access to Essential Services</i>	✓	✓	✓	✓
<i>Access to Training, Education, and Employment</i>		✓	✓	?
Women				
<i>Social Inclusion</i>		✓	✓	?
<i>Access to Supplies</i>		✓	✓	?
<i>Access to Essential Services</i>	✓	✓	✓	?
<i>Access to Training, Education, and Employment</i>		✓	✓	?
<i>Access to Shelters and Support</i>	✓	✓	✓	✓
* In theory, the taxi service is available for any purpose. Similarly, for several groups, the EasyRide service is available. However, there are clear questions about affordability of these services for non-medical purposes. ** This research did not include service users so it is difficult to state whether existing services are acceptable. Instead, this column is based on interpreting the findings from service providers. Nevertheless, gaps still exist which are indicated using question marks.				

Appendix B: Guiding Questions Used in Key Informant Interview Process

- 1) What services do you deliver?
- 2) Who are your clients (demographics)? What are the eligibility requirements?
- 3) What obstacles do users experience in accessing your services (i.e. cost, time)?
 - a. Is availability of transportation an obstacle?
 - b. If so, why?
- 4) How do your clients access your service? (i.e. online, in-person, home visits)
 - a. What method of transportation do they use, if you know?
 - b. Do most of your clients have access to their own transportation?
- 5) How often do your clients require your service? What time of day do they utilize your service?
- 6) What geography do you cover?
- 7) Do you offer transportation support such as rides or funding to your clients?
 - (if yes)
 - a. Please describe the assistance that you offer
 - b. Do you currently recognize any weaknesses with your current system or unmet demand?
- 8) Are there liability or regulatory limitations which prevent you from offering transportation to your clients? Or, to the general public?
- 9) Would your organization benefit from some form of formal transportation service within Huron County? Do you believe it would increase the number of clients who would use your service?
- 10) Does your organization recognize any arising challenges for providing your services related to the aging population, increasing fuel prices, or another trend?

Appendix C: Demographic Graphs for Huron County



Appendix D: Map of Huron County, Ontario



Source: Huron County. (2012). Driving Directions. <http://www.huroncounty.ca/misc/directions.php>