

**Driving Cessation and Relocation to Retirement Villages:
A Preliminary Examination of Associations between these
Transitions and their Influence on Travel Patterns and
Community Engagement**

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Introduction: Mobility is critical for independence, social engagement and quality of life, which for many seniors equates with driving. Driving cessation has been associated with depression, isolation and decreased social and community engagement. However, apart from a few studies in the United States, research on the impacts of driving cessation and transportation use in general has been restricted to community dwelling seniors. It is estimated that 40,000 seniors in Ontario alone currently live in retirement facilities; a number expected to increase.

Purposes: The aim of the wider project is to gain a better understanding of the transportation patterns and needs of older adults living in retirement homes. The specific aims of this study, which focused on residents who recently stopped driving (in the past two years), were to examine: 1) events leading to driving cessation, impacts (including depression), and possible associations with relocation; 2) transportation use, including how frequently they left the Village; and 3) connections with family and friends, and activity engagement in and outside the Villages.

Methods: A survey of residents from four retirement Villages in Southern Ontario was conducted to examine driving status and use of other modes of transportation. An in-depth study was then conducted with a sample of 20 residents (9 men and 11 women, age 86.45 ± 5.16), recruited via letters, pamphlets, booths and door-to-door. The study involved both quantitative (questionnaires, scales on depression and balance confidence, activity checklists) and qualitative methods (small group discussions). Participants were also asked to complete travel diaries over two weeks for all trips outside the Village (purpose and mode of travel).

Results: The transportation survey (N=407; 56% response rate) showed that 68% of residents had stopped driving (N=273), over half within 12 months of relocation. In the in-depth study, 36.8% had stopped driving before the move (average of 3.43 ± 1.72 months, range 1 to 6), 42.1%

after the move (average of 27.38 ± 13.51 months, range 2 to 46), and 21.2% within the same month. While the quantitative data indicates a relationship between these transitions, this connection was often not made by residents themselves. Several mentioned health problems as the main reason they quit driving; two had lost their licenses. Regardless, most felt the decision to quit driving was voluntary and done at the “right time”. Except for a few people, this sample did not have depression symptoms and had adjusted to no longer driving. The majority (85%) had relatives in the area and most stayed connected to relatives and friends living outside the Village through visits and phone calls. Nearly all the residents (90%, $n=18$) received rides from others, most commonly from their daughters (70%), followed by friends outside the Village (60%). Half the sample said they used public buses occasionally, and those who did had significantly higher balance confidence scores on the ABC scale (73.33 ± 18.50) compared to those who did not (49.44 ± 21.02) ($t=-2.69$ $p=0.015$). Confidence scores, however, did not differ for those who used the Village shuttle (80%) and those who did not (20%). Based on their travel diaries, 76.5% of the residents (13/17) made at least one trip outside the Village over a two week period (average of 7.00 ± 4.93 , range 1 to 18), most often as a passenger in a private vehicle (58%). Recreation and social trips were the most common (44.2%), followed by: medical appointments (18%), shopping (17%), errands (15.3%) and religious activities (5.4%). The sample also took advantage of services and amenities inside the Village, including: meals in the dining room (95%), the café (90%), general store (80%), salon (65%), library (65%), laundry facilities as well as services of health professionals. They also participated in Village programs, including: music, concerts, movies (80%), physical activities (65%), games (55%) and religious services (50%).

Conclusions: Seniors who can afford to live in upscale retirement homes may not suffer the adverse effects of driving cessation often found in community seniors. Despite advanced age and mobility restrictions (85% used a walker outdoors), these individuals remained connected to the outside community. This sample, at least, took advantage of the services and amenities in their Villages which may reduce their need for travel outside the Village. They do not appear to have unmet transportation needs, given that most had relatives in the area as well as other people to drive them when needed. More studies are needed on this growing segment of the senior population, particularly on other types of retirement facilities which may not offer as many services (such as shuttle buses or vans) for residents.

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Chapter 1: Introduction and Overview

Mobility is fundamental to independence and quality of life for older adults. As defined by Webber et al. (2010), mobility is “the ability to move oneself (either independently or by using assistive devices or transportation) within environments that expand from one’s home to the neighborhood to regions beyond” (p. 444). Impaired mobility is the most prevalent disability for seniors and a primary risk factor for falls and institutionalization (Myers et al., 2005; Webber et al., 2010). As described in the frameworks by Webber et al. (2010) and Myers et al. (2005), mobility is influenced by a multitude of factors, including: physical, cognitive, psychosocial, financial and environmental determinants, as well as the influences of gender and culture. Mobility becomes more complex as the environment expands away from home (Webber et al., 2010) and is just as important for seniors residing in institutional settings as for those living in the community (Myers et al., 2005).

For many seniors living in North America, mobility and independence equates to having a private vehicle and a valid driver’s license (Dickerson et al., 2007; Turcotte, 2012). In 2009, over three quarters of Canadians aged 65+ had a valid license (over 3 million in total) and this number is expected to double within the next decade (Transport Canada, 2009). Those over 80 are the fastest growing segment of Canadian drivers.

Male gender, higher income and education, occupation (working outside the home), race (Caucasian) and household composition (absence of other drivers) are all related to driving status (e.g., Kulikov, 2011; Turcotte, 2012). There are still a large number of women who have never driven, however the gender gap is rapidly declining (e.g., Burkhardt & McGavock, 1999; Turcotte, 2012). In 2009, only 46% of Canadian women in the 80 to 84 age group living in private households, compared to 81% of men, had a valid license (Turcotte,

2012). In those over 85, this decreases to 26% of women and 67% of men. Older men are more likely to obtain a valid driver's license, keep their license longer, and in households where both partners drive, are more likely to be the primary driver (e.g., Dickerson et al., 2007; Kulikov, 2011; Turcotte, 2012). Women, meanwhile, are more likely to restrict their driving and relinquish their license earlier, possibly prematurely (e.g., Kulikov, 2011). However, women who are more educated, Caucasian and have higher incomes are more likely to have a long and active driving history (e.g., Hakamies-Blomqvist & Siren, 2003; Kulikov, 2011).

As will be discussed fully in Chapter 2, many seniors rely heavily on driving. Driving cessation can have profound impacts including emotional distress, loss of identity and social isolation, particularly if there are no other drivers in the household. For those who have stopped driving or never driven, the primary mode of transportation is being a passenger in a car, a trend that increases with advanced age (Turcotte, 2012). Use of public transportation among seniors is fairly low, even in urban cities such as Montreal (e.g., Dahan-Oliel et al., 2010). Physical and sensory impairments that make it difficult to keep driving also make it difficult to walk and use public transportation (e.g., Dickerson et al., 2007; Turcotte, 2012).

With increasing numbers of older drivers, there are concerns about public safety as motor vehicle accidents (MVAs) per distance driven increase (beginning about age 70 and escalating thereafter) and are the the second leading cause of accidental death in seniors (e.g., Ferrini & Ferrini, 2013). Many of the factors that increase the risk of MVAs (i.e., vision, motor and cognitive impairments resulting from various chronic health conditions and medications used to treat these conditions) also increase the risk of falls in older adults, which is the leading cause of accidental injury in seniors. As seniors are forced to walk and use public transportation when they no longer drive, they may be more likely to be involved in pedestrian

accidents (Hakamies-Blomqvist et al., 1996). Although the number of pedestrian accidents is low (compared to falls), older adults are more likely to be involved in such accidents and be seriously injured or die as a result (e.g., Ferrini & Ferrini, 2013). Some studies have shown an association between difficulty walking and a history of falls with driving reduction and cessation (e.g., Forrest et al., 1997; Kulikov, 2011). One of the most pressing agendas for policy makers and transportation planners is revamping the public transportation system to better meet the needs of seniors (e.g., Dickerson et al., 2007).

As discussed in Chapter 2, the majority of studies on driving and transportation use in older adults have been conducted on seniors living in private households. Although there is evidence that driving cessation can lead to residential relocation (e.g., Freeman et al., 2006), few studies have been conducted on the transportation patterns of seniors already living in retirement homes. Chapter 2 presents a review of the published literature on the transportation and patterns and needs of older adults. Driving cessation and relocation to retirement living are defined and discussed in the context of major life transitions. The few studies which have been conducted on driving and transportation with seniors in retirement facilities are then reviewed.

Prior to presenting the present study which focuses on residents who have recently stopped driving, Chapter 3 provides background on the larger project being conducted by researchers at the University of Waterloo in collaboration with the Schlegel-UW Research Institute on Aging (RIA). The overall aim of the project is to better understand the transportation (mobility) patterns and needs of older adults living in retirement homes through both surveys and in-depth studies with residents who have stopped driving, as well as those who continue to drive. To set the stage for the present study, the RIA and the four Schlegel Villages that offer retirement living are described. Additionally, this chapter presents the

methods and results of an initial survey of resident driving status conducted from August to October, 2011 to lay the groundwork for the project as a whole. The present author entered the survey data and ran the analyses. As described in Chapter 3, the limitations of this survey for purposes of examining temporal associations between relocation and driving cessation, as well as for identifying residents who were eligible for further studies, led to the development of a subsequent, broader survey on resident transportation patterns.

Chapter 4 presents the rationale, objectives and methods for the current study, including the process of ethics approval and consent, eligibility requirements and strategies for sample recruitment. Due to the low number of residents volunteering to participate, the original study protocol (which comprised two sessions, two weeks apart) was modified part way through the study and additional strategies to recruit more residents were developed. Both the original and modified study protocols are described. This is followed by a detailed explanation of data collection procedures and instruments (questionnaires, scales, travel diaries, discussion scripts), data handling and analyses, and the study timeline. The results of the study are presented in Chapter 5 and then discussed in Chapter 6.

Chapter 2: Literature Review

As noted in Chapter 1, mobility is fundamental for independence and quality of life. For many seniors in western countries, including Canada, independent mobility equates to either driving oneself or being a passenger in a private vehicle (Dickerson et al., 2007; Turcotte, 2012). This chapter begins by reviewing the literature concerning transportation patterns and needs of older adults in general. The second section looks at studies on transitions in driving (self-regulation and cessation) and housing (relocation from community to retirement living). This section includes definitions of the constructs and an overview of relevant conceptual models. Finally, the few studies that have been conducted on driving and transportation in retirement living seniors are reviewed and an overall summary is provided.

2.1 Transportation Patterns and Needs of Older Adults

Although many studies have been conducted on driving with older adults, the most extensive and comprehensive profile of transportation patterns in older Canadians can be found in the recent report by Turcotte (2012). Turcotte's report is based on information from the 2006 Census, as well as interview data from a large sample of adults aged 65+ who responded to the 2008-2009 survey on Community Health – Healthy Aging. The data showed that driving one's own vehicle was the primary form of transportation (particularly for men) for persons well into their 80's, followed by being a passenger in a private vehicle. This is consistent with findings from the United States (e.g., the large survey conducted by Kulikov, 2011). Both surveys provide a wealth of information. For instance, Turcotte's report includes profiles of seniors who hold a valid license and are currently driving by age group (those 65 to 74 versus 75 to 84 versus 85+), gender, income, area of residence, type of housing (single, detached homes versus apartments) and level of self-reported functioning (vision, hearing, cognition and mobility).

Kulikov (2010), meanwhile, compared rates of driving restrictions and cessation rates by multiple factors (age, race, gender, education, income, falls history), as well as perceived availability of public transportation and state licensing policies. While both of these studies were based on very large samples (over 16,000 in Turcotte's and almost 10,000 in Kulikov's), they were restricted to community-dwelling seniors.

These surveys and several other studies on older adults have consistently found that driving is the preferred mode of transportation by seniors. For many, driving symbolizes independence and freedom and provides a sense of identity and self-worth (e.g., Dickerson et al., 2007). Hakamies-Blomqvist & Wahlstrom (1998) found that 65% of the male drivers and 43% of female drivers in their study felt that being able to drive was "a necessity".

With advanced age, being a passenger in a private vehicle begins to replace driving oneself as the primary form of transportation. Turcotte (2012) found that about half of Canadians aged 85 and over relied on informal transport from family and friends. In many areas (especially rural or remote communities) public transportation and paratransit is simply not available and seniors may be forced to drive against medical advice or even without a valid license (e.g., Johnson, 2002). However, even in urban centers public transportation is not widely used by older adults (Dahan-Oliel et al., 2010; Dickerson et al., 2007; Turcotte, 2012). Public transportation systems were designed for commuters and are not easily accessible for individuals with sensory or motor impairments (Dickerson et al., 2007). Public transportation is viewed by many seniors as unreliable, inconvenient, unsafe and even "distasteful", while taxis are often seen as too expensive (Johnson, 1999). Even paratransit services, designed for people with mobility limitations, cannot replace the freedom and spontaneity of travel by car (Kulikov, 2011). Accessible transit or taxis as the main modes of transportation are seldom

used before age 85 (9% of adults age 85+) and only then by a small proportion (9% of those aged 85+) as a “last resort” (Turcotte, 2012).

Convenient, accessible and affordable transportation is essential not only for instrumental activities of daily living (such as shopping and getting to medical appointments and pharmacies), but also for maintaining social and religious ties, leisure and recreational pursuits, volunteer work and so on. Turcotte (2006) reported that having a valid license, together with access to a household vehicle, were associated with the probability of Canadian seniors leaving home on a given day (regardless of weather) and actively engaging with others through visiting, volunteer work and other activities. It is important to keep in mind that gender, age, income and education influence the probability of owning a vehicle (e.g., Kulikov, 2011), as well as the size of one’s social network and types of activity pursuits (e.g., Turcotte, 2006). Turcotte (2006) reported that seniors with larger social networks did not remain at home as much. Additionally, those with higher education were more inclined to stay in the labor force, do volunteer work, be members of organizations or participate in other activities that usually take place out of the home. Seniors with lower incomes, women and those aged 85+ were more likely to be limited “getting around town” (Turcotte, 2006). Seniors who live alone are especially likely to report moderate to serious transportation problems (Harrison & Ragland, 2003).

Location of one’s residence (proximity to essential services and activities) is another important consideration, as is the physical ability to walk or use public transport. Those living in rural communities are at increased risk for social isolation and experience increased difficulty in accessing supportive services and medical care as well as social networks (Johnson, 1995; Turcotte, 2006). However, even relatively healthy seniors in urban areas such

as Montreal (Dahan-Oliel et al., 2010) and Kitchener-Waterloo (Blanchard, 2008) primarily drove, even if they did walk or use public transportation and taxis occasionally. Dahan-Oliel et al. (2010) found that mode of transportation was associated with participation in community activities. Those who drove, walked or used public transit were more active than those using paratransit services or taxis (Dahan-Oliel et al., 2010).

Although many seniors wish to continue driving in perpetuity to avoid isolation and dependence on others, various factors (including medical conditions and declines in functional abilities, licensing regulations in some jurisdictions, and pressure from family, friends and physicians) may force some to consider driving cessation. Similarly, they may wish to ‘age in place’ in their own homes, but the challenges experienced with getting around the community when they (and/or their spouses) no longer drive, may force some to consider relocating.

2.2 Transitions in Driving Status and Housing

In later life, people often experience a number of major life events or transitions (such as retirement, development of chronic health problems, death of a spouse or friends), many of which are regarded as “losses” (economic, physical or social) that require substantial adjustment and can lead to depression. As defined by Schumacher et al. (1999):

A transition is a passage between two relatively stable periods of time. In this passage, the individual moves from one life phase, situation, or status to another. Transitions are processes that occur over time and have a sense of flow and movement. They are ushered in by changes that trigger a period of disequilibrium and upheaval. During this period, the individual experiences profound changes in his or her external world and in the manner that world is perceived. There is often a sense of loss or of alienation from what had been familiar and valued (p. 2).

Schumacher et al.'s (1999) framework describes the interaction of multiple types of transitions (which may occur independently, sequentially or simultaneously) as well as their impact on health. Transitions may be considered healthy (move towards good health) or unhealthy (move towards vulnerability and a high risk for poor health) and healthy adjustment assessed through various indicators (such as minimal symptoms; optimal functional status; feelings of connectedness; sense of empowerment; sense of integrity). This framework is relevant to the present study as the population under examination had undergone at least two major life transitions: driving cessation and relocation from private dwellings in the community to retirement living. Both transitions may entail a sense of loss (as described below) and require support as people adjust to these major changes.

2.2.1 Self-Regulation and Driving Cessation

For many people the transition from driving to non-driving may be a gradual process taking several years. The process is often viewed as a continuum of self-imposed driving reduction and restrictions, ultimately ending in complete driving cessation (e.g., Dellinger et al., 2001; Dickerson et al., 2007; Gwyther & Holland, 2012). As described by Donorfio et al. (2009), self-regulation involves self-imposed reduction, restrictions or modifications to driving patterns (such as avoidance of challenging situations) whether due to noticeable declines in driving-related abilities (e.g., vision) or preferences.

A great deal of research has been conducted on self-regulation by older drivers, including several studies by researchers at the University of Waterloo (e.g., Blanchard et al., 2010; Blanchard & Myers, 2010; MacDonald et al., 2008; Myers et al., 2011b; Crizzle & Myers 2013). A number of conceptual frameworks suggest that multiple factors--interpersonal (e.g., influence of family and physicians), intrapersonal (gender, age, education, income, race,

health conditions, psychosocial variables) and environmental (living arrangements, distance from services, licensing regulations) are important in understanding the process of driving self-regulation and cessation (e.g., Kulikov, 2011; Lindstrom-Forneri et al., 2010; Rudman et al., 2006). Decision balance approaches, weighing the pros and cons for ones' self and others (e.g., Tuokko et al., 2006) have also been used to understand this process. There may be several phases (predecision, decision and post-cessation) people go through in the transition to driving cessation (Liddle et al., 2008), however many older drivers may not prepare or plan ahead for driving cessation (e.g., Dickerson et al., 2007; Harrison & Ragland, 1993).

Studies on former drivers often fail to distinguish between those who stopped driving voluntarily versus involuntarily (Harrison & Ragland, 2003). This distinction is important, especially in jurisdictions such as Ontario that have mandatory reporting by physicians and age-based license renewal regulations. Oxley & Charlton (2009) described the decision to stop driving voluntarily as “recognition of the situation or influence by others”, as compared to involuntary due to “loss of license or sudden onset of medical conditions” (p. 44). However, “influence of others” could be seen as coercion rather than personal choice. Thus, it is important to learn more about what is considered “voluntary” versus “involuntary” driving cessation from the perspective of older drivers themselves. A recent study by Choi, Mezuk, & Rebok (2012c) examined this issue with 83 former drivers. Although 85% said driving cessation was their decision, several issues in addition to health (such as driving anxiety, financial difficulty, or lack of access to a car) factored into this complex decision.

Not surprisingly, many seniors want to keep driving for as long as possible and want control over the decision of when to stop. Losing one's license abruptly (i.e., taken away by licensing authorities) can be particularly distressing (Kulikov, 2011). Even those who

voluntarily relinquish their license may later regret this decision, reporting loss of identity and freedom, loneliness, social isolation and dependence on family members or friends for transportation (e.g., Rudman et al., 2006; Johnson, 1999).

There have been several studies which have examined reasons for driving cessation as well as the impacts. A primary reason older adults say they stopped driving is because of deteriorating health (e.g. Hakamies-Blomqvist & Wahlstrom, 1998), including health conditions as well as changes in functional abilities required to operate a vehicle, such as vision, hearing, cognitive abilities and motor skills (Turcotte, 2012). Increased age also elevates the risk for developing various medical conditions that may compromise fitness-to-drive, including neurological or neurodegenerative disorders such as stroke, Parkinson's disease and/or dementia (Crizzle & Myers, 2013; Dickerson et al., 2007; Dobbs, 2008), which in turn can lead to physician reporting and license revocation.

In addition to health, there are many other possible reasons for driving cessation including: pressure from family and friends (Johnson, 1999), license revocation (Johnson, 1999), driving anxiety or discomfort (Rudman et al., 2006 and Persson, 1993), being involved in a collision or near collision, especially if they were "at-fault" (Rudman et al., 2006), financial difficulties, lack of access to a car (Choi et al., 2012c), or conversely having alternatives such as a driving spouse (Hakamies-Blomqvist & Siren, 2003). The Australian study by Liddle et al. (2008) found that relocation was among the reasons for driving cessation in their small heterogeneous sample.

For many seniors, driving cessation can be very traumatic. Driving cessation in older adults has been prospectively associated with increased depression (or depressive symptoms), social isolation (Fonda et al., 2001; Marotolli et al., 1997; Windsor et al., 2007), reduced out-

of-home activity (Marotolli et al., 2000), and possibly even early mortality (Edwards et al., 2009b).

Based on the selective optimization model, depression may not be a certain outcome of driving cessation, as there are ways to select, compensate and optimize one's choices to achieve the same goals (getting to a destination and maintaining independence) through different means (Fonda et al., 2001). However, these researchers found that having a spouse available to drive them did not mitigate depressive symptoms following driving cessation (Fonda et al., 2001). In another longitudinal study, Windsor et al. (2007) found that the higher scores for depressive symptoms for ex-drivers (compared to current drivers) were explained at least in part by feelings of decreased independence and control over their lives.

In a prospective study, Mezuk & Rebok (2008) found that friendship networks (number of visits and frequency of contact) were negatively impacted by driving cessation, while family contact was not. Oxley & Charlton (2009), meanwhile, found that seniors who felt that they had stopped driving at the 'right time' (as opposed to too early or too late) were better able to get to their chosen destinations. Most of those who felt they had stopped at the 'right time', also felt that they themselves had made the decision to stop driving.

When seniors can no longer drive themselves, many begin to rely on family (primarily spouses, followed by adult children), if available (e.g., Harrison & Ragland, 2003). This requires substantial planning around the schedule of others and can cause physical, emotional and financial burden on the providers, as well as a shift in social dynamics. Seniors themselves dislike asking others for rides, unless there is some reciprocity such as offering to babysit or pay for gas (Burkhardt & McGavock, 1999). Requests for rides are often inhibited or confined to essential trip purposes (e.g., medical appointments) when seniors are unable to reciprocate,

resulting in loss of social equity and self-esteem (Carp, 1988). Older adults may begin limiting their activities because of concern over becoming a burden on family or friends (Freeman et al., 2006). As people age, they have fewer people to depend on and lack of transportation is a primary reason why seniors of advanced age (over age 85), particularly women do not participate in more activities (Turcotte, 2012).

Having a valid license and access to a household vehicle has been associated with whether a person will leave their home on a given day and community engagement levels in Canadian seniors (Turcotte, 2006), which in turn “promotes good health and successful aging” (Turcotte, 2012). Not driving was found to be an independent risk factor for entry into LTC (broadly defined as nursing homes, assisted living facilities or retirement homes that offered meals or transportation services), in a longitudinal study by Freeman et al. (2006). Absence of other drivers in the household, and not the absence of a spouse per se, was also found to be related to entry (Freeman et al., 2006). Unfortunately, for some older adults, lack of transportation may be the primary reason they have to move into a facility; otherwise they may be capable of caring for themselves at home (Freeman et al., 2006).

2.2.2 Relocation to Retirement Housing

Prior to describing the transition of relocating from the community to retirement living, it is important to define retirement living or housing. Unfortunately, there is no standard definition. In Ontario alone, it is estimated that 40,000 seniors currently live in retirement housing and the demand for this type of housing service is increasing. There are approximately 700 facilities across the province which vary widely in terms of cost (ranging from \$1,200 to over \$6,000 per month), amenities and services (Welsh, 2012). Unlike nursing homes, these facilities are not regulated in many provinces (including Ontario).

Researchers from other countries have also noted that retirement living or housing facilities vary widely from basic housing to luxurious communities, as do the costs involved and the services provided (Choi et al., 2012a; Biggs et al., 2000; Gardner et al., 2005; Gibler et al., 1998). In the Choi et al. (2012a) study of seniors in Florida, **retirement community** was used to describe non-institutional, independent single house dwellings where all members have access to the same services (e.g., security, pool, bus service on a fixed schedule). An Australian article (Gardner et al.'s, 2005) meanwhile, described **retirement villages** (or retirement homes or congregate care) as residences that offer some support services, including “property maintenance, housework, health care and transport” (p. 188). Retirement housing can range from totally independent living with no or minimal services (e.g. housekeeping) to ‘assisted living’ where people can receive help with activities of daily living such as personal hygiene, dressing, eating, and medication monitoring.

Generally, retirement housing is considered distinct from **nursing homes or long-term care (LTC)** facilities that provide skilled nursing and medical care as well as other support services 24-hours a day (Gibler et al., 1998). Nursing homes and LTC facilities are not age-segregated as they are designed to help any adult with chronic physical or mental disorders, especially those with mobility or eating problems, who need constant monitoring or assistance.

An increasingly popular option for retirement living are **continuing care retirement communities** (or CCRCs), which permit older adults to remain in one general location while moving between levels of care (from total independence to assisted/supportive care, to nursing home or LTC) as their needs require (Gibler et al., 1998; Shippee, 2009). Although a continuum of services is provided in one general location, seniors requiring different levels of care may be segregated on different floors or in wings of a building or in adjacent buildings.

These facilities may be particularly attractive to couples who may initially move together to the independent living part of the facility (Gibler et al., 1998), as well as to those couples wishing to live close together when one requires a higher level of care.

These facilities typically offer more than just housing and medical support and often are labeled ‘enriched housing’ due to the amenities and services provided such as lounges, shops, or hair salons as well as a variety of recreation programs and activities (Novak & Campbell 2006). Although it has been suggested that such housing may lead to early dependency by offering complimentary services that may not be needed, studies of enriched housing have reported high morale and life satisfaction in residents (Novak & Campbell 2006).

People move to retirement housing for different reasons and possibly at different stages of their lives. For instance, as described by Novak & Campbell (2006), people in the ‘retirement stage’ may move to a nicer climate. Those in the ‘disability stage’ may move closer to adult children and/or to a facility with support services, while others in the ‘severe disability stage’ may have to move to a nursing home due to significant physical and/or cognitive limitations. Krout et al. (2002) posits that a move into a CCRC may differ from a move elsewhere, as relatively healthy and financially secure older adults may make an ‘anticipatory move’ to a CCRC in an attempt to combine amenities and guarantee their future health care needs, while still moving closer (or remaining close) to adult children or other family. Regardless of why they’re moving, the majority of older adults who move to retirement housing do so within the same geographic area (same city, town, or region), although options in rural areas are much more limited (Novak & Campbell, 2006).

Freeman et al. (2006) found that those who moved into assisted living or retirement homes (from the community) were generally older, female, and did not have other drivers in

their household when compared to those who did not move. Krout et al. (2002) looked at the reasons older adults gave for moving into a CCRC. These included: health care and/or medical services, options for further continuing care; options to maintain independence and decrease the burden of care on family and friends; safety and security measures; decreased isolation and loneliness after the move; the chance to live in a setting with adults the same age; freedom from the care required to maintain a home; illness (their own or their spouse's); death of a spouse or the decision made by the spouse; the chance to live near family or their family encouraged them to move; and a decreased ability to get around (13% of 91 respondents) (Krout et al. 2002). Unfortunately, Krout et al. (2002) did not define "ability to get around".

Like many other life transitions (such as retirement), housing transitions can be perceived positively or negatively. For instance, some people may experience significant social losses, as they are no longer in the same physical vicinity as friends and neighbours (Ferrini & Ferrini, 2008). Additionally, Kang et al. (2004) argued that seniors in retirement communities may become less physically active since they no longer have to do their own household chores. They compared community and retirement living seniors and found that the latter group had poorer balance and agility.

While community engagement "promotes good health and successful aging" (Turcotte, 2012), as people get older, they may begin to substitute out-of-home activities for in-home activities (Marottoli et al., 2000). Relocation to retirement housing (together with lack of transportation) may impact on a person's ability to remain engaged with family and friends in the community (other than by telephone).

In one of the few studies that have examined activity levels of older adults in CCRCs, Jenkins et al. (2002) found that residents who were involved in any type of activity (assessed as

time spent in recreation, hobbies, meeting with friends and exercising) had higher health-related quality of life (QoL) in most domains. Those who were active outside the CCRC (such as going to movies, restaurants, church, seniors' centres, visiting the home of relatives or friends) had higher scores on QoL and physical functioning compared to those adults only involved in activities within their CCRC (Jenkins et al., 2002, 142). Compared to those in the independent living part of the facility, assisted living residents had poorer physical functioning, although there were no differences on other QoL ratings. While they noted that the independent living residents were more likely to drive and access the community, specifics (such as the proportion who drove or associations between driving and activity level) were not provided in their article. Unfortunately, neither this study nor others we could find looked at the relationship between depression and level of engagement in retirement living seniors compared to community living seniors. Only a few studies described below have examined transportation use in this population.

2.3 Driving and Transportation in Retirement Home Seniors

We found only two studies that examined driving and transportation use in retirement residents. Persson (1993) examined reasons for driving cessation in seniors living in CCRCs in Oklahoma. It is noteworthy that Persson did not set out to examine this population but found them easier to recruit than the general community seniors found through church groups and senior centers. Ten focus groups were conducted with a total of 56 participants who had stopped driving in the past five years (mean age 81; 63% female, 68% widowed and 98% Caucasian). Although reasons for driving cessation were generally similar to those reported by community seniors, several people mentioned they had stopped driving and moved to the retirement home because of the transportation provided. About a fifth said they used the

CCRCs' van, while 30% relied on friends and 26% on relatives. Unfortunately, several of the topics they mentioned that were explored in the focus groups (such as feelings and experiences in the last year of driving; aspects of driving they disliked; influence of friends and family on driving cessation; and life after driving cessation), were not fully discussed in their article.

The Florida Retirement Study collected longitudinal data on a large sample of older adults living in independent non-institutional housing in three retirement communities. While their findings (published in Choi, 2010, Choi et al., 2012a, Choi et al., 2012b, Kelley-Moore et al., 2006; Lovegreen et al., 2010) provide an important basis of comparison on sources of transportation support (in drivers versus ex-drivers), the data is 20 years old and questions on driving and transportation were only administered in the later waves, when the sample had lived in the retirement communities for many years (11 years on average). Thus, they were not able to assess seniors who recently relocated to retirement housing nor could they examine the correspondence between transitions in housing and driving status. As reported by Kelley-Moore et al. (2006), seniors who stopped driving within the last two years had higher rates of perceived disability than those whose driving status did not change. Choi et al. (2012a), meanwhile, reported that family and friends provided transportation support to 70.5% of former drivers in their study. Additionally, they found that transportation support from friends specifically, was related to an increased likelihood of driving cessation. According to the authors, ridesharing among peers may play an important role in meeting the transportation needs of seniors especially in large retirement communities where people live independently in their own homes, yet in a neighbourhood of older adults.

2.4 Summary and Implications

Apart from the few studies above, there is little research on the driving status and transportation needs of older adults living in retirement homes or villages. Although there is an extensive profile of driving and transportation use by Canadian seniors (Turcotte, 2012), this report and most of the other studies conducted have been restricted to community living seniors. Driving cessation often has negative impacts including depressive symptoms (e.g. Marotolli et al., 1997), social isolation (e.g. Fonda et al., 2001), and decreased community engagement (Turcotte, 2006). It may precipitate entry into LTC (Freeman et al., 2006) and possibly instigate early mortality (Edwards et al., 2009b). It is possible that the adverse impacts of driving cessation may be more pronounced for seniors who remain living in the community, particularly if they have no one to drive them; limited mobility and/or sensory impairments that make it difficult to use public transport; and financial limitations to use taxis. Retirement living, particularly in upscale facilities, on the other hand, may mitigate these negative effects.

Retirement housing services are growing in demand and CCRCs are becoming a popular option as they allow older adults an enriched housing experience in which to age in place (e.g. Gibler et al., 1998). Seniors (particularly those who have lost their spouse and have limited mobility) may move to retirement homes for a variety of reasons, including: access to health care services; safety and security features; freedom from home maintenance and daily chores (e.g., available meal plans and cleaning services); and access to social and physical programs (e.g., Krout et al., 2002). Persson (1993) found that some seniors also move to CCRCs because of the transportation provided (shuttle bus). Clearly, more research is needed on the transportation needs of this growing segment of the senior population, particularly in Canada.

Chapter 3: Project Background

As described in Chapters 1 and 2, challenges experienced with community mobility when seniors or their spouses no longer drive, together with safety concerns and dependency on others for rides, may force some to consider alternate housing. By the same token, older drivers who move to retirement villages may find it easier to give up driving completely, particularly if they have other sources of transportation support (e.g., Choi et al., 2012a), as well as services and recreational activities on site (e.g., Jenkins et al., 2002). It is possible that retirement living may mitigate the adverse effects of driving cessation (such as depression, isolation and activity reduction) often found in community dwelling seniors (e.g., Fonda et al., 2001; Marotolli et al., 1997 and 2003; Turcotte, 2006). On the other hand, it is also possible that some residents may sell their vehicles and stop driving prematurely when they enter retirement facilities and later regret this decision.

Presently, little is known about these two important transitions in seniors' lives, namely changes in driving status (from driving to non-driving) and relocation (from community to retirement housing), the associations between these transitions, as well as impacts on mobility/transportation use, activity patterns (including continued community engagement), safety (falls) and well-being. To address this gap, a team of researchers from the University of Waterloo led by Dr. Anita Myers, in collaboration with the Schlegel-University of Waterloo Research Institute for Aging (RIA) are conducting a series of studies. The overall aim of this project is to gain a better understanding of the transportation (mobility) patterns and needs of older adults living in retirement homes to expand our knowledge base and guide the development of programs that address unmet transportation needs and enhance equality of life. Specifically, the intention is to examine: 1) the extent to which difficulties getting around the

community, safety concerns and reliance on others influence the decision to move to retirement homes; 2) how mobility and travel patterns change as people transition from community to retirement living and from driving to non-driving; as well as 3) how the living environment itself impacts on mobility/transportation, safety (e.g., falls) and resident well-being.

To thoroughly examine these complex issues, this investigation entails two surveys of driving status and transportation use by retirement residents in general, as well as two in-depth studies using mixed-methods (quantitative and qualitative) with residents who have stopped driving (focus of the present thesis) and those who are still driving (being conducted by Sarah Sousa (subsequently referred to as SS) for her Master's thesis), respectively. Prior to presenting the present study, it is important to describe the RIA and the Schlegel Villages (SVs) where this study took place. The methods and results of an initial survey on resident driving status conducted in 2011 and analyzed by the present author (together with Drs. Myers and Crizzle) are summarized below. The limitations of this initial survey for purposes of recruitment and examining temporal associations concerning driving cessation and relocation, which led to the development of a subsequent survey, are then outlined to set the stage for this thesis.

3.1 Description of the RIA and the Schlegel Villages

The Schlegel-University of Waterloo Research Institute for Aging strives to conduct research that will ultimately “enhance care and quality of life for seniors” (Schlegel-UW Research Institute for Aging, 2012). The RIA embraces a social (versus institutional) model of living and is dedicated to learning, research and innovation, including transfer of knowledge to benefit other facilities and seniors. The Executive Director of the RIA (Dr. Mike Sharratt) and the Research Coordinator (Susan Brown) were very interested in learning more about the transportation and mobility needs of the residents. The RIA provided various types of

assistance for this project, including working with Village staff to coordinate the distribution of study information, collection of surveys and permission to contact forms and room bookings.

The Schlegel Villages (SVs) are a consortium of eleven ‘continuing care’ retirement communities in Southern Ontario, ranging from independent living condos and apartments to supportive and assistive care to long-term care (as shown in **Appendix A**) built on a model of best practices. For this project we worked with the four Villages that offer retirement living condos, apartments and rooms, shown on the map in **Figure 3.1** below.

Figure 3.1 Map of Schlegel Villages with Retirement Homes



-  Winston Park (WP) -Kitchener ON
-  Riverside Glen (RG) -Guelph ON
-  Humber Heights (HH) -Etobicoke ON
-  Taunton Mills (TM) -Whitby ON

Residents living in the condos (available at one of the four sites) and many of those in apartments (in all four sites) have full kitchens or kitchenettes, laundry and dishwashers (depending on the apartment layout they chose). Apartment residents also receive weekly linen service, housekeeping and one meal a day. While they can purchase other services (e.g., meals), they are considered the most independent. Meanwhile, those living in rooms on the

main floor have three meals included, as well as laundry, housekeeping, medication administration, and daily monitoring from nurses. Residents receiving intermediate assisted care receive the same services as those on the main floor, as well as additional assistance with activities of daily living, such as washing, dressing, and transfers. All Villages have safety features in the apartments and rooms (such as grab bars, high toilets, bathroom doors opening out and call-bells) and collect fall incident reports on residents. Additionally, all residents receive yearly nursing assessments, monthly blood pressure checks and medication reviews every 6 months by a consulting pharmacist. Residents also have access to foot care specialists, basic optometry and dental services, physiotherapists, kinesiologists and massage therapists.

While services and amenities vary, all Villages have fitness centres, small convenience stores, libraries, chapels, barbers and hair salons, a café and a fixed-schedule bus for shopping (at least once a week to grocery stores) and other outings (e.g., dining outside the village in small groups). Three of the Villages have both indoor (underground) and outdoor parking for residents, while RG has outdoor parking only. Parking space for visitors is available outdoors at all Villages.

Further information on the shuttle buses and access to public transportation at each site was gathered by the present researcher and SS. At all four Villages, residents must sign up for the shuttle bus, up to a month in advance. There is space in Village shuttles for ~16 residents with walkers/canes and two residents in wheelchairs. At each of the Villages, covered shelters to wait for public buses are conveniently located close to the main driveway. Paratransit services (wheelchair and walker accessible) are available in all four cities for those who qualify, as are discounted taxi rates for seniors. Walking to nearby shops is possible for mobile residents at WP and TM. Those living in RG, on the other hand, would have to walk a fair

distance on a sidewalk abutting a heavily travelled main road to access the closest shops and the walk is up-hill on the way back to the Village. At the Village of HH in Etobicoke, there are no shops or plazas in walking distance.

3.2 Initial Survey of Resident Driving Status

To lay the groundwork for this project as a whole, it was necessary to determine the proportion of residents living in the retirement home areas of the four Villages who were still driving, had quit driving or had never driven. Those receiving intermediate supportive care were excluded from this survey due to early memory loss. However, those receiving intermediate assisted care (cognitively alert, but needing physical support) were included along with residents from apartments and the main retirement home. A full description of the methods and findings are contained in our report to the RIA (Janssen-Grieve, Myers & Crizzle, 2012). In brief, distribution and collection of the surveys (shown in **Appendix A**) took place between August and October 2011 and was coordinated by the RIA and the Village administrators.

A total of 206 residents returned the surveys for a response rate of 30% based on the number of residents (n = 683) living in the retirement home areas of these facilities at the time. The sample was comprised of 68.4% women (n=141) and 31.6% men (n=65) and ranged in age from 55 to 97 years (mean 85.1±6.4). As shown in **Table 3.1**, the majority of residents (62%) were former (or ex-) drivers. About a third of the residents were still driving (59/206). Only 9% of the sample had never driven. The never-drivers were older on average, predominately female, most were widowed and all lived alone. This is consistent with the profile of Canadians aged 85+ which comprises a substantial number of women who have never driven (Turcotte, 2012).

Table 3.1 Driving Status of Respondents by Village

	Current	Former	Never	Total
Taunton Mills	11 (35.5%)	18 (58%)	2 (6.5%)	31
Humber Heights	21 (46%)	22 (48%)	3 (6%)	46
Riverside Glen	7 (17%)	30 (71%)	5 (12%)	42
Winston Park	20 (23%)	59 (68%)	8 (9%)	87
Total	59 (29%)	129 (62%)	18 (9%)	206

Notes: The percentages in each row are based on the total number of residents from each facility (for example, 11 of the 31 respondents or 35.5% from TM were still driving).

As shown in **Table 3.2** former drivers were significantly less likely to be married and live in the apartments versus on the main floor than current drivers, ($p < .001$). Almost 20% of former drivers received intermediate assistive care, compared to only one current driver.

Table 3.2 Characteristics of Current, Former and Never Drivers

		Current Drivers (n= 59)	Former Drivers (n= 129)	Never Drove (n= 18)
Average Age		84.5 ± 5.2 (n=58) (72 to 97)	85.1 ± 6.9 (n=123) (55 to 96)	87.3 ± 6.2 (n=18) (68 to 96)
Gender	Men	39% (n=23)	31.8% (n=41)	5.6% (n=1)
	Women	61% (n=36)	68.2% (n=88)	94.4% (n=17)
Marital Status*	Widowed	53.4% (n=31)	72.6% (n=93)	83.3% (n=15)
	Married	41.4% (n=24)	18.8% (n=24)	11.1% (n=2)
	Single	5.2% (n=3)	7.0% (n=9)	5.6% (n=1)
	Divorced	0	1.6% (n=2)	0
Living Arrangements	Alone	68.4% (n=39)	88.6% (n=109)	100% (n=18)
	Spouse/Partner	29.8 (n=17)	11.4% (n=14)	0
	Family member	1.8% (n=1)	0	0
Level of Care*	Apartment	70.2% (n=40)	33.1% (n=42)	29.4% (n=5)
	Main Floor Retirement	28.1% (n=16)	47.2% (n=60)	58.8% (n=10)
	Intermediate Assisted Care	1.7% (n=1)	19.7% (n=25)	11.8% (n=2)

*Note: Values presented as valid percent (frequencies), or Mean ± S.D. (range). * $p < .001$, significant differences between current and former drivers.*

Reasons for why they quit driving (often multiple responses to the open-ended question) were given by 127 former drivers and entered verbatim into a Word document. Some just said age or general health (n=33). Specific health conditions most frequently mentioned

were: poor eyesight (n=18), stroke or heart attack (n=10), Parkinson's disease (n =4), memory problems or brain injury (n =5) and back problems (n=3). Poor mobility (n=6), reaction time (n=4) and no longer wanting to drive, decreased confidence, or traffic and bad drivers on the road (n=26) were also mentioned. Other reasons were: moving to the Village (n=6); car troubles/cost (n=6), accidents or fear of accidents (n=4), involvement of their doctor (n=3) and the license renewal process (n=5). Eleven people mentioned that their spouse had died, family did not want them driving anymore, or they had family who could drive them.

About half of the former drivers had quit driving fairly recently (in the past two years), which likely explains why 20% still had a valid driver's license and some still owned a car. Almost 40% had quit driving the same year they moved to the village (i.e., 2011, 2010, etc.), 45% had quit at least a year before they moved; while 16% had stopped after they moved. Unfortunately, the survey only asked the year (not month) of relocation and driving cessation making it impossible to examine which came first for 40% of the sample. Additionally, surveys were anonymous and residents were not asked for permission for further contact.

As discussed at the proposal defense (July, 2012), additional strategies were required to identify and recruit participants. This led to the development of a longer (two-page) survey to: 1) obtain more information on resident transportation use in general, and 2) distinguish between those who had stopped driving before versus after relocation. This survey, entitled the Resident Transportation Patterns Survey (RTPS), is described in the next chapter. In consultation with the committee, it was agreed that the results from this survey (primarily the data obtained from the ex-drivers), together with information obtained from a subgroup of residents who met the criteria and were willing to participate in a more in-depth study would constitute the present thesis.

Chapter 4: Methods

This study focused on residents in the retirement sections of the Schlegel Villages (SVs) who recently stopped driving. This chapter begins by outlining the study objectives, followed by ethics approval and sample recruitment (including eligibility requirements for the study). As will be explained, several recruitment strategies were used over a five-month period. In order to increase the sample, the protocol was also shortened part way through the study. Both the original and revised protocols are outlined, followed by a description of instruments, and data handling and analyses.

4.1 Study Rationale and Objectives

As described in Chapters 1 and 2, there is an extensive body of research on driving and use of other modes of transport by community living seniors, including Canadian seniors (e.g., Turcotte, 2012), however, few studies have looked at the driving status and transportation use of older adults living in retirement homes. Driving cessation has been prospectively associated with increased depression, social isolation, reduced network of friends and reduced out-of-home activities. Freeman et al (2006) showed that driving status (never drove or stopped driving) and the absence of other drivers in the household were independent risk factors for entry into LTC, but did not examine the transportation needs of these individuals once they relocated. Only two studies to date, by Persson (1993) and by Choi and colleagues (2012a and b), have examined driving and transport use in seniors living in retirement homes in the United States. As discussed in Chapter 3, this study is part of a larger project whose overall aim is to gain a better understanding of the transportation patterns and needs of the growing number of Canadian seniors living in retirement facilities.

The **primary objectives of the present study** were:

1. To explore events leading to the decision to stop driving, the personal meaning and impact of driving cessation, as well as whether this decision was related to relocation (i.e., moving to the retirement home).
2. To examine activity patterns outside the Village, primary modes of transport (including use of the Village shuttle), and level of engagement in the broader community.
3. To obtain resident feedback on transportation services offered through the Village (Village shuttle) and available in their community.

Additionally, we hoped to obtain the perspective of significant others (spouse, adult children, other family or friends who most often provide rides for residents) concerning a resident's decision to quit driving and relocate and possible burden they themselves experienced driving these individuals.

4.2 Ethics Approval and Consent

Ethics approval was obtained from the University of Waterloo's Office of Research Ethics (ORE) prior to recruitment. Initial approval was obtained on October 9, 2012 and subsequent modifications were approved on December 21, 2012. Written consent was obtained from all participating residents by the researcher. Letters of information and consent forms, along with other recruitment materials, are contained in **Appendix B**.

Although names were requested on some study materials for collation, to protect resident confidentiality names were removed by RIA staff and replaced with unique identification codes (indicating the Village and subject number). Data was entered and analyzed using only these unique identification codes. Similarly, codes (described in Section 4.7) were inserted into transcriptions of the audio-taped, discussion sessions prior to analysis.

No names are used in this thesis nor will they be used in resulting reports or publications. All data has and will be kept in a locked cabinet and on password-protected researcher computers.

4.3 Eligibility Requirements

To be eligible for this study, each individual must:

- have been over the age of 65;
- have been a former driver, self-defined as someone who used to drive but was not currently driving (although they may have a valid license and plan to drive again);
- have stopped driving recently, defined as within the past two years;
- have resided in the ‘Retirement Living’ parts of the Schlegel Villages (i.e., condos, apartments, main floor rooms or assisted living), as described in Section 3.2; and
- have been available for the duration of the study (as described in the protocols below).

4.4 Sample Recruitment

This section outlines the target sample and potential sampling pool available according to the initial survey on driving status (described in Chapter 3). Various recruitment methods used for this study, including a subsequent transportation survey, are described in detail.

4.4.1 Target Sample

As described in the thesis proposal, we hoped to recruit 12 to 15 residents from each Village for a potential total sample of 48 to 60 former drivers. Additionally we hoped to conduct focus groups with 6 to 8 significant others of residents who had recently stopped driving in each Village.

As noted in Section 3.2, on the initial survey on driving status, a total of 129 residents (42 men and 88 women) across the four Villages identified themselves as former drivers. As

shown in **Table 4.1** below, 42 of these individuals had quit driving in the past two years (2010-2011); an additional 19 individuals stopped in 2009 (three years ago). If possible, we preferred to include only those who stopped driving within the last two years, as recall of events precipitating driving cessation and perceived impact of cessation may change over time (e.g., Harrison & Ragland, 2003).

Table 4.1 Profile of Initial Survey Respondents by Year of Driving Cessation*

Year	N	Breakdown by Village and gender (F=female; M=male)
2011	15	5 from WP (2F, 3M); 5 from RG (3F, 2M); 3 from HH (M) and 2 from TM (M)
2010	27	10 from WP (8F, 2M); 9 from RG (4F, 5M); 7 from HH (F); 1 from TM (F)
2009	19	12 from WP (9F, 3M); 1 from RG (M), 3 from HH (1F, 2M); 3 from TM (F)

*Note: 22 of the 61 lived in apartments, 31 on the main floor, and 8 in assistive living.

As this survey was conducted in October, 2011, we recognized that some people may have moved or died in the interim and certainly not everyone who was eligible would agree to participate further. Based on experience, the RIA said that only about 12% of residents agree to participate in research studies in general. Our initial driving status survey had a 33% response rate. On the positive side, the RIA estimated that five new residents enter each of the Villages on a monthly basis. We hoped that some of the newer residents (who had not yet been approached with multiple requests for research participation) might be more enthusiastic. In consultation with the RIA and the thesis committee, multiple recruitment strategies were used over a five month period. The timeline for recruitment, approvals and data collection is shown in **Appendix B**. Each strategy is described below, beginning with the primary strategy used to identify eligible residents, namely the Resident Transportation Pattern Survey.

4.4.2 Resident Transportation Patterns Survey (RTPS)

As mentioned in Chapter 3, a longer (two-page) survey was developed following the proposal defense in order to obtain more information on resident transportation patterns in general (including being able to distinguish between those who had stopped driving before and after relocation to the Villages). Another important purpose of the RTPS was to identify residents who were potentially eligible for the present study on former drivers and the separate study on current drivers. The RTPS and cover letter (shown in **Appendix B**) was put in the mailboxes of all residents living in the retirement sections of the Villages (except for memory care) between mid to late October, 2012.

Residents were asked to return the surveys to the main office by early November, 2012, although late surveys were accepted. As of November 6, 2012, the RIA had collected a total of 361 surveys (response rate of 49% based on 732 surveys distributed). After RIA staff inserted unique identifiers (only the RIA had the master list of resident names by Village and matching ID #s), the researcher was given the surveys for analysis. As a starting point, a pool of eligible residents (aged 65+; who quit driving in 2011 or 2012), as shown in **Table 4.2**, were identified.

Table 4.2 Pool of Eligible Former Drivers by Village based on the RTPS

	TM	HH	WP	RG	Total
Quit driving 2011 or 2012	15 (18.75%)	27 (33.75%)	20 (25%)	18 (22.5%)	80 (100%)

4.4.3 Study Information Packages

Study information packages were distributed to the mailboxes of these 80 individuals shortly thereafter (beginning November 9, 2012). As shown in **Appendix B** (which contains all the recruitment materials), these packages contained a very detailed information letter, together with an interest form (as well as a standard publication request form used by the RIA,

which is not included in the appendix). Residents were asked to complete and return the interest form to the main office of their Village.

4.4.4 Village Presentations

Shortly following distribution of the RTPS, and concurrent with the distribution of the study information packages, presentations were scheduled at each of the Villages to generate interest. Posters were displayed to advertise these presentations which were open to all residents. Prior to describing the current project, the presentations addressed the importance of mobility and accessible transportation and were delivered by the two student researchers (CJG and SS), together with our supervisor (Dr. Anita Myers) at the first Village (Humber Heights).

At the first presentation at Humber Heights (October 24, 2012), there were six attendees (1 male, 5 female), with an equal mix of current and former drivers. One person used a walker. Unfortunately, the presentation was scheduled at the same time as a popular activity (the Chaplin's Chat). We received mixed feedback from the attendees in regards to the Village shuttle, some of who expressed a desire for more trips to the mall. One woman who was still driving said that she knew residents who believed that they would not need their car once they moved to the Village and were later sorry they had given up their car.

The second presentation at Riverside Glen (October 26, 2012), meanwhile, was attended by 5 residents (1 male, 4 females), all of whom were former drivers. One used a wheelchair. At this Village, an outing to a local pool took place right before our session. Although we waited for them to return, none came to our presentation. Attendees mentioned they enjoyed the flexibility of Village bus and also noted that the public bus stop was a really close walk. One lady also mentioned her motorized scooter, which sparked a conversation with the other women.

On November 14, 2012, we presented to two men and five women (2 current and 5 former drivers) at Winston Park, one of whom used a motorized wheelchair. These residents gave positive feedback on the Village bus. However there were some complaints about booking paratransit services for medical appointments which sparked conversations about volunteer drivers (which someone commented required higher insurance) and whether the Village bus or another vehicle could be used on a fee basis for medical appointments.

The format of the last presentation at Taunton Mills (November 15, 2012) was different. The student researchers served coffee and tea and cleared tables at lunch time in the dining room, while at the same time talking to residents and asking them to come to our short presentation in the afternoon during the Resident's Council Meeting (RCM). Many people at lunch expressed interest in hearing about the two projects and there was a full room for the RCM. An RIA staff member (KP) gave a brief explanation of the two projects and we had a table near the refreshment area where we spoke to several residents after the meeting.

4.4.5 Additional Recruitment Strategies

As will be detailed in Chapter 5, very few residents returned the interest forms (only one of whom gave permission to contact their significant other) and participated in the study. Dr. Sharratt (Director of the RIA) spoke to some residents from WP to better understand the low level of interest. As described above, not many residents came to the presentations where we could speak with them. We suspected another reason for the poor response may have been that residents receive a lot of flyers in their mailboxes and had not bothered to read the lengthy study information package. In any case, another approach was needed. In consultation with the RIA and the committee in mid-December, 2012, we decided to: 1) expand the eligibility

criteria (i.e., time of driving cessation (from 2011 to 2010); 2) shorten the protocol (described below) from two sessions to one; and 3) attempt more personalized recruitment strategies.

These strategies involved setting up a booth in high traffic areas (outside the main dining hall and cafes) where the researchers (CJG and SS) could speak to the residents directly; developing a short pamphlet/brochure (with an interest/contact form); and knocking on doors (for others who met the study criteria according to the RTPS). The booth (table with a sign) was manned by the researchers for a full day at WP (on January 30, 2013) and about a month later at TM (on February 21, 2013). This allowed researchers to explain the studies in person, encourage people to complete the RTPS (if they had not already done so), determine study eligibility and book appointments. Recruits were given the letter of study information and a notecard to remind them of the day and time. A list of residents deemed eligible according to the RTPS was developed and the researchers attempted to speak to these individuals directly by knocking on their doors on various occasions.

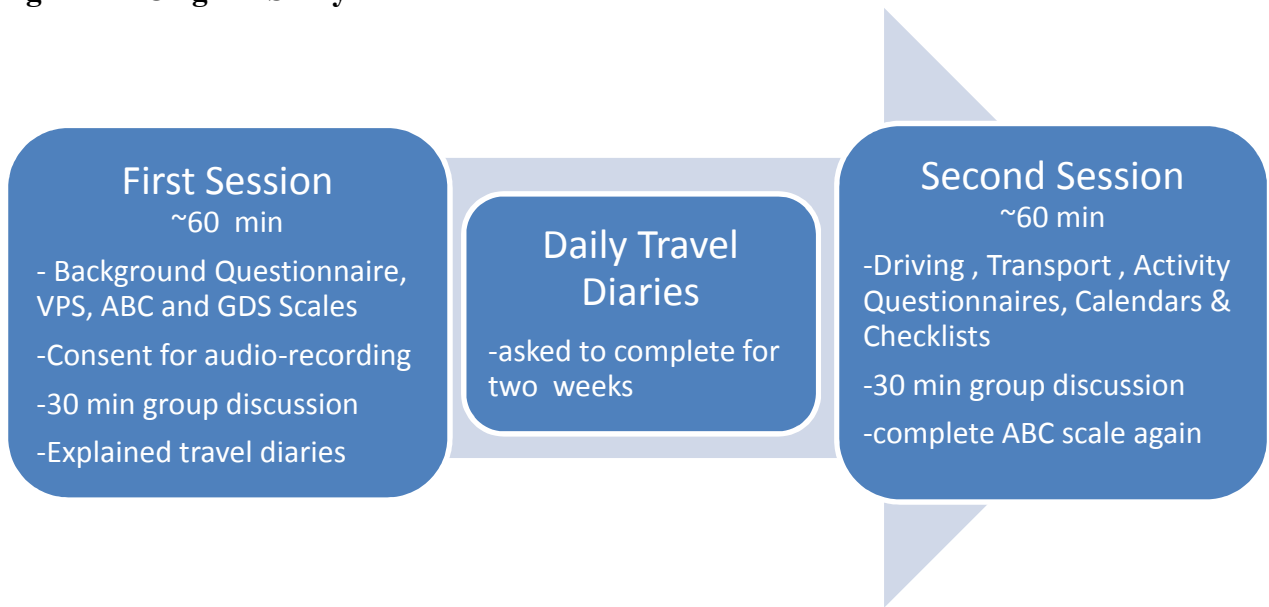
4.5 Procedures

The study took place in the four Schlegel Villages (SVs), in quiet meeting rooms for administration of questionnaires and small group discussions. The original study protocol is described first, followed by the revised and shortened protocol.

4.5.1 Original Study Protocol

As shown in **Figure 4.1**, the study consisted of three parts: (1) session one; (2) completion of daily travel diaries for two weeks; and (3) session two. To minimize fatigue, each session (which included a 30 minute group discussion) lasted only 60 minutes if possible. The RIA arranged for refreshments.

Figure 4.1 Original Study Protocol



First Session: The researcher began by explaining the study (as described in the letter of information), provided an opportunity for participants to ask questions, and obtained written consent. Participants were then asked to complete a background questionnaire and a few scales (the VPS, ABC and the GDS), with assistance provided as needed. All instruments are described below. This was followed by a 30-minute, structured group discussion (or interview if there was only one participant) concerning driving cessation and relocation. Permission was obtained prior to turning on the digital audio-recorder. Sequence of events and scripts are shown in **Appendix C**. At the end of the session, participants were shown how to complete the daily travel diaries over the subsequent two weeks. In the interim, participants were telephoned to remind them about the date, time and location of the second session, as well as to return with their completed package of travel diaries.

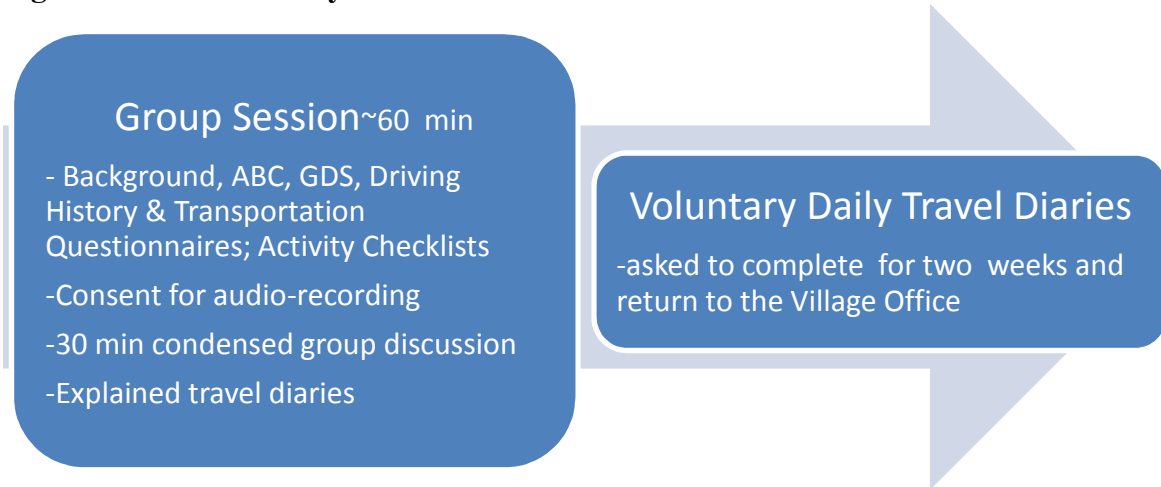
Second Session: At this session, participants were asked to complete the Driving History and Transportation questionnaires, as well as checklists on activities both in and outside the Village. They were also asked to circle activities they did over the past month on

the calendars produced by their Village. These materials were interspersed with discussion to minimize fatigue. The topics discussed centered around travel and activity patterns, community engagement, now and compared to before they stopped driving and relocated, as well as suggestions for ways to improve resident transportation. The checklists and completed travel diaries provided a basis for further discussion.

4.5.2 Revised/Shortened Study Protocol

After a full cycle of the original protocol (recruitment through to completion of data collection), we were able to recruit only 8 subjects (of whom only one indicated their significant other may also be interested in taking part in the study). One challenge was scheduling busy residents for two sessions, within approximately two weeks. Booking multiple residents on the same day and time (to have small group discussions) was even more challenging. Participants appeared to enjoy the discussions the most (which often had to be cut short due to questionnaire and scale completion). Some remarked about the questionnaires taking a lot of time (e.g., “Oh, another one”). In conjunction with the additional recruitment methods describe above, we decided to shorten the resident protocol to one session (condensing both the questionnaires and discussion scripts) and not pursue recruitment of significant others further. The revised and shortened protocol for former drivers, shown in **Figure 4.2**, was approved by the ORE December 21, 2012.

Figure 4.2 Revised Study Protocol



The session involved completion of the background and driving history questionnaires (both of which were condensed), the ABC and GDS scales, and the one page questionnaire on transportation use (same as in the original protocol). The activity checklists (in and out of the Village) were also shortened. The monthly activity calendars, the VPS and the second assessment of the ABC were removed from the protocol completely. The discussion scripts were combined and condensed, with questionnaires/scales/checklists interspersed throughout the discussion (as shown in **Appendix C**). At the end of the session, participants were encouraged to complete the travel diaries for two weeks and return them to the Village Office.

4.6 Instruments

This section describes the instruments outlined above in **Figures 4.1 and 4.2**, beginning with the background, driving and transportation questionnaires. All instruments, apart from the scripts, can be found in **Appendix D**. Changes made to the questionnaires, checklists and scripts are noted. These tools were explained to participants and self-administered except where noted.

4.6.1 Background, Driving History, and Transportation Questionnaires

These questionnaires were modified from previous studies (Blanchard, 2008; Trang, 2010; Crizzle, 2011). Both original and modified versions of the Background Questionnaire (BQ) consist of three parts: general information (e.g. age, gender, education, current living arrangements, relatives in the area); questions on where they lived before; and health and mobility. The Driving History & Experience Questionnaire (DHEQ) was used to obtain information on previous driving patterns, problems in the year before they stopped driving, driving comfort (a few questions were taken from the DCS-Day and DCS-Night scales, Myers et al., 2008) and use of other modes of transport while they were still driving. The one-page Current Transportation Use (CTU) questionnaire examined current modes of travel.

4.6.2 Activities-specific Balance Confidence (ABC) Scale

Prior research has shown that history of falls was associated with reduced or diminished driving ability and increased accident risk (e.g., Forrest et al., 1997) and that self-reported fall history, as well as difficulty walking several blocks, has been associated with driving cessation (e.g., Kulikov, 2011). As noted by Kulikov (2011), medical conditions that limit walking and consequently use of public transportation, may occur even before driving cessation. In addition to self-reported falls and perceived walking difficulty (included in the background questionnaire), we measured balance confidence.

Numerous studies have shown that fear of falling, often operationalized as balance confidence, can lead to mobility and activity restrictions (e.g., Myers et al., 2005; Webber et al., 2010). The 16-item ABC scale is a widely used measure of balance confidence (Jorstad et al., 2010). The 16-item ABC scale is a widely used measure of balance confidence (Jorstad et al., 2010) with good test-retest reliability and evidence of construct validity (Myers et al., 1998; Myers et al., 1996; Powell & Myers, 1995). Similar to Crizzle (2011), we used a

collapsed rating scale (5 point versus 11 point) based on Rasch analysis with other samples, and included additional items to capture situations encountered when walking (e.g., stepping off curbs or medians, pedestrian crosswalks) or using public transportation such as buses. Crizzle found good test-retest reliability for the extended scale. We further adapted the wording of some of the original ABC items to be more relevant to seniors living in retirement homes (e.g., item 1 was modified from “walk around the house” to two items: 1. walk around inside your apartment & the Village; and 2. walk around outside (on the Village grounds). In the original protocol, the ABC was administered a second time to begin gathering data for eventual examination of test-retest reliability. Re-administration of the ABC Scale was removed from the revised protocol.

4.6.3 Vitality Plus Scale (VPS)

In the original protocol, former drivers were also asked to complete the 10-item Vitality Plus Scale (VPS). The VPS is a general measure of psychophysical well-being that contains items on sleep quality, appetite, constipation, aches and pains and energy level.

The tool has good psychometric properties, including test-retest reliability and VPS scores have been correlated with measures of physical functioning (e.g., Timed Up and Go or TUG test and walking speed), as well as scores on various subscales of the SF-36 (discriminant and convergent validity). Most importantly, scores on the VPS discriminate between various groups of older adults, are related to various types of health conditions, and have been shown to improve through exercise participation (Myers et al., 1999; Johnson et al., 2003).

4.6.4 Geriatric Depression Scale (GDS-5)

It was important to include a measure of depression as the association between driving cessation and increased depressive symptoms has been demonstrated by several studies

(Marottoli et al., 1997; Edwards et al., 2009a; Fonda et al., 2001; Ragland et al., 2005; Windsor et al., 2007; and Mann et al., 2005). Although all of these studies used the Centre for Epidemiologic Studies Depression scale, we used the shorter Geriatric Depression Scale (GDS-5) which is easy to complete (Yes or No to each item) and was developed with careful consideration of how depression is manifested in older adults (Yesavage & Sheikh, 1986). Rinaldi et al. (2003), found the GDS-5 to have a sensitivity of 94% and a specificity of 81%. Two or more responses are indicative of depressive symptoms. Additionally we included a sixth item from the longer GDS-15 scale (i.e., “Have you dropped many of your activities and interests”) which was analyzed separately as another indicator of reduced activity.

4.6.5 Activity/ Engagement Measures

Researchers have used a variety of methods to assess activity levels of older adults typically by asking seniors to check how frequently they do various types of activities such as shopping, errands, recreation and social, volunteering (e.g., Marotolli et al., 2000). Marotolli et al. (2000) and others have found that level of activity tends to decline when seniors stop driving. Jenkins et al., (2000) assessed frequency (from 1=never to 4=a lot) of various types of indoor and outdoor activities (classified as active versus passive), specifically with adults living in a continuing care retirement community, although their study did not focus on driving. Other studies have examined social networks in older adults. For example, Mezuk & Rebok (2008) assessed frequency of contact with relatives through various modes (such as telephone and visiting) as well as perceived support from family and friends. These studies and others were taken into consideration in developing our instruments to assess level of activity and engagement both in and outside their retirement Village.

Participants were asked to complete a checklist regarding Village services/amenities they used in the past month (e.g., hair salon, convenience store, laundry facilities, banking services, meals), as well as whether they received services from other agencies (e.g., the CCAC). In the original protocol, participants were asked to circle the activities they took part on the most recent monthly calendar produced by their Village. As this was quite time-consuming (about 10 minutes), in the revised protocol the calendar was removed and categories of organized, group activities added to the Village checklist. The checklist used to assess Activities Outside the Village (our measure of community engagement) included sections on group membership (and whether they attended regularly), various types of activities engaged in over the past month (e.g., shopping or errands, eating at restaurants), frequency and modes of staying in touch with family and friends who live outside the Village, and ratings on sense of connectedness and changes in size of social networks. These tools can be found in **Appendix D**, with all the other instruments.

4.6.6 Small Group Discussions

A number of previous studies with former drivers (e.g., Rudman et al., 2006; Persson, 1993) have used focus groups (FGs) to obtain rich, in-depth information concerning reasons for and impacts of driving cessation. Focus groups are dynamic (i.e., enable collection of data from multiple people at the same time) and may be more interesting for study participants (i.e., opportunity to share and debate their experiences with others (Kreuger & Casey, 2009; Myers, 1999)). The original plan was to conduct FGS with 6-8 residents at a time. Due to reasons noted above, most sessions were conducted with small groups of 2 to 3 residents, while some were conducted with only one participant. The sessions followed recommended guidelines for FGs (Kreuger & Casey, 2009; Myers, 1999), including obtaining permission for audio-recording

from all participants. At the end of the first session (original protocol) or the only session (revised protocol), the travel diaries were explained.

4.6.7 Travel Diaries

The travel diaries were based on work by Blanchard (2008) and adapted for non-drivers. Participants were asked to complete the diary either at the end of each day or after each trip, including: the number of trips made that day, time of departure and return to the Village, destination or trip purpose, and mode(s) of travel. If driven by someone, relationship to the driver and the driver's initials were also requested. Each person was given 14 blank sheets (for recording up to 4 trips on a given day), with extra sheets provided. Participants were also given instructions and two examples (see **Appendix D**), which were explained by the researcher.

4.7 Data Handling and Analysis

Scales (the ABC, VPS and GDS) were scored according to developer instructions and all quantitative data from the scales, questionnaires, checklists and travel diaries were entered into the Statistical Package for Social Sciences (SPSS), Version 20.0. Descriptive analysis for continuous variables included measures of central tendency (mean, standard deviation and range) while discrete variables were examined via frequencies and percentages. T-tests and chi squares were used for further comparisons (e.g., by gender, age, marital status and level of care). Responses to open-ended questions (e.g., trip destinations/purposes on the travel diaries) were subjected to content analysis, categorized, and then frequencies for each variable were entered into the SPSS database. Participation in Village activities circled on the calendars (original protocol) were grouped into the same categories (i.e., religious services; arts & crafts; games; music, theatre, movies or concerts; special events outside organized by the village; and physical activities) used in the revised protocol checklist.

Several types of data were produced from each of the discussion sessions, including: a seating chart (if more than one participant), audio-recordings, and researcher field-notes (e.g., on non-verbal gestures, group dynamics, key issues arising) compiled immediately after each session. Abridged transcriptions of the audio-taped discussions were produced and codes inserted to identify speakers (Village identified as A, B, C, or D, followed by gender, and a number indicating a different participant: e.g., Am1) when using quotations, while protecting confidentiality. This is necessary to illustrate whether comments came from various individuals in different Villages. Transcripts were analyzed by the researcher using initial, focused and axial coding methods (Charmaz, 2006).

Chapter 5: Results

This chapter begins with the primary findings emerging from the Resident Transportation Patterns Survey (RTPS). The remainder of the chapter pertains to the in-depth study on 20 former drivers, beginning with sample recruitment, timeline for data collection and data completeness. Sample characteristics, including an examination of how this sample compares to residents who were eligible for this study (according to the RTPS) but chose not to participate further are presented next. General and health-related characteristics (including depression and balance confidence scores) are followed by results concerning driving history and experiences. In subsequent sections, multiple data sources were combined to examine the process of driving cessation, linkages between driving cessation and relocation, current travel patterns and modes of travel. Both quantitative data (from questionnaires, scales, checklists and travel diaries) and qualitative data (from discussions with residents) were also to examine use of Village services and program/activity offerings, feedback on village transportation offerings and orientation, and finally community engagement.

5.1 Findings from the Resident Transportation Patterns Survey (RTPS)

Before delving into the results from the in-depth study, it is important to understand what was learned from the RTPS which was developed not only as a recruitment tool but also to learn more about resident transportation patterns more generally. As described in Chapter 4, the survey was distributed, beginning in mid-October, 2012 to the mailboxes of retirement living residents in the four Villages. These surveys continued to be distributed to residents contacted through the other recruitment strategies if they had not previously returned the survey. By late February, 2013, a total of 407 surveys had been returned for a response rate of 55.6%. A total of 399 surveys were analyzed as driving status was missing on 8 surveys.

The total sample (N = 399) ranged in age from 65 to 100 (mean age 86.8 ± 5.7) and comprised 272 women (68.2%) and 127 men (31.8%). Residents had lived in their Village on average from 2.23 ± 2.4 years (range 0-23). The majority of residents (68%, n=273) had stopped driving; 21% were still driving (n=82), while 11% had never driven (n=11). As this study focuses on former drivers (FDs), the findings from the RTPS pertaining to this group will be highlighted. There were 273 FDs (183 women and 90 men) ranging in age from 65 to 100 (mean age 86.5 ± 6.0).

Only 14% of the FDs still had a valid driving license. Those with a valid license were significantly younger (83.3 ± 7.0 versus 87.0 ± 5.8 , $p < .001$) than those without a license. Nearly 57% of the sample had stopped driving prior to relocation (average two years), while 25% had quit after relocation (average 18 months). For 18%, these transitions took place in the same month. Overall comparisons did not reveal any differences in age or gender between these three groups. However, those who stopped driving before relocation versus after, were significantly more likely to live in units with support services than apartments (70% versus 30%, $\chi^2 = 8.882$, $p < .001$). The men in this category were also significantly younger than those who quit driving after the move (84.7 ± 7.0 versus 89.2 ± 6.5 , $t = -2.081$, $p > .05$). Those who stopped driving after moving were more likely to live in independent apartments (rather than units with support services) than those who stopped driving and relocated simultaneously (71% versus 29%, $\chi^2 = 18.973$, $p < 0.001$). For over half the sample (55%), driving cessation and relocation occurred within 12 months.

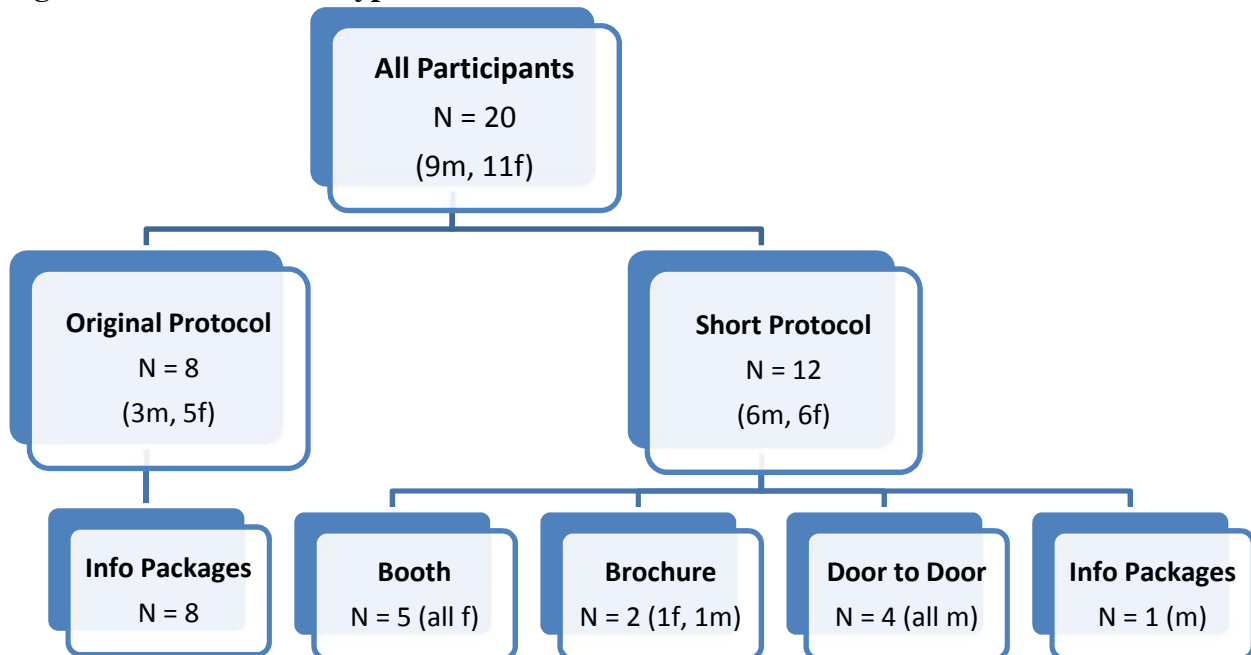
The majority of the FDs (90%) reportedly received rides from others, most often from adult children (65%); followed by other relatives (28%); friends (24%); spouses (8%); and volunteers (2%). Those who received rides from spouses were significantly younger (83.2 ± 7.0)

than those who do not (86.8 ± 5.7) ($t=2.689, p=0.008$). Over half (52%) reportedly used the Village shuttle; 18% used public buses, 73% taxis, 41% paratransit services, while 22% used motorized scooters. The FDs who used the shuttle were significantly younger than those who did not ($t=1.948, p=0.053$).

5.2 Recruitment for the In-Depth Study

A convenience sample of 20 residents from the four SVs with Retirement Living was recruited using a variety of methods (described in Chapter 4). The primary methods of recruitment for the initial sample (N=8) and subsequent sample using the shortened protocol (N=12) are shown in **Figure 5.1**.

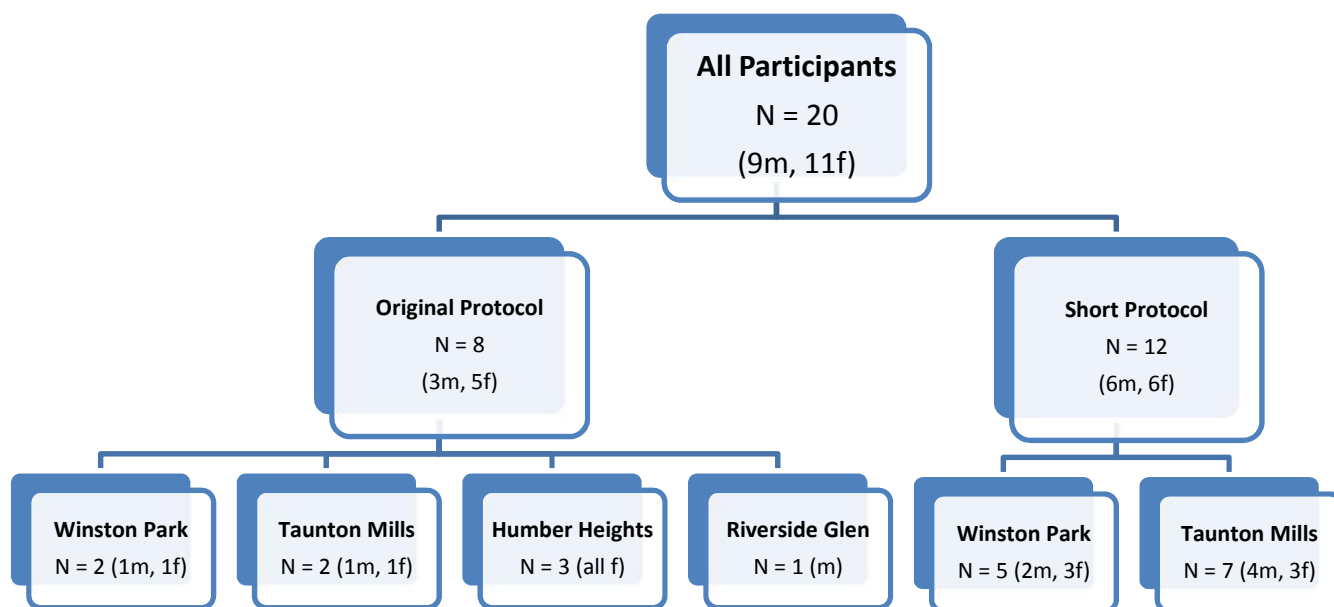
Figure 5.1 Recruitment Type



Interest forms included in the information packages sent to residents identified as eligible from the RTPS were returned by 9 of the 20 study participants. More personalized recruitment, through booths and knocking on doors yielded an additional 9 participants. Although the short brochure/pamphlet may have helped, by itself it yielded only 2 participants.

Reducing the time commitment from two meetings to one may also have contributed to increasing the sample size. A breakdown of the sample by Village is shown in **Figure 5.2**.

Figure 5.2 Recruitment by Village



The majority of participants were recruited from Taunton Mills (45%), followed by Winston Park (35%) and Humber Heights (15%). Only 5% of the sample came from Riverside Glen, the only Village that does not have independent living apartments. However, it is important to keep in mind that the researcher was not able to use the personalized recruitment strategies (booth and door to door) at either RG or HH.

Table 5.1 shows the chronology of resident assessments, as well as how many women and men were assessed on a given date. Using the original protocol, the second session could not be conducted within two weeks as intended for 4 of the 8 participants (all of whom were in RG or HH) due to various reasons such as resident illness and adverse travel conditions.

Table 5.1 Data Collection Timeline

Date	Village	Protocol	Gender breakdown
Nov. 20 th 2012	WP	Original – 1 st session	1 m, 1 f
Nov. 21 st 2012	TM	Original – 1 st session	1 m, 1 f
Nov. 26 th 2012	RG	Original – 1 st session	1 m
Nov. 27 th 2012 am	HH	Original – 1 st session	2 f
Nov. 27 th 2012 pm	HH	Original – 1 st session	1 f
Dec. 4 th 2012	WP	Original – 2 nd session	1 m, 1 f
Dec. 6 th 2012	TM	Original – 2 nd session	1 m, 1 f
Jan. 24 th 2013	RG	Original – 2 nd session	1 m
Jan. 29 th 2013	HH	Original – 2 nd session	3 f
Feb. 4 th 2013	WP	Revised	1 m, 1 f
Feb. 12 th 2013	WP	Revised	1 m, 2 f
Feb. 26 th 2013	TM	Revised	2 f
Feb. 28 th 2013	TM	Revised	3 m
Mar. 5 th 2013 9am	TM	Revised	1 m
Mar. 5 th 2013 11am	TM	Revised	1 f

5.3 Data Completeness

Apart from a few missing items, all 20 participants completed the background questionnaire, ABC, GDS, driving history questionnaire, current transportation use questionnaire, service and amenity checklist, and the outside the village activity checklist. Only the eight people in the original protocol completed the VPS and calendar activity. The few missing values on the ABC scale were replaced using the person-mean substitution method. Travel diaries were returned by 17 of the 20 participants. Three residents from TM (using the shortened protocol where the diaries were presented as optional) did not return the diaries.

All 20 people actively took part in the discussions. As shown in **Table 5.1**, recruitment as well as scheduling challenges precluded assembling larger groups for the discussion as intended. In the case of 2 men and 2 women, the discussion was a one-on-one interview with the researcher. The remaining sessions entailed small groups of two or three residents.

5.4 Sample Characteristics

This section presents the descriptive characteristics of the in-depth study sample, beginning with sample representativeness based on eligibility (according to the RTPS) and agreeing to participate. This is followed by additional demographic and health characteristics and an overview of their driving history and experiences.

5.4.1 Sample Representativeness

In order to get a sense of sample representativeness, characteristics based on self-report answers from the RTPS of those who participated in the in-depth study, were compared to residents who were eligible for the study (aged 65+ and stopped driving in 2010 or later) but chose not to participate. It is important to note that the 20 study participants were separated from the other FDs identified in the RTPS for the comparisons shown in **Table 5.2**.

No significant differences between study participants and non-participants were found with respect to mean age, gender distribution, level of care, or whether they stopped driving before, after or at the same time as they moved to the Village. Although level of care was not significantly different (comparison of three levels), it is noteworthy that none of the in-depth study participants received assisted care.

One significant difference that did emerge was that a higher proportion of study participants (90%) versus non-participants (50.5%) said they used the Village shuttle ($\chi^2=10.491$, $df=1$, $p=0.001$). The majority of both groups received rides from others, although the study sample received rides more often on average per month (not significant). Compared to non-participants, a greater proportion of the study sample (80% versus 54%) used other forms of transportation apart from rides from others ($\chi^2=4.745$, $df=1$, $p=0.029$). Unfortunately, marital status and education were not included in the RTPS, precluding comparisons.

Table 5.2 Comparison of Study Participants and Non-participants

		Participants (N=20)	Eligible, Non-participants (N=97)
Age		86.50±4.98 (75-97)	84.87±6.41 (67-98) (N=94)
Gender	Male	9 (45)	35 (36.1)
	Female	11 (55)	62 (63.9)
	Missing	0	3
Level	Apartments	9 (45)	37 (38.1)
	Main Floor	11 (55)	47 (48.5)
	Assisted Care	0	13 (13.4)
Year of Move	Median	2010 (N=19)	2011 (N=94)
	Mode	2010 (N=19)	2011 (N=94)
Year of Cessation (N=20)	Median	2011	2011
	Mode	2011/2012	2011
	2009	1 (5)	0
	2010	3 (15)	32 (33.0)
	2011	8 (40)	36 (37.1)
	2012	8 (40)	29 (29.9)
Categorical Quit/Move	Before	5 (26.3)	44 (45.4)
	After	10 (52.6)	40 (41.2)
	Same	4 (21.1)	13 (13.4)
	Missing	1	0
Calculated Quit/Move*	Before	4 (21.0)	38 (43.2)
	After	9 (47.4)	30 (34.1)
	Same	6 (31.6)	20 (22.7)
	Missing	1	9
Valid License	Yes	1 (5.3)	27 (27.8)
	No	18 (94.7)	70 (72.2)
	Missing	1	0
Uses Shuttle***	Yes	18 (90)	47 (50.5)
	No	2 (10)	46 (49.5)
	Missing	0	4
Receives Rides from Others	Yes	20 (100)	89 (92.7)
	No	0	7 (7.3)
	Missing	0	1
Ride Frequency		5.94±4.48 (N=19)	4.80±3.72 (N=82)
Uses Other Forms of Transportation**	Yes	16 (80)	52 (53.6)
	No	4 (20)	45 (46.4)

Note: Values are presented as *frequencies (valid percent)*, or *Mean ± S.D., range*.

*Using the information provided by respondents on the RTPS (month and year of quitting driving and moving), the researcher calculated the correspondence and direction. If these occurred within one month, this was coded as occurring at the same time. Missing information (primarily month) precluded this calculation for 9 non-participants and one study participant.

p<.05; *p<.001

5.4.2 General, Health, and Psychological Characteristics

The in-depth study sample comprised 11 women and 9 men, with gender breakdowns for age, education, level of care and marital status shown in **Table 5.3**. It is important to note that the results presented below were obtained from the background questionnaire (BQ) and other measures used for the in-depth study (not from the RTPS), which explains the slight variations (e.g., mean age) between **Tables 5.2** and **5.3**. More than half the sample (55%) had completed at least some college or university, with 20% having attained graduate or professional degrees.

Table 5.3 General Characteristics

Characteristics	Total Sample (N=20)	Gender	
		Male (N=9)	Female (N=11)
Age	86.45 ± 5.16 75 to 97	86.89 ± 1.60 81 to 97	86.09 ± 5.63 75 to 95
Education			
Some high school	5 (25)	1 (11.1)	4 (36.3)
Finished high school	4 (20)	1 (11.1)	3 (27.3)
Some college or university	2 (10)	2 (22.2)	0
Finished college or university	5 (25)	2 (22.2)	3 (27.3)
Graduate or professional degree	4 (20)	3 (33.4)	1 (9.1)
Level of Care			
Apartments	9 (45)	4 (44.4)	5 (45.5)
Main Floor Rooms	11 (55)	5 (55.6)	6 (54.5)
Marital Status			
Married	5 (25)	4 (44.4)	1 (9.1)
Divorced	1 (5)	1 (11.2)	0
Widowed	13 (65)	4 (44.4)	9 (81.8)
Never Married	1 (5)	0	1 (9.1)

Note: Values are presented as *frequencies (valid percent)*, or *Mean ± S.D., range*.

As noted above, none of the participants received assistive care, although 55% lived on the Main Floor of the Villages indicating that they received meals and some additional supports. The remainder lived in independent apartments, although they can pay for extra services. Only 25% of the sample was currently married (44% of the men and 9% of the women). Of those who were married, all five lived in the same apartment or room as their

spouse; three of these spouses still drove. There were no significant gender or age differences concerning level of care. Several indicators of health status were obtained from the BQ. Findings are shown in **Table 5.4**. Further analyses were conducted to examine possible differences based on age, gender, marital status and level of care. Findings that were significant (or approaching significance) are reported below.

The majority of residents (15/19, 79%) rated their health as excellent or good. Although over 80% used a walker or cane, 60% still felt able to walk a quarter of a mile (with or without assistance). Those living in apartments (88.9%, n=8) were more likely than those on the main floor (40%, n=4) to say they could walk a quarter of a mile ($\chi^2=4.866$, $df=1$, $p=0.027$). One resident was not included in this analysis as they were unsure whether they could walk that far.

Almost half the participants (9/20 or 45%) reported falling at least once in the last year (44% more than once). Of those who had fallen, a third was injured and two-thirds had difficulty getting up. Participants reported an average of 2.95 ± 1.47 diagnosed conditions (from a possible list of 11, see **Appendix E** for a full breakdown). The most common conditions were: arthritis (60%), high blood pressure, cholesterol or heart-related problems (55%), and osteoporosis (45%). The most common eye disorder was cataracts (45%), followed by macular degeneration (15%) and glaucoma (5%). Given that cataracts can be repaired, it may not be surprising that only 5% of the sample reported having worse eyesight than others their age. Everyone said they took prescription medications.

When asked about specific problem areas that could affect mobility and driving, overall they reported few difficulties (on average, checking one of four possible options). The ones checked most often were: difficulty keeping their balance (n=7, 35%), followed by persistent pain (n=5, 25%), staying awake (n=4, 20%) and initiating movement (n=4, 20%).

Table 5.4 Health Indicators

Characteristics	Total Sample N = 20
Self-rated Health	
Excellent	3 (15.8)
Good	12 (63.1)
Fair	3 (15.8)
Poor	1 (5.26)
Missing	1
Use Cane or Walker outside	
Yes	17 (85)
No	3 (15)
Use Cane or Walker inside	
Yes	14 (82.4)
No	3 (17.6)
Missing	3
Able to Walk ¼ mile	
Yes	12 (60)
No	7 (35)
Not Sure	1 (5)
Fallen in last year	
Yes	9 (45)
No	11 (55)
More than once	4 (44.4) of 9
Injured from falls	3 (33.3) of 9
Difficulty getting up	6 (66.7) of 9
Diagnosed Conditions	
Mean ± S.D.	2.95 ± 1.468
Range (0 to 11 possible)	1 to 6
Self-reported eyesight	
Better than most	11 (55)
About the same	8 (40)
Worse than most	1 (5)
Medications	
Yes	20 (100)
Difficulties*	
Mean ± S.D.	1.00 ± 1.026
Range	0 to 4 (of 4 possible)

Note: Values are presented as *frequencies (valid percent)*, or *Mean ± S.D., range*.

*The sample was asked about difficulties in keeping their balance, initiative movement, staying awake and having persistent pain.

Psychological indicators examined included depression (using the GDS-5), balance confidence (using the extended ABC scale) and vitality (using the VPS), however only 8

subjects completed the VPS as this was removed to shorten the protocol. Scores on the GDS and ABC scales are shown in **Table 5.5** below, while VPS results can be found in **Appendix E** (along with other descriptive results not reported in the text).

The average score on the GDS-5 was 0.72 ± 1.27 (range 0 to 4). Based on the cutoff of at least two ‘depressed’ responses, only two of the 18 residents (11%) had depressive symptoms. Two respondents who missed one or more items were not included in calculations (although one gave 2 responses indicative of depressive symptoms, the other only 1). No significant differences in GDS scores emerged with respect to gender, marital status or level of care.

Table 5.5 Depression and ABC Scores (N=20)

	Total Sample	Males (N=9)	Females (N=11)
GDS-5 (n=18)			
Mean \pm S.D.	0.72 \pm 1.27	0.78 \pm 1.30	0.67 \pm 1.32
Range	0 to 4	0 to 4	0 to 4
Showing depressive symptoms	2 (11.1)	1 (11.1)	1 (11.1)
Not showing symptoms	16 (88.9)	8 (88.9)	8 (88.9)
ABC (n=20)			
Mean \pm S.D.	61.38 \pm 22.84	69.03 \pm 20.46	55.12 \pm 23.67
Range	18.52 to 100	50 to 100	18.52 to 86.11

Note: Values are presented as *frequencies (valid percent)*, or *Mean \pm S.D., range*.

For the ABC, scores are calculated as a total percentage from 0 to 100, with higher scores indicating greater balance confidence. The average score on the ABC scale was 61.38 ± 22.84 (range 18.52 to 100). Six respondents (30%) scored at or below the midpoint of 50. Scores on the ABC were significantly higher for those who were married (80.37 ± 20.62), compared to those who were not (55.05 ± 20.36) ($t=2.401$, $df=18$, $p=0.027$). Differences approached significance for those who lived in apartments (71.49 ± 24.16), compared to those who lived in rooms on the Main Floor (53.11 ± 18.88) ($t=1.912$, $df=18$, $p=0.072$). ABC scores were related to public and Village bus usage in **Section 5.7.1** and physical activity scores were compared to ABC and GDS scores in **Section 5.9.1**.

5.4.3 Driving History and Experiences

One of the study eligibility criteria was that residents must have stopped driving in 2010 or later. However, it was discovered during the assessment that one woman had actually quit driving in mid-2009 (5% of sample). The majority of participants stopped driving in 2011 or 2012 (40% each) while only 15% of subjects stopped driving in 2010.

In the discussions residents were asked what driving meant to them. All said that driving was their main form of transportation, although some used other modes to get around while still driving (such as walking, public bus, or taxis). The main theme that emerged from this discussion was that driving was the best form of transportation when it came to convenience and independence (all participants agreed). Two men (in different sessions) expressed the absolute love they had for driving, “I thought it would be impossible to do without driving” (Bm6) and “I lived to drive” (Bm9), while one lady (Af6) noted that it was not something she did for fun.

When asked on the Driving History & Experience Questionnaire (DHEQ) who had been the primary driver in their household (N=19), 57.9% said themselves, followed by them and their spouse (31.6%), or just their spouse (10.5%). Most residents mentioned in the discussions that other family members also drove them at various times and some drove their spouses after the spouse no longer drove. Only 15% of the sample still owned their car (from DHEQ), although no one said they planned to resume driving (when prompted in the discussion). The rest said they had sold their vehicle or given it away (often to family members who they were glad they could help out).

In the last year they drove, participants drove an average of 4.45 ± 1.76 (range 2 to 7) days a week. In the DHEQ, respondents were asked to rate their comfort level in the last year

they drove using four items from the Driving Comfort Scales rated on a 5 point scale from 0% to 100% (Myers et al., 2008). As shown in **Table 5.6**, comfort level was lower when driving in poor weather, on 400 highways and at night. As found in community samples, men generally had higher comfort scores, significantly higher with respect to driving on 400 highways ($t=2.942, df=18, p=0.009$).

Table 5.6 Driving Comfort in Last Year of Driving

Item	Total Sample (N=20)	Males (N=9)	Females (N=11)
During the day in good weather	96.25±12.23 (50 to 100)	100.00±0.00 (100 to 100)	93.18±16.17 (50 to 100)
During the day in heavy rain or snow	53.75±32.72 (0 to 100)	66.67±30.62 (0 to 100)	43.18±31.80 (0 to 100)
During the day on a 400 series highway*	63.75±40.94 (0 to 100)	88.89±18.16 (50 to 100)	43.18±43.43 (0 to 100)
At night even in good weather	58.75±43.89 (0 to 100)	72.22±36.32 (0 to 100)	47.73±48.03 (0 to 100)

Note: Values are presented as *frequencies (valid percent)*, or *Mean ± S.D., range*.

*Significant gender difference.

Two men and two women from the study (20%) reportedly had a minor accident in the last year they drove, while two men (10%) had an infraction resulting in demerit points. Two men had a major accident, one of which resulted in someone being injured. Two men (one of whom had a major accident) said they lost their license; one for medical reasons and the other for both medical reasons and their driving record.

5.5 Driving Cessation

On the original version of the DHEQ, 2 of the 8 respondents said they had not prepared for driving cessation, while six said they had. However, when all 20 residents were prompted in the discussion about whether they had prepared or planned for driving cessation, few gave a direct affirmative response. Several mentioned cost savings and compared the expense of driving to the cost of other modes of transportation. Many also said they had family who would

drive them or could use other forms of transport. Throughout the discussion, health problems (such as strokes, reduced mobility and declining eyesight) frequently came up as an important factor in their decision to stop driving. In several instances (7/20) residents described events that precipitated driving cessation. One man stopped after a major accident. Others mentioned strokes (n=2), knee (n=1) or back (n=1) surgery, a blood clot (n=1) or not being able to walk (n=1). Although some said they could have resumed driving after recovery, none did.

Three women noted that their children had suggested they stop driving, however they still felt that the final decision was theirs. For the most part, the decision to stop driving was seen as voluntary and made at the “right time” (occasionally in consultation with a spouse). As one woman said: “Statistics and all that say the older you get, the slower your reaction time is, and I didn’t want to be a statistic and cause anyone else an accident” (Af1). Another theme that emerged from multiple sessions was that giving up activities, was part of aging that decreased the necessity for a car.

Feelings expressed regarding driving cessation varied widely including sadness, upset, disappointment, relief, acceptance and resignation. As one woman said [driving was] “a responsibility I no longer had” (Af1) which was a relief. Another noted that the “decision was a little difficult because of [the lack of the] convenience” (Cf4). Most residents noted that they were now “fine” with no longer driving, although they also said that no other means of transportation was nearly as convenient as driving. Overall, this sample did not find the transition to non-driving particularly difficult. They received lots of support from family and/or could access Village services and faced the transition with “pure logic” (Dm3), “didn’t fuss about the decision” (Cf3) and “made up my mind... I was going to be happy” (Af7).

5.6 Link between Driving Cessation and Relocation

This sample had moved to the Village anywhere from 2007 to 2013. One question on the DHEQ concerned whether they stopped driving before or after they moved to the Village. As shown in **Table 5.7**, 63.2% checked that they had stopped driving after they moved to the Village, while 31.5% indicated they stopped driving before they moved, and one man literally wrote in “at the same time” (5.3%). One woman did not answer this question.

Since we did not give them the option of saying they stopped at the same time as they moved, the researcher calculated the timeframe (similar to the calculations done for the RTPS, results in **Table 5.2**), based on their answers to month/year of relocation from the BQ and month/year of cessation from the DHEQ. Answers from the 20 participants did not completely correspond to their responses to the same questions on the RTPS; year/month moved was missing for one woman.

Table 5.7 Order of Transitions

		Total (N=20)	Male (N=9)	Female (N=11)
DHEQ Categorical Quit/Move	Before	6 (31.5)	2	4
	After	12 (63.2)	6	6
	Wrote in “Same Time”	1 (5.3)	1	0
	Missing	1	0	1
Calculated Quit/Move	Before	7 (36.8)	5	2
	After	8 (42.1)	2	6
	Same	4 (21.1)	2	2
	Missing	1	0	1

Note: Values are presented as *frequencies (valid percent)*. One respondent on the DHEQ wrote in that he stopped driving at the same time as he moved even though that was not a categorical option.

Based on the calculations, 36.8% of subjects stopped driving before, 21.1% in the same month as, and 42.1% after the move. In contrast, the categorical responses make it appear that substantially more people stopped driving after they moved (63%). The residents for whom it was calculated that they stopped driving before they moved (n=7), stopped on average

3.43±1.72 (range 1 to 6) months before. Those residents for whom it was calculated they stopped after the move (n=8), stopped after an average of 27.38±13.51 (range 2 to 46) months.

In the discussions concerning driving cessation, few who had stopped driving prior to moving to the Village, made a clear connection between these two events. Most mentioned health and/or financial reasons as the primary reasons for moving to the Villages. One woman, who quit driving shortly before she moved, did note that Village services played a role in her decision to move: “I knew it was a nice place and that they had services that meant less driving was necessary” (Cf4). Across sessions and Villages, those who gave up driving after the move agreed that this would have been more difficult if they were still living in the community. An illustrative quote from one gentleman (Am1) was as follows:

“If I was living at home and gave up my car, I think it would be awful lonesome. You’d be all by yourself, nobody around. Here you’ve got... you step out your door and somebody’s gonna say *Hello, what are you up to?* If you were at home, it would just be lonesome as hell, would be real hard to give it up then”.

5.7 Current Transportation Use and Travel Patterns

5.7.1 Findings from the Questionnaire and Discussions

As mentioned in Chapter 4, the one-page Current Transportation Use Questionnaire (CTUQ) (shown in **Appendix D**) consisting of checkboxes was used to examine transportation patterns as well as rides from others. First, residents were asked to check how often they used 7 different modes of transport. As shown in **Table 5.8**, the most common mode of transport was being a passenger in a personal vehicle, which was used by 90% of the sample, typically a few times a month and for a third (6/18) on a weekly basis. The next most popular mode of transport was the Village bus (used by 80%), followed by taxis (70%), and public buses (50%).

No one reported using a motorized wheelchair however two men used a motorized scooter.

Table 5.8 Frequency and Modes of Transportation Used

Mode	Frequently (weekly or more)	Sometimes (few times a month)	Rarely (less than once a month)	Never
Passenger in vehicle	6 (30)	11 (55)	1 (5)	2 (10)
Male	4	3	0	2
Female	2	8	1	0
Public bus	1 (5)	4 (20)	5 (25)	10 (50)
Male	1	4	2	2
Female	0	0	3	8
Taxi	3 (15)	6 (30)	5 (25)	6 (30)
Male	1	3	3	2
Female	2	3	2	4
Paratransit services	2 (10.5)	4 (21.1)	1 (5.3)	12 (63.1)
Male	1	0	1	7
Female	1	4	0	5
Motorized scooter	2 (10)	0	0	18 (90)
Male	2	0	0	7
Female	0	0	0	11
Village bus	1 (5)	11 (55)	4 (20)	4 (20)
Male	0	4	3	2
Female	1	7	1	2
Motorized wheelchair	0	0	0	20 (100)

Note: Values are presented as *frequencies and row percentages*. All 20 subjects completed this checklist however one response was missed for paratransit services.

As balance confidence may be an issue with using public buses, ABC scores were compared for the 10 people who said they used public buses and the 10 who reportedly never used this mode of transport. As expected, users had significantly higher balance confidence (73.33 ± 18.50) than non-users (49.44 ± 21.02) ($t = -2.699$, $df = 18$, $p = 0.015$). A similar comparison was made for those who used and did not use the Village shuttle and no difference in balance confidence emerged. Mean ABC scores were 60.70 ± 21.69 (range 19 to 100) for those who used the shuttle and 64.11 ± 30.65 (range 29 to 99) for those who did not. Unlike public buses (which entail walking to the bus stop, possibly standing in a moving vehicle and more

independence in general), using the Village shuttle is easier and more assistance is provided.

During the discussions, taxis were described as the most convenient form of transport (next to driving oneself) as you do not have to plan very far in advance. However, the cost of using taxis was seen as prohibitive by some people, especially those who were not signed up with paratransit services (as they provide discounted cabs in addition to their large accessible bus). Even those who noted the high cost of taxi rides mentioned that it was still cheaper than owning and maintaining a car. Residents using paratransit services were very happy with the accessibility (e.g., allows for walkers and wheelchairs), although they noted that one needs to book this well in advance (at least one day ahead, often more). Accessible transportation is a high priority for this sample as 85% (n=17) report using a cane or walker outside the Village (see **Table 5.4** above). Some also mentioned during discussions that travelling by car was necessary for long distance trips, as taxis would be too expensive and buses take too long.

The second part of the CTUQ asked: “If you receive rides from others in their vehicles, please indicate who drives (check all that apply if you receive rides from more than one individual)”. All 20 participants answered this question (see **Table 5.9** below) and checked at least one box indicating who drove them.

As 85% of the sample (17/20) indicated on the BQ that they had relatives in the area (primarily daughters or sons), it was not surprising that the most common driver was a daughter (70%). This was followed by friends outside the Village (60%). Having a son drive them was also common (50%). No one had a sibling drive them and only 10% had a spouse drive. Volunteer drivers were used by 30% of this sample, more commonly than a son- or daughter-in-law, other family member, or friend in the Village. In the discussion sessions, most residents said they do not feel comfortable asking for rides from anyone other than their spouse

or children, and even then they wait until their children offer to drive them.

Table 5.9 Rides Received

	Total Sample (N=20)	Males (N=9)	Females (N=11)
Spouse	2 (10)	2	0
Son	10 (50)	3	7
Daughter	14 (70)	7	7
Son-in-law	5 (25)	2	3
Daughter-in-law	3 (15)	1	2
Adult grandchild	4 (20)	1	3
Sibling	0	0	0
Other family member	3 (15)	2	1
Friend in Village	3 (15)	1	2
Friend outside of Village	12 (60)	4	8
Volunteer drivers	6 (30)	3	3
Don't receive rides*	2 (10)	2	0

Note: Values are presented as *frequencies (valid percent)*. *The 2 men that indicated they don't receive rides did check at least one box indicating someone drove them.

5.7.2 Findings from the Travel Diaries

Actual transportation patterns were documented in real-time by participants for two weeks using the travel diaries. As previously mentioned, travel diaries were obtained for 17 of the 20 participants. They made an average of 5.35 ± 5.23 round trips (to and from the Village) over the two week period (range 0 to 18). The average maximum number of trips in any one day was 1.12 ± 0.78 (range 0 to 2). Three quarters of the residents (13/17 or 76.5%), made at least one trip over the two weeks (7.00 ± 4.93 ; range 1 to 18). However, a quarter of the sample (4/17 or 23.5%) did not make any trips outside their Village over the two weeks. This group comprised one female from HH, one male from TM, and a male and a female from WP. However, all residents in the sample had some days where they made no trips outside their Village. In the discussion or over the phone (reminder calls), the researcher verified that that if diaries were not completed for certain days, the resident in question did in fact not make any trips outside the Village. The respondents did not find the diaries burdensome as there were not

many trips over the two weeks and the diary took only a short time to complete for each trip.

The sample (17 individuals) made a total of 91 round trips outside the Village over the two week period. Different modes of transport to and from the Village (in one trip) did occur occasionally (5/91 round trips, 5.5%). To account for this, half-trips were assigned to each mode of travel. For example, if a resident took a taxi one way and returned by public bus, each mode was given 0.5 of a round trip.

Modes of travel obtained from the travel diaries of residents who made at least one trip outside the Village (N=13) are shown in **Table 5.10** below. The most frequent mode of travel was as a passenger in a private vehicle (58% of all trips; 13/13 residents used this mode at least once; mean number of trips by this mode 4.04±2.67). The next most common modes of travel were: paratransit services (11.0%); walking (9.9%); the Village bus (8.8%) and taxis (7.7%). Public buses were used infrequently (2.7%) and by only one resident, as were other modes such as scooters and church bus (2.2%). Trip purposes obtained from the travel diaries are presented later in **Section 5.8.3**.

Table 5.10 Modes of Travel Over Two Weeks (N=13)

	Mean # of Trips	S.D.	Min	Max	# who used at least once	Total # round trips (N=91)
Walking	0.69	1.70	0	6	3	9 (9.9)
Passenger	4.04	2.67	1	10	13	52.5 (57.7)
Public bus	0.19	0.69	0	2.5	1	2.5 (2.7)
Taxi	0.54	1.03	0	3	4	7 (7.7)
Village bus	0.62	0.87	0	2	5	8 (8.8)
Paratransit	0.77	1.65	0	6	5	10 (11.0)
Other	0.15	0.55	0	2	1	2 (2.2)

Note: Values are presented as *frequencies (valid percent)*, Min and max refer to the range of the lowest and highest single resident. *Example:* one resident did not make any trips outside the Village by walking, while another made 6 such trips over two weeks. Those who walked were from TM (2 men) and WP (1 woman).

5.8 Community Engagement

Several strategies were used to examine the extent to which residents who no longer

drove remained engaged or connected with the broader community. One indicator was the frequency of contact with friends and family outside the Village. Another was the number and types of activities they did outside the Village which was examined several ways: via the activity questionnaire (retrospective account for the previous month), the travel diaries (trip purposes over two weeks) and through discussions with residents. The main findings are presented below.

5.8.1 Contact with Family and Friends

The checklist on Activities Outside the Village included a section on frequency and modes of contact with family and friends in the community (results detailed in **Appendix E**). All 20 subjects provided responses except where indicated. Everyone in the sample indicated that they talked to friends and family on the phone at least once a week (n=17, 85%) or a few times a month (n=3, 15%). Of those who responded (N=18) most have family and friends visit them at the Village at least once a week (n=8, 44.4%) or a few times a month (n=9, 50%). Many also visited family and friends at their homes (n=11, 55% once a week or few times a month), or got together at a restaurant or other location (n=10, 50% once a week or few times a month). Keeping in touch by e-mail was less common. Of the 18 who answered this question, only a third (n=6) used e-mail for this purpose once a week or a few times a month. Participants were asked about changes to the size of their social network since they had moved to the Village. Nine participants (45%) reported it had stayed the same, four (20%) reported it had increased, and seven (35%) reported a decrease.

5.8.2 Activities Outside the Village

Participants were asked to report when they last left the Village for any reason; 60% (n=12) checked “in the last week”. When asked to rate how connected they felt to the outside

community (3 response options), 10% checked “very”, 60% checked “moderately”, and 30% checked “not well connected” (N=20). More than half of the participants (n=11, 55%) reported that their involvement in community-based activities had decreased since they moved to the Village. Several individuals (from different discussion groups) also mentioned a decrease in non-essential community activities following driving cessation.

As noted in Chapter 4, when they completed the GDS-5, an additional item from the longer GDS-15 was included, “Have you dropped many of your activities and interests?” Half the sample responded yes (n=10), while the other half responded no (n=10) to this question. The latter group was found to be significantly younger (84.20 ± 4.315 versus 88.70 ± 5.122); $t = -2.125$, $df = 18$, $p = 0.048$. No differences emerged regarding gender or level of care. However, respondents reported that the size of their social network (number of family/friends they have regular contact with) had stayed the same (n=9, 45%) or increased (n=4, 20%) since moving to the Village.

Membership and participation in group-based activities was also examined (detailed results can be found in **Appendix E**). As the Activities Outside the Village questionnaire was slightly modified for the shorter protocol, some residents were asked if they attended various groups in the last month while others were asked if they attended regularly. Regardless, the most popular type of group residents belonged to was religious groups (30%), although only a third of those who belonged to such groups attended activities regularly (such as bible study, choir, and not including services). The most frequently attended groups were cultural or educational (20%). Although only 5-10% said they were members of other types of groups (sports related, hobbyist, service clubs, and political parties), all attended regularly. Residents provided a retrospective account of activities engaged in in the last month (see **Table 5.11**).

The most popular activities outside the Village, according to the questionnaire results, were going to restaurants (90%), followed by shopping or errands (60%), eating at someone's house (45%) and attending religious services (40%). A community engagement score was calculated based on the types of activities reported over the last month (the first 10 items in **Table 5.11**, not trips out of province or country). The mean community engagement score (N=19) was 3.21 ± 1.96 activities over the last month (range 0 to 7, of possible 10). Unfortunately, this score does not take into account frequency of outings.

Table 5.11 Retrospective Account of Activities Outside Village in Previous Month

	Yes	No
Shopping or errands	12 (60)	8 (40)
Restaurant	18 (90)*	2 (10)
Ate at someone's house	9 (45)	11 (55)
Movie/concert/theatre	7 (35)*	13 (65)
Sporting event/casino	2 (10)*	18 (90)
Educational event	1 (5)*	19 (95)
Church, temple, synagogue	8 (40)*	12 (60)
Volunteer work in the community	2 (10.5) 6 hrs (n=1), 8 hrs (n=1)	17 (89.5)
Full day outings	4 (20)	16 (80)
Overnight trips	3 (15)	17 (85)
Trips out of province	0	20 (100)
Trips out of country	1 (5)	19 (95)

Note: Values are presented as *frequencies (valid percent)*. * All subjects who answered yes also checked that they participated with others, except for one person who attended church alone.

When asked on the checklist when they had last left the Village for any reason (options were: in the last week, last month, in the last three months or don't recall), 60% (n=12) said in the last week, while 35% (n=7) responded within the last month; only one reported in the last three months (5%). A query about how often people typically leave the Village was also posed

in the discussions. Responses varied widely with many saying they left 1 to 2 times a week, a couple noting they left the Village daily, and a few saying they only left when necessary (e.g., for appointments). The main reasons given for leaving the Village were medical appointments, shopping and meals (with friends, family or other residents). Further discussion revealed that leaving the Village was sometimes dependent on how the resident felt that day as well as the weather. In bad weather, some residents said that they would only go out if absolutely necessary (e.g. specialist appointment).

5.8.3 Two Week Snapshot of Trip Purposes

On the travel diaries, people were asked to briefly describe the purpose of each trip (or what they did on the trip) outside the Village over two weeks. Open-ended responses were categorized in order to examine the most common trip purposes. Some people did more than one thing on a given trip, which is referred to as “trip chaining” (e.g., Crizzle, 2011). For residents who made at least one trip (N=13), 54% trip chained at least once over the two week period (n=7). Of all 91 round trips taken, 15% (14/91) involved more than one destination or purpose. For instance, one person went shopping, then to dinner, then to a lecture at the library. Another attended a lecture at a university, followed by a meeting at their senior’s club, then dinner at a friend’s house. The average number of trip chains over the two week period for this subgroup (N=7) was 2.00 ± 1.16 (range 1 to 4). Residents made 2 to 4 stops (2.57 ± 0.79) on these trips.

As shown in **Table 5.12**, the greatest proportion of trips was for recreation or social reasons (44.2%), including visiting friends/family, going out for meals, attending meetings and exercise. On average, recreation or social reasons was one of the purposes for a trip 3.77 times over the two weeks. Medical appointments account for 18% and shopping for 17% of all trips.

These were followed by errands (15.3%) and religious activities (5.4%). Only 3 residents in the sample made trips for religious activities (total of 6 trips over the two weeks).

Table 5.12 Trip Purposes Over Two Weeks

	Mean	S.D.	Min	Max	# different residents who reported purpose at least once	Total # trip purposes (N=111)
Shopping	1.46	1.76	0	6	9	19 (17.1)
Errands	1.31	1.55	0	5	7	17 (15.3)
Recreation and Social	3.77	3.40	0	10	11	49 (44.2)
Religious	0.46	1.13	0	4	3	6 (5.4)
Medical	1.54	1.61	0	5	9	20 (18.0)

Note: Values are presented as *frequencies (valid percent)*. These results are based on 13 people as 3 did not return the travel diaries and 4 did not make any trips over the two weeks. Multiple purposes per one trip were considered (trip chaining). Min and Max refer to the lowest and highest number of trips in each category for a single resident. *Example:* one person did not list shopping at all, while another shopped on six different occasions over the two weeks.

5.9 Village Services

5.9.1 Use of Village Services and Activity Participation

As noted at the outset, we speculated that services and amenities offered to residents in the Village may reduce their need and/or desire to leave the Village. This section presents the findings regarding use of Village services and amenities obtained from the checklist (N=20) as well as the Village calendar activity (N=8). Further details are contained in **Appendix E**.

Based on the responses of all 20 participants, the most frequently used Village service over the last month was meals in the dining room (n=19, 95%). Those who reported eating meals in the dining room (N=19) were then asked to check whether they typically received one, two or three meals a day. Based on 17 respondents, three quarters ate three meals a day (76.5%; n=13), 17.6% (n=3) two meals, and 5.9% (n=1) one meal a day. The next most popular services used were the café (n=18, 90%), general store (n=16, 80%), salon (n=13,

65%), library (n=13, 65%), shared laundry facilities (n=7, 30%) and the spa (n=7, 30%). Over half (65%, n=13) saw the physician, while a third or more utilized the services of the nurse practitioner (n=9, 45%), kinesiologists (n=8, 40%), and physiotherapist (n=7, 35%). Services from other agencies (for example the CCAC) were used by 30% of the sample. Further descriptive information is provided in **Appendix E**.

As evident from the Village calendars, a wide variety of programs and activities are offered at all four facilities. Based on circling activities on the monthly Village calendar activity (N=8) or completing the shortened activity checklist (N=12), results which are fully detailed in **Appendix E**, the types of programs/activities engaged in most by the sample were: music, theatre, or movies (80%); followed by physical activities or classes (65%); games (such as bridge, bingo, shuffleboard) or computer classes (55%); religious services (50%); special events outside the Village arranged by staff, such as dining out at restaurants, mall walks, visits to parks (35%); and arts and crafts (15%). The majority of residents rated their sense of belonging to the Village community as either strong (55%, n=11) or very strong (40%, n=8).

Using their responses to the calendar or questionnaire, a total physical activity frequency score was calculated based on number of times per week residents reported activity. The mean physical activity score was 1.35 ± 1.27 (0 to 4). No significant correlations emerged with GDS, ABC or VPS scores (the VPS was only completed by 8 people). Although previous studies have found ABC scores (Myers et al., 1998) and VPS scores (Myers et al., 1999) are associated with level of physical activity in seniors, this sample had a low level of activity and a limited range. The lack of variability in both activity scores and GDS-5 scores also must be considered. Similarly no significant relationships emerged between the physical activity score, # of trips outside the Village (from the travel diaries) or the community engagement score.

Those who participated in more community trips and activities over the last month did not participate in more physical activity classes in the Village.

5.9.2 Feedback on Village Transportation Options

During the discussions, residents were asked for their impressions of available transportation services at the Village (particularly the bus) and related information provided to residents (via orientation packages and committees), as well as suggestions on how the Villages might better support resident transportation needs. Specifically, suggestions were solicited concerning the Village bus, transportation information provided to residents, as well as the possible transportation clubs or ride-sharing programs.

Village Bus:

Residents generally found the Village bus a convenient mode of transportation that was widely used by residents, although one man (Bm9) stated that the time constraints and control surrounding the use of the bus made it unappealing to him. Suggestions for improvements to the Village bus included:

- more cultural outings to shows, museums and art galleries (especially at HH)
- adding a second bus or trip for popular excursions (if many people sign up)
- giving married couples preference to sign up together (since some Villages use a lottery system to sign up which does not address married couples' needs)
- improving the comfort of the bus (especially at HH)
- clarifying the process on how to sign up (e.g., by posting information with the activity calendars, as well as electronically on the monitors)
- addressing the issue of residents who sign up but do not show up for trips

Another idea that emerged was to have a Village owned and operated vehicle (the Village bus or possibly a smaller vehicle) take residents to or from medical appointments. Some residents mentioned they were willing to pay a fee for this service. It seems that paratransit services do a good job of getting residents to appointments but that long wait times are the norm for return trips.

Orientation Information:

We were informed that only two of the Villages (WP and TM) have a formal welcoming committee for new residents, although one floor at HH has a resident ambassador to greet new residents. There are no such provisions at RG according to the one resident in our sample from this Village. When hearing about the other Villages, residents from HH and RG thought that the idea of a similar committee should be brought forward at their Resident's Council Meeting to see if there was interest from the residents.

Suggestions on how to improve current committees or organize new committees included:

- having marketing staff assign new residents to committee members
- having committee members:
 - take new residents to an event (remind them that events are free and they don't need an invitation)
 - ensure that new residents know where to sit at dinner
 - remind new residents of their orientation package
 - ask new residents if they have any questions
 - explain the Village calendar and how to sign up for Village bus, and
 - provide new residents with information on transportation options.

In TM, residents themselves had developed a package of transportation information for residents, which includes: public bus routes, volunteer driving services, paratransit services and taxi discounts. These packages are available in the Village office. Participants from TM suggested that their Village should organize presentations on these services (especially how to sign up for paratransit), which could be discussed at the Resident Council Meetings to see if there is any interest.

Possibility of a Transportation Club:

One idea the researcher explored with participants was the idea of a transportation or ride-sharing club. There was not much support for this in our sample due to the following: staff are overworked and shouldn't be expected to help with this; it may not be needed as most

residents have family living nearby and can ask them for rides (or use other forms of transportation); and residents may not be able to plan enough in advance for this to work (particularly as people may decide not to go out depending on weather and how they feel).

Chapter 6: Discussion

6.1 Introduction

To the best of our knowledge, only two prior studies in the United States have looked at driving and transportation use in retirement living seniors. Although our sample size was small (N=20) relative to the Persson's (1993) focus group study (N=56), and Choi et al.'s (2012a) interview study (N=636), this study went considerably deeper into the exploration of driving cessation, in conjunction with relocation, transportation patterns and community engagement

Although there are several limitations, as discussed below, one of the strengths was the mixed-methods approach, which comprised two Village-wide surveys, as well as the in-depth study. The in-depth examination involved a combination of scales, questionnaires, checklists, real-time travel diaries as well as discussion groups. Additionally, the sample was purposefully selected as having stopped driving recently (previous 2 years). Time of driving cessation has varied widely in prior studies. For instance, in Liddle et al.'s study, cessation varied from 2 months to 5 years. In Persson's (1993) study, the criteria was driving cessation within the past 5 years. This chapter begins with a discussion of the main study challenges and limitations, although other limitations are noted throughout. The primary findings are then discussed with respect to each of the primary study objectives. The final sections present implications for the Villages, overall conclusions and directions for further research.

6.2 Challenges and Limitations

6.2.1 Procedural Challenges

Not surprisingly, as we were breaking new ground and working with four different retirement Villages there were a number of challenges. For instance, although we hoped to pilot test some of the new instruments (such as the travel diaries) and scripts to estimate the

time for completion and obtain resident feedback, the RIA did not want to overburden residents. Consequently, we had to revise the protocol part way through the study requiring further ethics approval and making it challenging to combine results using different protocols.

The major challenge, however, was recruitment. Over a span of four months, only 8 residents had completed the in-depth study. This can be attributed to several factors, most of which were beyond our control. Busy resident schedules and multiple ongoing research projects likely contributed to the low participant rates of residents. RIA policy does not permit incentives for research participation, nor was there funding; however, incentives may have increased participation rates. While the desire to fully inform residents is needed, the information package (9 pages in total, including a 5 page letter) may have been overwhelming or not read by many people. The complicated process for recruiting significant others likely contributed to the fact that permission was obtained from only one resident to receive another package of information to then give to their significant other.

Once residents agreed to participate, there were difficulties scheduling the sessions. For instance, we were not able to schedule any sessions in mid to late December. Larger discussion groups were desired, but constraints on resident availability and room bookings made it impossible to have more than a few residents in each group. And not all who initially agreed to participate (especially those recruited at the booth or door to door) showed up for the session, despite reminders.

Due to various delays, data for the in-depth study was collected during the late fall and winter. This limits our knowledge of resident travel patterns (based on data collected from travel diaries) to a snapshot of two weeks of winter conditions. We can only speculate on whether residents tend to make more trips outside the Village during other times of the year.

Another challenge was limited funding for this project, as a grant application by Myers and Crizzle was unsuccessful. While the RIA graciously paid for printing of study materials as well as student SPSS licenses and mileage for travel to the Villages, there were no funds to pay professional transcribers. It was hoped that the Dragon software purchased with the digital recorder would provide at least a basic transcription; however, it was not suitable for multiple speakers. As a result, considerable time was spent creating abridged transcripts for each discussion session. As yet it has not been possible to have the qualitative findings independently verified by a second researcher, although this will be done before publication.

Many of the above challenges taken together resulted in a small sample size for the in-depth study (N=20), which in turn impacted on sample representativeness, as discussed below. Other study limitations (such as recall bias and lack of objective functional measures) are noted throughout the remainder of the discussion.

6.2.2 Sample Size and Representativeness

The small sample size limited statistical analyses and precluded comparisons such as the travel patterns and modes of transportation used by residents from the different Villages. Such comparisons would have been especially interesting, as Villages are located in different settings. As described in Chapter 3, all Villages have nearby covered bus shelters, however only two (WP and TM) have shops within a reasonable walking distance.

As the SVs do not routinely collect resident information on driving status, there is no basis of facility-wide comparison. Fortunately, the results of the RTPS provided a basis for examining representativeness of the in-depth study sample. Generally, the 20 residents who participated in the in-depth study were comparable to those who were eligible but chose not to participate further (N=97) with respect to age, gender distribution and timing of driving

cessation relative to relocation. Although level of care was not significantly different, it is noteworthy that none of the participants in the in-depth study received assisted care which suggests they may be more independent or have higher functional abilities. Unfortunately, cognition and other objective indicators of functional status (such as balance, walk speed, vision) were not assessed.

Significantly more study participants reportedly used the Village shuttle and other modes of transportation. It is certainly possible that residents struggling with transportation issues may have been less likely to complete the RTPS or participate in the in-depth study. Additionally, those who volunteered may not have found driving cessation to be particularly traumatic or were more likely to have adjusted to driving cessation and relocation, as evidenced by their overall feelings of acceptance or resignation.

In any case, the generalizability of the present findings is limited to similar retirement populations. Similar populations include for-profit higher scale retirement homes in urban/suburban locations in Southern Ontario that cater to relatively affluent and educated older adults (who are primarily Caucasian and English-speaking) and that offer similar services, including Village shuttle buses and extensive programs for residents.

6.3 Findings on Driving Cessation

The process of driving cessation often begins with reduced driving and other self-imposed restrictions (e.g., Dellinger et al., 2001; Dickerson et al., 2007; Gwyther & Holland, 2012) due to health declines and/or personal preferences (Donorfio et al., 2009). While there was a sense that some of our participants drove less often before they stopped, no one commented on whether they had restricted their driving in other ways (e.g., avoided highways or night driving). Although retrospective reports are subject to recall bias, it was interesting

that the male residents rated their driving comfort level in the year before they stopped driving, higher than the female residents. This is consistent with gender differences found in previous studies with community older drivers. Both genders, but particularly females, were much less comfortable driving in bad weather (during the day) and at night (even in good weather). Responses to this latter item (Item 1 on the DCS-Night Scale) are a good indicator of people who are thinking about driving cessation (Myers et al., 2008). Comparatively, our sample scored much lower on this item than community samples of drivers in their late 70's and 80's (Blanchard & Myers, 2010; Myers et al., 2011b).

Several studies indicate that not many older drivers plan ahead for driving cessation (e.g., Dickerson et al., 2007; Harrison & Ragland, 1993). Mixed findings emerged from the questionnaire and the discussions in the present study. Some residents mentioned they had discussed this issue with family (spouse and/or children) and others were already using alternative modes of transport before they quit driving.

Reasons for driving cessation varied, although results are generally consistent with previous studies on community seniors. In the initial driving survey (2011), the most common reasons given for driving cessation were health-related. Specific medical conditions (n=40) and/or decreased mobility (n=6) constituted 36% of the responses (n=53), age and general health declines 26% (n=33), knowing when to quit (discomfort or stresses of driving) 20% (n=26), influence from family 9% (n=11) and accidents or fear of accidents 3% (n=4). Additional reasons that emerged from this survey were car troubles and costs (n=6, 5%) and the Ontario senior renewal driving test (n=5, 4%). Adding support to Liddle et al.'s (2008) findings concerning relocation as a reason for cessation, six former drivers (5%) in the initial survey actually wrote in "moving to the Village" or "moving here" as their reason for

cessation. In the discussions with the 20 former drivers, reasons for driving cessation which were mentioned included: medical conditions, deteriorating health, pressure and/or encouragement from family, having a spouse drive them, not wanting to be in an accident, and not being comfortable driving on busy city streets anymore.

Discussions also revealed that some people felt immediately relieved when they stopped driving, while most of the others had since come to terms with no longer driving, even if they were still unhappy about the way in which this occurred (e.g., sudden onset of medical problems like strokes or revocation of license). Although this sample stopped driving relatively recently (one person in the previous two months), recall bias must still be considered. As noted in the review by Harrison & Ragland (2003), “former drivers learn to accept driving cessation and alter their perception of the event over time.” (p. 1843). Part of the adjustment process is taking ownership of one’s decision, which often enhances perceived control through cognitive reappraisal (Liddle et al., 2008).

6.4 Current Transportation Patterns and Needs

6.4.1 Comparison with Studies on Community Seniors

As age increases, the primary mode of transportation for community seniors who do not drive is being a passenger in a private vehicle. Turcotte (2012) found that about half of Canadians aged 85 and over relied on informal transport from family and friends. This was also the case in the present study; over 90% of the former drivers reported receiving rides from others and this was their most common form of transport. The travel diaries showed that the average number of trips over the two-week period was 4.04 ± 2.67 (range 0 to 18).

Use of public transportation among community seniors is fairly low, even in urban centres (e.g., Dahan-Oliel et al., 2010; Dickerson et al., 2007; Turcotte, 2012). Only half our

sample used public buses, at least occasionally, and those who did had significantly higher balance confidence (ABC) scores. While taxis are often seen as too expensive by community-surveyed seniors (Johnson, 1999), as noted by our sample, taxis are cheaper than driving. This belief was backed up by 45% (n=9 of 20) of respondents who said that they frequently or occasionally use a taxi; 31% of the travel diary entries also indicated use of taxis over the two-week period (on average for 0.54 ± 1.0 trips; range 0 to 3). About a third of the sample (37%) also reported using paratransit; consistent with findings from the travel diaries (30% used at least one over the two weeks (on average for 0.77 ± 1.65 trips (range 0 to 6).

6.4.2 Comparison with Studies on Retirement Seniors

The Florida Retirement Study collected longitudinal data on a large sample of older adults living in independent non-institutional housing in three retirement communities (Choi et al., 2012a). It is important to note that the data is 20 years old and questions on driving and transportation were administered only in the later waves, when the sample had lived in the retirement communities for many years (11 years on average). Nevertheless, this study and the one by Persson (1993) are our only base of comparison. Choi et al. (2012a) found that family and friends provided transportation support to 71% of former drivers in their study. In the current study, at least one trip as a passenger in a private vehicle was taken by 13 of the 17 participants (76%) who completed the travel diaries, a strikingly similar number to that reported by Choi et al. (2012a). Additionally, Choi et al. (2012a) found that transportation support specifically from friends (as opposed to family) was related to an increased likelihood of driving cessation. Discussions with our sample revealed that most were not comfortable asking others for rides and in most instances, waited for friends and family to offer them a ride. Compared to the number of participants that had family drive them, only a few had friends

drive them, and most of these drivers lived outside the Village.

According to the authors of the Florida Retirement study, ride-sharing among peers may play an important role in meeting the transportation needs of seniors, especially for those in large retirement communities where people live independently in their own homes. Ride-sharing with other residents was done by only one participant in our study. She received rides from only one friend and did so only to buy food for meals that they prepared together. Overall, organized ride-sharing was not viewed as desirable by the sample due to potential liability (especially if compensation was given for gas) and the ongoing problem of cancellations (either for weather or because of someone was not feeling well).

Results from Persson's study (1993) showed that about 20% of former drivers said they used the CCRC's van; more often they received rides from friends (30%) or family (26%). Comparatively, a much larger proportion of our sample (80%, 16 of 20) reportedly used the Village bus.

6.5 Relationship between Transitions

The Florida Retirement Study was not able to assess seniors who had recently relocated to retirement housing, nor could they examine associations between transitions in housing and driving status. However, in Persson's (1993) sample of retirement residents, several mentioned that they had stopped driving and moved to the retirement community because of the transportation provided. As noted earlier, in the initial survey, six former drivers specifically wrote in moving to the Village as their reason for driving cessation. Krout et al. (2002) noted that "inability to get around" was one of the reasons reported for relocation to retirement facilities. Similarly, some of our residents (particularly those who stopped driving before or at the same time they moved into the Village) mentioned transportation services influenced their

decision to come to the Village. For those who stopped driving after relocation, meanwhile, transportation availability was seen as one of several contributing factors that led to decision to stop driving. Another theme that emerged in the discussions was that the vast array of services provided by the Village meant driving became less necessary.

To the best of the researchers' knowledge, this study is the first to examine the link between these transitions. The in-depth study participants that stopped driving before they moved (36.8%, n=7), stopped on average 3.43 ± 1.72 (range 1 to 6) months before and the residents that stopped after the move (42.1%, n=8), stopped after an average of 27.38 ± 13.51 (range 2 to 46) months. Only 21.1% stopped driving during the same month as the move. For over half the RTPS sample of former drivers (55%), driving cessation and relocation occurred within 12 months. Nearly 57% of the sample had stopped driving prior to relocation (average two years), while 25% had stopped after relocation (average 18 months). For 18%, these transitions took place in the same month. The quantitative data suggests a relationship between driving cessation and relocation. However, in the discussions, few residents made a clear connection between the decision to stop driving and the decision to relocate. Other life circumstances (finances and health) were the predominant reasons given for moving.

6.6 Mobility, Well-being and Activity Levels

6.6.1 Mobility

Although 79% rated their health as excellent or good, many had mobility limitations which would be expected due to their age and the fact that they have chosen to live in one of the Villages. Approximately 80% reported using an assistive device (cane or walker) inside the Village, and 85% outside the Village. Very few did not bring an assistive device (commonly walkers) or scooter to the sessions. About 60% said they could walk a $\frac{1}{4}$ mile, although many

noted they would require their walker. Nine residents (45%) reported falling in the last year, of whom almost half fell more than once, a third was injured, and two thirds had difficulty getting up after the fall. The average score on the ABC scale was 61.38 ± 22.84 , falling within the bounds of a moderate level of functioning (score of 50 to 80) characteristic of older adults living in retirement homes (Myers et al., 1998).

6.6.2 Well-being

For many seniors, driving symbolizes independence and freedom and provides a sense of identity and self-worth (e.g., Dickerson et al., 2007). As noted by Fonda et al. (2001), depression is not a given outcome of driving cessation as people can find ways to compensate, such as finding other means to get to their destination. In a longitudinal study, Windsor et al. (2007) found that perceived control mitigated against depressive symptoms in seniors who had stopped driving. For the most part, our sample felt that they had control over the decision to stop driving, and stopped “at right time”, which might explain the low rate of depressive symptomology (according to scores on the GDS-5).

Only two residents, approximately 10% of our sample (N=18), qualified as showing depressive symptoms on the GDS-5. Reported participation in Village physical activities did not influence these scores. However, low rates of depression in this sample could also be explained by the fact they remained connected to family and friends and engaged both in the Village and outside the Village. Comparison between current and former drivers in the retirement Village will be necessary since the studies with community living FDs report only the mean score of the CES-D and do not provide percentages of who qualify as depressed.

Research shows that those who voluntarily relinquish their license may later regret their decision, reporting loss of identity and freedom, loneliness, social isolation and dependence on

family members or friends for transportation (e.g., Rudman et al., 2006; Johnson, 1999). It was mentioned by some that they thought giving up driving while at their previous residence in the community would have left them lonely and isolated, but life in the Village mitigated this.

6.6.3 Activity Levels

Convenient, accessible and affordable transportation is essential for community living seniors not only for instrumental activities of daily living, but also for discretionary activities such as social, leisure and recreational pursuits. Together, these activities are referred to as “community engagement”. Jenkins et al. (2002) found that residents of retirement homes who participated in more discretionary activities (including various types of socializing and recreation) had higher health-related quality of life scores. While we were unable to measure quality of life in this study, participants were very active in Village life. The vast array of amenities and services in the Village may lessen the need to go into the community as often.

Research with community living seniors found that social interaction with friends was negatively impacted by driving cessation, although family social interaction was not affected (Mezuk & Rebok, 2008). The majority of our sample had family living nearby (85%, n=17). Many were visited by family or friends at the Village at least once a week (44.4%) or a few times a month (50%). Residents also visited friends and family at their homes (55% once a week or few times a month) or at a restaurant (50% once a week or few times a month). Although 55% said their community activities had decreased since moving to the Village (especially non-essential activities, based on the discussions), they still took part in community activities in the previous month (on average about three per month).

6.7 Implications for Schlegel Villages

Research conducted with the Schlegel Villages through the RIA is done with the

objective of improving services and ultimately resident quality of life. The RTPS, together with the in-depth study has provided useful information on transportation use by residents which previously has not been available. The residents themselves offered a number of suggestions for improving the Village shuttle service. It would be useful for the RIA to examine the usage rates of the shuttle in each Village (including number of no shows) with respect to various events and consider offering more trips for popular events. Our sample felt strongly about trying to arrange a Village service for medical appointments. Only one Village (Taunton Mills) appears to have a transportation information package; however the onus is on the residents themselves to pick this up from the main office. Such packages should be developed for each Village and given to all new residents; with periodic updates as required for their area. Transportation should be put on the agenda of Resident Council Meetings, with occasional presentations (e.g., from deliverers of paratransit services in their community). Presentations to senior groups on how to use public buses have proven successful in other communities such as Victoria, BC. These suggestions provide only a starting point. Although our sample did not see a need for ride-sharing, other residents might (such as those still driving). Car-pooling by family drivers might be also be desirable, however this requires further investigation.

6.8 Conclusions

The quantitative data (time of move to the Village and driving cessation) suggests that there may be a temporal association between these transitions, although the residents themselves did not make this connection in the discussion groups. A possible explanation is that other factors (particularly declining health) are seen as more predominant. Declining health affects not only the ability to drive but more broadly the ability to maintain one's home and ADL in general.

The residents who volunteered for this study appeared to have come to terms with driving cessation and do not appear to suffer the adverse effects (depression, activity restrictions, social isolation) often found in community studies. It is certainly possible that Village life may act as buffer, making it easier for people to adjust to this transition. Despite advanced age and mobility restrictions (85% used a walker outdoors); these individuals remained connected to the outside community. They also take advantage of the services and amenities in their Village which may reduce their need for travel outside the Village. They do not appear to have unmet transportation needs, given that most had relatives in the area or friends to drive them when needed. Consistent with prior studies, however, they prefer not to bother others by asking for rides. Seniors who can afford to live in upscale retirement homes may not suffer the adverse effects of driving cessation found in community seniors. Seniors who are less affluent (whether living in the community or retirement residences) are less able to afford taxis or other forms of transportation.

Findings from the resident transportation patterns survey (RTPS) once fully analyzed by driving status (n =399) will provide an interesting basis of comparison with Turcotte's (2012) extensive profile of Canadian seniors of advanced age living in the community. An in-depth study on residents who are still driving is underway and further studies being considered include examination of facility-wide data on fall incidents, follow-ups of current drivers and possibly a prospective study on applicants to the Villages.

As this is the first study to examine transportation use by Canadian seniors living in retirement homes, clearly more investigation is needed. Additional research is needed to replicate and extend the findings of this exploratory study with retirement residents. Future studies should also consider using travel diaries to gather real-time data on travel patterns.

Studies are also needed on seniors living in other types of retirement homes which do not offer as many services (including shuttle buses or vans) for residents.

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Appendix A: Background Information

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CONTINUUM OF SENIORS LIVING AND HEALTH CARE



Independent Living Apartments	Seniors Independent Retirement Apartments with Supports	Retirement Home	Intermediate Supportive Care	Intermediate Assisted Care	Long-Term Care
<p>Urban design features that facilitate independence and "neighbour helping neighbour"</p> <p>Home adaptations</p> <p>Access to all recreation activities, amenities entertainment events, wellness services to extend "aging in place"</p>	<p>Access to all recreation activities, amenities entertainment events, wellness services to extend "aging in place"</p> <p>Supports based on client need and choice:</p> <p>Housekeeping, laundry, light maintenance</p> <p>1 meal daily</p> <p>24-hour emergency nurse call</p> <p>Health Care Concierge Service</p> <p>Wellness assessment</p> <p>Chaplaincy</p>	<p>Housekeeping, linens, meals</p> <p>Access to recreation, entertainment, amenities</p> <p>plus</p> <p>Medication administration</p> <p>Regular daily nursing and personal care (30 - 45 min per day on average)</p> <p>Functional Abilities Program</p>	<p>Retirement Home services</p> <p>plus</p> <p>Additional supports for those with early memory loss:</p> <p>Additional security</p> <p>Supervision</p> <p>Regular daily nursing and personal care (1.7 hr per day on average)</p>	<p>Retirement Home Services</p> <p>plus</p> <p>Additional supports for cognitively alert seniors with physical limitations:</p> <p>Assistance with washing, dressing, transfers, continence care</p> <p>Regular daily nursing and personal care (1.7 hr per day on average)</p>	<p>Heavier care regulated and funded by MOHLTC</p> <p>32 bed Resident Home Areas with subcare populations</p> <p>Dementia Care Continuum</p> <p>Special Needs</p> <p>Transition Care from Hospitals</p>
AVAILABLE IN:	AVAILABLE IN:	AVAILABLE IN:	AVAILABLE IN:	AVAILABLE IN:	AVAILABLE IN:
Etobicoke Kitchener Whitby	Etobicoke Kitchener Whitby	Etobicoke Guelph Kitchener Whitby	Etobicoke Guelph Kitchener	Etobicoke Guelph Kitchener Whitby	All locations

SURVEY OF RESIDENT DRIVING STATUS

Dear Residents:

One of the priorities of the Schlegel Villages is fostering the mobility and continued independence of all residents by providing services such as parking spaces for those who still drive, as well as alternative modes of transportation such as the Villages shuttles.

To better meet the needs of our residents and plan for the future (such as the number of parking spaces that we will need), it is important for us to know how many residents are still driving. We hope you will assist us by completing the questions on the back of this page. It should only take a few minutes. If you have any difficulty reading the form, please ask one of our staff to assist.

All information provided will be kept completely confidential. This information will be summarized across individuals to provide a basic profile of the driving status of our residents in each Village as well as across all of the Schlegel Villages.

The only reason we are asking you to put your name on the form is that we may wish to contact you about the possibility of participating in an upcoming study we are planning with researchers from the University of Waterloo. The study will look at how transportation preferences, patterns and needs of older adults change as they move from the community to retirement living. Keep in mind that participation in such studies is totally voluntary. Information will be provided on the details of the study, likely sometime this fall, and at that time you can choose whether or not you wish to participate.

Thank you very much in advance for completing the questions on the back of this form. We really appreciate your ongoing support.

If you have any questions about this project, please contact Susan Brown (Research Coordinator) at the Schlegel-UW Research Institute for Aging, either by phone (519.571.1873 ext. 129) or by email (sgbrown@uwaterloo.ca).

Once you have answered the questions, please return this sheet to the retirement home main office by Friday, August 12, 2011.

GENERAL INFORMATION

Name: _____ Date: _____ Room: _____

Age: _____ Gender: F M

Which Schlegel Village do you live in? Humber Heights Riverside Glen Taunton Mills Winston Park

Do you live in a: condo apartment room

Do you live: alone with spouse or partner with a family member

Are you currently: married widowed single divorced

What year did you move here? _____

Where did you live before? _____ (Name of city, town or village)

DRIVING INFORMATION

1. Do you currently drive? Yes No

2. Do you have a valid driver's license? Yes No

3. Do you have a car? Yes No

a. Do you have a parking spot at this Village? Yes No

If you do NOT currently drive, please answer the following:

4. Did you used to drive? Yes No (I have never driven)

a. If yes, when did you stop driving? _____ (year)

5. What are the main reasons you stopped driving?

Thank you for completing this form.
Please return it to the RETIREMENT HOME MAIN OFFICE by:
Friday, August 12, 2011

Appendix B: Recruitment Materials

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**Note:* Slight changes to the consent form were made to reflect a single discussion in the study protocol. Deletions are shaded.

Study Timeline and Milestones

July 12, 2012- Thesis proposal defence

July/August 2012 – Creation of the RTPS with review and approval by the RIA

September 2012 – Development of study materials and review by the RIA

October 9th 2012 – ORE Approval of study materials, including information packages

October 2012 – Transferring materials onto RIA templates and letterhead

October 17th 2012 – RTPSs sent out to all Villages (delivered to residents by late October)

October 24th / 26th 2012 – Presentations to HH and RG

November 5th 2012 – Return date for RTPSs requested in cover letter

November 9th 2012 – Information Packages distributed to designated resident mailboxes

November 14th / 15th 2012 – Presentations to WP and TM

November 20, 2012 to January, 29 2013 – Data collection using the original protocol

December 2012 – Decision made to change protocol and recruitment strategy

December 21st 2012 – ORE approval of modifications (Form 104)

January 30th 2013 – Recruitment Booth and Door-to-door Pitch at WP

February 4th 2013 to March 5th 2013 – Data collection using the revised protocol

February 21st 2013 – Recruitment Booth and Door-to-door Pitch at TM

Resident Transportation Patterns Survey

This survey is meant for you! Retirement living residents from the Villages are being asked to complete this survey to help the RIA and Schlegel Villages better understand the transportation needs of all residents.

Dear Residents:

Based on a survey last year, we learned that:

70% of retirement living residents across the Schlegel Villages do not drive themselves and therefore must rely on other sources of transportation.

As a result, we need your help to determine the types of transportation used so we can provide you with the support required. By completing the survey and returning it to the main office, you are giving your consent for your answers to be included in a database with responses from multiple Village residents. This database will serve two purposes. First, the information will be used to better understand the transportation needs of our residents. Secondly, the results will be used by the RIA to identify individuals who may be eligible for more in-depth studies on transportation use to be conducted by researchers from the University of Waterloo.

Survey results will not include any personal identifiers such as names. Only the RIA will have the files of names and corresponding, confidential identifying numbers in order to distribute further study information. The researchers and Village staff will not know who completes this survey. The decision to complete the survey will in no way impact the care you receive from the Village. Nor does it commit you to any further study participation.

Stay tuned for details on an upcoming information session to learn more about mobility and transportation research with older adults in general, as well as the significance of the studies being done at the Villages. If you have any questions about this project, please contact Kaylen Pfisterer (Assistant Research Coordinator) at the Schlegel-UW Research Institute for Aging, either by phone (519.571.1873 ext. 109) or by email (kpfister@uwaterloo.ca).

**Please complete this short survey and return it to the main office by
XXXXXXXXXX in the envelope provided.**

Resident Transportation Patterns Survey

This survey is meant for you! By completing this survey you will help the RIA and the Schlegel Villages to better understand the transportation needs of all retirement living residents.

SECTION 1: To be completed by ALL residents

1. Room # _____

2. Gender? Female
 Male

3. When is your birthday (dd/mm/yyyy)? ____/____/____

4. Which Village are you from?

Winston Park Riverside Glen Humber Heights Taunton Mills

5. When did you move to this Village (if you recall)?

Year: _____ Month: _____

6. Where did you live before moving to the Village? (Name of city, town or village)

7. Do you participate in outings that use the Village's bus? YES NO

If Yes, approximately how often?

less than once a month
 about once a month
 more than once a month

8. Do you get rides from other people? YES NO

If YES, who drives you the **most**?

spouse friend
 child volunteer
 other relative

How often do they drive you?

times per week: _____

OR

times per month: _____

Do they live in the Village?

YES NO

Please continue on next page...

9. Do you use any of the following forms of transportation? (check all that apply)

public buses taxis paratransit services motorized scooter

10. Do you currently drive?

YES

NO

If YES, please complete Section 2.

If NO, please complete Section 3.

SECTION 2: To be completed only by residents who CURRENTLY drive.

11. How many days a week do you usually drive?

5 days or more

3 to 4 days

1 to 2 days

Less than once a week

12. Do you have a car?

YES

NO

If Yes, where do you keep it?

At the Village

Elsewhere

SECTION 3: To be completed only by residents who do NOT currently drive.

13. Did you used to drive?

YES

NO, I have never driven

If YES, **when** did you stop driving (if you recall)?

Year: _____

Month: _____

Did you stop driving:

Before you moved to the Village?

After you moved to the Village?

At the same time you moved to the Village?

Do you still have a **valid** driver's license?

YES

NO

**Thank you for completing this short survey.
Please return it to the main office by XXXXXXXXXXXX in the envelope
provided.**

RESIDENT TRANSPORTATION STUDY - Former Drivers

Schlegel-UW Research Institute for Aging
INFORMATION LETTER
Schlegel Villages

Primary Investigators:

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.....
You are being invited to participate in a research study. To decide whether or not you want to participate, you should be aware of what is involved. This letter gives detailed information about the study.

Please take your time to make your decision.

If you have any questions about this process, please do not hesitate to contact:

Kaylen Pfisterer

Assistant Research Coordinator
Schlegel-UW Research Institute for Aging
325 Max Becker Drive, Suite 202
Kitchener, ON, N2E 4H5
519.571.1873 ext. 109 - kpfisterer@uwaterloo.ca

A NOTE FROM COURTNEY

My name is Courtney Janssen and I am a graduate student at the University of Waterloo. You may recall that a survey on transportation patterns was recently distributed to all Village residents. The survey provided a valuable, general profile of driving and transportation patterns in four villages and helped us identify residents who are eligible to participate in further studies. For my Master's thesis, described below, I am trying to learn more about the travel and activity patterns of seniors aged 65 and over living in retirement villages who have recently stopped driving (within the last two years). Additionally we want to examine different ways in which people have adjusted to no longer driving and possible impacts on well-being. Another study will look at retirement living seniors who are still driving.

SIGNIFICANCE OF THE WORK AND THE NEED FOR THE STUDIES

The Schlegel Villages are committed to assisting their residents. You and others who participate in this study will have the opportunity to provide feedback on available transportation services (example, the Village bus, proximity to public bus stops) as well as suggestions for additional programs and services (for instance transportation clubs, ridesharing and support for people who have recently stop driving or are thinking about quitting). Your input is important in helping the Villages plan to better meet the needs of all residents. From a research perspective, this will be the first study on transportation use of older adults living in retirement facilities, as opposed to the general community. We believe that where people live may have a significant influence on their transportation patterns and needs and this study will allow us to examine such factors.

WHO IS ELIGIBLE TO PARTICIPATE IN THE STUDY

This project is open to anyone age 65 and over who lives in an apartment/condo or on the main floor retirement (including assisted care) and has stopped driving in the past 2 years.

The appropriate Village team members have met with the research team to discuss this project in general and to discuss resident eligibility and we'd like to invite you to take part in this study. Once you have read the information below we would appreciate it if you complete the attached form indicating whether or not you are interested in taking part in this study.

ARE THERE ANY RISKS ASSOCIATED WITH MY PARTICIPATION?

There are no potential risks associated with participation in this study.

WHAT WILL I BE ASKED TO DO?

The total time commitment for this project is approximately 4 hours over two weeks, but your input is very valuable! The information will be used to help improve services throughout the Villages and in other residences like this.

If you choose to be involved you will be asked to:

1. Enjoy some refreshments and engage in a small group session (approximately 90 minutes long) with 5 to 7 other residents where you will be invited to:
 - Complete two questionnaires on background information and driving history as well as three short scales on mood, balance confidence and general well-being.
 - Participate in a discussion concerning circumstances and events influencing the decision to stop driving, experiences and feelings associated with this decision and ways different people adjust to this transition, as well as how the Villages can support people in this process.
 - Learn how to complete the travel diaries designed specifically for this study.
2. Over the next two weeks, participants will be asked to complete these travel diaries which should only take about 5 minutes each day and to bring these to the next session.
3. About two weeks later we will reconvene the group for a follow-up session (90 minutes long) and again, refreshments will be provided. At this session, participants will be asked to:
 - Complete a few short questionnaires and checklists on: transportation use, Village services and amenities, participation in Village activities, as well as activities outside the Village.
 - Provide feedback on the travel diaries and discuss these diaries and transportation services and needs as a group. We are very interested in your views on the availability and suitability of public transportation services in your community. We also want to know your thoughts on additional services the Villages could provide (e.g., ridesharing programs).

OPPORTUNITY FOR FAMILY AND FRIENDS

If you have a family member or friend that often provides you with rides, we would also be interested in asking them if they would be willing to participate in a discussion group to get their perspective on the transportation needs of older adults who no longer drive and their

own experiences in providing rides. This discussion group for family and friends would last approximately 90 minutes. If you have a family member or friend that you believe may be interested in this opportunity please indicate this on the attached form. You will then receive an information package that you can pass along to the person who drives you.. We are also advertising this opportunity in the Village Newsletter and through the Family Council. Their decision whether or not to participate in the study will in no way affect whether you personally participate in the study.

Although family and friends will share their experiences, they will be instructed to refer to residents only in terms of their relationship (e.g., “my husband”, “my mother”, “my friend”). Specific names of residents will not be used in group discussions to protect confidentiality. Nonetheless, it is possible that some of group members may know one another as well as the residents to whom they are referring. Thus, all groups will be advised not to disclose personal information shared outside of the discussion session.

WHAT ARE THE POTENTIAL BENEFITS ASSOCIATED WITH MY PARTICIPATION?

Participants will have an opportunity to provide feedback on existing services and programs, and make suggestions for additional services to better meet the needs of all residents.

WHAT HAPPENS IF I WANT TO WITHDRAW FROM THE STUDY?

You decide which aspects of the study you want to do (e.g. completing questionnaires, checklists, travel diaries) as well as how much you want to share in the small group discussions. We encourage you to participate in all the study components if possible so that we can get a complete and accurate picture of your experiences and needs as well as those of other residents.

If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You can request that your results be removed from the study. You may also refuse to answer any questions and still continue in the study. A decision to participate or withdraw will have no effect on the care or services you receive from the Village.

WHAT PROCEDURES ARE IN PLACE TO ENSURE CONFIDENTIALITY?

All of the information you provide (on questionnaires, diaries or in the discussions) will be kept completely confidential. Names will not be used in Courtney’s thesis or in any reports or publications based on this study. Instead, data will be summarized across all participants from several Villages. Only with the permission of all participants, will the discussion sessions be audio-recorded. These recordings will be kept in a secure location.

Although your name will appear on the consent form, these forms will be returned to the RIA, kept in a locked cabinet and identification numbers will be assigned to each person. Electronic data entered into a computer for analysis will not contain ANY names. Illustrative quotes from the discussion will also be anonymous. During the study only the researchers (not the RIA) will have copies of the electronic, password protected database. The RIA will receive summaries of the findings and at the end of the study a copy of the database. All paper, electronic, and audio data will be kept secure and destroyed 5 years after data collection.

WILL I BE PAID FOR PARTICIPATING IN THE PROJECT?

Participants will not be paid for their participation in the project.

WHO CAN I CONTACT IF I HAVE QUESTIONS?

If you have any questions about your participation in this project, or about the recruitment process, please contact Kaylen Pfisterer (Assistant Research Coordinator) at the Schlegel-UW Research Institute for Aging: 519.571.1873 ext. 109.

HOW WILL I LEARN ABOUT THE RESULTS OF THE PROJECT?

A summary of results will be made available to you upon completion of the study. The results from the study may also be published in a research journal. If you wish, we can provide you with a copy of any or all research articles that are published from this project. If you would like to receive copies of research articles published from this project, please complete the Publications Request Form and mail to Kaylen Pfisterer at the Research Institute for Aging.

In addition, the research team will be instrumental in integrating the results of this project into practice at the Schlegel Villages.

HAS THE PROJECT RECEIVED CLEARANCE FROM A RESEARCH ETHICS BOARD?

You are not waiving any legal claims, rights or remedies by being part of this research study. This study has been reviewed and received ethics clearance from the Schlegel-UW Research Institute for Aging as well as the University of Waterloo, Office of Research Ethics. If you have questions regarding your rights as a research participant, contact:

Director of the Office of Research Ethics
Dr. Maureen Nummelin 519-888-4567 ext 36005 or maureen.nummelin@uwaterloo.ca

RESIDENT INTEREST and AVAILABILITY FORM

Please complete this form and return it to the Main Office in the attached envelope within the next week.

If you prefer, you can call or email Kaylen about your interest in the study instead or if you have any questions. Please indicate your name, Village, room number and phone number.

PHONE: 519.571.1873 ext. 109

EMAIL: kpfister@uwaterloo.ca

Kaylen Pfisterer, Assistant Research Coordinator, Schlegel-UW Research Institute for Aging

Please check one of the following boxes.

YES, I would like to participate in the study.

NAME: _____

VILLAGE: _____

TELEPHONE #: (____) _____ **ROOM #:** _____

Please complete the next page on AVAILABILITY.

NO, I AM NOT INTERESTED in participating in this study.

NO, I AM NOT INTERESTED in participating in THIS OR ANY OTHER study and would like to be added to the "DO NOT CONTACT" list.

BY CHECKING EITHER OF THESE BOXES, I ACKNOWLEDGE THAT MY DECISION TO NOT PARTICIPATE WILL IN NO WAY AFFECT THE CARE I RECEIVE FROM SCHLEGEL VILLAGES NOR WILL IT AFFECT ANY RELATIONSHIP WITH THE RIA OR THE UNIVERSITY OF WATERLOO.

NAME: _____ **VILLAGE:** _____

Thank you for completing this form.

AVAILABILITY FOR FIRST GROUP DISCUSSION SESSION

For those interested in participating in this study, we have arranged some possible dates and times at your Village for the first group session (which will last about 90 minutes).

Please indicate whether you are available for any or all of the dates and times below. Sessions will be held at each of the Villages based on resident interest and availability. The second group discussion will occur approximately two weeks after the first discussion.

Option 1: Thursday, November 22, 2012 from 10 to 11:30am.
(2nd discussion Friday, December 7, 2012 from 10 to 11:30am)

Option 2: Thursday, November 22, 2012 from 2 to 3:30pm.
(2nd discussion Friday, December 7, 2012 from 2 to 3:30pm)

Unfortunately, none of the dates above work for me. Please contact me about alternate arrangements.

Additionally, check below if you have a family member or friend who currently drives you and might be interested in participating in a discussion group with other family members and friends. If you check the box below you will receive an information package for family and friends that you can review and pass along.

YES, I do have a family member or friend who may be interested in participating in this study. By checking this box, I give my permission for them to participate in the study if they choose.

Thank you for completing this form. If you have indicated that you would like to participate, we will call you to confirm a date and time for the first discussion session.

COMING TO A BOOTH NEAR YOU...
Resident Transportation Study Information
(both former and current drivers are encouraged to stop by)

The Schlegel-UW Research Institute for Aging is continuing to work with researchers at the University of Waterloo to explore the transportation patterns of residents that are former and current drivers living in retirement residences to better understand their transportation needs.

Transportation is a key factor in maintaining independence. Control over your transportation options can promote health and quality of life. For many older Canadians, independent mobility is equated with the private automobile (namely driving or having someone else to drive them).

Transitions from community living to retirement living and transitions from driving to non-driving can greatly impact one's health and well-being.

We would like remind you of the information booth that will be set up by **Winnie's** where you can learn more about it, meet the researchers and ask questions. Feel free to chat with the researchers as they serve you coffee and tea over lunch on Wednesday!

WHO: **Courtney Janssen and Sarah Sousa**
Department of School of Public Health and Health Systems
University of Waterloo

WHAT: Information Booth to learn more about this ongoing project and how you can get involved.

DATE: **Wednesday, January 30th, 2013**

TIME: **9:00AM until approximately 3:30PM**

WHERE: **Winnie's**

PARTICIPANT RESPONSE FORM

Please complete this form and return to the Village Office.

- I am a Current Driver.
- I am a Former Driver.
- I would like to participate.** Please pass on my information (as indicated below) to the researchers to establish a meeting time that is suitable for me.
- I would like more information.** I give permission for the researcher to call me at the telephone number below.

I would not like to participate.

Please add me to the “do not contact list”. I would not like to participate in any research projects.

NAME: _____

VILLAGE: _____

PHONE #: _____

ROOM #: _____

WHY IS TRANSPORTATION IMPORTANT?

Transportation is a key factor in maintaining independence. Control over your transportation options can promote health and quality of life. For many older Canadians, independent mobility is equated with the private automobile (namely driving or having someone else to drive them).

Transitions from community living to retirement living and transitions from driving to non-driving can greatly impact one's health and well-being.

We would like to explore the transportation patterns of residents that are former and current drivers living in retirement residences.

This is your invitation to participate in this upcoming study being conducted by:

Professor Anita Myers

University of Waterloo

WHAT IS THE RIA?

The Schlegel-UW Research Institute for Aging (RIA) promotes research relevant to aging in community and congregate settings. It focuses on practice-relevant research as a driving force behind innovation and quality care.

Through partnerships with the University of Waterloo and Conestoga College, the RIA attracts research projects to “living research environments” within Long Term Care and retirement communities, with a view to immediate translation of research to practical training applications for caregivers.

Materials and information generated through our research-to-practice initiatives are shared with other LTC facilities and system networks to promote research-informed quality care.

RIA is a product of the philanthropic spirit and vision of Dr. Ron Schlegel, whose family has been providing long-term care to Ontario residents since the 1950s.

Owners of the 12 LTC facilities operating as Schlegel Villages, the Schlegel family has committed over \$40 million to develop the Institute. Additional funds and in-kind supports were secured and continue to be solicited.

UNIVERSITY OF WATERLOO



RESIDENT TRANSPORTATION STUDY

Former Drivers
Current Drivers

RIA

RESEARCH INSTITUTE for AGING

Schlegel • UWaterloo • Conestoga

WHAT WILL YOU BE ASKED TO DO?

CURRENT DRIVERS:

- ONE MEETING with Sarah for group session to learn about the real-life driving study (**approximately one hour**)
- Complete DRIVING CHECKLISTS for 2 weeks (**approximately 5 minutes per day**)
- ONE FOLLOW-UP INTERVIEW and scale completion (**approximately 1 ½ hrs**)

FORMER DRIVERS

- ONE MEETING with Courtney for a **one-hour session** with 1-2 other former drivers where you will be asked to complete questionnaires and scales and discuss:
 - transition to non-driving
 - current transportation use
 - Village support
- Complete an optional 2-week travel diary (**approximately 5 minutes per day**)
 - used to understand actual transportation patterns of former drivers.



COME MEET THE RESEARCHERS!

**Courtney Janssen
Sarah Sousa**

University of Waterloo

Please come and speak to us about the details of this study! We will have a booth set up by the main floor dining room. **Sign up for the study with us!**

TIME:

DATE:

LOCATION:

CONFIDENTIALITY

All information collected from you will be kept strictly confidential and data resulting from your participation that may be published in scientific journals, texts, or other media will not reveal your identity.

This study has been reviewed by, and received ethics clearance through the Office of Research Ethics at the University of Waterloo.

FOR MORE INFORMATION, PLEASE CONTACT:

Kaylen Pfisterer

Assistant Research Coordinator
Schlegel-UW Research Institute for Aging
325 Max Becker Dr., Kitchener, ON
N2E 4H5

519.571.1873 ext. 109
kpfisterer@uwaterloo.ca

PUBLICATIONS REQUEST FORM

If you would like copies of any publications that result from this project (even if you choose not to participate) please complete this form and return it to Kaylen Pfisterer at the RIA.

NAME: _____

ADDRESS: _____

CITY: _____

POSTAL CODE: _____

EMAIL: _____

Please add me to the electronic mailing list of Research Institute for Aging (RIA).

Please add me to the distribution list for the RIA's Quarterly Newsletter.

Please add me to the electronic mailing list (Agri-Food for Healthy Aging Program).

RESIDENT TRANSPORTATION PATTERNS

Consent Form

RESIDENT NAME: _____ **VILLAGE:** Winston Park Riverside Glen
 Humber Heights Taunton Mills

I have read the information letter about a study being conducted by **Courtney Janssen** and **Dr. Anita Myers** from the School of Public Health and Health Systems at the **University of Waterloo**. This study has been explained to my satisfaction and I have had the opportunity to ask questions. I understand that my participation in this study (including completing materials or contributing to discussions) is voluntary and will in no way affect the services provided to me by the Schlegel Villages, the University of Waterloo or the Schlegel-UW Research Institute for Aging, now or in the future. In addition, I understand that:

- I may withdraw from the study at any time
- All identifying information collected will be kept totally confidential
- The study results will be summarized across all study participants from multiple Villages
- Consent forms will be kept in a locked cabinet and will be destroyed after five years

This project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact Dr. Maureen Nummelin, Director, Office of Research Ethics at (519) 888-4567 ext. 36005.

I am aware that the focus group discussions will be audio-recorded, only if all participants agree, to make sure we do not miss parts of the discussion and allow us to analyze the data more completely.

I give my permission for audio-taping the group discussions. YES NO

(...OVER...)

I understand the importance of confidentiality. To make all participants comfortable to share information in the discussion:

I agree to keep all information provided by other participants confidential. YES NO

I am aware that excerpts from the discussions may be included in the publications to come from this research, with the understanding that the quotations will be anonymous and no individual will ever be identified by name.

I agree to the use of anonymous quotations in any thesis, publication or presentation that comes of this research. YES NO

I understand that in order to gain a complete understanding of functional independence and mobility associated with transportation use, the research team would like to access data routinely collected by the Village on the number of falls and accidents residents may have had over the last few years.

I agree to allow the researchers to access information routinely collected by the Village on the number of falls and accidents I have had over the last few years. YES NO

By signing this consent form, I am not waiving my legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study. YES NO

Resident Name: _____
(please print)

Name of Witness: _____
(please print)

Signature: _____

Signature: _____

Date: _____

Date: _____

Appendix C: Discussion Group Scripts

Original Protocol & Script (Session #1)*	117
Original Protocol & Script (Session #2)*	120
Shortened Protocol & Script.....	123

*Sections removed or condensed from the original protocol scripts are shaded.

Original Protocol & Script #1

Welcome people as they arrive and give them name tags (first names only, large print). Tell them to help themselves to refreshments. Once everyone arrives (wait 10 minutes for late comers)...

Introductory Remarks

Hi, my name is Courtney Janssen and this is Sarah Sousa. We are both doing our Master's degree at the School of Public Health and Health Systems at the University of Waterloo. I will be facilitating today's session and Sarah will be assisting me. We are both interested in the mobility and transportation needs of older adults and look forward to discussing this with you.

Just a reminder: this study includes 2 group sessions (about two weeks apart). During each session there will be a few questionnaires and scales to complete and a group discussion. Over the next 2 weeks (between sessions), we will ask you to do travel diaries, which will be explained today.

As noted in your letter of information, all results will be kept **totally confidential** (i.e., no names will be used when reporting the results of the study either in our thesis or any reports or publications). Although we asked for your names on the questionnaires this is only to allow us to keep the data together. All forms will be locked in a secure place and data will be entered into a computer database by identification codes. Similarly, although we will use first names in today's discussion, no names (only codes) will be used in analyzing the transcriptions from the discussions. You decide which aspects of the study you feel comfortable doing, although we hope everyone can come to both sessions and will try and complete the questionnaires so that we can obtain the most complete and accurate picture of people's experiences.

Do you have any questions about the study?

Before we start today's discussion, **we need the written permission of everyone to participate in the study and to audio-record this session.** The purpose of recording these sessions is so that we do not have to write everything down. We may miss important points people make, particularly as we are conducting several discussion groups with residents at four different Schlegel Villages.

[Distribute and collect consent forms]

As you can see on the form, we are requesting that you **not divulge things others say outside the group.** However, you are certainly free to share your own opinions. The **second-last checkbox requests your permission to obtain fall and accident incident information routinely collected by each Village on all residents.** Although we ask about falls on the Background Questionnaire we will give you in a moment, we would like to have a summary of these reports to develop a general profile of residents across the Villages. If you are not comfortable with this, then please do not check this box on the consent form. Any questions?

[Distribute Village Contact Info Sheet]

This paper provides information on who to contact in your Village if you feel upset about any aspect of the study. We don't anticipate that this will happen, but your health and happiness is of utmost importance to the Village and to us. Please take this with you today.

[Distribute Background Questionnaires—estimate 5 to 10 minutes]

Before we start our today's group discussion, we would like you to complete two questionnaires and three short scales. We will **start with the background questionnaire**. Please let us know if you have any questions or anything is unclear and let us know when you are finished. Then we will give you a set of three scales on general mood, balance confidence and well-being.

[Package of 3 scales—GDS (mood), ABC and VPS--distribute and explain individually as residents complete the BQ; estimate 10 minutes]

Before we begin today's discussion, the last thing we ask that you fill out is a questionnaire on your Driving History and Experiences. As others are finishing up, tell them: please feel free to help yourself to refreshments, walk around for a few minutes or use the washroom.

[Distribute Driving History & Experience Questionnaire—estimate 5-10 mins]

Then lay out guidelines for discussion, e.g., no right or wrong answers.

Ice Breaker

Let's go around the table and introduce ourselves. **Tell us how long ago you moved into this village and stopped driving**. *Note: the script will be altered depending on whether we have a mix of participants or separate groups of those who stopped driving before or after relocation.*

Key Questions (and prompts below):

1. Let's begin by talking about events leading up to the decision to stop driving.

Prompts: What did driving **mean to you**?

How much did you **rely on** driving to get around?

Any other household drivers? (prompt further as needed re: spouse)

Did others **depend on you** to drive? *If so whom...family, friends?*

Were you having any problems driving, any troublesome aspects?

How did others who are important to you feel about your driving?

Did you **prepare or plan in advance** for when you would stop driving? *If so, what types of things did you do? Did you reduce your amount of driving before you stopped completely?*

Did you discuss this (driving cessation) with your family? Friends? Doctor?

2. For many people this is not an easy decision, what was your experience?

Prompts: Do you feel this decision was **under your control**?

Do you feel you stopped at the **"right time"**? **Too soon? Too late? If so, why?**

What do you **miss about driving**, if anything?

Any thoughts about returning to driving again at some point?

What **don't you miss** about driving? (*example cost of gas*)

3. How did you feel when you gave up driving?

Prompts: *angry, sad, relieved? (Why was it a relief?)*

Have these **feelings changed** over time and if so, how?

Did you have **trouble getting around** to do your grocery shopping, banking or other regular activities?

How about getting to places for social, recreation, religious or volunteer activities?

Did this affect how much you got together with family and friends?

Note: tailor based on whether group is mixed (i.e., stopped < or > move) as we expect those still living in the community following driving cessation may have more problems

4. What types of adjustments did you have to make, if any?

Prompts: What about using other forms of transportation? e.g., buses, taxis, walking more?

Do you feel safe as a pedestrian or using public transport?

Did you ask others for rides? Further: Was this difficult? *If so, how?*

5a. To what extent (if any) did mobility problems in general (getting around the community) influence your decision to move to the retirement home?

Note: this question would apply only to those who quit driving before they moved to the Village.

Alternately: 5b. To what extent (if any) did moving to the Village influence your decision to quit driving? For those who quit after moving to the village.

6. (if sufficient time remains): Before we meet again, we'd like you to consider how might the Village help residents who are thinking about quitting or like yourselves have recently stopped driving. Eg. Support groups

Wrap up Discussion: Restate main points raised, ask if anyone wants to add anything.

Next time we meet (in about two weeks, remind them of date/time or arrange then), we will talk more about travel patterns, activities in and outside the village, your transportation needs, as well as ideas for how the Villages might help with this (e.g., ridesharing programs organized by residents). To enhance our next discussion, we would like you to do these travel diaries which we will distribute and go over together now.

[Hand out travel diaries and review instructions and examples].

Original Protocol & Script #2

[**Interim phone call** to remind them of the date and see if they had any problems with diaries; also Remind them to bring their Travel Diaries in the pkg and their reading glasses]

Welcome people as people enter the room. **Name tags** and help themselves to refreshments.

Introductory Remarks

Hi, I hope everyone had a good two weeks. Just to remind you, I'm Courtney.

Before we start today's discussion, we would like you to complete a **checklist on services & amenities** you use in the Village and **circle the activities you did and events you attended over the past month using your Village Calendar. Then complete questionnaire on Activities Outside the Village.**

Let us know if you have any questions about these and when you are finished. **While you are doing this, can you please give me your package of travel diaries to flip through?**

[**Distribute questionnaires**] Researchers check if any diaries missed (i.e., no information for particular date, but person did not put 0 trips at the top). If so, clarify with them in Part 2.

Remind them about the purpose **of audio-recording** (if they agreed to at first session). Confirm verbally that the resident(s) are still comfortable with audio-recording.

Part 1. Activities

1. Generally, how often do you travel outside the Village in a given week?

Prompts: *Does this depend on the weather?*

How you are feeling on a particular day?

Anything else? (let them tell you what)

2. What are the main reasons you leave the Village? (*go into the community or beyond*)

Prompts: *this should flow naturally from Activities outside the Village Questionnaire.*

Has this recently changed at all?

Now we would like you to complete a one-page transportation use questionnaire and a short feedback form on the travel diaries you completed over the last 2 weeks for our next part of the discussion.

Part 2. Travel Patterns & Transportation Use

[confirm/ask about any missing information in travel diaries]

1. Looking at your travel diaries over the past two weeks: *Did you have any difficulty doing these? How long did they take?*

Would you say that these captured your typical activities? Now let's look at the Transportation Use Questionnaire you just completed.

2. Let's begin by talking about the Village bus. Have you ever used this? *Note: check at each Village if they need to sign up ahead of time, and if so how far ahead.*

3. What are your impressions of the Village bus? (for both those who use & do not use)

Prompts: Frequency of outings?

Types of outings? (use examples from Village calendar)

Any suggestions for how the Village might improve this service?

4. Do any of you ever use trains (e.g., VIA, Go Trains) or buses to go to other cities?

5. Do any of you take taxis? Use paratransit services?

Prompts: Your impressions: cost, convenience, accessibility (ease of use)?

6. Are you aware of any community services in your area that provide rides for seniors (e.g., volunteer drivers, church groups)? If so, have you used these?

7. Any ideas on how the Village might better support resident transportation needs?

Prompts: changes to shuttle bus service, additional walking paths and proximity to bus stops?

8. What about some sort of transportation club or ridesharing program (where people share rides in cars, taxis or rental vans to get to places of mutual interests)? In other communities, these have been organized by seniors themselves to share costs.

Prompts: Is this something you would be interested in?

Do you think other residents would be interested?

How about family members (they could also organize car pools, i.e., take turns driving a few residents to the same places)?

Would you be willing to help organize such a program (with assistance from Village staff)?

9. We know that each Village gives out an **information package to new residents** and some Villages have informal (resident led) orientation committees.

A) **What are some ways the Village can do more to help new residents adjust to retirement living? Prompt: any ideas?**

B) When you met with the marketing people and toured the Village (Before you moved to the Village) did anyone at the Village ask if you still drove? (e.g.,) Did they tell you about the Village bus or any other transportation options? Did they tell you about parking availability?

C) **Did anyone at the Village or your friends or family suggest that you would no longer need a vehicle as the Village offers many services in house and has transportation options available?** Do you know other residents who gave up their license or sold their car before they moved to the Village?

D) Also, should the Village provide assistance (e.g., info sessions, support groups) helping people plan for driving cessation or making the transition to non-driving? (or not making the transition)

Wrap up of Discussion: Restate main points, see if anyone wants to add anything.

ABC SCALE Please consider filling out this questionnaire again. You completed it during the first session. We adapted this scale for retirement living seniors and need participants to complete the scale twice so we can verify the results. It shouldn't take too much more of your time and will really help us out.

Thank everyone for participating and **hand out Thank You Letter**. Bring copies of request for publications form (that was in their information pkg) in case anyone wants one.

Revised/Shortened Protocol & Script

Intro remarks and information/script for each of the following distributed forms, questionnaires and scales was similar to the remarks made in the original scripts.

Introductory Remarks

[Distribute and collect consent forms]

[Distribute Village/Home Contact Info Sheet]

[Distribute Background Questionnaires—estimate 4 minutes]

[Package of 2 scales—GDS (mood), and ABC --distribute and explain individually as residents complete the BQ; estimate 6 minutes]

[Distribute Driving History & Experience Questionnaire—estimate 5 mins]

Ice Breaker

Let's go around the table and introduce ourselves. **Tell us how long ago you moved into this village and stopped driving.**

Key Questions (and prompts below):

Part 1: Driving Cessation

1. Let's begin by talking about events leading up to the decision to stop driving.

Prompts: What did driving **mean to you**?

How much did you **rely on** driving to get around?

Any other household drivers? (prompt further as needed re: spouse)

Did others **depend on you** to drive? *If so whom...family, friends?*

2. What were the reasons you stopped driving? (Added this question to revised script)**

How did others who are important to you feel about your driving?

3. Did you prepare or plan in advance for when you would stop driving?

If so, what types of things did you do? Did you reduce your amount of driving before you stopped completely?

Did you discuss this (driving cessation) with your family? Friends? Doctor?

4. When you first stopped driving, did you have **trouble getting around to do your grocery shopping, banking or other regular activities?**
How about getting to places for social, recreation, religious or volunteer activities?
Did this affect how much you got together with family and friends?

5. For many people driving cessation is not an easy transition, what was your experience?

Prompts: Do you feel this decision was **under your control**?

Do you feel you stopped at the **“right time”**? **Too soon? Too late? If so, why?**

How did you feel when you gave up driving?

Prompts: *angry, sad, relieved? (Why was it a relief?)*

Have these **feelings changed** over time and if so, how?

What do you **miss about driving**, if anything?

[Administer Current Transportation Use Questionnaire]

Part 2. Travel Patterns & Transportation Use

1. What types of transportation have you used since you stopped driving?

Did you ask others for rides? Further: Was this difficult? *If so, how?*

2. Have you ever used the Village bus? *Note: check at each Village if they need to sign up ahead of time, and if so how far ahead.*

3. What are your impressions of the Village bus? (for both those who use & do not use)

Prompts: Frequency of outings?

Types of outings? (use examples from Village calendar)

Any suggestions for how the Village might improve this service?

4. Do any of you take taxis? Use paratransit services?

Prompts: Your impressions: cost, convenience, accessibility (ease of use)?

I would now like you to complete a **checklist on services & amenities** you use in the Village and **then complete a questionnaire on Activities Outside the Village.**

Let us know if you have any questions about these and when you are finished.

[Distribute questionnaires]

Part 3. Activities

1. Generally, how often do you travel outside the Village in a given week?

Prompts: *Does this depend on the weather?*

How you are feeling on a particular day?

Anything else? (let them tell you what)

2. What are the main reasons you leave the Village? (go into the community or beyond)

Prompts: *this should flow naturally from Activities outside the Village Questionnaire.*

Has this recently changed at all? (move to Village or driving cessation)

Part 4: Village Support

1. **Any ideas on how the Village might better support resident transportation needs?**

Prompts: changes to shuttle bus service, additional walking paths and proximity to bus stops?

2. **What about some sort of transportation club or ridesharing program** (where people share rides in cars, taxis or rental vans to get to places of mutual interests)? In other communities, these have been organized by seniors themselves to share costs.

Prompts: Is this something you would be interested in?

Do you think other residents would be interested?

How about family members (they could also organize car pools, i.e., take turns driving a few residents to the same places)?

Would you be willing to help organize such a program (with assistance from Village staff)?

3. We know that each Village gives out an **information package to new residents** and some Villages have informal (resident led) orientation committees.

A) When you met with the marketing people and toured the Village (Before you moved to the Village) did anyone at the Village ask if you still drove? (e.g.,) Did they tell you about the Village bus or any other transportation options? Did they tell you about parking availability?

B) Do you know other residents who gave up their license or sold their car before they moved to the Village?

C) Also, should the Village provide assistance (e.g., info sessions, support groups, information packages) helping people plan for driving cessation or making the transition to non-driving?

Wrap up of Discussion: Restate main points, see if anyone wants to add anything.

Please consider completing these two week travel diaries. You only need to record trips when you leave the Village and it should take approximately 2 minutes each day. If you do not leave the Village on a given day then all you have to do is write a 0 beside the date which should take almost no time at all.

The reason these diaries are so important is that it gives us the information we need to truly understand the transportation patterns of seniors who have stopped driving.

[Distribute Travel Diary Instructions and Examples and Diaries]

Thank everyone for participating and hand out **Thank You Letter**. Bring copies of request for publications form (that was in their information pkg) in case anyone wants one.

Appendix D: Tools/Scales/Questionnaire/Travel Diaries

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Activities Outside the Village Checklist.....	142
Travel Diary Instructions and Examples.....	144

*Sections removed from tools/questionnaires are shaded.

Background Questionnaire (Resident)

Name: _____ Date: _____ Room: _____

Part A. Please tell us about yourself.

Age: _____ Gender: male female

1. Highest level of education:

- some high school
- completed high school
- some college or university
- completed college or university
- graduate or professional degree

2. Past or Present Occupation: _____

Are you still working?

- full-time part-time
- retired never worked outside the home

If you are now retired, how long ago did you fully retire? _____ (# of years)

3. Which Schlegel Village do you live in?

- Winston Park Riverside Glen Humber Heights Taunton Mills

4. When did you move to this village? ____ month ____ year

5. Do you live in:
- an apartment with full kitchen
 - an apartment with kitchenette (mini fridge)
 - a single room

6. Do you live: alone with spouse family member roommate
or partner (not related)

7. Are you currently: married divorced widowed never married

8. If **widowed**, how long ago did you lose your spouse? _____ # years

9. If **married**, where does your spouse live? (if not married, go to **question 11**)

- the same room, apartment or condo as me
- another part of this village
- a house, apartment/condo in the same city as this village
- a house, apartment/condo in another city or town: _____ (name)
- another type of housing, specify: _____

10. If married, does your spouse still drive? Yes No

11. Do you have relatives in the area (within 15 kilometers or about 10 miles)?

- Yes No (If yes, complete the following. If no, go to **Part B**).

If **yes**, check which relatives:

daughter(s)

son(s)

siblings

grandchildren

other family (e.g., cousins)

Part B. Now a few questions on where you lived before you moved to the Schlegel Village.

1. Name of the city, town or county: _____

2. Before you moved to the Schlegel Village, did you live in a:

- house or townhouse If so, was it: single level or multi-level
- apartment or condo
- another retirement complex

3. How long did you live in this location? _____ # of years less than a year

4. Who did you live with in your previous residence?

no one, I lived alone

spouse or partner

daughter or son

another family member

(specify: _____)

friend/roommate

5. Did you receive any **formal** (e.g., CCAC) home support services?

Yes No

If yes, what types of services? (check all that apply)

help with bathing help taking medications laundry
 housecleaning meal preparation other

6. Did you know anyone in the Village **before** you moved here? Yes No

If yes, _____ (# of friends) or _____ (# of relatives)

Part C. Now a few questions about your health and activities.

1. Overall, would you say your health is: Excellent Good Fair Poor

2. Do you ever use a cane or walker **outdoors**? Yes No
indoors? Yes No

3. Do you ever use a **motorized wheelchair**? Yes No
scooter? Yes No

4. Are you able to walk a quarter mile (or 400 meters) with or without assistance?

Yes No Not sure

5. How many days in an **average week** do you do at least **30 minutes** of moderate physical activity (e.g., a brisk walk)? _____ # of days

6. Do you participate in any organized exercise classes or scheduled physical activities (such as curling, golfing, bowling)?

Yes: ____ # days/week No

7. In the **past year** have you fallen (ended up on the ground or floor)?

Yes No (go to **Question 8**)

If yes, please answer the questions below:

Have you fallen more than once? Yes No

Were you injured as a result of the fall(s)? Yes No

Did you have trouble getting up? Yes No

8. Have you been **diagnosed** with any of the following? (check all that apply)

- arthritis osteoporosis diabetes
 Parkinson's stroke memory disorder
 back problems foot problems hearing problems
 Multiple Sclerosis asthma or other breathing problems
 sleeping disorder (e.g., insomnia, sleep apnea, restless leg syndrome)
 high blood pressure, cholesterol or heart problems
 glaucoma macular degeneration cataracts

If so, have you had cataract surgery? Yes No

9. Do you experience any of the following **difficulties**? (Check all that apply)

- staying awake or remaining alert
 keeping your balance
 initiating movement (example walking after standing still)
 persistent pain
 limited strength or movement

10. Do you wear **prescription** glasses or contacts? Yes No

11. Compared to others your age, would you say that your **eyesight** is:

- Better than most About the same Worse than most

12. Are you currently taking any **prescription medications**? Yes No

**Thank you for completing this.
Please let us know if any of the questions were not clear.**

Driving History and Experience

Name: _____ Date: _____ Room: _____

Part A. Please tell us about your driving history and experience.

1. How old were you when you got your driver's license? _____

2. Did you work outside the home? Yes No

If yes, did you commute to work by car? Yes No

3. Were there any **other drivers** in your household? Yes No

If yes, who? spouse other

4. Who was the **primary driver** in your household? me my spouse other

(**added: both my spouse and I to revised copy)

5. **When** did you stop driving? ___ ___ month ___ ___ ___ year

6. Did you stop driving **before** or **after** you moved to the Schlegel Village?

7. Do you still have a **valid Ontario driver's license**? Yes No

8. Do you still **own a vehicle**? Yes No

If yes, is it? a car other type of vehicle

Where do you keep this vehicle? at the Village elsewhere

Part B: In the year before you stopped driving:

9. On **average**, how many days a week did you drive? _____ (# of days)

10. Approximately how many kilometers (km) would you say you drove:

less than 3,000 km

more than 3,000 but less than 10,000 km

over 10,000 km

over 20,000 km

don't know

11. Using this rating scale, how comfortable were you driving in the following situations? (choose from the values below for each situation)

0%	25%	50%	75%	100%
Not at all Comfortable		Moderately Comfortable		Completely Comfortable

Driving during the **day** in good weather _____ %
Driving during the **day** in heavy rain or snow _____ %
Driving during the **day** on the 400 series highways _____ %

Driving at **night** even in good weather and traffic conditions _____ %

12. How would you rate the following aspects of your previous **driving ability**?
(Insert number beside each statement)

0 = Don't remember 1 = Poor 2 = Fair 3 = Good 4 = Very Good

See road signs at a distance _____

See pavement lines at night _____

Avoid hitting curbs and medians _____

Move your foot quickly from the gas to the brake pedal _____

Make an over the shoulder check _____

Get in and out of your car _____

Reverse or back up _____

Make quick driving decisions _____

Drive safely (avoid accidents) _____

13. In the year before you stopped driving...

a) Did you have any **minor** driving accidents (e.g., hitting curb)? Yes No

b) Any **violations** resulting in a loss of demerit points? Yes No

c) Any **major** driving accidents (where the police were called)? Yes No

If so, was anyone **injured** in the motor vehicle accident? Yes No

14. Check the boxes below to indicate how often you used each of the following, while you were **still driving**:

<u>Other means of travel</u>	<u>Frequently</u> (weekly or more)	<u>Sometimes</u> (few times per month)	<u>Rarely</u> (less than once/month)	<u>Never</u>
a) passenger in vehicle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) public bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) taxi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) paratransit services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) motorized scooter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) motorized wheelchair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Did you stop driving: voluntarily (my choice)
 involuntarily (forced to stop by others)?

16. Was this decision to stop driving made: gradually
 quite suddenly/abruptly?

17. Did you prepare or plan ahead for the day when you stopped driving?
 not at all to some extent yes, quite extensively

18. Was your license revoked by the Ministry of Transportation?
 Yes No
 If **yes**, was this due to your: driving record medical reasons both

19. Are the reasons you quit driving similar to those that influenced your decision to move to the Village?
 Yes No

**Thank you for completing this questionnaire.
 Please let us know if any of the questions were not clear. We will discuss many of these issues in our session.**

Transportation Use Questionnaire

1. By checking the boxes below, please indicate **how often** you use each type of transportation to travel outside the Village.

<u>Type of Transport</u>	<u>Frequently</u> (weekly or more)	<u>Sometimes</u> (a few times per month)	<u>Rarely</u> (less than once a month)	<u>Never</u>
a) passenger in vehicle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) public bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) taxi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) paratransit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) motorized scooter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) motorized wheelchair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) village shuttle bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. If you receive rides from others in their vehicles, please indicate who drives.

(check **all** that apply if you receive rides from more than one individual)

spouse

son daughter son-in-law daughter-in-law

adult grandchild sibling other family member

friend living in the village friend living outside the village

volunteer drivers (e.g., from church or other community groups or agencies)

not applicable, I don't receive rides from others

The Activities-specific Balance Confidence (ABC) Scale

For each of the following activities, please indicate your level of self-confidence from 0 (no confidence) to 100% (completely confident).

If you normally do not an activity, try and imagine yourself in the situation.

How confident are you that you can maintain your balance and remain steady when you....

Completely	No confidence		Moderately		
	0%	25%	50%	75%	100%
1. walk around inside your apartment & the Village?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. walk around outside (on the Village grounds)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. walk outside at night?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. bend over and pick up a slipper from the front of a closet floor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. walk up or down stairs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. reach for a small can off a shelf at eye level?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. stand on your tip toes and reach for something above your head?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. stand on a chair and reach for something?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. get in or out of a shower or bathtub?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. sweep the floor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

~Please continue on next page~

How confident are you that you can maintain your balance and remain steady when you....

Completely	No confidence		Moderately		
	0%	25%	50%	75%	100%
11. walk outside to a car parked in the driveway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. get into or out of a car, van or taxi?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. walk across a busy parking lot?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. walk up or down a ramp?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. walk in a crowded mall, where people rapidly walk past you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. are bumped into by other people as you walk through the mall?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. step onto or off of an escalator while holding onto a railing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. walk down stairs or ramps when carrying something in one hand?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. walk outside on icy or slippery sidewalks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. walk outside when it is very windy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. walk in heavy rain while holding an umbrella?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. walk on uneven paths or sidewalks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. step on or off a sidewalk curb or median?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

~Please continue on next page~

How confident are you that you can maintain your balance and remain steady when you....

Completely	No confidence		Moderately		
	0%	25%	50%	75%	100%
24. get on and off a bus?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. stand on a bus or train when it starts or stops?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. cross a busy street at a timed or signaled pedestrian crosswalk?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. cross a busy street with no pedestrian crosswalk?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank You! Let us know if you have any questions.

Vitality Plus Scale

This scale looks at how you are **currently feeling**. For each statement, circle a number from 1 to 5 that best describes you. For example, if you usually fall asleep quickly then you want to circle (5). Otherwise, circle a number from 1 to 4, depending on how much difficulty you usually have falling asleep.

Takes a long time to fall asleep	_____	Fall asleep quickly
	1 2 3 4 5	
Sleep poorly	_____	Sleep well
	1 2 3 4 5	
Tired or drowsy during the day	_____	Feel rested
	1 2 3 4 5	
Rarely hungry	_____	Excellent appetite
	1 2 3 4 5	
Often constipated	_____	Do not get constipated
	1 2 3 4 5	
Often have aches & pains	_____	Have no aches & pains
	1 2 3 4 5	
Low energy level	_____	Full of pep & energy
	1 2 3 4 5	
Often stiff in the morning	_____	Not stiff in the morning
	1 2 3 4 5	
Often restless or agitated	_____	Feel relaxed
	1 2 3 4 5	
Often do not feel good	_____	Feel good
	1 2 3 4 5	

Mood Questionnaire (GDS-5)

For these statements on mood, please answer either "YES" or "NO".

1.	Are you basically satisfied with your life?	YES	NO
2.	Do you often get bored?	YES	NO
3.	Do you often feel hopeless?	YES	NO
4.	Do you prefer to stay at home, rather than going out and doing new things?	YES	NO
5.	Do you feel pretty worthless the way you are now?	YES	NO
6.	Have you dropped many of your activities and interests?	YES	NO

Thank you for completing this questionnaire.

Use of Village Services and Amenities

1. Please check all the Village services and amenities you have used over the **last month**:

Hair salon

Spa (manicure/pedicure etc)

General store

Laundry facilities (if not in your personal unit)

On-site café

On-site library

On-site banking services

On-site optometry services

On-site dental services

** On-site pharmacy (**added in revised checklist)

Massage therapy

Physiotherapy

Kinesiologist

Physician

Nurse Practitioner

Dining “out” at a restaurant arranged by the Village

** Assistance with bathing by Village staff (**added in revised checklist)

Meal services – circle all the options you have used over the past month:

One meal a day

Two meals a day

Three meals a day

Assistance with medication

2. Do you purchase any additional services from the Village?

___ Yes ___ No

If yes, please list:

2. Do you receive services provided by other agencies? (e.g. Home care services from the CCAC)

___ Yes ___ No

***3. Check the types of **organized Village group activities** you usually participate in. (**added in revised checklist)

Religious Services

Arts and Crafts (e.g., knitting, crafts, baking, etc.)

Games (e.g., bridge, bingo, shuffleboard) or computer classes

Music, Theatre, Movies or Concerts

Special Events outside the Village (e.g., dining “out” at a restaurant arranged by the Village,

mall walk, visit to local park, etc.)

Physical Activities (e.g., Tai Chi, Yoga, Pilates, strength training, Wii, walk groups),

If so, how many times in the **last week?** _____(#)

4. What is your sense of belonging to the Village community?

very strong somewhat strong somewhat weak very weak

Activities Outside the Village

1. Do you belong to any of the following **groups** in the broader community?

wording below changed to **attend regularly in revised version

	Do you belong?		Attended in the past month?**	
	YES	NO	YES	NO
Sports-related (such as a golf club, fitness centre, bowling team)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreation, hobby or special interest group (such as quilting or bridge club)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cultural or educational group (such as book club, theatre group, lecture series)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service club or fraternal organization (such as Kiwanis, Knights of Columbus, the Legion, Kin Canada (Kinsman or Kinettes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Religious-affiliated group (such as bible study, choir) NOT including services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Political party or group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Which of the following **activities** have you done **outside the Village** in the past **month**? (Check all that apply)

- Shopping or errands
- Ate at a restaurant Alone With others
- Ate at someone's home
- Went to a movie, theatre or concert Alone With others
- Went to a sporting event / casino / racetrack etc. Alone With others
- Went to an educational event Alone With others
- Went to church, temple or synagogue Alone With others
- Volunteer work in the community How many hours/month? _____
- Full day outings Overnight trips
- Trips out of province Trips out of the country

3. Since you moved to the Village, would you say that your involvement in community-based activities has...

- Increased Stayed the same Decreased

4. Overall, how **connected** to do you feel to the outside community?

- Very well connected Moderately connected Not well connected

5. Indicate how often you stay connected to family and friends who live **outside the Village** through the various ways below.

	At least once/week	Few times a month	Infrequently (less than once/month)	Never
They visit me at the Village	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I visit them at their home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We get together at a restaurant or other location in town	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We talk on the phone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We get in touch by e-mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Since you moved to the Village, has the **size of your social network** (number of family/friends you have regular contact with)...

- Increased Stayed the same Decreased

7. When was the last time you left the Village for any reason?

- In the last week In the last month In the last 3 months Don't Recall

**Thank you for completing this questionnaire.
Please let us know if any of the questions were not clear.**

Travel Diary Instructions

As explained when we met as a group, we are asking each participant to complete a travel diary on a daily basis for two weeks. This should only take a few minutes. You may wish to fill this out after you get home from each trip or wait until the end of the day.

There are 14 sheets each with a date. **Please put your name on the top of the page, and indicate how many trips** you made outside the village grounds that day. If you did not leave the village property that day, put in zero (0).

There is room for up to 4 round trips per day on each sheet. If you made more than 4 trips, use the extra sheets provided (trip 5, 6, and so on). **Please be sure to put your name and the date at the top** of the additional pages.

Two examples are attached to assist you.

For each day, please indicate **how many trips** you made, **where you went** or what you did (e.g., to church, shopping, volunteer work, lunch), **modes of travel** (e.g., took taxi there and got a ride back), as well as the **approximate time** you left and returned home. If your trip had more than one purpose or destination, please describe.

You don't need to provide specific addresses, however, please indicate if you travelled out of town and if so where (e.g., Stratford).

If you travelled **by car**, **please indicate who drove** (e.g., daughter, friend). You do not need to put in the person's name, just indicate your relationship and the person's initials. This will help us calculate the number of different people (e.g., friends, children, etc.) that provided rides across the sample as a whole.

Please call me if you have any questions about these diaries. Leave a message if I am not there and I will return your call as soon as I can.

Courtney Janssen (519) 880-8557 or cell phone (226) 220-0721

Please remember to bring these diaries with you in the package provided as we will discuss these in our next group discussion on [insert date]. Reminders will be sent a couple days in advance of the next discussion.

Travel Diary for Mary Robertson

Date: June 6, 2012

Number of Trips: 3

Trip Purpose(s)	Time left	Mode of travel to destination	Return time	Mode of travel home
Trip 1 Went to church, then shopping with my oldest daughter	8:00 am	<input type="checkbox"/> Walked <input checked="" type="checkbox"/> Car: <u>daughter (C.M.)</u> drove <input type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service	11:00 am	<input checked="" type="checkbox"/> same <input type="checkbox"/> different (specify): _____ _____ _____
Trip 2 Went to meet friends for lunch	12:30 pm	<input type="checkbox"/> Walked <input type="checkbox"/> Car: _____ drove <input checked="" type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service	2:30 pm	<input type="checkbox"/> same <input checked="" type="checkbox"/> different (specify): <u>taxi home</u> _____ _____
Trip 3 Went to see a play at Stratford	6:00 pm	<input type="checkbox"/> Walked <input checked="" type="checkbox"/> Car: <u>friend (A.G.)</u> drove <input type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service	9:30 pm	<input checked="" type="checkbox"/> same <input type="checkbox"/> different (specify): _____ _____ _____
Trip 4		<input type="checkbox"/> Walked <input type="checkbox"/> Car: _____ drove <input type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service		<input type="checkbox"/> same <input type="checkbox"/> different (specify): _____ _____ _____

Travel Diary for Henry Perkins

Date: June 10, 2012

Number of trips: 3

Trip Purpose(s)	Time left	Mode of travel to destination	Return time	Mode of travel home
Trip 1 Went to an appointment at my doctor's office (in town)	9:00 am	<input type="checkbox"/> Walked <input checked="" type="checkbox"/> Car: <u>son J.P.</u> drove <input type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service	10:30 am	<input checked="" type="checkbox"/> same <input type="checkbox"/> different (specify): _____ _____ _____
Trip 2 Went to the local market	1:00 pm	<input type="checkbox"/> Walked <input type="checkbox"/> Car: _____ drove <input type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input checked="" type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service	3:00 pm	<input checked="" type="checkbox"/> same <input type="checkbox"/> different (specify): _____ _____ _____
Trip 3 Went to see my son and his family for dinner – he lives in Brampton	5:00 pm	<input type="checkbox"/> Walked <input checked="" type="checkbox"/> Car: <u>my wife M.P.</u> drove <input type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service	9:30 pm	<input checked="" type="checkbox"/> same <input type="checkbox"/> different (specify): _____ _____ _____
Trip 4		<input type="checkbox"/> Walked <input type="checkbox"/> Car: _____ drove <input type="checkbox"/> Public bus <input type="checkbox"/> Taxi <input type="checkbox"/> Village bus <input type="checkbox"/> Paratransit Service		<input type="checkbox"/> same <input type="checkbox"/> different (specify): _____ _____ _____

Appendix E: Additional Results

Background Questionnaire

Age		86.45 +/- 5.155 (N=20) (75-97)
Gender	Males	n=9 (45%)
	Females	n=11 (55%)
Age x Gender	Males	86.89 +/- 1.602 (N=9) (81-97)
	Females	86.09 +/- 5.629 (N=11) (75-95)
Levels of Care (RTPS)	Apartments	n=9 (45%)
	Main Floor	n=11 (55%)
Education Levels	Some high school	n=5 (25%)
	Completed high school	n=4 (20%)
	Some college/university	n=2 (10%)
	Completed college/university	n=5 (25%)
	Graduate or professional degree	n=4 (20%)
Work Status	Retired	n=19 (95%)
	Never worked outside home	n=1 (5%)
Length of time retired		24.35 yrs +/- 9.340 (N=17) (10-50)
Year moved to Village	2007	n=1 (5.3%)
	2008	n=1 (5.3%)
	2009	n=4 (21.0%)
	2010	n=5 (26.3%)
	2011	n=3 (15.8%)
	2012	n=4 (21.0%)
	2013	n=1 (5.3%)
Accommodation	Apartment with full kitchen	n=6 (30%)
	Apartment with kitchenette	n=7 (35%)
	Single Room	n=7 (35%)
Living Arrangements (N=10)	Alone	n=8 (80%)
	With Spouse/Partner	n=2 (20%)
Marital Status	Married	n=5 (25%)
	Divorced	n=1 (5%)
	Widowed	n=13 (65%)
	Never Married	n=1 (5%)
Yrs Since Spouse Died		14.25 +/- 20.055 (N=8) (1-60)
Spouse Lives	Same apartment/room	n=5
	House/apartment in diff city	n=1 (divorcee)
Spouse Drives	No	n=3
	Yes	n=3
Relatives in Area	No	n=3 (15%)
	Yes	n=17 (85%)
N=10:	Daughter	n=4 (40%)
	Son	n=4 (40%)
	Sibling	n=1 (10%)
	Grandchildren	n=7 (70%)
	Other family	n=3 (30%)

Prior dwelling	House or townhouse	n=9 (45%) (single level n=5) (multi level n=2)
	Apartment or condo	n=10 (50%)
	Another Retirement Home	n=1 (5%)
Previously lived alone (N=10)	No	n=7 (70%)
	Yes	n=3 (30%)
	Daughter / Son	n=1 (14.3%)
	Spouse / Partner	n=7 (100%)
Lgth lived in past loc		19.90 +/- 22.328 (N=10) (2-62)
Previously receive support services (N=8)	No	n=6 (75%)
	Yes	n=2 (25%)
	Bathing	n=1 (50%)
	Housecleaning	n=2 (one of these 2 people indicated help with cleaning but answered no to receiving outside services)
Know residents before moving (N=10)	No	n=6 (60%)
	Yes	n=4 (40%)
	# of friends	1 (n=1), 2 (n=1), 3 (n=1)
	# of relatives	1 (n=1)
Self-reported health	Excellent	n=3 (15.8%)
	Good	n=12 (63.1%)
	Fair	n=3 (15.8%)
	Poor	n=1 (5.26%)
Use cane/walker out	No	n=3 (15%)
	Yes	n=17 (85%)
Use cane/walker in	No	n=3 (17.6%)
	Yes	n=14 (82.4%)
Ever use motorized wheelchair	No	n=18 (90%)
	Yes	n=2 (10%)
Ever use motorized scooter	No	n=15 (88.2%)
	Yes	n=2 (11.8%)
Walk quarter mile	No	n=7 (35%)
	Yes	n=12 (60%)
	Not sure	n=1 (5%)
Days/week do 30 min of moderate activity	-only asked 10 people	4.44 +/- 2.455 (n=9) (2-7)
Organized exercise (N=8)	No	n=2 (25%)
	Yes	n=6 (75%)
Days/week in organized exercise	-applicable to only 6 people	2.60 +/- 0.894 (n=5) (2-4)
Fallen in past year	No	n=11 (55%)
	Yes	n=9 (45%)

Fallen more than once (n=9)	No	n=5 (55.6%)
	Yes	n=4 (44.4%)
Injured from fall(s)	No	n=6 (66.7%)
	Yes	n=3 (33.3%)
Difficulty getting up	No	n=3 (33.3%)
	Yes	n=6 (66.7%)
Medical Conditions (N=20)	Arthritis	n=12 (60%)
	Osteoporosis	n=9 (45%)
	Diabetes	n=4 (20%)
	Parkinsons	n=0 (0%)
	Stroke	n=3 (15%)
	Hearing Problems	n=7 (35%)
	MS	n=0 (0%)
	High BP, cholesterol or heart problems	n=11 (55%)
	Glaucoma	n=1 (5%)
	Macular degeneration	n=3 (15%)
	Cataracts	n=9 (45%)
N=8:	Memory Disorders	n=0 (0%)
	Back Problems	n=5 (62.5%)
	Foot Problems	n=1 (12.5%)
	Asthma or breathing problems	n=1 (12.5%)
	Sleeping Disorders	n=0 (0%)
N=4:	Cataract Surgery	n=3 (75%)
Prescription Glasses (N=8)		Yes, n=8 (100%)
Self-reported eyesight	Better than most your age	n=11 (55%)
	About the same	n=8 (40%)
	Worse than most	n=1 (5%)
Taking Prescription medications	Yes	n=20 (100%)
Difficulties (N=20)	Staying Awake or Alert	n=4 (20%)
	Keeping Balance	n=7 (35%)
	Initiating Movement	n=4 (20%)
	Persistent Pain	n=5 (25%)
N=10:	Limited Strength or Movement	n=5 (50%)

VPS: Mean score is 38.88±4.518 (31-44, N=8)

Males: Mean score is 39.67±4.04 (36-44, n=3)

Females: Mean score is 38.40±5.12 (31-43, n=5)

Driving History & Experience Questionnaire (N=8)

License age		21.87 +/- 7.198 (n=7) (16-37)
Worked outside home	Yes	n=7 (100%)
Commute by car	Yes	n=5 (71.4%)
	No	n=2 (28.6%)
Other drivers in house	Yes	n=7 (100%)
Who is other driver	Spouse	n=5 (71.4%)
	Other	n=1 (14.3%)
	Both	n=1 (14.3%)
Kms driven last year	Less than 3000km	n=4 (50%)
	3000-10,000km	n=1 (12.5%)
	10-20 thousand	n=0 (0%)
	Over 20 thousand	n=1 (12.5%)
	Don't know	n=2 (25%)
Choice for Cessation (n=8)	Voluntary	n=7 (87.5%)
	Involuntary	n=1 (12.5%)
Timing of Cessation	Gradual	n=7 (87.5%)
	Quite Sudden	n=1 (12.5%)
Preparation for Cessation	Not at all	n=2 (25%)
	To some extent	n=4 (50%)
	Quite extensively	n=2 (25%)

Driving History & Experience Questionnaire (N=20)

Primary driver	Me	n=11 (57.9%)
	Spouse	n=2 (10.5%)
	Both	n=6 (31.6%)
Year Stopped Driving	2009	n=1 (5%)
	2010	n=3 (15%)
	2011	n=8 (40%)
	2012	n=8 (40%)
Categorical	Stopped before move	n=6 (31.5%)
	Stopped after move	n=12 (63.2%)
	Wrote in "at exact same time"	n=1 (5.3%)
Calculated	Stopped before move	n=7 (36.8%)
	Stopped after move	n=8 (42.1%)
	Stopped at same time	n=4 (21.1%)
Average mths between	For calculated before move	3.43 +/- 1.718 n=7 (1-6)
	After move	27.38 +/- 13.511 n=8 (2-46)
Valid license (N=10)	No	n=9 (90%)
	Yes	n=1 (10%)
Still own vehicle	No	n=17 (85%)
	Yes	n=3 (15%)
Type of vehicle (n=1)	Car	n=1 (100%)
Vehicle kept (n=3)	At Village	n=2 (66.7%)
	Elsewhere	n=1 (33.3%)
Days/week you drove		4.45 +/- 1.761 (n=20) (2-7)

Days driven x gender	Male	5.33 +/- 1.871 (n=9) (3-7)
	Female	3.73 +/- 1.348 (n=11) (2-6)
Minor Accident	No	n=16 (80%)
	Yes	n=4 (20%)
Demerit Points	No	n=18 (90%)
	Yes	n=2 (10%)
Major Accident	No	n=18 (90%)
	Yes	n=2 (10%)
Injured in Accident	No	n=1 (50%)
	Yes	n=1 (50%)
License Revoked (n=20)	No	n=18 (90%)
	Yes	n=2 (10%)
Reason Revoked (n=2) +2 extra	Driving Record	n=0
	Medical Reasons	n=3
	Both	n=1 (50%)

Comfort Scores

	0%	25%	50%	75%	100%
Day-good weather			n=1	n=1	n=18
Day-heavy rain or snow	n=3	n=3	n=5	n=6	n=3
Day-400 series hiways	n=5		n=2	n=5	n=8
Night-good weather	n=6	n=1	n=1	n=4	n=8

Perceived Driving Abilities (N=10 except for last measure)

Ability to:	Poor	Fair	Good	Very Good
See road signs from distance			n=5	n=5
See pavement lines at night		n=1	n=4	n=5
Avoid hitting curbs/medians			n=4	n=4
Move quickly from gas to brake		n=2	n=3	n=4
Make over shoulder check			n=3	n=7
Get in and out of car		n=1	n=2	n=7
Reverse or back up		n=1	n=3	n=6
Make quick driving decisions			n=4	n=6
Drive safely and avoid accidents (n=8)				n=8

Alternate Transportation While Still Driving (n=8)

	Frequently	Sometimes	Rarely	Never
Passenger in vehicle	n=1	n=3	n=1	n=3
Public Bus		n=1	n=1	n=6
Taxi		n=2		n=6
Paratransit Services		n=1		n=7
Scooter				n=8
Wheelchair				n=8

Activities Outside of the Village (N=20)

	Don't belong to group	Belong to Goup	Attend Regularly/Last Month
Sports Related	n=19	n=1	n=1
Recreational / Hobbyist etc	n=18	n=2	n=2
Cultural or educational	n=15	n=5	n=4 (missing n=1)
Service club or frat org	n=18	n=2	n=2
Relig. group (not service)	n=14	n=6	n=2 (no n=2, missing n=2)
Political Party	n=19	n=1	n=1

Community Questionnaire

Last Month Shopping or errands	No	n=8
	Yes	n=12
Ate at a restaurant	No	n=2
	Yes	n=18
	Alone	n=1
	With Others	n=17
Ate at someone's home	No	n=11
	Yes	n=9
Went to movie/concert/theatre	No	n=13
	Yes	n=7
	With Others	n=7
Went to sporting event/casino	No	n=18
	Yes	n=2
	With Others	n=2
Went to educational event	No	n=19
	Yes	n=1
	With Others	n=1
Went to church etc	No	n=12
	Yes	n=8
	Alone	n=1
	With Others	n=7

Volunteer work in community (missing n=1)	No	n=17
	Yes	n=2
	# hours	6 hrs (n=1), 8 hrs (n=1)
Full day outings	No	n=16
	Yes	n=4
Overnight trips	No	n=17
	Yes	n=3
Trips out of province	No	n=20
Trips out of country	No	n=19
	Yes	n=1
Since moving, involvement in community	Increased	n=3
	Stayed the same	n=6
	Decreased	n=11
Connectedness to outside community	Very well connected	n=2
	Moderately connected	n=12
	Not well connected	n=6
Size of social network since move	Increased	n=4
	Stayed the same	n=9
	Decreased	n=7
Last time left Village	Last week	n=12
	Last month	n=7
	Last 3 months	n=1

Connections with family and friends (n=20)

	At least once/week	Few times a month	Infrequently (less than once/month)	Never
F&F visit you	n=8 (44.4)	n=9 (50%)	n=1 (5.6%)	
Visit F&F at their house	n=4 (20)	n=7 (35%)	n=6 (30)	n=3 (15)
Visit at restaurant / etc	n=4 (20)	n=6 (30)	n=7 (35)	n=2 (10)
Talk on phone	n=17 (85%)	n=3 (15)		
Via email	n=5 (27.7)	n=1 (5.6)	n=1 (5.6)	n=11 (61.1)

Services in Village

	No	Yes
Hair salon	n=7	n=13 (65%)
Spa	n=14	n=6 (30%)
General store	n=4	n=16 (80%)
Shared laundry facilities	n=14	n=6 (30%)
On site café	n=2	n=18 (90%)
On site library	n=7	n=13 (65%)
Banking services	n=17	n=3 (15%)
Optometry services	n=17	n=3 (15%)
Dental services	n=19	n=1 (5%)
Pharmacy services	n=17	n=3 (15%)
Massage services	n=20	n=0 (0%)
Physiotherapy	n=13	n=7 (35%)
Kinesiologist	n=12	n=8 (40%)
Physician	n=7	n=13 (65%)
Nurse Practitioner	n=11	n=9 (45%)
Assistance with meds	n=14	n=6 (30%)
Assistance with bathing	n=16	n=3 (15%)
Foot doctor	n=19	n=1 (5%)
Meal services – none		n=1
One a day		n=1 (5.9%)
Two a day		n=3 (17.6%)
Three a day		n=13 (76.5%)
Checked meals but not #		n=2
Services from other agency	n=14	n=6 (30%)
Religious services	n=10	n=10 (50%)
Art & crafts	n=17	n=3 (15%)
Games or Computer classes	n=9	n=11 (55%)
Music theatre or concerts	n=4	n=16 (80%)
Special events outside Village (including restaurant visits)	n=13	n=7 (35%)
Physical activity classes	n=7	n=13 (65%) (2.08 per week +/- 0.954, n=13 (1-4))
Sense of belonging to Village community – very strong		n=8 (40%)
Somewhat strong		n=11 (55%)
Somewhat weak		n=1 (5%)