Perceptions and Use of Alternate Transportation for Seniors:

Results from a Provincial Survey of Seniors

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Disclaimer

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Executive Summary

Our population is aging, with the percentage of seniors in Alberta projected to increase from a base rate of 11.8% of the population in 2011 to 19.2% by 2026. During the same time period, the absolute number of seniors in Alberta is projected to increase from 410,000 to more than 767,000 (Demographic Planning Commission, 2008). Transportation for seniors has been identified as an unmet need in many jurisdictions worldwide, and Alberta is no exception. Data from the United States indicate that men outlive their driving careers by seven years, with women outliving their driving careers by ten years (Foley, Heimovitz, Guralnik, & Brock, 2002). Thus, a significant percentage of the older population will depend on alternate transportation for a decade or more in later life. Moreover, in the next several decades, a growing number of seniors will voluntarily give up or have their driving privileges revoked due to changes in driving competency as a result of illnesses that affect vision (e.g., cataracts, glaucoma), motor function (e.g., arthritis), and/or cognitive abilities (e.g., Alzheimer's disease or other progressive dementias), resulting in an increased demand for alternative means of transportation.

Despite the widespread recognition of the importance of mobility for meeting basic and higher order needs, there is little in the way of research on the availability of alternate transportation for seniors (ATS) who no longer drive, either because of voluntary or involuntary reasons. Recent research from the University of Alberta (Dobbs, Bhardwaj, & Pidborochynski, 2010) indicates that although a significant number of alternate transportation service providers exist in the province of Alberta, gaps do exist in what is called the 5 A's of senior friendly transportation: Availability, Acceptability, Accessibility, Adaptability, and Affordability (The Beverly Foundation, 2001, 2005). Also lacking is research on the responsiveness of the alternate transportation service provision that does exist. Awareness of the strengths and gaps of service provision is foundational to the development and enhancement of alternate transportation services for seniors in our province. Also foundational to this goal is an understanding of what seniors perceive to be important in that service provision. For example, it may be that having alternate transportation during the weekday is critical for meeting transportation needs, with service provision during the evenings and weekends less important because of the availability of family or friends for rides. Hearing from seniors about those features of alternate transportation that are deemed relevant to them clearly is important for the development of *responsive models* of ATS service provision. This research was designed to address that deficiency.

The objective of this research was to '*hear from the seniors themselves'* what they consider important in alternate transportation service provision. Areas of alternate transportation of specific interest included the respondents': 1) perceptions of the importance of the 5 A's of senior friendly transportation; 2) awareness of alternate transportation options in their community; 3) use of both public and alternate means of transportation; and 4) satisfaction with transportation options in their community.

The research project involved interviewing Alberta seniors by telephone using the Computer Assisted Telephone Interviewing (CATI) system, with the interviews conducted by staff at the Population Research Laboratory (PRL) centre at the University of Alberta. Ethics approval for the research was provided by the Health Research Ethics Board – Panel B (HREB – Panel B) at the University of Alberta. The PRL interviewed 901 seniors, with oversampling in the rural-based former health regions in Alberta. Because of the small percentage of seniors in the former Northern Lights health region, primary contacts in the regions assisted with recruitment of potential participants, with 10 names randomly selected from those recruited. A Random-Digit Dialing (RDD) approach was used to interview 890 seniors from the remaining eight former health regions; Chinook (n = 100), Palliser (n = 95), Calgary (n = 180), David Thompson (n = 85), East Central (n = 107), Capital (n = 180), Aspen (n = 80), and Peace County (n = 64). To be eligible to participate in the survey, a person had to be at least 65 years of age and a resident of Alberta. Data collection started in early February (2011) and was completed in mid March (2011). The response rate (number of completed interviews divided by the number of completed interviews, refusals, incompletes, and language problems) was 25%. The average length of a completed interview was 21.4 minutes.

The results from the provincial survey are presented first for the sample as a whole (n = 901), followed by presentation of results by respondent location (rural/urban) as a function of driving status (current driver/non-driver). Our rationale for analyzing and presenting the data by location and driving status is that outcomes on many of the study variables differ when driving status is taken into consideration versus outcomes from the data analyses that focus on location (rural/urban) only. As such, the data presented in Section C.2 of the report (e.g., results presented for seniors living in rural and urban locations by driving status) provide a more comprehensive understanding of alternate transportation for seniors than data that look at differences in study variables as a function of rural/urban location alone or driving status alone.

Results from the Sample as a Whole (n = 901)

Demographics

The overall mean age of respondents was 73 years (SD = 6.8), with the majority (61%) of respondents overall between 65 and 74 years of age. Overall, the majority (61%) of respondents were female. Almost half (48%) of the sample had greater than high school education (e.g., College, Technical, University), with 53% of respondents reporting a total household income in 2010 equal to or greater than $35,000. Not surprisingly, the majority (80%) of respondents were retired, with the vast majority (96%) living independently in the community (e.g., single detached house, apartment, townhouse). Four percent of those surveyed lived in senior's lodges or assisted living facilities. The majority (72%) of respondents rated their physical health as good to excellent and 91% of respondents rated their mental health as good to excellent. Despite the high ratings for physical health, almost half (48%) of the respondents indicated that their physical health interfered with their ability to carry out everyday activities such as shopping, dressing, and/or preparing meals 'sometimes' or 'all the time'. Conversely, few (11%) respondents indicated that their mental health interfered with their ability to carry out everyday activities 'sometimes' or 'all the time'.

The majority (88%) of respondents held a valid driver's license, with 89% of respondents currently driving. Of interest, of the 790 respondents holding a valid driver's license, 759 currently drive (96%), 29 (4%) do not drive, with two (< 1%) having never driven. Of those not having a valid driver's license, three (3%) currently drive, 68 (62%) do not drive, and 39 (36%) have never driven. Overall, a higher percentage (21%) of female respondents reported not driving, with only 71% of male respondents reporting not driving. The majority (53%) of respondents had stopped driving because of health reasons, with the remaining stopping for 'personal' or 'affordability' reasons. The majority (88%) of respondents also owned a vehicle, with males significantly more likely to own a vehicle (93% compared to 84% of female respondents). Overall, a significantly higher percentage (21%) of female respondents reported not driving, with only 7% of male respondents reporting not driving. Of those who had stopped driving, the vast majority (79%) had not planned for the day that they would no longer drive.

Perceptions of the Importance of the 5 A's of Senior Friendly Transportation

The most important trends from respondents' perceptions of the importance of the 5 A's of senior friendly transportation are as follows:

Availability (*Transportation services are available during days, evenings; weekdays, weekends, etc.)*

- The availability of transportation service provision during *weekdays (daytime)* was rated as more important by a greater percentage of respondents, followed by transportation during the daytime on weekends, followed by transportation in the evening during weekdays. Evening transportation during the weekend was rated as important by the lowest percentage of respondents.

Acceptability (*Transportation services are acceptable in terms of advance scheduling; vehicles are clean; service providers provide driver 'sensitivity to seniors' training')*

- Not having to book transportation in advance or having to book 24 hours in advance was rated 'somewhat reasonable' or 'very reasonable' by the majority of participants (79%). Conversely, having to book more than 48 hours in advance was rated as 'unreasonable' by the majority of respondents (78%).
- Respondents indicated that they would be willing to wait, on average, 29 minutes for a ride past the scheduled pick up time.
- An overwhelming majority of respondents (98%) rated vehicle cleanliness as 'somewhat important' or 'very important'.
- Having drivers with knowledge about seniors' health issues (e.g., cognitive impairment) was rated as being 'somewhat important' or 'very important' by 93% of respondents.

Accessibility *(The service provider provides 'door-to-door' and 'door-through-door' transportation; provides transportation to essential and non-essential activities)*

- Slightly more respondents (86%) rated door-to-door service provision as 'somewhat important' or 'very important' with door-through-door service provision endorsed by 81% of respondents.
- The vast majority (97%) of respondents rated the availability of alternate transportation to meet medical needs (e.g., health related appointments) as 'somewhat important' or 'very important'; with slightly fewer respondents (92%) rating alternate transportation for essential services (e.g., grocery shopping, banking, etc.) as 'somewhat important' or 'very important'. Surprisingly, a higher percentage of respondents (73%) rated transportation for religious activities as 'somewhat important' or 'very important' compared to 66% of respondents rating transportation for social activities as 'somewhat important' or 'very important'.

Adaptability *(The service provider can accommodate riders wanting to make multiple stops; can accommodate wheelchairs and scooters; escorts can be provided)*

- More than three quarters of respondents (82%) rated multiple stops on a single trip (trip chaining) as 'somewhat important' or 'very important'.
- The majority (87%) of respondents also rated the ability to accommodate wheelchairs as 'somewhat important' to 'very important'.
- Slightly more than two-thirds of respondents (68%) rated escorts to assist with essential services (e.g., carrying groceries, staying with you at the bank) as 'somewhat important' to 'very important'. Conversely, only half of the respondents rated the availability of escorts to stay with them during a doctor's visit as 'somewhat important' to 'very important'.

Affordability *(Cost of transportation is affordable)*

- The majority of respondents (85%) indicated that they could *afford* to pay $14 or less for a one-way ride, with the same percentage (85%) indicating that they would be *willing* to pay $14 or less for a one-way ride. Only a small percentage of respondents (< 5%) indicated that they could afford and would be willing to pay more than $20 for a one-way ride.
- In terms of 'enhancement' of services, two-thirds of respondents (68%) indicated that they would be willing to pay more for trip chaining, less than two-thirds of respondents (59%) were willing to pay more for door-to-door transportation, with even fewer (49%) willing to pay more for door-through-door transportation service.
- Purchasing a book of tickets in advance was selected as the preferred method of payment by 40% of respondents. Approximately one-third (31%) indicated 'pay per ride' as their preferred method of payment, with 22% indicating setting up an account with the transportation provider as their preference. Notably, very few (5%) endorsed being invoiced for a ride as a preference for payment.

Awareness of Transportation Options in the Community

Respondents also were asked about their awareness of both public and alternate transportation options in their community. The most important trends are reported below.

- The majority of respondents were aware of public transportation services in their community; with slightly more than half (54%) of respondents indicating that their community had a public bus service available, 79% of respondents were aware of light rail transit, 63% of respondents indicated that public disabled transit was available, and 79% of respondents were aware of public taxi services.
- Only about one-third of respondents reported that they 'don't know' when asked about their awareness of public transportation services available in their community (<1% – 12% across the different types of services).
- Approximately one third of respondents indicated that they did not know if alternate transportation services were available in the community (30−37% across the different types of service provision).
- 38% of respondents indicated that they did not know if volunteer driving programs existed in the community, 30% were unaware if a community van existed, and 37% of respondents were unaware if specialized transportation by paid drivers existed.

When asked about how they usually find out about seniors' transportation services in the community, respondents indicated that sources were variable with:

- Seniors' centres being the most commonly reported source (20%), followed by newspapers (18%) and friends (13%).

Use of Transportation Options in the Community

In addition to awareness of transportation options, respondents were asked about their use of the transportation services available in the community. The highlights of those responses are presented below.

- Slightly fewer than one third (29%) of respondents indicated that they used public bus service, more than half (57%) used light rail transit, and less than 28% reported using taxis.
- Only 7% of respondents indicated that they used public disabled transit services, with the small percentage likely due to the number of respondents eligible to use the service (e.g., service limited to those with severe physical or cognitive disability).
- The vast majority of respondents (~ 90%) who were aware of ATS services in their community reported that they did rely on these types of transportation options.

Transportation Needs Being Met

The final questions focused on satisfaction with transportation options in the community. When asked how well their transportation needs were being met overall:

- 86% of respondents indicated that their needs were being met 'very well', with 11% indicating their needs were being met 'somewhat well', with only 3% responding 'not at all well'.

However, when asked how well the transportation needs of seniors in the community were being met overall:

- Only 39% of respondents said 'very well', with 46% responding 'somewhat well', and 15% saying 'not at all well'.

Respondents also were asked about their satisfaction with alternate transportation services in the community. Results indicated that of the 64 respondents:

- The majority (84%) were 'somewhat satisfied' or 'very satisfied' with the alternate transportation services available in their community.
- 62 responded to the question on whether they would recommend the alternate transportation services to family or friends. The majority (81%) indicated that they would recommend the alternate transportation services to their family or friends.

Results by Location (Rural/Urban) by Driving Status (Current Driver/Non-Driver) (n = 901)

Demographics

In this section of the Executive Summary, we present the results by location (rural vs. urban) by driving status (current drivers vs. non-drivers). Overall, 433 respondents were categorized as residing in rural Alberta (48% of the sample), with the remaining 468 respondents (52%) residing in an urban setting. Of the 433 drivers in rural Alberta, 385 (89%) were currently driving. Of the 468 respondents residing in urban locations in Alberta, 378 (81%) were currently driving. The difference in driving status (current drivers vs. non-drivers) by location (rural vs. urban) was not statistically different.

Age

- There were no significant differences in age for respondents' driving status by location. That is, overall the average age was 72 years for current drivers in both rural and urban locations, with an average age of 79 years for non-drivers in both rural and urban Alberta. However, non-drivers in both rural and urban Alberta were significantly older than drivers in rural and urban Alberta.

Gender

- There also were no significant differences in gender by driving status by location. Specifically, a similar percentage of males and females drove in rural and urban locations, with the differences between the two genders by location not significantly different. However, a significantly higher percentage of males (~ 93%) were currently driving, overall, compared to only 79% of females overall.

Education

- There were a significantly lower percentage of current drivers with greater than high school education in rural locations in Alberta compared to urban locations, with the percentages of non-drivers greater than high school education similar across the two settings.

Income

- No significant differences existed for income, with similar percentages of income for current and non-drivers across the two settings.

Employment

- Employment status also was similar for respondents when taking driving status by location into consideration. There was a difference however by driving status, with a higher percentage of non-drivers reporting themselves as being retired in both rural and urban Alberta versus those who were currently driving.

Living Arrangements and Place of Residence

- Overall, a high percentage of respondents reported living independently in the community, with no differences found in living arrangements when driving status and location were taken into consideration.
- Not surprisingly, however, a higher percentage of respondents living in senior's lodges and assisted living facilities were non-drivers, but the pattern was similar for respondents in rural and urban locations.

Current Physical and Mental Health and Impact of Health on Everyday Activities

- There were no significant differences in health status by driving status by location – that is, the percentage of current drivers in both rural and urban locations rating their health as 'good' to 'excellent' was similar (~ 75% of respondents across the two groups), with a similar percentage of non-drivers in both rural and urban locations rating their health as 'good' to 'excellent' (~ 52% of

respondents across the two groups). However, compared to respondents who were currently driving, a significantly lower percentage of non-drivers rated their health as 'good' to 'excellent' but the percentages were similar for rural and urban locations. A similar pattern of findings was evident for ratings of mental health.

• In terms of the effects of health status on the performance of everyday activities, a similar percentage (~ 45%) of current drivers in both rural and urban locations indicated that their physical health interfered with everyday activities, with a significantly higher percentage of non-drivers in both rural and urban locations (~ 62%) indicating that their physical health interfered with the performance of everyday activities. Few respondents indicated that their mental health interfered with everyday activities, with the pattern of findings similar to that described for physical health.

Perceptions of the Importance of the 5 A's of Senior Friendly Transportation

In this next section, the most important trends from respondents' perceptions of the importance of the 5 A's of senior friendly transportation, with the data examined by driving status (current driver/non-driver) by location (rural/urban).

Availability (*Transportation services are available during days, evenings; weekdays, weekends, etc.)*

A comparison of ratings by driver status as a function of location indicated that:

- A higher percentage of urban respondents rated the availability of transportation services during weekdays in the daytime as 'somewhat important' or 'very important' compared to respondents in rural locations ($p = .002$).
- A higher percentage of current drivers, irrespective of location, rated the availability of transportation services during the weekday in the evening ($p = .003$) and during the weekend in the daytime ($p = .001$) as more important than non-drivers during those same time periods.

Acceptability (*Transportation services are acceptable in terms of advance scheduling; vehicles are clean; service providers provide driver 'sensitivity to seniors' training')*

A comparison of ratings by driver status as a function of location indicated that:

- A higher percentage of urban respondents, irrespective of driving status, rated same day notification for scheduling a ride as being more reasonable than respondents in rural locations, irrespective of driving status ($p = .002$). Similarly, a higher percentage of urban respondents rated the need for more than 48 hours notice for scheduling a ride as unreasonable compared to rural respondents ($p < .001$), irrespective of driving status.
- Urban respondents, irrespective of driving status, rated vehicle cleanliness as more important than respondents in rural locations ($p = .002$).
- The importance of having drivers knowledgeable about seniors' issues was rated as more important by respondents in rural settings than urban respondents, irrespective of driving status ($p = .03$).

Accessibility *(The service provider provides 'door-to-door' and 'door-through-door' transportation; provides transportation to essential and non-essential activities)*

A comparison of ratings by driver status as a function of location indicated that:

- A higher percentage of rural respondents rated door-to-door service and door-through-door service as 'somewhat important' or 'very important' versus respondents in urban locations (both p's $< .001$). A higher percentage of rural respondents also rated the availability of transportation for medical ($p = .01$) and essential ($p = .04$) needs as important versus the percentage of urban respondents, irrespective of driving status.
- A higher percentage of current drivers rated door-through-door service as important versus non-drivers ($p < .001$). A greater percentage of current drivers also rated transportation for medical ($p = .001$), essential needs ($p < .001$), social ($p < .01$) and religious activities ($p = .03$) as important compared to non-drivers, irrespective of location.

Adaptability *(The service provider can accommodate riders wanting to make multiple stops; can accommodate wheelchairs and scooters; escorts can be provided)*

A comparison of ratings by driver status as a function of location indicated that:

- A higher percentage of rural respondents rated trip chaining ($p < .01$) and the availability of escorts for essential services ($p < .01$) and for doctor's visits ($p < .01$) as important compared to their urban counterparts, irrespective of driving status.
- Trip chaining ($p < .01$) the accommodation of scooters ($p < .001$), and the availability of escorts for essential services ($p < .004$) escorts that stay during a doctor's visit ($p < .01$) were rated by a higher percentage of respondents who drive than respondents who did not drive, irrespective of location.

Affordability *(Cost of transportation is affordable)*

A comparison of ratings by driver status as a function of location indicated that:

- A higher percentage of current drivers indicated that they were willing to pay more for door-through-door service ($p = .03$) and for trip chaining ($p= .01$) than non -drivers, irrespective of location.
- The interaction effect for method of payment ($p < .01$) indicated that purchasing a book of rides was the preferred payment method for the majority of respondents in urban areas, with the percentage approximately the same for current and non-drivers. In the rural setting, on the other hand, purchasing a book of passes was preferred by the majority of current drivers, but paying per ride was the preferred method for non-drivers. Being invoiced for rides was the third preferred method of payment for both rural and urban respondents, irrespective of driving status. Finally, no respondents selected setting up an account as the preferred method of payment for a ride.

Awareness of Transportation in the Community

Respondents also were asked about their awareness of both public and alternate transportation options in their community. The most important trends are reported below.

- Both urban drivers and non-drivers were more aware (86% and 90%, respectively) than both rural drivers and non-drivers (18% and 17%, respectively) of public bus transportations services. A higher percentage of respondents in rural locations (4%) were unsure of whether any public bus service was available.
- More non-drivers in urban areas (74%) were aware of light rail transit services available compared to only 20% of current drivers in urban locations.
- More respondents in urban areas reported being aware of public disabled transit transportation services (81% and 87 %, respectively) compared to rural areas where only 43% of current drivers and only 33% of non-drivers reported being aware of this transportation option.
- There was a lower percentage of respondents in rural areas (56% of current drivers and 69% of non-drivers) that reported being aware of taxi services, whereas in urban areas, ~ 97% of both current drivers and non-drivers reported being aware of taxi services in their community.
- A higher percentage of non-drivers in rural areas (40%) reported being aware of volunteer driving programs available to them to accommodate transportation needs across all categories of location by driving status. However, a high percentage of respondents in both rural (24%) and urban (50%) areas reported that they didn't know whether this type of alternate transportation was available to them.
- The highest percentage of respondents across locations and driving status, who reported being aware of community vans was rural non-drivers (42%).
- A higher percentage of non-drivers in both rural (25%) and urban (41%) locations reported being aware of specialized transportation provided by paid drivers. Interestingly, 55% of respondents in urban locations reported that they 'didn't know' if this type of transportation service was available in their community, compared to only 27% of respondents in rural locations.

Use of Transportation Options in the Community

In addition to awareness of transportation options, respondents were asked about their use of the transportation options available in the community. The highlights of those responses are presented below.

- Of those respondents who reported being aware of a public bus service available in their community, a higher percentage of non-drivers in both rural (37%) and urban (60%) locations reported that they used this type of public transportation.
- More non-drivers in urban locations (62%) who were aware of light rail transit in their community reported they did in fact use this type of public transportation in comparison to current drivers reporting awareness of this type of public transportation in urban locations (56%).
- Non-drivers in both locations who were aware of public disabled transit services in their community reported a higher percentage of use (31% and 36%, respectively) in comparison to current drivers in both rural and urban locations (7% and 30%, respectively).
- Non-drivers in both locations (51% and 54%, respectively) reported a higher frequency of public taxi use compared to current drivers in rural and urban locations who were aware of this kind of transportations service in their community.
- Across all forms of alternate transportation for seniors (i.e., volunteer driving programs, community vans, and specialized transportation by paid drivers), a higher percentage of non-drivers irrespective of location reported using alternate transportation in comparison to current drivers, irrespective of location. However, higher percentages of non-drivers in rural locations reported using the three forms of alternate transportation (42%, 50%, and 42%, respectively) than non-drivers in urban locations.

Transportation Needs Being Met

In addition to awareness of transportation options, respondents were asked about their use of the transportation options available in the community. The highlights of those responses are presented below.

- Of those respondents who reported being aware of a public bus service available in their community, a higher percentage of non-drivers in both rural (37%) and urban (60%) locations reported that they used this type of public transportation.
- More non-drivers in urban locations (62%) that were aware of light rail transit in their community reported they did in fact use this type of public transportation in comparison to current drivers in urban locations (55.6%) that reported awareness of this type of public transportation.
- Non-drivers in both rural and urban locations who were aware of public disabled transit services in their community reported a higher percentage of use (31% and 36%, respectively) in comparison to current drivers in both rural and urban locations (7% and 30%, respectively).
- Like public disabled transit service, non drivers in both rural and urban locations (51% and 54%, respectively) reported a higher frequency of use compared to current drivers in rural and urban locations who were aware of this kind of transportations service in their community.
- Across all forms of alternate transportation for seniors (i.e., volunteer driving programs, community vans, and specialized transportation by paid drivers), non-drivers in both rural and urban locations who were aware of these transportation services reported a higher percentage of use in comparison to current drivers across locations. However, non-drivers in rural locations who reported awareness of these transportation services reported higher percentages of use (42%, 50%, and 42%, respectively) than non-drivers in urban locations.

The final questions related to satisfaction with transportation options in the community. When asked how well their transportation needs were being met overall:

- The vast majority of both current drivers and non-drivers in rural and urban locations reported that their transportation needs were being met ‘somewhat’ to ‘very well’; with the highest percentage of respondents in urban areas who were currently driving (99%) indicating this. However, only 87% of respondents who were non-drivers and residing in rural areas indicated that their transportation needs were being met ‘somewhat’ to ‘very well’.

However, when asked how well the transportation needs of seniors in the community were being met overall:

- About a quarter of respondents in rural areas who drive and about a quarter of respondents in rural areas who are non-drivers reported that the transportation needs of seniors in their community were being met 'not at all well'.

Respondents also were asked about their satisfaction with alternate transportation services in the community. Results indicated that of the 64 respondents using alternate transportation services:

- The majority (93%) of non-drivers in urban areas who used alternate transportation (n = 15) were 'somewhat satisfied' or 'very satisfied' with these services. However, almost 20% of both current drivers and non-drivers in rural areas who reported using alternate transportation indicated that they were 'not at all satisfied' with these services.
- The majority of drivers and non-drivers in both rural and urban locations who used the alternate transportations services available in their communities reported that they would recommend these services to family or friends. Interestingly, almost one third of non-drivers in urban areas indicated that they would not recommend alternate transportation services to family or friends.

Summary and Conclusions

Alberta, like other jurisdictions in the developed world, is experiencing a demographic shift, with the percentage of seniors projected to double over the next two decades. The increasing number of seniors in our communities, as well as the 'aging' of the older population, will result in dramatic changes in the composition of our population over the next several decades – these changes will present new challenges from a transportation planning perspective. It is well established that lack of access to a private vehicle often results in unmet needs, including reductions in access to medical services, to necessary stores and services (e.g., shopping, banking, picking up the mail), to social events and participation in religious activities. Notably, rural seniors have more unmet needs than their urban counterparts because of transportation deficiencies in rural areas (Dobbs & Strain, 2008).

In the recent Federal Provincial and Territorial (FPT) Minister's report on Age-Friendly Rural and Remote Communities (Gallagher, Menec, & Keefe, 2007), transportation was identified as a dominant issue. Given that most of us will become transportation dependent, it is surprising that few drivers plan for retirement from driving. It also is surprising that such few responsive transportation options, outside the private automobile, exist for maintenance of seniors' mobility in both urban and rural areas. Despite the importance of transportation for maintaining mobility, there is a dearth of information on the availability and responsiveness of *alternate forms of transportation* for seniors when driving is no longer an option. In our previous research, we identified the strengths and gaps of alternate transportation service to seniors from a *service provider's perspective.* Specifically, gaps often were found on measures of the 5 A's of senior friendly transportation: Availability, Acceptability, Accessibility, Adaptability, and Affordability (The Beverly Foundation, 2001, 2005). Despite the intuitiveness of the 5 A's of senior friendly transportation, research is needed to inform on which aspects of senior friendly transportation, as articulated in the 5 A's are most important to seniors. This research has helped to inform on the issue.

The responses from 901 community dwelling seniors in rural and urban areas of Alberta are enlightening. It is interesting to note that the majority of the respondents indicated that their transportation needs were being met, with the vast majority relying on traditional forms of transportation to meet their needs (e.g., private vehicle), but with a significant percentage of respondents also relying on public transportation (e.g., buses, light rail transit, taxis). Notably, 29% of our sample reported using public buses, with 57% of respondents indicating that they used light rail transit. These percentages are significantly higher than the cited usage of 10% by Carp (1988), with conventional *fixed-route public transport* often '*the mode of last resort*' (Alsnih & Henser, 2003). Conversely, less than 12% of our respondents reported using alternate transportation, with community vans the mode of service most commonly used. The low percentage of use of alternate transportation is likely influenced by a relatively

healthy and affluent sample. Having said that, 45% of our respondents indicated that their physical health status interfered with their ability to carry out everyday activities. Few (21%) of our respondents had planned for the day that they could no longer drive. These results underscore the need for education on driving retirement given that men outlive their driving years by 6 years and women by 10 years (Foley et al., 2002). Notably, compared to their male counterparts, a greater percentage of females in our sample reported not driving. The increased longevity of females, combined with their lower licensing rates, supports the development and use of 'mobility management' education for seniors in general, with a particular focus on older females.

Results from this research also inform on the development of responsive models of transportation for seniors. Specifically:

- The importance of daytime transportation on weekdays and weekends, with evening transportation during the weekend rated as least important, features rated as important by rural and urban respondents and current drivers and non-drivers.
- The need for short 'advance booking times' with same day service rated the most reasonable by a majority of respondents. Conversely, having to book transportation more than 48 hours in advance was rated as 'unreasonable' by the majority of respondents (78%).
- The importance of vehicle cleanliness, a feature rated as 'somewhat important' to 'very important' by 98% of respondents.
- Education of drivers on issues related to seniors also was rated as important by 93% of respondents, underscoring the need for the development and implementation of driver training courses for both paid and volunteer drivers in both rural and urban Alberta.
- The need for alternate transportation for a variety of needs (e.g., essential, social, religious), with a particular emphasis on the availability of alternate transportation for medical needs, particularly for seniors in rural locations, was important irrespective of driving status.
- Few alternate transportation providers allow for trip chaining (multiple stops during the course of a trip). However, trip chaining was rated by more than three quarters of the respondents as an important feature of alternate transportation.
- Responsiveness to seniors with mobility aids as evidenced by the majority (87%) of respondents rating the ability to accommodate wheelchairs as 'somewhat important' to 'very important'.
- Slightly more than two-thirds of respondents (68%) rated escorts to assist with essential services (e.g., carrying groceries, staying with you at the bank) as 'somewhat important' to 'very important'. Conversely, only half of the respondents rated the availability of escorts to stay with them during a doctor's visit as 'somewhat important'.
- The stronger endorsement for availability of escorts for assistance with essential services (e.g., carrying groceries, staying with you at the bank) versus the availability of escorts for medical visits.
- Cost of alternate transportation is clearly an important consideration, with the majority of respondents (85%) indicating that they could *afford* to and would be willing to pay $14 or less for a one-way ride.
- If enhanced service is needed, respondents indicated a willingness to pay for those enhancements, with trip chaining rated as the most important.
- Method of payment can facilitate the use of alternate transportation, with two methods of payment endorsed by the greatest number of respondents: 1) pay per ride; and 2) purchase a book of passes in advance.

The findings can serve as a guide to the provision of alternative transportation for seniors in both urban and rural areas. The importance of this is that the alternate transportation can be shaped to fit the needs seniors themselves perceive as being important. Utilizing these findings as a guide can result in the best fit, emphasizing the highly desired attributes and de-emphasizing the attributes considered as less important. This includes an extensive array of features which go well beyond just scheduling and cost. They also include the training of the drivers on aging, assistance given to the client (e.g., through the door 'delivery', escorts during service procurement), cleanliness of the vehicle, and method of payment. The challenge now is to utilize that information to develop an effective array of alternative transportation services to support our aging population.

A. Introduction

Transportation for seniors has been identified as an unmet need in many jurisdictions worldwide, and Alberta is no exception. The demand for alternative means of transportation is increasing as a growing number of seniors voluntarily give up or have their driving privileges revoked due to changes in driving competency due to illnesses that affect vision (e.g., cataracts, glaucoma), motor function (e.g., arthritis), and/or cognitive abilities (e.g., Alzheimer's disease or other progressive dementias). Data from a study in the United States indicate that men outlive their driving careers by seven years, with women outliving their driving careers by ten years (Foley et al., 2002). Thus, a significant percentage of the older population will depend on alternate transportation for a decade or more in later life.

Despite the widespread recognition of the importance of mobility for meeting basic (e.g., food, clothing, banking, medical) and higher order (e.g., socializing, recreation, worship) needs (Carp, 1988), there is a paucity of research on the availability of alternate transportation for seniors who no longer drive, either because of voluntary or involuntary reasons. Our recent research, funded by the Alberta Motor Association Foundation for Traffic Safety (Dobbs et al., 2010), furthers the understanding of alternate transportation service provision for seniors in terms of the availability and responsiveness of services in both urban and rural settings in the province of Alberta. Specifically, although there is a significant number of alternate transportation for seniors (ATS) service providers in the province of Alberta, and those providers are dedicated and work tirelessly to provide alternate transportation to the senior population, it also is evident that service provision is limited in terms of the 5 A's of senior friendly transportation: Availability, Acceptability, Accessibility, Affordability, and Adaptability (The Beverly Foundation, 2001, 2005).

The need for a greater understanding of alternate transportation for seniors is highlighted by a review of current data. That is, based on 2006 in Alberta demographic data and a *conservative* estimate that 10% of the senior population is in need of alternate transportation in urban and rural Alberta, there currently is need for alternate transportation service provision for 30,250 seniors, *with that number projected to escalate to 72,000 by 2026*. Based on results from our 2010 research, there were 197 service providers in the province providing alternate transportation service to an average of 73 seniors per month,[1] or a total of 14,381 seniors. This leaves a *conservative* estimate of approximately 16,000 seniors with unmet transportation needs *today*. Utilizing current models and rates of service provision, we can anticipate a *fivefold increase* in seniors with unmet transportation needs by 2026. Based on the same estimates and using current ATS service provision data, 790 more alternate transportation service providers would have to come on board in order to meet the projected demand for ATS over the next two decades. When considering the resources required for ATS service provision utilizing current models (e.g., infrastructure and operating costs and personnel including paid and volunteer drivers), the projected number of service providers needed to meet the alternate transportation needs of seniors clearly is unattainable.

Results from our survey of ATS service providers in the province allowed us to identify the strengths and deficiencies in ATS service provision in the province − a necessary step for new or further development of ATS service provision models in both urban and rural communities in Alberta. Also necessary in the development of or refinement of ATS service provision models is learning about the transportation needs of seniors from the *perspective of seniors themselves*, particularly in terms of the features of alternate transportation that are deemed as necessary and features that are desirable but not necessary and/or desirable but too costly. For example, providing rides on weekdays *and* weekends, and providing rides during the day *and* in the evening are promoted as important features of senior friendly transportation. However, what is unknown is whether *seniors themselves* consider these features important. It may be that having alternate transportation during the weekday

[1] Note that the estimate is based on the assumption that the 73 seniors per month represent 73 independent rides – in reality, many of these rides are likely provided to repeat clients, which means that an even greater number of seniors are devoid of alternate transportation using the current estimates.

is critical for meeting transportation needs, with service provision during evenings and weekends less important due to the availability of family or friends for rides. Hearing from seniors about these features of alternate transportation that are deemed important to them clearly is relevant to development of *responsive models* of ATS service provision. This research was designed to address that deficiency.

Objectives of the Project

Building on our 2010 research on alternate transportation service provision for seniors, which focused on collecting information from the perspective of *service providers*, the current study was designed to '*hear from the seniors themselves'* what they consider important in alternate transportation service provision. Areas of alternate transportation of specific interest included the participants': 1) perceptions of the importance of the 5 A's of senior friendly transportation; 2) awareness of transportation options in their community; 3) use of public and alternate means of transportation. Feedback on how well the transportation needs of respondents and seniors in general were being met, as well as satisfaction with alternate transportation services in the community also was examined.

B. Methodology

The research project involved interviewing Alberta seniors by telephone using the Computer Assisted Telephone Interviewing (CATI) system, with the interviews conducted by staff at the Population Research Laboratory (PRL) centre at the University of Alberta. Ethics approval for the research was provided by the Health Research Ethics Board – Panel B at the University of Alberta. The PRL interviewed 901 seniors, with oversampling in the rural-based former health regions in Alberta. A Random-Digit Dialing (RDD) approach was used to interview 890 seniors from eight of the former nine health regions; Chinook (n = 100), Palliser (n = 95), Calgary (n = 180), David Thompson (n = 85), East Central (n = 107), Capital (n = 180), Aspen (n = 80), and Peace Country (n = 64). The RDD method ensured that respondents had an equal chance to be contacted whether or not their household was listed in the local telephone directory. Because of the small percentage of seniors in the former Northern Lights health region, Medically At-Risk Driver Centre (MARD) research team identified primary contacts[2] in the region to assist with recruitment. Those primary care contacts assisted in recruitment by explaining the study, displaying information and sign-up sheets, and forwarding to MARD the contact list of potential participants who consented to being contacted by the PRL. MARD research staff then randomly selected the names of 10 of the 24 seniors, forwarding the names and contact information to the PRL for interviewing. To be eligible to participate in the survey, a person had to be at least 65 years of age and a resident of Alberta.

The preliminary survey was developed by MARD research staff, with refinement of the survey done through consultation with PRL research staff. The survey was developed to examine seniors' perceptions of the 5 A's (Availability, Acceptability, Accessibility, Adaptability, and Affordability) of senior friendly transportation as outlined by the Beverly Foundation (2001, 2005); seniors' awareness of public transportation and alternate transportation availability in their communities; seniors' use of both public and alternate transportation options in their community; and seniors' satisfaction with transportation options in their community.

The final questionnaire script consisted of the following components: 1) a standardized introduction, including contact information for the research team and the PRL; 2) assurance that information provided was voluntary, confidential, and anonymous and protected under the Freedom of Information and Protection of Privacy Act (FOIPP); 3) qualifying questions for participation; 4) participant collection of information on transportation experiences and opinions; and 5) demographics of participants. All CATI interviewers received training prior to data collection with training covering background information, Alberta Freedom of Information and Protection of Privacy Act (FOIPP) requirements and guidelines, ethical considerations, questionnaire content, and CATI

[2] The primary contacts included senior organizations, Health Authorities, specialized transportation providers and the local Family and Community Support Services (FCSS) office.

telephone instructions. MARD research staff also attended the training session to further provide information and answer questions posed by CATI interviewers regarding the nature and scope of the study.

Following this training, a pretest was conducted by the PRL to refine the study questionnaire further before the main phase of data collection began. In the pretest, the PRL interviewed 10 rural and urban seniors aged 65 and older from its centralized CATI facilities at the University of Alberta. This system facilitates the exchange of information among interviewer Personal Computer stations and supervisor stations that are linked using a file and database server during the recruitment period. Supervisors monitored call dispositions, conducted field edits, validated data, and generated progress reports.

PRL staff reviewed the pretest data with MARD research staff, and modified the electronic questionnaire in the CATI system further to produce a final version of the questionnaire for the main phase of the data collection. A government public service announcement (PSA) was sent out through the internet to community newspapers prior to the main data collection to encourage seniors to participate if they received a call from the PRL.[3]

Main data collection was initiated in early February (2011) with data collection completed in mid March (2011) for a total sample size of 901 participants. The average length of a completed interview was 21.4 minutes. The data collection procedures did not include refusal interviewing.[4] Data collection took place during the day, in the evening, and on the weekends. Interviews were conducted between the hours of 0900 hours to 1400 hours and 1600 hours to 2100 hours between Monday to Friday; 1000 hours to 1600 hours on Saturdays; and 1400 hours 2000 hours on Sundays.

A potential respondent was eligible if they were at least 65 years of age and resided in Alberta. The interviewers asked screening questions from the script to determine eligibility and coded the outcomes for all calls. Of the screened numbers (where contact was established), 901 respondents completed the interview, 2,607 refused to participate, and 7,422 were ineligible. The response rate (number of completed interviews divided by the number of completed interviews, refusals, incompletes, and language problems) was 25%.

[3] A Government of Alberta public service announcement is an announcement that services the public interest or promotes social or community causes.

[4] Interviewers call respondents back in an attempt to convert an initial refusal to participate into a completed interview.

C. Results

The results from the provincial survey are presented first for the sample as a whole (n = 901), followed by the results presented by participant location (rural/urban) as a function of driving status (current driver/non-driver). Readers interested in differences in the study variables between participants living in rural and urban Alberta or by gender can contact the researchers directly. Our rationale for analyzing and presenting the data by location and driving status is that outcomes on many of the study variables differ when driving status is taken into consideration versus outcomes from the data analysis that focuses on location (rural/only) only. As such, the data presented in Section C.2 (e.g., results presented for seniors living in rural and urban locations by driving status) provide a more comprehensive understanding of alternate transportation for seniors than data that only look at differences in study variables as a function of rural/urban location.

C.1. Sample as a Whole

C.1.1. Demographics

The demographics of the sample (e.g., age, gender, physical health, etc.) are provided in Table 1. As can be seen, the overall percentage of missing data (e.g., participants not wishing to provide a response) is low. Percentages in the text have been rounded to the nearest decimal point. To facilitate data interpretation, instances where data are missing are identified. The results (e.g., mean/standard deviation or percentage) provided in Table 1 are based on the number of valid responses. The overall mean age of respondents was 73 years (SD = 6.80), with the majority (61%) of respondents between 65 and 74 years of age. The majority (61%) of respondents were female. In terms of education, the sample was split with almost half (48%) of the sample having a greater than high school education (e.g., College, Technical, University), with 53% of respondents reporting a total household income in 2010 of $35,000 or greater. Not surprisingly, the majority (80%) of respondents were retired, with 59% of the sample being married (e.g., married or common law), and the vast majority (96%) of respondents living independently in the community (e.g., single detached house, apartment, townhouse). Four percent of those surveyed lived in senior's lodges or assisted living facilities. Using Statistics Canada's (2009) listing of cities, towns, regional municipalities, and specialised municipalities for Alberta,[5] respondents were categorized as living in rural (all locations excluding cities) or urban (cities) locations. Using this categorization, 48% of respondents resided in rural locations.

When asked about health status, 72% of respondents rated their physical health as 'good' to 'excellent'. However, almost half of the sample (48%) indicated that their physical health interfered with their ability to carry out everyday activities such as shopping, dressing, and/or preparing meals 'sometimes' or 'all the time'. The vast majority (91%) of respondents rated their mental health as 'good' to 'excellent', with only 11% of respondents indicating that their mental health interfered with their ability to carry out everyday activities 'sometimes' or 'all the time'.

[5] This listing was revised to include Sherwood Park and Fort McMurray as cities.

Table 1 – *Demographic Information (Sample as a Whole)*

Category	n (%) or Mean (SD)
Age of Respondent	n = 893
Mean Age	73.43 (6.80)
Age by Category	
65–74 years	544 (60.9%)
75–84 years	295 (33.0%)
85+ years	54 (6.0%)
Sex of Respondent	n = 901
Male	349 (38.7%)
Female	552 (61.3%)
Highest Level of Education	n = 891
High School or Less	465 (52.2%)
> High School	426 (47.8%)
Total Income	n = 691
≤ $ 34,999 Annually	327 (36.3%)
≥ $35,000 Annually	364 (52.7%)
Employment Status	n = 901
Retired	717 (79.6%)
Employed Part-Time	84 (9.3%)
Employed Full-Time	53 (5.9%)
Unemployed	12 (1.03%)
Other[6]	35 (3.9%)
Marital Status	n = 898
Married	526 (58.6%)
Single	372 (41.4%)
Living Arrangements	n = 899
Lives in Independent Residence	864 (96.1%)
Lives in Seniors Lodges/Assisted Living Facilities	35 (3.9%)
Place of Residence	n = 901
Rural	433 (48.1%)
Urban	468 (51.9%)
Current Physical Health	n = 900
Poor	45 (5.0%)
Fair	209 (23.2%)
Good	434 (48.2%)
Excellent	212 (23.6%)
Description of Current Mental Health	n = 898
Poor	6 (0.7%)
Fair	72 (8.0%)
Good	452 (50.2%)
Excellent	368 (40.8%)
Current Physical Health Interfering with Everyday Activities	n = 897
Never	469 (52.3%)
Sometimes	359 (40.0%)
All the Time	69 (7.7%)
Current Mental Health Interfering with Everyday Activities	n = 896
Never	796 (88.8%)
Sometimes	89 (9.9%)
All the Time	11 (1.2%)

[6] Includes self-employed, housewife, 'never worked', and semi-retired.

Information on licensing, driving status and vehicle ownership is provided in Table 2. The majority (88%) of respondents reported holding a valid driver's license, with 89% of respondents reporting that they currently drove, with 2 (< 1%) reporting that they had never driven. The majority (88%) of respondents also reported owning a vehicle.

Of interest, of the 790 respondents reporting holding a valid driver's license, 759 indicated that they currently were driving (96%), with 29 (4%) reporting that they did not drive, with 2 (< 1%) reporting that they had never driven. Of the 110 respondents who reported *not* having a valid driver's license, three (3%) indicated that they were currently driving, 68 (62%) indicated that they did not drive, and 39 (35%) indicated they had never driven. Overall, a higher percentage (21%) of female respondents reported not driving, with only 7% of male respondents reporting not driving ($p < .001$). The majority (53%) of respondents indicated that they had stopped driving because of health reasons, with the remaining respondents indicating that they stopped driving for 'personal' or 'affordability' reasons. Of those who had stopped driving, the vast majority (79%) had not planned for the day that they would no longer drive (data not shown).

In terms of vehicle ownership, males also are significantly more likely to own a vehicle, with 93% of male respondents reporting owning a car compared to 84% of female respondents indicating that they owned a car ($p < .001$) (data not shown).

Table 2 – *Licensing, Driving, and Vehicle Ownership (Sample as a Whole)*

Category	n (%)
Do you hold a Valid Drivers' License? No Yes	n = 900 110 (12.2%) 790 (87.8%)
Do you Currently Drive? No Yes Never Drove	n = 901 97 (11.3%) 763 (88.7%) 41 (4.5%)
Do you Currently Own a Vehicle? No Yes	n = 899 111 (12.3%) 788 (87.7%)

C.1.2. Perceptions of the 5 A's of Senior Friendly Transportation

The 5 A's of senior friendly transportation, as developed by the Beverly Foundation (2001, 2005) are Availability, Acceptability, Accessibility, Adaptability, and Affordability. Definitions of each of the 5 A's are provided below (see also Appendix A).

Availability

Transportation services are provided to seniors and those services are available when needed (e.g., days, evenings; weekdays, weekends).

Acceptability

Service quality is acceptable in terms of advance scheduling; vehicles are clean and well-maintained; service providers provide driver 'sensitivity to seniors' training.

Accessibility

Service providers provide 'door-to-door' and 'door-through-door' transportation; provide transportation to essential and non-essential activities.

Adaptability

Transportation can accommodate riders wanting to make multiple stops (trip chaining); service provider allows for different types of routes (fixed vs. client response) and passenger service (single vs. group); service providers can accommodate wheelchairs and walkers; escorts can be provided.

Affordability

Cost of transportation is affordable (e.g., uses volunteer drivers to reduce costs; vouchers or coupons available, etc.).

The underlying assumption of the 5 A's is that service provision that is consistent with attributes identified in each of the 5 A's is more responsive and hence would be deemed to be important to seniors. One of the objectives of this study was to determine if seniors themselves perceive the identified components of alternate transportation service provision as being important. The results of on seniors' perceptions of the importance of the 5 A's of ATS for the sample as a whole are presented in Tables 3 through 7.

Availability

Availability of transportation services for seniors is defined as the existence of transportation services with those services provided to the seniors in the community when needed (e.g., during the daytime, evening, on weekends, etc.). Ninety-one percent of respondents rated daytime transportation during the *weekdays* as 'somewhat important' or 'very important', with 83% rating daytime transportation on the *weekends* as 'somewhat important' or 'very important'. Evening transportation was rated as important by fewer respondents with higher ratings for *weekday* evening service (64%) than for *weekend* evening service (51%).

Table 3 – *Perceptions of Importance of Availability of Services (Sample as a Whole)*

Availability of Services	n (%)
Weekday Service	
Daytime (Until 1800 Hours)	n = 899
Not at all Important	76 (8.5%)
Somewhat Important	154 (17.1%)
Very Important	669 (74.4%)
Evening (Past 1800 Hours)	n = 892
Not at all Important	324 (36.3%)
Somewhat Important	406 (45.5%)
Very Important	162 (18.2%)
Weekend Service	
Daytime (Until 1800 Hours)	n = 896
Not at all Important	154 (17.2%)
Somewhat Important	389 (43.4%)
Very Important	353 (39.4%)
Evening (Past 1800 Hours)	n = 892
Not at all Important	439 (49.2%)
Somewhat Important	323 (36.2%)
Very Important	130 (14.6%)

Acceptability

Acceptability of alternate transportation for seniors is defined in terms of advance scheduling, the cleanliness of vehicles, as well as having drivers that are sensitive to the needs of seniors. As shown in Table 4, not having to book transportation in advance or having to book 24 hours in advance was rated 'somewhat reasonable' or 'very reasonable' by the majority of participants (79%). Conversely, having to book more than 48 hours in advance was rated as unreasonable by the majority (78%) of respondents. Respondents indicated that they were willing to wait 29 minutes (SD = 24.68) past the scheduled pick up time for a ride (data shown).

More than three quarters (82%) of respondents rated vehicle cleanliness (e.g., inside of vehicle is clean) as 'very important', with another 16% rating it as 'somewhat important'. Finally, knowledge about seniors' health issues (e.g., chronic illnesses that affect mental functioning as dementia) was rated as being 'very important' by 63% of respondents, with a further 29% rating it as being only 'somewhat important'.

Table 4 – *Perceptions of Importance of Acceptability of Services (Sample as a Whole)*

Acceptability of Services	n (%)
Advance Notification Timeline	
No Advance Notification	n = 877
Not at all Reasonable	186 (21.2%)
Somewhat Reasonable	288 (32.8%)
Very Reasonable	403 (46.0%)
24 Hours Notice	n = 887
Not at all Reasonable	186 (21.0%)
Somewhat Reasonable	374 (42.2%)
Very Reasonable	327 (36.9%)
48 Hours Notice	n = 883
Not at all Reasonable	484 (54.8%)
Somewhat Reasonable	301 (34.1%)
Very Reasonable	98 (11.1%)
48+ Hours Notice	n = 880
Not at all Reasonable	691 (78.5%)
Somewhat Reasonable	145 (16.5%)
Very Reasonable	44 (5.0%)
Vehicle Cleanliness	
Vehicle Cleanliness	n = 898
Not at all Important	16 (1.8%)
Somewhat Important	143 (15.9%)
Very Important	739 (82.3%)
Driver Training	
Knowledge about Seniors' Health Issues	n = 894
Not at all Important	66 (7.4%)
Somewhat Important	262 (29.3%)
Very Important	566 (63.3%)

Accessibility

Accessibility of alternate transportation for seniors is defined as providing 'door-to-door' and 'door-through-door' transportation, as well as the providing transportation to essential and non-essential activities (see Appendix A for definitions of type of service provision). For type of service, 86% of respondents rated door-to-door service provision as 'somewhat important' or 'very important', with slightly fewer respondents (81%) rating door-through-door service provision as 'somewhat important' or 'very important' (see Table 5). Nevertheless, the vast majority of respondents rated both types of service as 'somewhat important' to 'very important'. In terms of trip purposes, the overwhelming majority (97%) of respondents rated the availability of alternate transportation to meet medical needs as 'somewhat important' or 'very important', with slightly fewer respondents (92%) rating alternate transportation for essential services (e.g., grocery shopping, banking, etc.) as 'somewhat important' or 'very important'. Surprisingly, a higher percentage of respondents (73%) rated transportation for religious activities as 'somewhat important' or 'very important' compared to 66% of respondents rating transportation for social activities (e.g., meeting friends for coffee) as 'somewhat important' or 'very important'.

Table 5 – *Perceptions of Importance of Accessibility of Services (Sample as a Whole)*

Accessibility of Services	n (%)
Type of Service	
Door-to-Door	n = 886
Not at all Important	122 (13.8%)
Somewhat Important	288 (32.5%)
Very Important	476 (53.7%)
Door-through-Door	n = 886
Not at all Important	166 (18.7%)
Somewhat Important	343 (38.7%)
Very Important	377 (42.6%)
Trip Purpose (Individual Purpose)	
Medical	n = 899
Not at all Important	23 (2.6%)
Somewhat Important	102 (11.3%)
Very Important	774 (86.1%)
Essential	n = 892
Not at all Important	75 (8.4%)
Somewhat Important	342 (38.3%)
Very Important	475 (53.3%)
Social	n = 896
Not at all Important	303 (33.8%)
Somewhat Important	476 (53.1%)
Very Important	117 (13.1%)
Religious	n = 866
Not at all Important	232 (26.8%)
Somewhat Important	380 (43.9%)
Very Important	254 (29.3%)

Adaptability

Adaptability is defined as transportation services that can accommodate riders wanting to make multiple stops (trip chaining); the service provider allows for different types of routes (fixed vs. client response) and passenger service (single vs. group); service providers can accommodate wheelchairs and walkers; and escorts can be provided. For this category, our focus was on trip chaining, mobility aids, and escorted services. As shown in Table 6, the vast majority (82%) of respondents rated multiple stops as a feature of alternate transportation service provision as 'somewhat important' to 'very important'. The majority (87%) of respondents also rated the ability to accommodate wheelchairs as 'somewhat important' to 'very important', with a fewer percentage of respondents (70%) rating accommodation of scooters as being 'somewhat important' to 'very important'. Finally, more than two-thirds (68%) of respondents rated escorted services to assist with essential services (e.g., carry groceries, assistance with banking, etc.) as 'somewhat important' to 'very important', with approximately half (50%) of the respondents rating escorts that will stay during a doctor's visit as 'somewhat important' to 'very important'.

Table 6 – *Perceptions of Importance of Adaptability of Services (Sample as a Whole)*

Adaptability of Services	n (%)
Trip Chaining	
Allows for Multiple Stops During a Trip	n = 893
Not at all Important	162 (18.1%)
Somewhat Important	431 (48.3%)
Very Important	300 (33.6%)
Mobility Aids	
Can Accommodate Wheelchairs (Folded Up)	n = 884
Not at all Important	118 (13.3%)
Somewhat Important	161 (18.2%)
Very Important	605 (68.4%)
Can Accommodate Scooters	n = 876
Not at all Important	264 (30.1%)
Somewhat Important	268 (30.6%)
Very Important	344 (39.3%)
Escorted Services	
Provides an Escort that can Assist with Essential Services	n = 890
Not at all Important	289 (32.5%)
Somewhat Important	386 (43.4%)
Very Important	215 (24.2%)
Provides an Escort that will Stay during a Doctor's Visit	n = 890
Not at all Important	448 (50.3%)
Somewhat Important	305 (34.3%)
Very Important	137 (15.4%)

Affordability

Affordability, the last of the 5 A's of service provision, addresses the cost of alternate transportation and is defined broadly as transportation that is affordable (e.g., using volunteer drivers to reduce costs). For this category, the questions were designed to inform on how much seniors can afford to pay and how much they are willing to pay for different types of service provision. As shown in Table 7, more than three quarters of respondents (85%) indicated that they could *afford* to pay $14 or less for a one-way ride, with the same percentage (85%) indicating that they would be *willing* to pay $14 or less for a one-way ride. Only a small percentage of respondents (< 5%) indicated that they can afford and are willing to pay more than $20 for a one-way ride. In terms of 'enhancement' of services, a higher percentage of respondents (68%) indicated that they would be willing to pay more for trip chaining (multiple stops on a single trip), with fewer (59%) willing to pay more for door-to-door transportation, with even fewer (49%) willing to pay more for door-through-door transportation service. Consistent with willingness to pay, the amount that respondents were willing to pay for 'enhanced' service was greater for trip chaining ($6.28 per ride) than for door-to-door and door-through-door (~ $5.45 per ride). The cost of alternate transportation often is seen as a barrier to use of alternate transportation by seniors. For the final question related to affordability, seniors' preferences for paying for alternate transportation services was examined to determine if method of payment could assist in reducing the cost barrier. Purchasing a book of tickets in advance was selected as the preferred method of payment by 40% of respondents. Approximately one third (31%) rated 'pay per ride' as their preferred method of payment, with 22% of respondents rating an account with the transportation provider as their preference. Notably, very few (5%) endorsed being invoiced for a ride as a preference for payment.

Table 7 − *Perceptions of Importance of Affordability of Services (Sample as a Whole)*

Affordability of Services	n (%) or Mean (SD)
How Much Could you Afford to Pay for a One-Way Ride?	n = 806
Less than $5	179 (22.2%)
Between $5−9	275 (34.1%)
Between $10−14	230 (28.5%)
Between $15−20	83 (10.3%)
More than $20	39 (4.8%)
How Much Would you be Willing to Pay for a One-Way Ride?	n = 826
Less than $5	164 (19.9%)
Between $5−9	293 (35.5%)
Between $10−14	243 (29.4%)
Between $15−20	86 (10.4%)
More than $20	40 (4.8%)
Would you be Willing to Pay More for Door-to-Door Transportation?	n = 875
Yes	520 (59.4%)
No	355 (40.6%)
How Much More Would you be Willing to Pay?	$5.39 ($4.70)
Would you be Willing to Pay More for Door-through-Door Transportation?	n = 878
Yes	431 (49.1%)
No	447 (50.9%)
How Much More Would you be Willing to Pay?	$5.48 ($4.77)
Would you be Willing to Pay More for Trip Chaining?	n = 882
Yes	597 (67.7%)
No	285 (32.3%)
How Much More Would you be Willing to Pay?	$6.28 ($5.71)
How Would you Prefer to Pay for Trips?	n = 863
Pay Per Ride	270 (31.3%)
Purchase a Book of Passes in Advance	349 (40.4%)
Be Invoiced for the Ride	46 (5.3%)
Set up an Account with the Transportation Provider	198 (22.9%)

C.1.3. Awareness and Use of Transportation Options in Community

Having transportation options available in the community is important for senior's mobility. Also of importance is seniors' awareness of the transportation options in his/her community. When asked about the availability of public transportation services, slightly more than half (54%) of respondents indicated that their community had a public bus service available (3% did not know) (see Table 8). For respondents from Calgary and Edmonton, which are the only cities in Alberta that have light rail transit, 79% of respondents were aware of the service, 22% were unaware, and less than 1% did not know. For public disabled transportation, 63% of respondents indicated the service was available in the community, 24% indicated it was not available, and 12% of respondents did not know. The authors are unaware of the availability/lack of availability of disabled transportation service in all communities in Alberta. Thus, accuracy of responses is unknown. However, the data from Edmonton and Calgary respondents (where disabled transportation is available) indicate that of the 129 respondents from Calgary, 76% indicated that disabled transportation was available in the community, 5% indicated it was not, with 19% indicating that they did not know. Of the 114 respondents from Edmonton, 87% of respondents indicated that disabled transportation was available in the community; no respondents indicated it was not, with 13% indicating that they did not know. For jurisdictions outside of Calgary and Edmonton, 370 of the 658 respondents (56%) indicated that disabled transportation was available in the community, 33% indicated it was not, and 11% did not know (data not shown).

Compared to awareness of public transportation services, in which there was a relatively low percentage of respondents indicating that they did not know if services were available (<1–12% across the different types of services), approximately one-third of respondents indicated that they did not know if alternate transportation services were available in the community (30−37% across the different types of service provision). As shown in Table 8, 38% of respondents indicated that they did not know if volunteer driving programs existed in the community, 30% were unaware if a community van existed, and 37% of respondents were unaware if specialized transportation by paid drivers existed. Again, to determine the match between the existence of alternate transportation services and awareness of those services, we examined the data from Calgary and Edmonton respondents, knowing that all three forms of alternate transportation services are available in these locations. More than half of respondents from Calgary and Edmonton (56% and 54%, respectively) indicated that they did not known if volunteer driver programs existed in the community; 53% and 57% of respondents (Calgary and Edmonton, respectively) did not know if a community van existed; and an even greater percentage did not know if specialized transportation by paid drivers existed in the community (57% for Calgary and 40% for Edmonton) (data not shown).

Table 8 − *Awareness of Transportation Options in the Community (Sample as a Whole)*

Awareness of Transportation Options	n (%)		
Public Transportation Services	Yes	No	Don't Know
Public Bus (n = 901)	484 (53.7%)	389 (43.2%)	28 (3.1%)
Light Rail Transit (n = 232)	182 (78.4%)	50 (21.6%)	2 (0.01%)
Public Disabled Transit (n = 901)	567 (62.9%)	221 (24.5%)	112 (12.4%)
Public Taxi (n = 901)	705 (78.2%)	181 (20.1%)	15 (1.7%)
Alternate Transportation Services			
Volunteer Driving Program (n = 901)	308 (34.2%)	254 (28.2%)	338 (37.5%)
Community Van (n = 901)	295 (32.7%)	337 (37.4%)	268 (29.7%)
Special. Transportation by Paid Drivers (n = 901)	249 (27.6%)	319 (35.4%)	331 (36.7%)

When asked about how they usually find out about seniors' transportation services in the community, respondents indicated that sources were variable with seniors' centres being the most commonly reported source (20%), followed by newspapers (18%) and friends (13%).

When asked about use of public transportation services, slightly fewer than one third (29%) of respondents indicated that they used public bus service, more than half (57%) used light rail transit, and less than 28% reported using taxis (see Table 9). Only 7% of respondents indicated that they used public disabled transit services, with the small percentage likely due to the number of respondents eligible to use the service (e.g., service limited to those with severe physical or cognitive disability). The vast majority of respondents who were aware of alternate transportation options in their community (~ 90%) reported that they did not use these types of transportation services.

Table 9 – *Use of Public Transportation and Alternate Transportation Services (Sample as a Whole)*

Use of Transportation Options	n (%)	
Public Transportation Services	Yes	No
Public Bus (n = 484)	140 (28.9%)	344 (71.1%)
Light Rail Transit (n = 182)	104 (57.1%)	78 (42.9%)
Public Taxi (n = 703)	194 (27.6%)	509 (72.4%)
Public Disabled Transit (567)	40 (7.1%)	527 (92.9%)
Alternate Transportation Services		
Volunteer Driving Program (n = 308)	25 (8.1%)	283 (91.9%)
Community Van (n = 295)	33 (11.2%)	262 (88.8%)
Special. Transportation by Paid Drivers (n = 249)	25 (10.0%)	224 (90.0%)

C.1.4. Transportation Needs Being Met

When asked how well their transportation needs were being met, 86% of respondents indicated that their needs were being met 'very well', with 11% indicating their needs were being met 'somewhat well', with only 3% responding 'not at all well'. However, when asked how well the transportation needs of seniors in the community were being met overall, only 39% of respondents said 'very well', with 46% responding 'somewhat well', and 15% saying 'not at all well'.

Table 10 – *Transportation Needs Being Met (Sample as a Whole)*

Transportation Needs Being Met	n (%)
Overall, How Well are your Transportation Needs Being Met?	n = 893
Not At All Well	25 (2.8%)
Somewhat Well	100 (11.2%)
Very Well	768 (86.0%)
Overall, How well are the Transportation Needs of Seniors in Your Community Being Met?	n = 755
Not At All Well	112 (14.8%)
Somewhat Well	348 (46.1%)
Very Well	295 (39.1%)

Respondents also were asked about their satisfaction with the alternate transportation options available in their community. As shown in Table 11, 836 of the 901 respondents were 'non-users', with one participant not responding. Of the 64 respondents using alternate transportation services, the majority (84%) were 'somewhat satisfied' or 'very satisfied' with the alternate transportation services available in their community.

Of the 64 respondents using alternate transportation services in the community, 62 responded to the question on whether they would recommend the alternate transportation services to family or friends. The majority (81%) indicated that they would recommend the alternate transportation services to their family or friends.

Table 11 − *Satisfaction with Alternate Transportation Service that is Available (Sample as a Whole)*

Satisfaction with Alternate Transportation Services	n (%)
How Satisfied Are You with these Alternate Transportation Services?	n = 64
Not At All Satisfied	10 (15.6%)
Somewhat Satisfied	18 (28.1%)
Very Satisfied	36 (56.3%)
Would You Recommend these Alternate Transportation Services to Your Family or Friends?	n = 62
Yes	50 (80.6%)
No	12 (19.4%)

C.2. Location (Rural/Urban) by Driving Status (Current Driver/Non-Driver)

In this next section, we provide data on demographics and differences in perceptions of the importance of the 5 A's of senior friendly transportation in rural and urban Alberta as a function of driving status. We also present data on the availability, awareness, and use of transportation services in the community, and the respondents' satisfaction with the available alternate transportation options.

C.2.1. Demographics

Demographics (e.g., age, gender, education, physical health, etc.) are provided in Table 12, with the data presented for rural and urban respondents as a function of driving status. Multivariate analyses were used to determine if differences existed across the groups (rural/urban x driver/non-driver) for continuous variables, with chi-square analyses and logistic regression used for categorical variables. Significance level was set at an alpha of 0.05.

There were no significant differences in age for respondents' driving status by location. That is, overall the average age was 72 years for current drivers in both rural and urban locations, with the an average age of 79 years for non-drivers in both rural and urban Alberta. Non-drivers in both rural and urban Alberta were, however, significantly older than drivers in rural and urban Alberta ($p < .001$).There also were no significant differences in gender by driving status by location. Specifically, a similar percentage of males and females drove in rural and urban locations, with the differences between the two genders by location not significantly different. However, a significantly higher percentage of males (~ 93%) were currently driving, overall, compared to only 79% of females overall ($p < .001$).

There were a significantly lower percentage of current drivers with greater than high school education in rural locations in Alberta compared to urban locations, with the percentages of non-drivers with greater than high school education similar across the two settings. No significant differences existed for income, with similar percentages of income for current and non-drivers across the two settings. Employment status also was similar for respondents when taking driving status by location into consideration. There was a difference however by driving status, with a higher percentage of non-drivers reporting themselves as being retired in both rural and urban Alberta versus those who were currently driving. Overall, a high percentage of respondents reported living independently in the community, with no differences found in living arrangements when driving status and location were taken into consideration. Not surprisingly, however, a higher percentage of respondents living in senior's lodges and assisted living facilities were non-drivers, but the pattern was similar for respondents in rural and urban locations. There were no significant differences in health status by driving status by location – that is, the percentage of current drivers in both rural and urban locations rating their health as 'good' to 'excellent' was similar (~ 75% of respondents across the two groups), and a similar percentage of non-drivers in both rural and urban locations rating their health as 'good' to 'excellent' (~ 52% of respondents across the two groups). However, compared to respondents who were currently driving, a significantly lower percentage of non-drivers rated their health as 'good' to 'excellent' but the percentages were similar for rural and urban locations. A similar pattern of findings was evident for ratings of mental health. In terms of the effects of health status on the performance of everyday activities, a similar percentage (~ 45%) of current drivers in both rural and urban locations indicated that their physical health interfered with everyday activities, with a significantly higher percentage of non-drivers in both rural and urban locations (~ 62%) indicating that their physical health interfered with the performance of everyday activities. Few respondents indicated that their mental health interfered with everyday activities, with the pattern of findings similar to that described for physical health.

Table 12 – *Demographic Information (Location by Driving Status)*

Category	n (%) or Mean (SD)			
	Rural (n = 430)		Urban (n = 463)	
	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Mean Age	72.12 (5.60)	78.42 (7.95)	72.85 (6.25)	79.81 (7.60)
Age by Category				
65–74	262 (68.4%)	15 (31.9%)	239 (63.9%)	28 (31.5%)
75–84	103 (26.9%)	20 (42.6%)	117 (31.3%)	37 (41.5%)
85+	18 (4.7%)	12 (25.5%)	18 (4.8%)	24 (27.0%)
	Rural (n = 433)		Urban (n = 468)	
Sex of Respondent	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Male	155 (40.3%)	7 (14.6%)	170 (45.0%)	17 (18.9%)
Female	230 (59.7%)	41 (85.4%)	208 (55.0%)	73 (81.1%)
Location	Rural		Urban	
	433 (48.1%)		463 (52.2%)	
	Rural (n = 429)		Urban (n = 462)	
Highest Level of Education	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
High School or Less	235 (61.4%)	33 (71.7%)	143 (38.1%)	54 (62.1%)
Greater than High School	148 (38.6%)	13 (28.3%)	232 (61.9%)	33 (37.9%)
	Rural (n = 294)		Urban (n = 275)	
Total Income	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
≤ $ 34,999 Annually	48 (18.3%)	15 (46.9%)	18 (8.2%)	25 (44.6%)
> $ 35,000 Annually	214 (81.7%)	17 (53.1%)	201 (91.8%)	31 (55.4%)
	Rural (n = 433)		Urban (n = 468)	
Employment Status	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Retired	280 (72.7%)	44 (91.7%)	306 (81.0%)	87 (96.7%)
Employed Part-Time	39 (10.1%)	1 (2.1%)	42 (11.1%)	2 (2.2%)
Employed Full-Time	31 (8.1%)	2 (4.2%)	20 (5.3%)	0 (0.0%)
Unemployed	8 (2.1%)	1 (2.1%)	2 (0.5%)	1 (1.1%)
Other	27 (7.0%)	0 (0.0%)	8 (2.1%)	0 (0.0%)
	Rural (n = 432)		Urban (n = 467)	
Living Arrangements	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Lives in Independent Residence	381 (99.0%)	39 (83.0%)	373 (98.9%)	71 (78.9%)
Lives in Seniors Lodges / Assisted Living Facilities	4 (1.0%)	8 (17.0%)	4 (1.1%)	19 (21.1%)
	Rural (n = 433)		Urban (n = 467)	
Current Physical Health	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Poor	17 (4.4%)	6 (12.5%)	10 (2.7%)	12 (13.3%)
Fair	85 (22.1%)	17 (35.4%)	76 (20.2%)	31 (34.4%)
Good	197 (51.2%)	22 (45.8%)	174 (46.2%)	41 (45.6%)
Excellent	86 (22.3%)	3 (6.3%)	117 (31.0%)	6 (6.7%)
	Rural (n = 430)		Urban (n= 468)	
Description of Current Mental Health	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Poor	2 (0.5%)	2 (4.3%)	1 (0.3%)	1 (1.1%)
Fair	24 (6.3%)	10 (21.3%)	26 (6.9%)	12 (13.3%)
Good	205 (53.5%)	26 (55.3%)	177 (46.8%)	44 (48.9%)
Excellent	152 (39.7%)	9 (19.1%)	174 (46.0%)	33 (36.7%)
	Rural (n = 432)		Urban (n = 465)	
Current Physical Health Interfering with Everyday Activities	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Never	203 (52.7%)	18 (38.3%)	214 (56.9%)	34 (38.2%)
Sometimes	157 (40.8%)	22 (46.8%)	141 (37.5%)	39 (43.8%)
All the Time	25 (6.5%)	7 (14.9%)	21 (5.6%)	16 (18.0%)
	Rural (n = 430)		Urban (n = 466)	
Current Mental Health Interfering with Everyday Activities	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Never	341 (89.0%)	35 (74.5%)	348 (92.6%)	72 (80.0%)
Sometimes	37 (9.7%)	11 (23.4%)	25 (6.6%)	16 (17.8%)
All the Time	5 (1.3%)	1 (3.0%)	3 (0.8%)	2 (3.2%)

Comparison that are significant (main effects and interaction effects) are presented in the text.

Information on licensing, driving status and vehicle ownership by respondent location and driving status is provided in Table 13. The percentage of current drivers holding a license in rural and urban settings is similar (88% and 84%, respectively), as is the percentage of non-drivers holding a license across rural and urban settings (~ 3% in both locations) (p's > .05). A greater percentage of current drivers in rural areas reported owning a vehicle (99%) versus current drivers in urban areas (80%) (p > .001). A higher percentage of non-drivers in rural settings also owned a vehicle (35%) than non-drivers in urban settings (4%) (p < .001).

Table 13 – *Licensing, Driving, and Vehicle Ownership (Location by Driving Status)*

Category	n (%)			
	Rural (n = 431)		Urban (n = 466)	
Do you hold a Valid Drivers' License?	Current Drivers	Non-Drivers	Current-Drivers	Non-Drivers
Yes	383 (99.5%)	10 (20.8%)	376 (99.7%)	21 (23.3%)
No	2 (0.5%)	38 (79.2%)	1 (0.3%)	69 (76.7%)
	Rural (n = 429)		Urban (n = 462)	
Do you Currently Own a Vehicle?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Yes	381 (99.0%)	17 (35.4%)	373 (98.9%)	17 (19.1%)
No	4 (1.0%)	31 (64.6%)	4 (1.1%)	72 (80.9%)

n's do not total 901 due to missing data (no response, not wishing to respond, etc.).

C.2.2. Perceptions of the 5 A's of Senior Friendly Transportation

As noted on page 7, the 5 A's of senior friendly transportation, as developed by the Beverly Foundation (2001, 2005), are Availability, Acceptability, Accessibility, Adaptability, and Affordability, with the definitions of each of the 5 A's provided in Appendix A.

In this section, the data are examined to determine if differences in perceptions of the importance of attributes of each of the 5 A's exist between current drivers and non-drivers by rural/urban location.

Availability

Availability of transportation services for seniors is defined as transportation service provision to seniors in the community and those services are available when needed (e.g., during the daytime, evening, on weekends, etc.). Outcomes (n and %) related to the study variables for availability x location x driving status are presented in Table 14. The comparisons resulted in three main effects: weekday (daytime) x location; weekday (evening) x driving status; and weekend (daytime) x driving status. There were no significant interaction effects.

The weekday (daytime) x location comparison indicated that a higher percentage of urban respondents rated the availability of transportation services during weekdays in the daytime as 'somewhat important' or 'very important' compared to respondents in rural locations (p = .002). For the remaining two comparisons, a higher percentage of current drivers, irrespective of location, rated the availability of transportation services during the weekday in the evening (p = .003) and during the weekend in the daytime (p = .001) as more important (e.g., a higher percentage of ratings for 'somewhat important' or 'very important') than non-drivers (in both rural and urban locations) during those same time periods.

Table 14 – *Perceptions of Importance of Availability of Services (Location by Driving Status)*

Availability of Services	n (%)			
	Weekday Service			
	Rural (n = 432)		Urban (n = 467)	
Daytime (Until 1800 Hours)	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	38 (9.9%)	9 (18.8%)	21 (5.6%)	9 (8.9%)
Somewhat Important	67 (17.4%)	10 (20.8%)	59 (15.6%)	18 (20.0%)
Very Important	279 (72.7%)	29 (60.4%)	297 (78.8%)	64 (71.1%)
	Rural (n = 429)		Urban (n = 463)	
Evening (Past 1800 Hours)	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	148 (38.8%)	23 (47.9%)	110 (29.5%)	43 (47.8%)
Somewhat Important	168 (44.1%)	17 (35.4%)	191 (51.2%)	30 (33.3%)
Very Important	65 (17.1%)	8 (16.7%)	72 (19.3%)	17 (18.9%)
	Weekend Service			
	Rural (n = 430)		Urban (n = 466)	
Daytime (Until 1800 Hours)	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	67 (17.5%)	13 (27.1%)	48 (12.7%)	26 (29.2%)
Somewhat Important	183 (47.9%)	17 (35.4%)	159 (42.2%)	30 (33.7%)
Very Important	132 (34.6%)	18 (37.5%)	170 (45.1%)	33 (37.1%)
	Rural (n = 430)		Urban (n = 462)	
Evening (Past 1800 Hours)	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	197 (51.6%)	27 (56.2%)	167 (44.7%)	48 (54.5%)
Somewhat Important	138 (36.1%)	14 (29.2%)	148 (39.6%)	23 (26.2%)
Very Important	47 (12.3%)	7 (14.6%)	59 (15.8%)	17 (19.3%)

n's do not total 901 due to missing data (no response, not applicable, etc.).
Results significant: Main effects for Location (Rural vs. Urban): Weekday – *Daytime*
Main effects for Driving (Current vs. Non-Driver): Weekday – *Evening*, Weekend –*Daytime*

Acceptability

Acceptability of alternate transportation for seniors refers to the need for advanced scheduling, the cleanliness of vehicles, and having drivers that are knowledgeable on seniors' issues. Outcomes (n and %) related to the study variables for acceptability x location x driving status are presented in Table 15. The comparisons resulted in four main effects: same day notice x location; 48+ hours notice x location; vehicle cleanliness x location; and additional knowledge about seniors' health issues x location. There were no significant interaction effects. The same day notice x location comparison indicated that a higher percentage of urban respondents, irrespective of driving status, rated same day notification as being more reasonable ('somewhat reasonable' or ' very reasonable') versus respondents in rural locations, irrespective of driving status ($p = .002$). Similarly, the 48+ hours notice x location comparison indicated a higher percentage of urban respondents rated the need for more than 48 hours notice when scheduling a ride as unreasonable compared to rural respondents ($p < .001$), irrespective of driving status across both locations. Results from the vehicle cleanliness x location comparison indicated that urban respondents, irrespective of driving status rated vehicle cleanliness as more important than respondents in rural locations, irrespective of driving status ($p = .002$). Finally, having drivers knowledgeable about seniors' issues was rated as more important by respondents in rural settings than urban respondents, irrespective of driving status ($p = .03$).

Table 15 – *Perceptions of Importance of Acceptability of Services (Location by Driving Status)*

Acceptability of Services	n (%)			
	Advance Notification Timeline			
	Rural (n = 423)		Urban (n = 454)	
No Advance Notification	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Reasonable	74 (19.5%)	13 (29.5%)	85 (22.9%)	14 (16.9%)
Somewhat Reasonable	120 (31.7%)	16 (36.4%)	124 (33.4%)	28 (33.7%)
Very Reasonable	185 (48.8%)	15 (34.1%)	162 (43.7%)	41 (49.4%)
	Rural (n = 415)		Urban (n = 459)	
24 Hours Notice	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Reasonable	78 (20.4%)	16 (34.8%)	65 (17.5%)	27 (31.0%)
Somewhat Reasonable	158 (41.4%)	21 (45.6%)	165 (144.4%)	30 (34.5%)
Very Reasonable	146 (38.2%)	9 (19.6%)	142 (38.2%)	30 (34.5%)
	Rural (n = 426)		Urban (n =457)	
48 Hours Notice	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Reasonable	196 (51.4%)	23 (51.1%)	215 (57.8%)	50 (58.8%)
Somewhat Reasonable	139 (36.5%)	15 (33.3%)	122 (32.8%)	25 (29.4%)
Very Reasonable	46 (12.1%)	7 (15.6%)	35 (9.4%)	10 (11.8%)
	Rural (n = 424)		Urban (n = 456)	
48+ Hours Notice	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Reasonable	277 (73.1%)	33 (73.3%)	315 (85.1%)	66 (76.7%)
Somewhat Reasonable	79 (20.8%)	10 (22.3%)	41 (11.1%)	15 (17.4%)
Somewhat Reasonable	23 (6.1%)	2 (4.4%)	14 (3.8%)	5 (5.9%)
	Vehicle Cleanliness			
	Rural (n = 433)		Urban (n = 465)	
Vehicle Cleanliness	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	12 (3.1%)	0 (0.0%)	1 (0.3%)	3 (3.3%)
Somewhat Important	62 (16.1%)	8 (16.7%)	53 (14.1%)	20 (22.5%)
Very Important	311 (80.8%)	40 (83.3%)	322 (85.6%)	66 (74.2%)
	Driver Training			
	Rural (n = 432)		Urban (n = 462)	
Has Additional Knowledge about Seniors' Health Issues	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	26 (6.8%)	1 (2.1%)	33 (8.8%)	6 (7.0%)
Somewhat Important	103 (26.8%)	13 (27.1%)	119 (31.6%)	27 (31.4%)
Very Important	255 (66.4%)	34 (70.8%)	224 (59.6%)	53 (61.6%)

n's do not total 901 due to missing data (no response, not applicable, etc.).

Results significant: Main effects for Location (Rural vs. Urban): No advance notification and 48+ hours notification; vehicle cleanliness; knowledge on seniors' health issues.

Accessibility

Accessibility of alternate transportation for seniors is defined as providing services such as 'door-to-door' and 'door-through-door' transportation and providing transportation to essential and non-essential activities. Outcomes (n and %) related to the study variables for accessibility x location x driving status are presented in Table 16. The comparisons resulted in four main effects for location; five main effects for driving status; and one interaction effect. The main effects for location were: door-to-door service x location and door-through-door service x location. The comparisons indicated that a higher percentage of rural respondents rated both of these types of services as 'somewhat important' or 'very important' compared to respondents in urban locations (both p's < .001). A higher percentage of rural respondents also rated the availability of transportation for medical (p = .01) and essential (p = .04) trips as important versus those in the urban setting, irrespective of driving status. For the main effects of driving status, a higher percentage of current drivers rated door-through-door service as important versus non-drivers (p < .001); a greater percentage of current drivers also rated transportation for medical (p = .001), essential trips (p < .001), social (p < .01) and religious activities (p = .03) as important than non-drivers, irrespective of location. For the interaction effect, the ratings from current drivers on the importance of door-through-door transportation was similar for the 'somewhat important' rating but a lower percentage of non-drivers in urban settings rated this form of transportation as important compared to non-drivers in rural settings (p = .03).

Table 16 – *Perceptions of Importance of Accessibility of Services (Location by Driving Status)*

Accessibility of Services	n (%)			
	Type of Service			
	Rural (n = 430)		Urban (n = 456)	
Door-to-Door	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	51 (13.4%)	5 (10.4%)	55 (15.0%)	11 (12.4%)
Somewhat Important	123 (32.2%)	14 (29.2%)	126 (34.3%)	25 (28.1%)
Very Important	208 (54.5%)	29 (60.4%)	186 (50.7%)	53 (59.5%)
	Rural (n = 427)		Urban (n = 459)	
Door-through-Door	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	63 (16.5%)	8 (17.4%)	69 (18.6%)	26 (29.2%)
Somewhat Important	144 (37.8%)	16 (34.8%)	165 (34.3%)	18 (20.2%)
Very Important	174 (45.7%)	22 (47.8%)	1836(36.8%)	45 (50.6%)
	Trip Purpose (Individual Purpose)			
	Rural (n = 432)		Urban (n = 467)	
Medical	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	10 (2.6%)	1 (2.1%)	5 (1.3%)	7 (7.9%)
Somewhat Important	36 (9.4%)	8 (16.7%)	42 (11.1%)	16 (17.0%)
Very Important	338 (88.0%)	39 (81.2%)	331 (87.6%)	66 (74.2%)
	Rural (n = 429)		Urban (n = 463)	
Essential	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	31 (8.1%)	6 (12.5%)	20 (5.3%)	18 (20.7%)
Somewhat Important	151 (39.6%)	19 (39.6%)	146 (38.8%)	26 (29.9%)
Very Important	199 (52.2%)	23 (47.9%)	210 (55.9%)	43 (49.4%)
	Rural (n = 432)		Urban (n =464)	
Social	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	130 (33.9%)	21 (43.8%)	107 (28.5%)	45 (51.1%)
Somewhat Important	202 (52.6%)	20 (41.6%)	226 (60.1%)	28 (31.9%)
Very Important	52 (13.5%)	7 (14.6%)	43 (11.4%)	15 (17.0%)
	Rural (n = 416)		Urban (n = 450)	
Religious	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	90 (24.2%)	10 (22.8%)	100 (27.3%)	32 (38.1%)
Somewhat Important	171 (46.0%)	17 (38.6%)	167 (45.6%)	25 (29.8%)
Very Important	111 (29.8%)	17 (38.6%)	99 (27.0%)	27 (32.1%)

Results significant: Main effects for Location (Rural vs. Urban): Door-to-Door; Door-through-Door, Medical and Essential Trip Purposes
Main effects for Driving (Current vs. Non-Driver): Door-through-Door, Medical, Essential, Social, and Religious Trip Purposes.
Interaction: Door-through-door x location x driving status

Adaptability

Adaptability of transportation services includes the provision for multiple stops (trip chaining), accommodating wheelchairs and scooters; and providing escorts for service provision. Outcomes (n and %) related to the study variables for adaptability x location x driving status are presented in Table 17. The comparisons resulted in seven main effects: three main effects for driving status and four main effects for location. There were no significant interaction effects. Main effects for location were trip chaining; providing escorts that can assist with essential services; and escorts that stay during a doctor's visit. A higher percentage of rural respondents rated trip chaining ($p < .01$), and the availability of escorts for essential services ($p < .01$) and for doctor's visits ($p < .01$) as important as their urban counterparts, irrespective of driving status. For driving status, trip chaining ($p < .01$), the accommodation of scooters ($p < .001$), and the availability of escorts for essential services ($p < .004$); providing escorts that stay during a doctor's visit ($p < .01$) were rated by a higher percentage of respondents than respondents who did not drive, irrespective of location.

Table 17 – *Perceptions of Importance of Adaptability of Services (Location by Driving Status)*

Adaptability of Services	n (%)			
	Trip Chaining			
	Rural (n = 429)		Urban (n = 464)	
Allows for Multiple stops During a Trip	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	52 (13.6%)	14 (29.8%)	66 (17.6%)	30 (33.7%)
Somewhat Important	174 (45.5%)	18 (38.3%)	206 (54.9%)	33 (37.1%)
Very Important	156 (40.8%)	15 (31.9%)	103 (27.5%)	26 (29.2%)
	Mobility Aids			
	Rural (n = 424)		Urban (n = 460)	
Can Accommodate Wheelchairs (Folded Up)	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	43 (11.4%)	8 (17.0%)	49 (13.1%)	18 (20.9%)
Somewhat Important	69 (18.3%)	11 (23.4%)	68 (18.2%)	13 (15.1%)
Very Important	265 (70.3%)	28 (59.6%)	257 (68.7%)	55 (64.0%)
	Rural (n = 423)		Urban (n =453)	
Can Accommodate Scooters	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	115 (30.5%)	18 (39.2%)	96 (26.0%)	35 (41.7%)
Somewhat Important	113 (30.0%)	14 (30.4%)	123 (33.3%)	18 (21.4%)
Very Important	149 (39.5%)	14 (30.4%)	150 (40.7%)	31 (36.9%)
	Escorted Service			
	Rural (n = 427)		Urban (n = 463)	
Provides an Escort that can Assist with Essential Services	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	104 (27.4%)	15 (31.9%)	125 (33.3%)	45 (51.1%)
Somewhat Important	175 (46.1%)	19 (40.4%)	172 (45.9%)	20 (22.7%)
Very Important	101 (26.6%)	13 (27.7%)	78 (20.8%)	23 (26.2%)
	Rural (n = 427)		Urban (n = 463)	
Provides an Escort that will Stay during a Doctor's Visit	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not at all Important	177 (46.6%)	19 (40.5%)	197 (52.4%)	55 (63.2%)
Somewhat Important	149 (39.2%)	16 (34.0%)	123 (32.7%)	17 (19.5%)
Very Important	54 (14.2%)	12 (25.5%)	56 (14.9%)	15 (17.3%)

n's do not total 901 due to missing data (no response, not applicable, etc.).

Results significant: Main effects for Location (Rural vs. Urban): Multiple Stops, Accommodates Scooters; Stay during Doctor's Visit
Main effects for Driving (Current vs. Non-Driver): Multiple Stops, Accommodates Scooters, Escorts for Essential Services; Stay during Doctor's Visit

Affordability

The last of the 5 A's of service provision is affordability, and this aspect of service provision is defined broadly as transportation that is affordable (e.g., using volunteer drivers to reduce costs). Outcomes (n and %) related to the study variables for affordability x location x driving status are presented in Table 18. The comparisons resulted in two main effects, both for driving status. There was one interaction effect. The two main effects for driving status were willingness to pay more for door-through-door service and willingness to pay more for trip chaining. A higher percentage of current drivers indicated that they were willing to pay more for door-through-door service ($p = .03$) and for trip chaining ($p = .01$) than non-drivers, irrespective of location. The interaction effect for method of payment ($p < .01$) indicated that purchasing a book of passes in advance was the preferred payment method for the majority of respondents in urban areas, with the percentage approximately the same for current and non-drivers. In the rural setting, on the other hand, purchasing a book of passes was preferred by the majority of current drivers, but paying per ride was the preferred method for non-drivers. Being invoiced for rides was the third preferred method of payment for both rural and urban respondents, irrespective of driving status. Finally, neither current drivers in either rural or urban Alberta selected setting up an account as the preferred method of payment for a ride.

Table 18 – *Perceptions of Importance of Affordability of Services (Location by Driving Status)*

Affordability	n (%) or Mean (SD)			
	Rural (n = 389)		Urban (n = 417)	
How Much Could you Afford to Pay for a One-Way Ride?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
≤ $14	292 (84.4%)	34 (79.1%)	287 (84.4%)	71 (92.2%)
> $14	54 (15.6%)	9 (20.9%)	23 (6.8%)	6 (7.8%)
	Rural (n = 396)		Urban (n = 430)	
How Much Would you be Willing to Pay for a One Way Ride?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
≤ $14	302 (85.3%)	35 (83.3%)	292 (83.9%)	63 (76.8%)
> $14	52 (14.7%)	7 (16.7%)	56 (16.1%)	19 (23.2%)
	Rural (n = 423)		Urban (n = 452)	
Would you be Willing to Pay More for Door-to-Door Transportation Service?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Yes	229 (60.6%)	23 (51.1%)	227 (61.7%)	41 (48.8%)
No	149 (39.4%)	22 (48.9%)	141 (38.3%)	43 (51.2%)
How Much More Would you be Willing to Pay?	$5.48 ($4.89)	$5.39 ($5.55)	$5.28 ($4.42)	$4.72 ($4.57)
	Rural (n = 423)		Urban (n = 455)	
Would you be Willing to Pay More for Door-through-Door Transportation Service?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Yes	181 (47.9%)	20 (44.4%)	196 (53.4%)	34 (38.6%)
No	197 (52.1%)	25 (55.6%)	171 (46.6%)	54 (61.4%)
How Much More Would you be Willing to Pay?	$5.87 ($5.21)	$4.09 ($2.51)	$5.38 ($4.56)	$3.55 ($2.57)
	Rural (n = 426)		Urban (n = 456)	
Would you be Willing to Pay More for a Transportation Service that allow for Trip Chaining?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Yes	266 (70.0%)	24 (52.2%)	261 (70.7%)	46 (52.9%)
No	114 (30.0%)	22 (47.8%)	108 (29.3%)	41 (47.1%)
How Much More Would you be Willing to Pay?	$6.41 ($6.04)	$5.79 ($5.65)	$6.26 ($5.23)	$3.87 ($2.70)
	Rural (n = 414)		Urban (n = 449)	
How Would you Prefer to Pay for Trips?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Pay Per Ride	121 (32.7%)	20 (45.5%)	99 (26.7%)	30 (38.5%)
Purchase a Book of Passes in Advance	138 (37.3%)	14 (31.8%)	163 (43.9%)	34 (43.6%)
Be Invoiced for the Ride	29 (7.8%)	1 (2.3%)	14 (3.8%)	2 (2.6%)
Set up an Account with the Transportation Provider	82 (22.2%)	9 (20.4%)	95 (25.6%)	12 (15.3%)

Results significant: Main effects for Location (Rural vs. Urban): None
Main effects for Driving (Current vs. Non-Driver): Amount willing to pay for Door-through-Door Service; Willing to pay more for Trip Chaining

C.2.3. Awareness and Use of Transportation Options in the Community (Location by Driving Status)

In this section, we report the results on respondent awareness and use of transportation options that are available in the community. Outcomes (n and %) related to the study variables for awareness of transportation options are presented in Table 19.

Both urban drivers and non-drivers were more aware (86% and 90%, respectively) than rural drivers and non-drivers (18% and 17%, respectively) of public bus transportations services available in their community. A higher percentage of respondents in rural locations (4%) were unsure of whether any public bus service was available. More non-drivers in urban areas (74%) were aware of light rail transit services available compared to only 20% of current drivers in urban locations. More respondents in urban areas reported being aware of public disabled transit transportation services (81% and 87 %, respectively) compared to rural areas where only 43% of current drivers and 33% of non-drivers reported being aware of this transportation option. There were a lower percentage of respondents in rural areas (56% of current drivers and 69% of non-drivers) that reported being aware of taxi services available in the community, whereas in urban areas, ~ 97% of both current drivers and non-drivers reported being aware of public taxi services.

In regards to alternate transportation services, a high percentage of non-drivers in rural areas (40%) reported being aware of volunteer driving programs available to accommodate transportation needs. However, a high percentage of respondents in both rural (24%) and urban (50%) areas reported that they didn't know whether this type of alternate transportation was available to them. The highest percentage of respondents across both locations (rural/urban) and driving status (current driver/non-driver), who reported being aware of community vans was rural non-drivers (42%). A higher percentage of non-drivers in both rural (25%) and urban (41%) locations reported being aware of specialized transportation provided by paid drivers. Interestingly, 55% of respondents in urban locations reported that they 'didn't know' if this type of transportation service was available in their community, compared to only 27% of respondents in rural locations.

Table 19 – *Awareness of Transportation Options in the Community (Location by Driving Status)*

Awareness of Transportation Options	n (%)					
	Rural			Urban		
Public Transportation Services	Current Drivers	Non-Drivers	Don't Know	Current Drivers	Non-Drivers	Don't Know
Public Bus (n = 901)*	69 (17.9%)	8 (16.7%)	19 (4.4%)	326 (86.2%)	81 (90.0%)	9 (1.9%)
Light Rail Transit (n = 234)	n/a	n/a	n/a	36 (20.0%)	40 (74.1%)	2 (0.8%)
Public Disabled Transit (n = 901)*	165 (42.9%)	16 (33.3%)	53 (12.2%)	308 (81.5%)	78 (86.7%)	50 (12.6%)
Public Taxi (n = 901)*	215 (55.8%)	33 (68.8%)	9 (2.1%)	369 (97.6%)	88 (97.8%)	6 (1.3%)
	Rural			Urban		
Alternate Transportation Services	Current Drivers	Non-Drivers	Don't Know	Current Drivers	Non-Drivers	Don't Know
Volunteer Driving Program (n = 901)*	28 (33.2%)	19 (39.6%)	102 (23.6%)	139 (36.8%)	22 (24.4%)	236 (50.4%)
Community Van (n = 901)*	148 (38.4%)	20 (41.7%)	60 (14.6%)	105 (27.8%)	22 (24.4%)	205 (43.8%)
Specialized Transportation by Paid Drivers* (n = 901)	65 (16.9%)	12 (25.0%)	116 (26.8%)	135 (35.7%)	37 (41.1%)	259 (55.3%)

** Results are significant (p < .05)*

In addition to awareness of transportation options, respondents were asked about their use of the transportation options available in the community. Of those respondents who reported being aware of a public bus service available in their community, a higher percentage of non-drivers in both rural (37%) and urban (60%) locations reported that they used this type of public transportation. More non-drivers in urban locations (62%) who were aware of light rail transit in their community reported they did in fact use this type of public transportation in comparison to current drivers reporting awareness of this type of public transportation in urban locations (56%). Non-drivers in both rural and urban locations who were aware of public disabled transit services in their community reported a higher percentage of use (31% and 36%, respectively) in comparison to current drivers irrespective of location (7% and 30%, respectively).
Non-drivers in both rural and urban locations (51% and 54%, respectively) reported a higher frequency of public taxi use compared to current drivers irrespective of location who were aware of this kind of transportations service in their community.

Across all forms of alternate transportation for seniors (i.e., volunteer driving programs, community vans, and specialized transportation by paid drivers), non-drivers in both rural and urban locations who were aware of these transportation services reported a higher percentage of use in comparison to current drivers across both locations. However, non-drivers in rural locations who reported awareness of these types of transportation services reported higher percentages of use (42%, 50%, and 42%, respectively) than non-drivers in urban locations.

Table 20 – *Use of Public Transportation and Alternate Transportation Services (Location by Driving Status)*

Use of Transportation Options	n (%)			
	Rural (n = 430)		Urban (n = 463)	
Public Transportation Services	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Public Bus	6 (8.7%)*	3 (37.5%)	82 (25.2%)*	49 (60.5%)
Light Rail Transit	n/a	n/a	79 (55.6%)	25 (62.5%)
Public Disabled Transit	11 (6.77%)*	5 (31.2%)	9 (2.9%)*	28 (35.9%)
Public Taxi	20 (9.3%)*	18 (54.5%)	110 (29.9%)*	45 (51.1%)
	Rural (n = 430)		Urban (n = 463)	
Alternate Transportation Services	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Volunteer Driving Program	8 (6.3%)	8 (42.1%)	6 (4.3%)	3 (13.6%)
Community Van	13 (8.8%)	10 (50.0%)	4 (3.8%)	6 (27.3%)
Specialized Transportation by Paid Drivers	5 (7.7%)	5 (41.7%)	7 (5.2%)	8 (21.6%)

** Results are significant (p < .05)*

C.2.4. Transportation Needs Being Met

The final questions related to satisfaction with transportation options in the community. When asked how well their transportation needs were being met overall the vast majority of both current drivers and non-drivers in rural and urban locations reported that their transportation needs were being met 'somewhat' to 'very well'; with the highest percentage of respondents in urban areas who were currently driving (99%) indicating this. However, only 87% of respondents who were non-drivers and residing in rural areas indicated that their transportation needs were being met 'somewhat' to 'very well'.

When asked how well the transportation needs of seniors in the community were being met overall, about a quarter of respondents in rural areas who drive and about a quarter of respondents in rural areas who are non-drivers reported that the transportation needs of seniors in their community were being met 'not at all well'.

Table 21 – *Transportation Needs Being Met*

Transportation Needs Being Met	n (%)			
	Rural (n = 429)		Urban (n = 464)	
Overall, How Well are your Transportation Needs Being Met?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not At All Well	14 (3.7%)	6 (12.8%)	4 (1.1%)	1 (1.1%)
Somewhat	38 (9.9%)	8 (17.0%)	36 (9.6%)	18 (20.2%)
Very Well	330 (86.4%)	33 (70.2%)	335 (89.3%)	70 (78.7%)
	Rural (n = 377)		Urban (n = 378)	
Overall, How Well are the Transportation Needs of Seniors in your Community Being Met?	Current Drivers	Non-Drivers	Current Drivers	Non-Drivers
Not At All Well	72 (21.8%)	10 (21.7%)	27 (9.0%)	3 (3.9%)
Somewhat	138 (41.7%)	20 (43.5%)	154 (51.2%)	36 (46.7%)
Very Well	121 (36.6%)	16 (34.8%)	120 (39.9%)	38 (49.4%)

Respondents also were asked about their satisfaction with alternate transportation services in the community. Results from the 64 respondents using alternate transportation services indicated that the majority (93%) of non-drivers in urban areas who used alternate transportation (n = 15) were 'somewhat satisfied' or 'very satisfied' with these services. However, almost 20% of both current drivers and non-drivers in rural areas who reported using alternate transportation indicated that they were 'not at all satisfied' with these services. The majority of drivers and non-drivers in both rural and urban locations who used the alternate transportations services available in their communities reported that they would recommend these services to family or friends. Interestingly, almost one-third of non-drivers in urban areas indicated that they would not recommend alternate transportation services to family or friends.

Table 22 – *Satisfactions with ATS Transportation that is Available (Location by Driving Status)*

Satisfaction with Alternate Transportation Services	n (%)			
	Rural (n = 38)		Urban (n = 25)	
How Satisfied Are You with these Alternate Transportation Services?	Current Drivers (n = 21)	Non-Drivers (n = 17)	Current Drivers (n = 11)	Non-Drivers (n = 15)
Not At All Satisfied	4 (19.0%)	3 (16.7%)	2 (18.2%)	1 (6.7%)
Somewhat Satisfied	8 (38.1%)	2 (11.1%)	3 (27.3%)	5 (33.3%)
Very Satisfied	9 (43.0%)	12 (66.7%)	6 (54.5%)	9 (60.0%)
	Rural (n = 38)		Urban (n = 25)	
Would You Recommend these Alternate Transportation Services to Your Family or Friends?	Current Drivers (n = 21)	Non-Drivers (n = 17)	Current Drivers (n = 10)	Non-Drivers (n = 14)
Yes	17 (81.0%)	14 (82.4%)	9 (90.0%)	10 (71.4%)
No	4 (19.0%)	2 (17.6%)	1 (10.0%)	4 (28.6%)

D. Summary/Conclusions

Alberta, like other jurisdictions in the developed world, is experiencing a demographic shift, with the percentage of seniors projected to double over the next two decades. The increasing number of seniors in our communities, as well as the 'aging' of the older population, will result in dramatic changes in the composition of our population over the next several decades – these changes will present new challenges from a transportation planning perspective. It is well established that lack of access to a private vehicle often results in unmet needs, including reductions in access to medical services, to necessary stores and services (e.g., shopping, banking, picking up the mail), to social events and participation in religious activities. Notably, rural seniors have more unmet needs than their urban counterparts because of transportation deficiencies in rural areas (Dobbs & Strain, 2008).

In the recent Federal Provincial and Territorial (FPT) Minister's report on Age-Friendly Rural and Remote Communities (Gallagher, Menec, & Keefe, 2007), transportation was identified as a dominant issue. Given that most of us will become transportation dependent, it is surprising that few drivers plan for retirement from driving. It also is surprising that such few responsive transportation options, outside the private automobile, exist for maintenance of seniors' mobility in both urban and rural areas. Despite the importance of transportation for maintaining mobility, there is a dearth of information on the availability and responsiveness of *alternate forms of transportation* for seniors when driving is no longer an option. In our previous research, we identified the strengths and gaps of alternate transportation service to seniors from a *service provider's perspective.* Specifically, gaps often were found on measures of the 5 A's of senior friendly transportation: Availability, Acceptability, Accessibility, Adaptability, and Affordability (The Beverly Foundation, 2001, 2005). Despite the intuitiveness of the 5 A's of senior friendly transportation, research is needed to inform on which aspects of senior friendly transportation, as articulated in the 5 A's are most important to seniors. This research has helped to inform on the issue.

The responses from 901 community dwelling seniors in rural and urban areas of Alberta are enlightening. It is interesting to note that the majority of the respondents indicated that their transportation needs were being met, with the vast majority relying on traditional forms of transportation to meet their needs (e.g., private vehicle), but with a significant percentage of respondents also relying on public transportation (e.g., buses, light rail transit, taxis). Notably, 29% of our sample reported using public buses, with 57% of respondents indicating that they used light rail transit. These percentages are significantly higher than the cited usage of 10% by Carp (1988), with conventional *fixed-route public transport* often '*the mode of last resort'* (Alsnih & Henser, 2003). Conversely, less than 12% of our respondents reported using alternate transportation, with community vans the mode of service most commonly used. The low percentage of use of alternate transportation is likely influenced by a relatively healthy and affluent sample. Having said that, 45% of our respondents indicated that their physical health status interfered with their ability to carry out everyday activities. Few (21%) of our respondents had planned for the day that they could no longer drive. These results underscore the need for education on driving retirement given that men outlive their driving years by 6 years and women by 10 years (Foley et al., 2002). Notably, compared to their male counterparts, a greater percentage of females in our sample reported not driving. The increased longevity of females, combined with their lower licensing rates, supports the development and use of 'mobility management' education for seniors in general, with a particular focus on older females.

Results from this research also inform on the development of responsive models of transportation for seniors. Specifically:

- The importance of daytime transportation on weekdays and weekends, with evening transportation during the weekend rated as least important, features rated as important by rural and urban respondents and current drivers and non-drivers.
- The need for short 'advance booking times' with same day service rated the most reasonable by a majority of respondents. Conversely, having to book transportation more than 48 hours in advance was rated as 'unreasonable' by the majority of respondents (78%).
- The importance of vehicle cleanliness, a feature rated as 'somewhat important' to 'very important' by

98% of respondents.

- Education of drivers on issues related to seniors also was rated as important by 93% of respondents, underscoring the need for the development and implementation of driver training courses for both paid and volunteer drivers in both rural and urban Alberta.
- The need for alternate transportation for a variety of needs (e.g., essential, social, religious), with a particular emphasis on the availability of alternate transportation for medical needs, particularly for seniors in rural locations, was important irrespective of driving status.
- Few alternate transportation providers allow for trip chaining (multiple stops during the course of a trip). However, trip chaining was rated by more than three quarters of the respondents as an important feature of alternate transportation.
- Responsiveness to seniors with mobility aids as evidenced by the majority (87%) of respondents rating the ability to accommodate wheelchairs as 'somewhat important' to 'very important'.
- Slightly more than two-thirds of respondents (68%) rated escorts to assist with essential services (e.g., carrying groceries, staying with you at the bank) as 'somewhat important' to 'very important'. Conversely, only half of the respondents rated the availability of escorts to stay with them during a doctor's visit as 'somewhat important'.
- The stronger endorsement for availability of escorts for assistance with essential services (e.g., carrying groceries, staying with you at the bank) versus the availability of escorts for medical visits.
- Cost of alternate transportation is clearly an important consideration, with the majority of respondents (85%) indicating that they could *afford* to and would be willing to pay $14 or less for a one-way ride.
- If enhanced service is needed, respondents indicated a willingness to pay for those enhancements, with trip chaining rated as the most important.
- Method of payment can facilitate the use of alternate transportation, with two methods of payment endorsed by the greatest number of respondents: 1) pay per ride; and 2) purchase a book of passes in advance.

The findings can serve as a guide to the provision of alternative transportation for seniors in both urban and rural areas. The importance of this is that the alternate transportation can be shaped to fit the needs seniors themselves perceive as being important. Utilizing these findings as a guide can result in the best fit, emphasizing the highly desired attributes and de-emphasizing the attributes considered as less important. This includes an extensive array of features which go well beyond just scheduling and cost. They also include the training of the drivers on aging, assistance given to the client (e.g., through the door 'delivery', escorts during service procurement), cleanliness of the vehicle, and method of payment. The challenge now is to utilize that information to develop an effective array of alternative transportation services to support our aging population.

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F. Appendix A

Operational Definitions

Acceptability refers to transportation in which service quality is acceptable in terms of advance scheduling; vehicles are clean and well-maintained; service providers provide driver 'sensitivity to seniors' training.

Accessibility refers to transportation in which the service provider provides 'door-to-door' and 'door-through-door' transportation; provides transportation to essential and non-essential activities.

Adaptability refers to transportation that can accommodate riders wanting to make multiple stops (trip chaining); service provider allows for different types of routes (fixed vs. client response) and passenger service (single vs. group); service providers can accommodate wheelchairs and walkers; escorts can be provided.

Affordability relates to the cost of transportation and transportation that is affordable (e.g., uses volunteer drivers to reduce costs, vouchers, or coupons available, etc.).

Alternate transportation is transportation provided outside of the public transportation system (e.g., excludes public buses, subways, light rail transit, trains) and taxis.

Alternate transportation for seniors (ATS) is transportation provided to seniors outside of the public transportation system (e.g., excludes public buses, subways, light rail transit, trains) and taxis.

Availability refers to transportation services that are provided to seniors and those services are available when needed (e.g., days, evenings; weekdays, weekends).

Curb-to-Curb transportation services offers transportation from curbside of place of origin to curbside of destination. This type of service is likely to be inappropriate for seniors with cognitive deficits such as dementia.

Disabled transportation is transportation service catering specifically to individuals with a disability (defined as persons of any age with a qualifying disability, with the criteria that qualify for a disability may vary across jurisdictions.

Door-through-Door transportation services offer personal, hands-on assistance for persons who have difficulties getting in and out of vehicles and buildings, thus opening doors to a wider range of opportunities and experiences. Door-to-door transportation services offers transportation from the door of place of origin to door of destination. Although this type of service is more appropriate for seniors with cognitive deficits such as dementia and for those with sensory or motor deficits, there also are safety concerns, particularly for those with a dementia.

Essential trip is defined as a trip taken to facilitate the acquisition of necessary items or perform necessary tasks.

Medical trip is defined as a trip taken to attend a medical appointment, and/or to secure medical services (e.g., blood tests, x-rays).

Public transportation is defined as a form of transportation utilizing a system of vehicles such as buses and trains which operate at regular times on fixed routes and are used by the public (Cambridge Dictionaries Online[i] and US Legal[ii]). Further, public transportation refers to all service involved in the transportation of passengers for hire by

means of street railway, elevated railway, subway, underground railroad, motor vehicles, or other means of conveyance generally associated with or developed for mass surface or sub-surface transportation of the public, but does not include any service involved in transportation by taxicab, airport limousine, or industrial bus.

Senior refers to an individual who is aged 65 years of age or older.

Senior friendly refers to services or facilities that are designed to be accessible for the elderly (defined as individuals 65 years of age and older).

Social Transportation refers to transportation for social or recreational purposes.

Religious Trip refers to transportation for worship or attendance at any religious activity.

Volunteer driver is an individual who altruistically dedicates time to aid in the transportation of other individuals.

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[i] Cambridge Dictionaries Online. (2011). *Public transportation.* Retrieved from http://dictionary.cambridge.org/dictionary/british/public-transport

[ii] *Public transportation law and legal definition*. (2011). Retrieved from http://definitions.uslegal.com/p/public-transportation/