

Understanding the Transportation Needs of Seniors and Persons with Disabilities

Results from a Transportation Needs Assessment in a Sub-Region of the Capital Region

June 2015



ACKNOWLEDGEMENTS

Funding for this study was provided by the Capital Region Board (CRB). The authors wish to acknowledge and thank Wes Brodhead (Chair – CRB Transit Committee), Nolan Crouse (Chair – CRB), Doug Lagore (Former CEO – CRB), and Sharon Shuya (Project Manager – CRB) for their initial and ongoing support for this study, as well as their review and feedback on drafts of the survey instruments. A thank-you also is extended to Malcolm Bruce (CEO – CRB), Brendan Pinches (Project Manager – CRB), and Neal Sarnecki, Manager, Regional Projects – CRB) for their support over the past few months. We also wish to acknowledge and thank Donna Fong (Research Administrator), Dave Odynak (Demographic Research Analyst), and Tracy Kennedy (Research Coordinator) from the University of Alberta’s Population Research Laboratory. Their expertise and efforts throughout the development of the surveys, during the data collection process, and in the delivery of the data are very much appreciated. Finally, we wish to acknowledge, with deep appreciation, all of the individuals who participated in this study.

AVAILABILITY

An electronic copy of this report is available from www.mard.ualberta.ca or from www.capitalregionboard.ab.ca

CONTACT INFORMATION

For more information, please contact Dr. Bonnie Dobbs or Tara Pidborochynski at:

Bonnie Dobbs, PhD
Director, Medically At-Risk Driver Centre, University of Alberta
6-40 University Terrace, Edmonton, AB T6R 2T4
bdobbs@ualberta.ca
780-492-0374

Tara Pidborochynski, MSc
Research Coordinator, Medically At-Risk Driver Centre, University of Alberta
6-40 University Terrace, Edmonton, AB T6R 2T4
pidboroc@ualberta.ca
780-248-1728

Table of Contents

Executive Summary	i
SECTION A. INTRODUCTION, PROJECT OBJECTIVES, AND METHODOLOGY	1
INTRODUCTION.....	1
PROJECT OBJECTIVES.....	4
METHODOLOGY	4
Target Populations.....	4
Survey Design	5
Data Collection	6
Ethics.....	7
Generating the Samples and Sample Criteria	7
Response Rate	8
Overview of the Sample as a Whole	9
Breakdown of the Sample as a Whole	11
Creation and Description of the Three Sub-Samples	12
Statistical Analyses	13
SECTION B. RESULTS	15
SECTION B.1: ATS Services (Sample One).....	15
B.1.1. Demographics	15
B.1.2. Getting Around	19
B.1.3. Unmet Transportation Needs.....	20
B.1.4. Current Satisfaction of Transportation Needs of Seniors.....	21
B.1.5. ATS Services in the Community – Availability, Importance, and Use	23
B.1.6. Importance of Different Features of ATS Service Provision.....	26
B.1.7. Importance of Municipal Funding for ATS Services.....	30
SECTION B.2: ST Services for PWD (Sample Two).....	32
B.2.1. Demographics	32
B.2.2. Getting Around	35
B.2.3. Unmet Transportation Needs.....	35
B.2.4. Current Satisfaction of Transportation Needs	36
B.2.5. ST Services in the Community – Availability, Importance, and Use.....	38
B.2.6. Importance of Different Features of ST Service Provision.....	41
B.2.7 Importance of Municipal Funding for ST Services	45

SECTION B.3: Non-Drivers as a Whole (Sample Three)	46
B.3.1. Demographics	46
SECTION B.4: Intermunicipal Transit (IMT) Service	50
B.4.1. Demographics	50
B.4.2. Importance of IMT Service in the Community	50
B.4.3. Likelihood of and Time Preference for Use of IMT Service	51
B.4.4. Importance of Municipal Funding for IMT Service	53
SECTION B.5: Validity and Generalizability of the Results	55
B.5.1. Transportation Needs of Seniors for Different Trip Purposes (Comparison One)	55
B.5.2. How Well Transportation Needs of Seniors are Met (Comparison Two).....	57
SECTION C. DISCUSSION and CONCLUSION	59
SECTION C.1: Discussion	59
SECTION C.2: Conclusion	64
APPENDICES.....	66
Appendix A. Acronyms	66
Appendix B. Place of Residence for the Sample as a Whole	67
Appendix C. References.....	68

List of Tables

Table	Page
Table A1-1: <i>Demographics of the Sample as a Whole</i>	10
Table B1-1: <i>Demographics of Participants Aged 45–64 and 65+</i>	17
Table B2-1: <i>Demographics of PWD Participants</i>	33
Table B3-1: <i>Demographics of Non-Driver Participants</i>	47
Table AB-1. <i>Place of Residence for the Sample as a Whole</i>	67

List of Figures

Figure	Page
<i>Figure A1-1. Overview and breakdown (Sample as a Whole)</i>	11
<i>Figure B1-1. Ratings on interference of physical health on ability to carry out everyday activities (45–64 and 65+)</i>	18
<i>Figure B1-2. Use of mobility aids (45–64 and 65+)</i>	19
<i>Figure B1-3. Ratings on inability to go to different appointments/activities because of not having a ride (45–64 and 65+)</i>	21
<i>Figure B1-4. Ratings on transportation needs of seniors being met ('Not at all Well') for various appointments or activities (45–64 and 65+)</i>	22
<i>Figure B1-5. Ratings on transportation needs of seniors in the community being met ('Not at all Well') (45–64 and 65+)</i>	23
<i>Figure B1-6. Ratings on importance of ATS services in the community (45–64 and 65+)</i>	24
<i>Figure B1-7. Ratings on the likelihood of seniors using ATS services (45–64 and 65+)</i>	25
<i>Figure B1-8. Ratings on the times seniors would use ATS services (45–64 and 65+)</i>	26
<i>Figure B1-9. Ratings on reasonableness of booking rides with/without advance notice (45–64 and 65+)</i>	27
<i>Figure B1-10. Ratings on importance of ATS services that allow multiple stops (45–64 and 65+)</i>	28
<i>Figure B1-11. Ratings on importance of ATS services for different appointments/activities (45–64 and 65+)</i>	29
<i>Figure B1-12. Ratings on importance of municipal funding for ATS services (45–64 and 65+)</i> ..	31
<i>Figure B2-1. Ratings on interference of physical health on ability to carry out everyday activities (PWD)</i>	34
<i>Figure B2-2. Use of mobility aids (PWD)</i>	35
<i>Figure B2-3. Ratings on inability to go to different appointments/activities because of not having a ride (PWD)</i>	36
<i>Figure B2-4. Ratings on transportation needs of PWD being met 'Not at all Well' for various appointments or activities (PWD)</i>	37
<i>Figure B2-5. Ratings on transportation needs of PWD in the community being met ('Not at all Well') (PWD)</i>	38
<i>Figure B2-6. Ratings on importance of ST services in the community (PWD)</i>	39
<i>Figure B2-7. Ratings on the likelihood of using ST services (PWD)</i>	40

<i>Figure B2-8. Ratings on the times of use of ST services (PWD)</i>	41
<i>Figure B2-9. Ratings on the reasonableness of booking rides with/without advance notice (PWD)</i>	42
<i>Figure B2-10. Ratings on the importance of ST services that allow for multiple stops (PWD)</i>	43
<i>Figure B2-11. Ratings on importance of ST services for different appointments/activities (PWD)</i>	44
<i>Figure B2-12. Ratings on the importance of municipal funding for ST services (PWD)</i>	45
<i>Figure B3-1. Ratings on interference of physical health on ability to carry out everyday activities (Non-drivers)</i>	48
<i>Figure B3-2. Use of mobility aids (Non-drivers)</i>	49
<i>Figure B4-1. Ratings on importance of IMT service (Sample One and Two)</i>	51
<i>Figure B4-2. Ratings on the likelihood of use of IMT service (Sample One and Two)</i>	52
<i>Figure B4-3. Ratings on the times of use of IMT service (Sample One and Two)</i>	53
<i>Figure B4-4. Ratings on the importance of municipal funding for IMT service (Sample One and Two)</i>	54
<i>Figure B5-1. Ratings on transportation needs of seniors for various appointments or activities being met 'Not at all Well'</i>	56
<i>Figure B5-2. Overall transportation needs of seniors being met 'Not at all Well'</i>	57

Executive Summary

Introduction

- Transportation is critical for the health and mobility of seniors and persons with disabilities (PWD).
- Lack of access to responsive forms of transportation often results in an inability to access health care services and essential services such as grocery shopping, as well as an inability to meet social and religious needs.
- Canada's population is aging, with the percentage of seniors projected to increase from 15.3% in 2013 to 24.2% by 2040. The proportion of seniors aged 80 years of age among the total senior population aged 65 years and over also is projected to increase from 26.6% in 2013 to 35.9% by 2040.
- The percentage of individuals with a disability also is increasing, in part because of the strong association between disability and age. In Canada, the percentage of individuals with a disability increases from 4.4% for those 15–24 years of age to 16.1% for those aged 45–64, with a further increase to 26.3% for those aged 65–74.
- Similar demographic changes are occurring in the Capital Region.
- The aging of the population, accompanied by the 'aging in place' movement, have widespread implications in many areas of service delivery, including transportation to seniors and PWD.
- Within Alberta's Capital Region, the 2009 Intermunicipal Network Plan has identified the provision of "specialized public transit services to seniors and persons with disabilities" as one of its mandates (p. 58), as well as the provision of "special transit for persons with disabilities" (p. 15). Improvement of regional delivery of specialized intermunicipal transit (IMT) services also has been identified as a need within the Capital Region.

Objective of this Study

- To assess the transportation needs for two vulnerable segments of the population – seniors and PWD – in a sub-region of the Alberta Capital Region. The targeted sub-region for the *Transportation Needs Assessment* was Lamont County¹ and the Town of Redwater.

¹ Specifically, Lamont County includes the communities of Andrew, Bruderheim, Chipman, Hilliard, Lamont, Mundare, Star, St. Michael, Whitford, and Wostok.

- Three areas of transportation were targeted: 1) alternate transportation for seniors (ATS) services; 2) specialized transit (ST) services for PWD, and; 3) intermunicipal transit (IMT) service to major centres in the Capital Region.

Methodology

- Survey methodology with Random digit dialing (RDD).
- The data were collected by the Population Research Laboratory (PRL) at the University of Alberta, under contract to the Medically At-Risk Driver (MARD) Centre.
- Trained PRL interviewers conducted interviews with: 1) individuals in the general population; 2) living in the identified sub-region of the Capital Region; 3) 45 years of age and older without a disability (Sample One), and; 4) those 18 years of age and older with a disability (Sample Two).
- The Health Research Ethics Board at the University of Alberta approved the study questionnaires and procedures.
- Two survey instruments were developed:
 - Survey Instrument One was used for data collection on ATS services. ATS services were defined as *modes of transportation that exist outside of public transportation programs and include both for-profit and not-for-profit transportation by a service provider (i.e., private vehicles, buses, handivans, minivans).*
 - Survey Instrument Two was used for data collection on ST services for PWD. ST services were defined as *transportation services designed to accommodate individuals with mobility restrictions that make it difficult or impossible to take conventional transit service; this type of service is typically equipped to accommodate persons with disabilities.*
 - Both survey instruments included questions related to the need for IMT service to major centres in the Capital Region. IMT service was defined as *transit service that operates between municipalities or across municipal boundaries.*
- Data collection for the main survey started January 29, 2015, with data collection completed February 25, 2015 (27 days).
- The overall response rate was 35.9%.
- For data analyses purposes, three 'sub-samples' were created.
 - Sample One consisted of 379 participants aged 45–64 and 65+ without a disability who completed the ATS services survey.

- Sample Two consisted of 30 PWD participants aged 27–98 who completed the ST services survey.
- Sample Three consisted of 40 non-drivers (6 aged 45–64, 4 aged 65+, and 30 aged 27+ [PWD]) who completed the ATS service survey and/or the ST services for PWD survey.

Results

Sample as a Whole

- Overall, 413 individuals aged 27 to 98 were interviewed, with an average age of 65 years. Two-thirds of those interviewed were female.
- All participants were living in the community, with one-third living on a farm or in Lamont County, with the remainder living in towns, villages, or hamlets.
- 90.0% of participants were currently driving, with the remaining 10.0% non-drivers.

Sample One (ATS Services)

- A total of 379 individuals participated in the ATS services survey.
 - 181 (47.8%) were 45–64 years of age (i.e., adult children of seniors).
 - 198 (52.2%) were 65 years of age and older.
- The average age of participants aged 45–64 was 56.3 (SD = 5.6), with 65.2% female.
- The average age of the 65+ participants was 73.1 (SD = 6.4), with 61.6% female.
- A high percentage of participants aged 45–64 (45.8%) and 65+ (52.5%) indicated that their physical health interfered with their ability to carry out everyday activities (i.e., shopping, dressing, preparing meals) ‘sometimes’ or ‘all the time’.
- The majority of participants aged 45–64 and 65+ currently drove.
 - Participants aged 45–64 indicated that they drove 5.1 (SD = 2.0) days per week compared to 3.9 (SD = 2.2) days per week for those aged 65+.
- Despite the high percentage of drivers in both samples, from 8.0% to 16.0% of participants aged 45–64 and 65+ indicated that they had unmet transportation needs (i.e., unable to go to medical appointments, shop for groceries, get together with family, or attend social functions or religious activities in the last six months because they did not have a ride).
- Approximately one-third to one-half of participants aged 45–65+ indicated that the transportation needs of seniors in their community were being met ‘not at all well’ for different types of trips (i.e., trips for health-related appointments, essential services such

as grocery shopping and banking, visiting with family and friends, social activities, and for religious activities).

- Less than 10.0% of participants aged 45–64 and 65+ indicated that the transportation needs of seniors in the community were being met ‘very well’, *overall*.
 - More than one-third (39.5%) of participants aged 45–64 indicated that seniors transportation needs were being met ‘not at all well’.
 - Almost one-third (31.1%) of participants aged 65+ indicated that seniors transportation needs were being met ‘not at all well’.
- In terms of availability, importance, and use of ATS for seniors in the community:
 - 40.3% of participants aged 45–64 and 44.9% of participants aged 65+ indicated that there were ATS services available, with community buses and/or vans for seniors, volunteer drivers, handivan services, for-profit transportation services such as Driving Miss Daisy, and services offered by community organizations such as the Lions Club and Pioneer Club identified as being available.
 - The majority of participants aged 45–64 and 65+ rated the availability of ATS services for seniors as ‘very important’ (84.4% and 81.1%, respectively).
 - The majority of participants aged 45–64 and 65+ indicated that, if ATS services were available in their community, that seniors would be ‘very likely’ to use those services (71.6% and 66.8%, respectively).
 - In terms of time of use, a majority of participants aged 45–64 and 65+ indicated that the most likely time periods of use by seniors would be Weekday mornings (93.9% and 87.9%, respectively) and Weekday afternoons (87.8% and 76.3%, respectively).
- Participants also were asked about the importance of different features of ATS services if those services were to be made available for seniors in the community (i.e., booking rides, multiple stops, and knowledgeable drivers).
 - The vast majority of participants aged 45–64 and 65+ indicated that having to book a ride at least 24 hours in advance was ‘somewhat/very reasonable’ (95.0% and 94.4%, respectively).
 - The majority of participants aged 45–64 and 65+ also indicated that having ATS services that allow for multiple stops during the trip was ‘somewhat/very important’ for seniors in the community (93.9% and 86.3%, respectively).

- Having a driver who was knowledgeable on health issues of seniors was deemed as ‘somewhat/very important’ by the vast majority of participants aged 45–65 and 65+ (97.8% and 96.9%, respectively).
- In terms of the importance of ATS services for different types of trips (i.e., health-related trips such as medical appointments, essential trips such as grocery shopping and banking, social activities, visiting with family and friends, and for religious activities), all trip purposes were rated highly.
 - Transportation for health-related and essential services were rated by a higher percentage of participants aged 45–64 and 65+ as ‘somewhat/very important’ (92.9% or higher).
 - Transportation for visiting with family and friends and for social and religious activities also were deemed to be important but the percentage of participants aged 45–64 and 65+ rating these as ‘somewhat/very important’ was slightly lower (84.8% to 91.2%).
- In relation to paying for services, participants were asked how much they thought seniors in their community could *afford to pay* and how much seniors in the community were *willing to pay* for a one-way ride of approximately 10.0 km.
 - Both the 45–64 and the 65+ participants thought that seniors could afford to pay more than they were willing to pay, with all estimates under \$10.00.
- The preferred method of payment for ATS services was ‘pay per ride’, with approximately half of the 45–64 and the 65+ participants identifying this as the preferred method (52.4% and 58.0%, respectively).
- Participants also were asked how *they* would prefer to find out about transportation services in their community. The top two preferences amongst participants aged 45–64 and 65+ were the community newspaper (54.7% and 59.6%, respectively) and by mail (14.5% and 12.3%, respectively).
- Finally, all participants were asked how important it was to have municipal funding available for ATS services in their community. The vast majority of participants aged 45–64 and 65+ (97.2% and 97.5%, respectively) indicated that it was ‘somewhat/very important’ to have this type of funding available to offset the cost of providing ATS services in the community.

Sample Two (ST Services for PWD)

- Thirty individuals participated in the ST services survey.

- The average age of PWD participants was 64.9 years (SD = 18.4), with 66.7% female.
- More than three-quarters (85.7%) of PWD participants indicated that their physical health interfered with their ability to carry out everyday activities (i.e., shopping, dressing, preparing meals) 'sometimes' or 'all the time'.
- All PWD participants were non-drivers.
- Overall, almost half of the PWD participants indicated that in the last six months they had been unable to go to medical appointments, shop for groceries, get together with family, or attend social functions or religious activities 'sometimes/often' because they did not have a ride.
- One-half or more of PWD participants indicated that their transportation needs for health-related services, visiting with family and friends, and for social and religious activities were being met 'not at all well', with more than one-third indicating that their transportation needs for essential services were being met 'not at all well'.
- Less than 10.0% of PWD participants indicated that the transportation needs of PWD in their community were being met 'very well', *overall*.
- In relation to availability, importance, and use of ST services for PWD in the community,
 - 80.0% of PWD participants indicated that there were no ST services for PWD available in the community.
 - All PWD participants indicated that it was important to have ST services available in the community, with 76.7% of PWD participants rating the availability of these services as 'very important'.
 - The same percentage of PWD participants (76.7%) indicated that they would be 'very likely' to use these services.
 - The majority of PWD participants indicated that the 'most likely' time periods that they would use ST services would be Weekday mornings and afternoons (76.7% and 60.0%, respectively).
- PWD participants also were asked about the importance of different features of ST services if those services were to be made available in the community (i.e., booking rides, multiple stops, and knowledgeable drivers).
 - The vast majority (89.6%) of PWD participants indicated that having to book a ride at least 24 hours in advance was 'somewhat/very reasonable'.
 - The majority (83.4%) of PWD participants indicated that having ST services that allowed for multiple stops during the trip was 'somewhat/very important'.

- Having a driver who was knowledgeable about health issues (i.e., disabilities, illnesses) was deemed as ‘somewhat/very important’ by the vast majority (90.0%) of PWD participants.
- With respect to the importance of ST services for PWD for different types of transportation needs (i.e., health-related trips, essential trips, and for social and religious activities), all trip purposes were rated as important by a high percentage of participants.
 - A higher percentage of PWD participants (93.3% and 86.6%, respectively) rated trips for health-related services and trips for essential services as ‘somewhat/very important’.
 - About two-thirds of PWD participants rated trips for visiting with family and friends, for social activities, and for attending religious activities as being ‘somewhat/very important’.
- In relation to paying for rides, PWD participants indicated that they could *afford to pay* \$10.10 but were *willing to pay* \$13.13.
- The preferred method of payment identified by PWD participants was ‘pay per ride’, with approximately 41.0% identifying this as the preferred method.
- The top two preferences for finding out about transportation services in their community identified by PWD participants were the community newspaper (40.0%) and by mail (24.0%).
- Finally, all PWD participants were asked how important it was to have municipal funding available for ST services for PWD in their community. The vast majority (89.6%) indicated that this type of funding was ‘somewhat/very important’ to offset the cost of providing ST services for PWD in the community.

Sample Three (Non-Drivers)

- Sample Three consisted of 34 individuals who indicated that they did not drive. Thirty of the 34 non-drivers (88.2%) were PWD, with the remaining four non-drivers (11.8%) aged 65 and older.
- The average age of the 34 non-driving participants was 66.4 years (SD = 18.0), with 67.6% female.
- More than three-quarters (81.3%) of the non-driver participants indicated that their physical health interfered with their ability to carry out everyday activities (i.e., shopping, dressing, preparing meals) ‘sometimes’ or ‘all the time’.

- Because the vast majority of non-drivers were PWD, the pattern of results for this sample of 34 non-drivers was very similar to the results from the 30 PWD participants presented above. As such, we have elected not to duplicate the presentation of those findings here or in the body of the report.

Intermunicipal Transit (IMT) Service

- All 413 participants responded to questions related to the importance and use of IMT service and the importance of funding for IMT service.
- Overall, 93.1% of the Sample as a Whole (n = 413) indicated that having IMT service available in the Capital Region was ‘somewhat/very important’.
- In terms of *likelihood of using* IMT service if that service was in place in their community, more than half (59.2%) of the Sample as a Whole indicated that they would be ‘somewhat/very likely’ to use IMT service if it was available.
- In relation to time of use, the majority indicated that that they would mostly likely use IMT service Weekday mornings (> 80.0%) and Weekday afternoons (between 70.0%–80.0%) followed by Weekend mornings (between 30.0%–45.0%) and Weekend afternoons (between 30.0%–45.0%).
- The vast majority (95.0%) of participants indicated that having municipal funding available for IMT service in their community was ‘somewhat/very important’.

Discussion

- The primary objective of the study was to assess the transportation needs of two vulnerable segments of the population – seniors and PWD – in a sub-region of the Alberta Capital Region. Overall, the results from this *Transportation Needs Assessment* provide further evidence of these unmet needs. Specifically, although the vast majority of seniors that we interviewed indicated that they drove, about one-quarter (23.2%) of seniors *who drove* indicated that they relied on *family members* and about one in six (14.1%) relied on *friends* for transportation one or more times a week to ‘get to where they wanted to go’. Not surprisingly, these percentages increase for seniors who do not drive, with almost 40.0% of seniors who did not drive indicating that they relied on *family members* and almost 29.0% relied on *friends* one or more times a week to ‘get to where they wanted to go’. A high number of PWD participants (one in three or 30.0%) indicated that, in a typical week, they received rides from *family members* at least once a week

and 20.0% of PWD participants indicated that they received rides from *friends* at least once per week to ‘get to where they wanted to go’. Of interest, the percentage of PWD relying on transportation from family or friends differs as a function of age. That is, a higher percentage of PWD participants 65 years of age and older relied on *family members* (40.2%) and *friends* (29.3%) at least once per week to ‘get to where they wanted to go’ as compared to PWD participants below 65 years of age (23.1% and 15.4%, respectively).

- When asked about unmet transportation needs, less than 15.0% of participants aged 45–64 and 65+ indicated that they were unable to meet their transportation needs for medical appointments, shopping for groceries, visiting with family, or for social or religious activities because they did not have a ride. These results are not surprising, given the combination of the high percentage of driver and reliance on family and friends for rides. However, about half of PWD in our study (57.0% of whom were seniors) indicated that they ‘sometimes’ or ‘all the time’ were unable to access community services (medical, groceries, etc.) because they did not have a ride. These results indicate that a significant percentage of PWD participants, and to a lesser extent, participants aged 45–64 and 65+ who drive are at-risk in terms of satisfaction of both basic and higher order needs.
- In contrast to responses on their own unmet transportation needs, less than 10.0% of participants aged 45–64 and 65+ indicated that the transportation needs of seniors in the community were being met ‘very well’ overall. A similar pattern of results was evident for PWD participants, with only 9.5% of PWD participants indicating that the transportation needs of PWD in the community were being met ‘very well’ overall.
- To assess the ‘validity’ of the responses from the participants in our sample who drove and who answered questions on transportation needs from the *perspective of seniors in their community*, we compared responses from the two samples of **drivers** (i.e., drivers aged 45–64 and 65+) to responses from the **non-drivers** (who answered the questions from their own perspective). First, we compared the responses from drivers aged 45–64 and 65+ and non-drivers 65+ on *how well the transportation needs of seniors are being met for different trip purposes*, followed by a comparison across these same groups on *how well the transportation needs of seniors are being met overall*. Results indicated that there were no statistically significant differences in the ratings from participants aged 45–64 and from drivers 65+ versus the 65+ non-drivers for both comparisons. As such, the ratings from drivers aged 45–64, from drivers aged 65+, and from non-drivers on unmet

transportation needs can be considered to be reasonable 'proxies' in the assessment of the unmet transportation needs of seniors in their community. However, further research, with a larger sample size of 65+ non-drivers is important to see if these same pattern of results hold.

- In terms of availability of specialized transportation (i.e., ATS services or ST services for PWD), a high percentage of participants indicated that there were no services available in their community (41.4% of participants 45–64; 41.9% of participants 65+; and 80.0% of PWD participants). Services that were identified included a senior's van or bus, a community van, volunteer driver, taxi, or transportation from for-profit organizations. Given the pattern of findings described above, it is not surprising that the majority of participants surveyed rated the availability of ATS services and ST services for PWD as important. Specifically, 81.0% or more of participants aged 45–64 and 65+ rated having ATS services for seniors *available* in the community as 'very important', with the remaining 19.0% rating them as 'somewhat important'. Similarly, 76.7% of PWD participants rated the availability of ST services for PWD in the community as 'very important', with the remaining 23.3% rating these services as 'somewhat important'. What these results suggest is that there not only is awareness of the lack of transportation services outside of the private vehicle for seniors and PWD in these rural communities, but there also is recognition of the unmet transportation needs of these two segments of the population.
- An unexpected finding was the high percentage of participants overall (51.8%) who reported that their physical health interfered with their abilities to carry out everyday activities. These results are a concern, particularly given that having a 'disability' has been identified as the most important individual characteristic influencing mobility, travel behavior, and difficulties with transportation.
- In addition to furthering our understanding of the transportation needs of seniors and PWD in a sub-region of the Alberta Capital Region, we also obtained feedback on *features of specialized transportation service delivery* if those services were to be made available for seniors and PWD (i.e., time that services would most likely be used, the type of transportation the service would be used for, preferences for booking and paying for the service, and the importance of other features of service delivery such as multiple stops and knowledgeable drivers). The results provide insights on features of service delivery that are deemed to be responsive to seniors and PWD, with these results useful

to organizations and/or service providers who are wishing to deliver or who are delivering transportation services to these two segments of the population.

- The cost of delivering specialized transportation services is an important consideration, with cost often a barrier to implementation of these services. Results from this *Transportation Needs Assessment* indicate that few participants thought that specialized transportation services should be ‘free’. Rather, most participants thought that seniors and PWD could *afford* and would be *willing* to pay for the services. On average, participants aged 45–64 thought that the amount that seniors could *afford* to pay was more than they would be *willing* to pay (\$7.18 vs. \$6.88). A similar pattern of findings was evident for participants aged 65+ in that they thought seniors could *afford* to pay \$8.87 but would be *willing* to pay \$8.08. On the other hand, PWD participants indicated that they could *afford* to pay \$10.10 but they would be *willing* to pay \$13.13. These findings have important implications for the design and delivery of specialized transportation services for seniors and PWD in that, often, the prevailing belief is that these transportation services should be available at no charge.
- Finally, all participants were asked about the importance of having municipal funding available for ATS services or ST services in their community. The vast majority of participants aged 45–64 and 65+ (97.4%) indicated that it was ‘somewhat/very important’ to have this type of funding available to offset the cost of providing ATS services in the community. The vast majority (89.6%) of PWD participants also indicated that having municipal funding available for ST services in their community was ‘somewhat/very important’. These results, as well as the results on the ability and willingness to pay for rides, are informative in that options for implementation or expansion of rural transportation services for seniors and PWD include user-pay programs, funding from local or provincial governments, or a combination of the two.
- With respect to funding for IMT services, overall, 95.0% of participants rated the availability of municipal funding for this service as ‘somewhat/very important’.

Conclusion

- Canada’s population is aging, as is the population of the Capital Region. The percentage of PWD also is increasing. The desire to ‘age in place’, combined with the regionalization of many services, means that residents in rural communities are required to travel to urban centres. However, for those who do not drive, access to those services is hampered by the lack of alternate forms of transportation.

- In this research, three groups were administered questionnaires about the transportation needs of seniors and PWD. The large majority of participants aged 45–64 and 65+ (without disabilities) responded that they perceived the transportation needs of seniors were not being met. Those 45–64 and those 65+ also responded that it was important to meet those needs with additional services, and if those services were available, they would be used. A similar pattern of findings was found for PWD participants.
- Overall, the results from this study provide an important step toward understanding the adequacy and needs of relevant transportation services for seniors and PWD. That is, knowledge about the adequacy of current transportation services, and, if inadequate, knowledge about the perceived transportation needs is requisite to meeting the mobility needs of these vulnerable populations.
- A limitation of the *Transportation Needs Assessment* is the small sample of seniors who do not drive as well as the small sample of PWD. A larger sample of non-driving seniors and PWD is needed to determine if the pattern of results from these larger samples of these populations is consistent with the results presented.
- Expansion of the *Transportation Needs Assessment* throughout the Alberta Capital Region would address the major limitations associated with the current needs assessment. Results of an expanded *Transportation Needs Assessment* could then be used to inform on policy and planning initiatives related to the transportation needs of seniors who voluntarily or involuntarily stop driving and to PWD of any age in a rural setting.

SECTION A. INTRODUCTION, PROJECT OBJECTIVES, AND METHODOLOGY

INTRODUCTION

Transportation is critical for the health and mobility of seniors and persons with disabilities (1-5). The lack of access to responsive forms of transportation often results in an inability to access health care services (1,2,5-13). Lack of access to responsive transportation services also results in reduction of access to essential services and an inability to meet social and religious needs (9,14). Not surprisingly, these unmet transportation needs often are associated with decreases in quality of life, reductions in or loss of independence, and social isolation (2,15-17).

Canada, like other developed countries, is undergoing a number of demographic shifts. The shift most relevant to this study is the aging of the population. Based on the medium growth scenario, the Canadian population 65 years of age and older will increase from 15.3% in 2013 to 24.2% by 2040 (18). It also is the case that the senior population itself is aging. That is, the proportion of seniors aged 80 years of age and older among the total senior population aged 65 years of age and over is projected to increase from 26.6% in 2013 to 35.9% by 2040 (18). In Alberta, the proportion of seniors also is expected to increase significantly, from 11.2% in 2013 to 18.5% by 2038². The proportion of seniors aged 80 and older among the total senior population also is projected to increase from 26.0% in 2013 to 31.9% by 2038 (18). A similar change in demographics is occurring within the Capital Region. Based on Edmonton Census data, the population 65 years of age and older is projected to increase from 11.5% in 2013 to 18.2% by 2041² (19). Unfortunately, data on the change in the proportion of older seniors (i.e., 80 years of age and older) between the two identified time periods in the Capital Region are unavailable.

The disabled population is aging as well. In 2012, almost 14.0% of Canadians reported living with a hearing, vision, speech, cognitive, and/or motor disability (20). The percentage of individuals with a disability increases dramatically with age, from 4.4% for Canadians 15–24 years of age, to 16.1% for those aged 45–64, with a further increase to 26.3% for those aged 65–74 (21). Almost half (42.5%) of Canadians 75 years of age and older are living with a disability (21).

² Projections for 2040 are not available, hence the inconsistent comparison time periods.

Results from a recent survey by Mattson and colleagues indicate that disability is “the most important individual characteristic influencing travel behavior, mobility, and problems with transportation” (p. 3) (22). The results from this same survey also indicate that persons with disabilities (PWD) are less likely to drive themselves, are more likely to say that transportation is a limiting factor for trip making ability, and are less likely to indicate that there are adequate transportation options available in the community. Given the results above, it is not surprising that PWD “fare far worse than their nondisabled counterparts across a broad range of health indicators” (p. S201), including delays in or failure to receive health care as well as access to other needed services (23). Research also indicates that PWD often have reductions in transportation mobility due to increased difficulties with public transportation when it is available and to a decreased likelihood of appropriate transportation options (1). As with seniors, responsive transportation options for PWD often are limited or absent, and particularly so in rural areas. For PWD, accessible forms of transportation serve to facilitate access to health care services, access to essential services, and promote socialization and engagement in other community activities.

The rapid aging of the senior and disabled populations has resulted in an increased awareness of and need for the provision of ‘age-friendly’ services that will allow seniors and PWD to ‘age in place’ (i.e., receive access to home-based medical equipment, home care, caregiver support). Discussions on ‘aging in place’ have resulted in recognition of the need for creation of supportive environments at the community level (i.e., accessible and affordable housing, safe and walkable neighbourhoods, and access to services). Building and maintaining ‘age-friendly communities’ increasingly is regarded as core to addressing the challenges associated with the aging of the population (24,25).

The aging of the population will have widespread implications in many areas of service delivery, including transportation. Although the majority of seniors drive, licensing rates and driving status (driver/non-driver) are affected by many factors including age, gender, place of residence, and the presence of illnesses and disabilities. In terms of licensing rates, the probability of holding a valid driver’s license decreases significantly with age. In Canada, almost 80.0% of seniors 65 to 74 years of age hold a valid driver’s license, with this percentage decreasing to less than 20.0% for those aged 90 and older (4). Gender also affects licensing rates in the senior population, with men 65 years of age and older more likely to have a valid driver’s license than are same-aged women. Older men also are more likely to be active drivers as compared to their same-aged female counterparts. Of older participants who held a driver’s license, 86.4% of men aged

65 and older drove in the last month compared to only 56.1% of same-aged women (4). What this means is that overall, as one gets older, the probability of having to rely on other forms of transportation (i.e., being driven by someone else, relying on public transportation) increases significantly, with older women more vulnerable to being transportation dependent than older men of the same age. Of interest, older women often are in 'double jeopardy' in that they are not only more likely to 'not drive', but also are more likely to be widowed than their same-aged male counterparts. Specifically, based on 2011 Census data, more than 70.0% of senior men in Canada lived 'as a couple' while only 44.0% of senior women 'lived as a couple' (26). The primary reason for this difference is that, on average, women live longer than men, and as such are more likely to outlive their spouses.

The decline in licensing rates with age (and corresponding increase in reliance on other forms of transportation) also is due to the presence of one or more medical conditions. A number of chronic illnesses, many of them age-associated, negatively impact the functional abilities (i.e., sensory, motor, cognitive) needed for driving. In Canada, 89.0% of seniors have one chronic illness, with 37.0% having four or more chronic illnesses (27). Medications also are an important consideration. Two-thirds of Canadian seniors are taking five or more medications for their illnesses, with more than a quarter of seniors taking 10 or more medications (28). Often, these drugs have side effects that affect functional abilities needed for driving. Unfortunately, many individuals 65 years of age and older continue to drive past their 'safe' driving years. Results from a study published by Statistics Canada in 2012 indicated that 10.0% of seniors who were 'unable to see' and 27.0% of seniors who were 'very forgetful or couldn't remember anything at all' drove in the previous month (4). Similar to seniors, many persons with disabilities often are not licensed to drive and as such, are transportation dependent. Based on a 2006 report, 16.0% of adult Albertans have a disability, with a significant percentage of this population 65 years of age and older (29).

The aging of the population, accompanied by the 'aging in place' movement, have widespread implications in many areas of service delivery, including transportation for seniors and PWD. Within Alberta's Capital Region, the 2009 Intermunicipal Network Plan has identified the provision of "specialized public transit services to seniors and persons with disabilities" as one of its mandates (p. 58) (30). In addition, the Capital Region Board (CRB) Regulation, created by the Province of Alberta, mandates "the provision for special transit for persons with disabilities" (p. 15) (31). In this same report, the authors note the need to improve the regional delivery of specialized intermunicipal transit services, with guiding principles and service attributes

articulated to assist in meeting the mobility needs of seniors and PWD at the present time and in the future (see p. 60). This *Transportation Needs Assessment* was designed to assist the CRB in achieving that goal.

PROJECT OBJECTIVES

The primary objective of the study was to assess the transportation needs of two vulnerable segments of the population – seniors and PWD – in a sub-region of the Alberta Capital Region. The Alberta Capital Region is a conglomerate of 24 municipalities that surround the provincial capital (Edmonton) of Alberta. The targeted sub-region for the *Transportation Needs Assessment*, identified in consultation with the members of the CRB Transit Committee, was Lamont County³ and the Town of Redwater. Lamont County, which consists of 3 towns, 2 villages, 5 hamlets, and surrounding farms, is situated 62 kilometers (38 miles) northeast of Edmonton. Based on Census data, Lamont County has a population of 3,872 (32), with 18.5% of the population 65 years of age and older (33). The Town of Redwater, which borders Lamont County to the northwest, has a population of 2,116, with 16.0% of its population 65 years of age and older (33,34). Census data on PWD in Lamont County and in the Town of Redwater are lacking. Provincial data indicate that 12.5% of Alberta's population 15 years of age and older have a disability, with the prevalence increasing from 9.4% for those 15 to 64 years of age to 35.7% for those 65 years of age and older (21).

For this *Transportation Needs Assessment*, we focused on 3 targeted areas:

- a. Alternate transportation for seniors (ATS) services;
- b. Specialized transit (ST) services for PWD; and
- c. Intermunicipal transit (IMT) service to major centres in the Capital Region.

METHODOLOGY

Target Populations

The target populations for the *Transportation Needs Assessment* consisted of: 1) Individuals in the general population; 2) Living in the identified sub-region of the Capital Region; 3) 45 years of age and older without a disability (Sample One), and; 4) Those 18 years of age and older with a disability (Sample Two). Disability, for the purposes of this *Transportation Needs Assessment*,

³ Specifically, Lamont County includes the communities of Bruderheim, Lamont, Mundare, Andrew, Chipman, Hilliard, St. Michael, Star, Whitford, and Wostok.

was defined as a long-term or recurring impairment (i.e., physical, mental, sensory, psychiatric, or learning) that limits the individual's ability to get around out of their home (35) *and* having to rely on others for their transportation. Relying on others for their transportation was operationalized as having never driven or currently not driving.

Survey Design

Two survey instruments were developed by research staff at the University of Alberta's Medically At-Risk Driver (MARD) Centre. The first survey instrument was used for data collection on ATS services. ATS services were defined as *modes of transportation that exist outside of public transportation programs and include both for-profit and not-for-profit transportation by a service provider (i.e., private vehicles, buses, handivans, minivans)* (36). The ATS services survey was administered to individuals in the general population aged 45 years and older living in the target region (Sample One). Individuals who provided responses to this survey included adult children of seniors (individuals aged 45–64) and seniors (individuals aged 65 and older) who were currently driving. The second survey instrument was used for data collection on specialized transit (ST) services. ST services were defined as *transportation services designed to accommodate individuals with mobility restrictions that make it difficult or impossible to take conventional transit service; this type of service is typically equipped to accommodate persons with disabilities* (30, p. 100). There also were questions related to the need for intermunicipal transit (IMT) service to major centres in the Capital Region. IMT service was defined as *transit service that operates between municipalities or across municipal boundaries* (30, p. 99). The questions on IMT service were embedded in each of the two survey instruments identified above (i.e., all participants in the study answered the questions on IMT service).

Each final survey instrument consisted of the following sections: 1) A standardized introduction with contact information of the Principal Investigator and the PRL at the University of Alberta; 2) Assurance that the information was voluntary, confidential, and anonymous and protected under the Freedom of Information and Protection of Privacy (FOIPP) Act; 3) Eligibility questions for participation; 4) Collection of participant information on transportation needs and deficiencies (including driving status, presence of impairment[s], awareness and use of existing transportation services, satisfaction with those services, ratings of specific features of currently existing or projected transportation services, costs such as willingness to pay for transportation

services, need for IMT service, and general questions about transportation; and 5) Participant demographics.

Data Collection

The data were collected by the PRL at the University of Alberta, under contract to the MARD Centre. The PRL is a research centre specializing in survey research in areas including social policy, health, education, labour markets, and public opinion. PRL staff assisted in the development of the sampling frames and telephone introductory scripts, refinement of the draft survey instruments developed by MARD Centre researchers (with input from CRB Transit Committee members), general training of telephone interviewers, piloting the survey instruments, and training on data collection using the Computer Assisted Telephone Interview (CATI) system. With the CATI system, each question appears on the screen of the interviewer's computer and the interviewer keys in the answer. PRL interviewers also were trained on FOIPP requirements, general guidelines related to data collection, overarching ethical considerations, as well as the objectives of the survey and survey content.

Before data collection for the main survey began, piloting of the survey was conducted by PRL interviewers using a sample of 12 household participants in Lamont County and the Town of Redwater. Minor revisions were made to the survey based on the pilot data collected. To promote engagement and encourage participation in the *Transportation Needs Assessment*, one-quarter page newspaper advertisements were placed in the Fort Saskatchewan Record, the Lamont Farm 'N' Friends, the Lamont Leader, and the Redwater Review two weeks and one week prior to initiation of data collection for the main survey.

Main survey data collection started on January 29, 2015, with data collection completed February 25, 2015 for a total of 27 days 'in the field'. Interviews were conducted between 0900 to 1400 hours and 1630 to 2000 hours Monday through Friday; 1000 to 1400 hours on Saturdays; and 1400 to 2000 hours on Sundays. If the interviewers were unsuccessful in establishing contact on their first call, a maximum of eight call-back attempts were made before declaring a telephone number as 'no contact'.

Upon making contact, interviewers identified themselves, verified the telephone number, and asked the screening questions to confirm eligibility. Only one eligible adult per household was selected as a potential respondent. Before administering the survey, interviewers informed individuals that their participation was entirely voluntary, their responses would be kept

completely confidential, that they could terminate the interview at any time, and that the information was being collected in conformity with the FOIPP Act. In total, 413 telephone interviews were completed. The average length of the interview after screening was 22.0 minutes (Standard Deviation [SD] = 8.3).

Ethics

The Health Research Ethics Board (Panel B) at the University of Alberta approved the study questionnaires and procedures.

Generating the Samples and Sample Criteria

Sample One (ATS Services)

Random digit dialing (RDD) methodology was used to generate the sampling frame for Sample One participants. Specifically, telephone numbers were generated using a telephone landlines databank with the last two digits randomly generated by computer for those who resided in one of the areas: Town, village, hamlet, or farm in Lamont County; or in the Town of Redwater. All respondents were initially screened by PRL interviewers for eligibility in the study. Specifically, interviewers asked structured questions from their script to determine an individual's eligibility based on pre-defined criteria.

To be eligible for participation for the ATS services survey, an individual had to be 45 years of age and older, English speaking, and a resident of either Lamont County or the Town of Redwater. The rationale for including individuals 45 years of age and older was that many adult children become transportation service providers to their parents and, as such, have insight into the transportation needs of seniors. All individuals eligible for participation in the ATS services survey responded to questions related to ATS services as well as questions related to IMT service. In terms of quota sampling for this segment of the study, the intent was to recruit approximately 20.0% or greater of individuals aged 65 and older who did not drive. Despite focused attempts by PRL staff, they were successful in recruiting only four individuals 65 years of age and older *without a disability* who did not drive.

Sample Two (ST Services for PWD)

To be eligible for the ST services for PWD survey, an individual had to be 18 years of age or older, have a long-term or recurring impairment (i.e., physical, mental, sensory, psychiatric, or learning) that limited their ability to get around outside of their home, and be a non-driver. With the exception of one individual, the methodology for developing the sampling frame for ST

services for PWD was identical to that for Sample One (i.e., RDD). In one instance, the contact information of a PWD who did not drive and who had volunteered his/her information was provided to PRL staff by the study team. That person was screened as eligible to participate and completed the telephone survey. As with Sample One, all individuals who were eligible and who responded to the questions related to ST services also completed the questions on IMT service.

Response Rate

The response rate was calculated by using the number of individuals who participated in the survey divided by the number of completed interviews, refusals, incompletes, and language problems.

As shown below, the overall response rate was 35.9%.

$$\begin{aligned}
 \text{Response Rate} &= \frac{\text{Number of complete interviews}}{\text{Number of completed interviews + Incomplete Interviews} \\
 &\quad \text{(refusals + incomplete + language problems)}} \times 100 \\
 &= \frac{413}{(413 + [716 + 15 + 6])} \times 100 \\
 &= 35.9\%
 \end{aligned}$$

On average, two call attempts were needed to obtain the final sample of 413 participants.

Overview of the Sample as a Whole

Four hundred and thirteen (N = 413) individuals participated in the *Transportation Needs Assessment*. As shown in Table A1-1, the average age of the Sample as a Whole was 65.1 years (SD = 11.1). Two-thirds (63.7%) of these participants were female. Slightly more than three-quarters (85.7%) of participants in the overall sample lived either in Lamont County, Mundare, Bruderheim, Town of Lamont, Town of Redwater, or on a farm⁴. The remaining participants resided in Andrew, Chipman, Hilliard, Star, or St. Michael. Two-thirds (66.7%) of participants were married or living common-law, with the remainder single/never married (8.3%), separated or divorced (8.0%), or widowed (17.0%). Almost three-quarters (71.8%) of participants indicated that they lived with family or friends, one-quarter (24.8%) lived alone, and 3.4% reported living in a group setting (i.e., seniors lodge, group home). The vast majority (91.3%) of participants lived a single detached or mobile home, with the rest indicating that they lived in an apartment, townhouse, or semi-detached home (2.9%), lodge or apartment for seniors (4.9%), or assisted living facility (1.0%). Slightly more than half (51.1%) of participants indicated that they were retired, 4.4% were on long-term disability, 2.0% were unemployed and not looking for work, 1.0% were unemployed and looking for work, 10.0% were employed part-time (less than 30 hours per week), 18.3% were employed full-time, 4.2% selected homemaker as an employment status, and 9.0% reported 'other' in terms of employment status (i.e., contract or seasonal employment, self-employed, etc.). The majority (85.8%) of participants indicated that their annual household income was equal to or greater than \$20,000. In terms of driving status, 90.3% of participants indicated that they drove.

⁴ See Table AB-1 in Appendix B for a more detailed breakdown of place of residence for the Sample as a Whole.

Table A1-1. *Demographics of the Sample as a Whole* ^{5,6}

	Total Sample (N = 413)
Average Age	65.1 (SD = 11.1)
	n (%)
Sex	
Female	263 (63.7)
Male	150 (36.3)
Place of Residence	
Town	218 (52.8)
Village	53 (12.8)
Hamlet	6 (1.5)
Farm	85 (20.6)
County	51 (12.3)
Marital Status	
Married/common-law	274 (66.7)
Separated/divorced	33 (8.0)
Widowed	70 (17.0)
Single (never married)	34 (8.3)
Living Arrangements	
Live alone	102 (24.8)
Living with family/friends	296 (71.8)
Group setting (lodge/group home)	14 (3.4)
Dwelling	
Single detached/mobile home	376 (91.3)
Apartment/townhouse/semi-detached condominium	12 (2.9)
Lodge/apartment for seniors	20 (4.9)
Assisted living facility	4 (1.0)
Employment Status	
Retired	209 (51.1)
Employed (full-time)	75 (18.3)
Employed (part-time)	41 (10.0)
Unemployed looking for work	4 (1.0)
Unemployed not looking for work	8 (2.0)
Long-term disability/disability leave	18 (4.4)
Homemaker	17 (4.2)
Other	37 (9.0)
Income	
< \$20,000	48 (14.2)
≥ \$20,000	289 (85.8)
Driving Status	
Driver	373 (90.3)
Non-Driver	40 (9.7)

⁵ The total n of the category does not always match the n for the total sample due to missing data in selected instances (i.e., non-responses).

⁶ Percentages within each category do not always total 100% due to rounding.

Breakdown of the Sample as a Whole

The breakdown of the Sample as a Whole is provided in Figure A1-1. Of the 413 individuals who participated in the *Transportation Needs Assessment*, 383 completed the ATS services survey and 30 completed the ST services for PWD survey. Of the 383 completing the ATS services survey, one hundred and eighty-one (n = 181) were 45–64 years of age, with the remaining 202 participants 65 years of age and older (65+).

Because of the relevance of driving in this study, we also stratified participants on the basis of driving status (drivers vs. non-drivers). As shown in Figure A1-1, of the 181 participants aged 45–64, 175 (96.7%) indicated that they currently drove. Of the 202 participants aged 65+, all but four (98.0%) indicated that they currently drove. All 30 of the PWD participants were non-drivers.

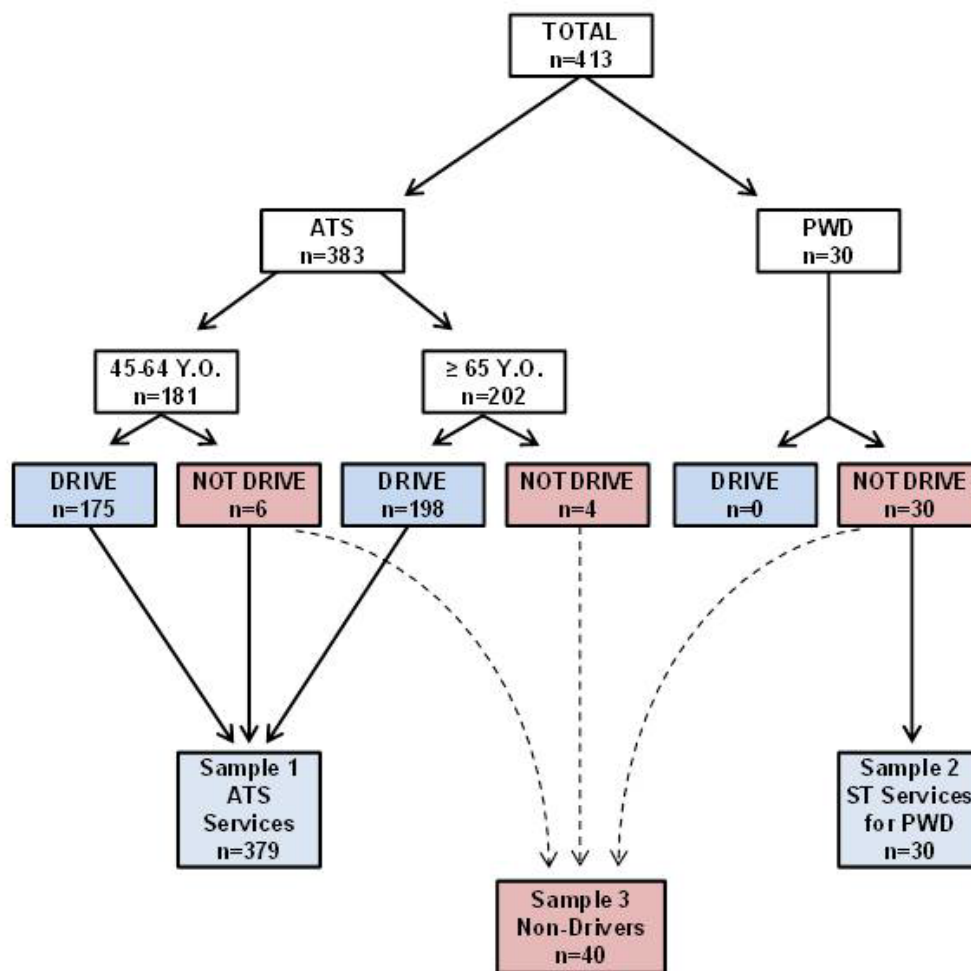


Figure A1-1. Overview and breakdown (Sample as a Whole).

Creation and Description of the Three Sub-Samples

For data analyses purposes, three 'sub-samples' were created. Sample One consisted of 379 participants aged 45–64 and 65+ without a disability and who completed the ATS services survey. Sample Two consisted of 30 PWD participants who completed the ST services survey. Sample Three consisted of 40 non-drivers (6 aged 45–64, 4 aged 65+, and the 30 PWD). Ten of these 40 participants completed the ATS services survey, with the remaining 30 participants answering the ST services for PWD survey (see Figure A1-1). Importantly, for the most part, questions on the ATS services survey paralleled those on the ST services for PWD survey.

Sample One (ATS Services)

All 181 participants aged 45–64, irrespective of driving status (driver/non-driver), answered questions related to seniors' transportation needs in terms of the seniors in their community (i.e., *How important is it for seniors in your community to...*). For the participants aged 65+, 198 of the 202 participants who currently drove also answered the questions related to seniors' transportation needs in terms of the seniors in their community (i.e., *How important is it for seniors in your community to...*). The four participants aged 65+ who did not drive answered the questions related to seniors' transportation needs from their own perspective (i.e., *How important is it to you...*).

Our rationale for structuring the ATS survey in this way was based on responses to a previous survey on seniors' transportation needs. Specifically, results from a provincial survey of 901 seniors in rural and urban Alberta in 2011 indicated that when participants 65 years of age and older were asked about *how well their transportation needs were being met*, 14.0% responded 'not at all' or 'somewhat' well. However, when asked *how well the transportation needs of seniors in the community were being met* overall, 60.9% of participants responded 'not at all' or 'somewhat' well (37). In this same provincial survey, a similar pattern of results was found when comparing drivers versus non-drivers. That is, a lower percentage of drivers (12.6%) indicated that *their transportation needs were being met* 'not at all' or 'somewhat' well compared to non-drivers (24.0%). When asked *how well the transportation needs of seniors in the community were being met* overall, a high percentage ($\geq 58.0\%$) of both drivers and non-drivers responded 'not at all' or 'somewhat' well. Because one of the goals of this *Transportation Needs Assessment* was to better understand the transportation needs of seniors in the community, we asked the participants aged 45–64 (drivers and non-drivers) and participants aged 65+ who drove to respond from the perspective of 'seniors in the community'.

As noted above, the participants aged 65+ who did not drive (n = 4) responded from their own perspective. Because of the small number of these non-drivers and because they answered the questions differently (i.e., from their own perspective), we elected to remove them from Sample One, with their results included in the sample of non-drivers (Sample Three). Thus, Sample One consisted of 379 participants. The demographics and overall results for Sample One participants are presented in Section B.1 of this report.

Sample Two (ST Services for PWD)

Thirty individuals 18 years of age and older met our criteria for PWD and participated in the ST services survey. Specifically, 30 individuals indicated that they had a long-term or recurring disability (i.e., physical, mental, sensory, psychiatric, or learning) that limited their ability to get around outside of their home *and* they did not drive. The demographics and overall results for Sample Two are presented in Section B.2 of this report.

Sample Three (Non-Drivers)

Forty of the 413 participants (9.7%) indicated that they did not drive. Thirty of the 40 non-drivers (75.0%) were PWD. Of the remaining 10 non-drivers, six were aged 45–64 years and four were 65 years of age and older. All six of the non-drivers in the 45–64 age range answered the questions from the perspective of *seniors in the community*, with the remaining 34 of the 40 non-drivers answering questions from their *own perspective*. It is reasonable to assume that there may be differences in responses from the participants aged 45–64 who did not drive (and who answered *‘in thinking about seniors...’*) as compared to participants aged 65+ and PWD participants who did not drive (and who answered from their own perspective). For this reason, we elected not to include the six participants aged 45–64 in the analyses of non-drivers, leaving a sample of 34 non-drivers. This left a small sample size of non-drivers within each of these sub-samples (i.e., 30 PWD and 4 non-drivers aged 65+). Because of these two small samples, we elected to combine the two samples, with the results for all of the non-drivers presented for *Non-Drivers as a Whole* in Section B.3 of this report.

Statistical Analyses

Data analyses were done by MARD Centre researchers. Descriptive statistics (means [averages], standard deviations, frequencies) were used to describe the samples and the ratings on different features of the transportation service under investigation. In terms of inferential statistics, we were selective in the number of overall comparisons that were done because, as the number of comparisons increase, there is an increased probability of making

what is called a 'Type 1' error. A Type 1 error, which also is known as a 'false positive', is *'finding that there is a difference between two groups when in fact no statistically significant difference exists'* on your measure of interest. That is, Type 1 errors lead to the rejection of the null hypothesis that posits that there is no difference between your two groups on your measure of interest when the null hypothesis is true. For the comparisons that were done, a Chi-square or t-test was used, with the level of statistical significance set at $p < .05$.

SECTION B. RESULTS

SECTION B.1: ATS Services (Sample One)

B.1.1. Demographics

A total of 379 individuals participated in the ATS services survey⁷. One hundred and eighty-one (47.8%) of the participants were 45–64 years of age (i.e., adult children of seniors) and 198 (52.2%) were participants 65 years of age and older. The average age of participants aged 45–64 was 56.3 (SD = 5.6; Range = 44⁸–64 years), with 65.2% of this sample female (see Table B1-1). The average age of the 65+ participants was 73.1 (SD = 6.4; Range = 65–95 years), with 61.6% of this sample female. Almost two-thirds (65.8%) of participants aged 45–64 resided in either in a town (52.5%), village (11.6%), or hamlet (1.7%), with the remaining one-third residing on a farm (16.6%) or in Lamont County (17.7%). For participants aged 65+, almost two-thirds (64.6%) resided in a town (50.5%), village (13.1%), or hamlet (1.0%), with these percentages similar to participants aged 45–64. However, compared to participants aged 45–64, a greater percentage of participants 65+ resided on a farm (26.8%) with a lower percentage (8.6%) of 65+ participants residing in Lamont County. In terms of marital status, over three-quarters (77.2%) of participants aged 45–64 were married or living common-law, with slightly fewer (62.9%) of the 65+ participants married or living common-law. Few of the participants were separated/divorced (8.9% of participants aged 45–64 and 4.6% of participants aged 65+, respectively). Not unexpectedly, a greater percentage of participants aged 65+ were widowed (26.9%) compared to participants aged 45–64 (2.8%). A greater percentage of participants aged 45–64 were single (11.1%), compared to only 5.6% of those participants aged 65+.

There also were differences in living arrangements between the two groups, with a greater percentage of participants aged 65+ living alone (29.9%) compared to of participants aged 45–64 (17.1%). Conversely, a greater percentage of participants aged 45–64 were living with family or friends compared to participants aged 65+ (81.8% vs. 66.5%, respectively). In terms of dwelling, almost all of the participants aged 45–64 lived in a single detached or mobile home (96.1%) with fewer, but still the majority, of participants aged 65+ living in this same type of

⁷ Recall that 4 participants aged 65+ who were non-drivers and answered the questions differently were removed from the analyses.

⁸ On initial recruitment, one individual indicated that he met the age criteria (i.e., aged 45 years of age or older). At the end of the interview, individual participants were asked to provide their exact age. At this time, the individual indicated that he was 44 years of age. Given the participant's closeness of age to our age criterion, we elected to include this participant's data.

dwelling (89.8%). A similar percentage of participants aged 45–64 and 65+ lived in a townhouse, semi-detached condominium, or apartment (2.2% and 2.5%, respectively). Not unexpectedly, a greater percentage of participants aged 65+ lived in a lodge or apartment for seniors (7.6%) versus those aged 45–64 (1.1%). Only one participant lived in an assisted living facility and that participant was in the 45–64 age category.

There also were differences in employment status and income between the two age groups. Few of the participants aged 45–64 were retired (20.0%) compared to the vast majority (77.9%) of participants aged 65+. Conversely, slightly more than half (51.1%) of participants aged 45–64 were either employed full- or part-time compared to only 11.8% for those aged 65+. Few (10.6%) participants aged 45–64 were either unemployed and looking for work, unemployed but not looking for work, or on long-term disability, with no participants aged 65+ indicating these choices as an employment category. Few participants from either age grouping selected 'homemaker' as an employment category (6.7% of participants aged 45–64 and 2.1% of participants aged 65+). The majority of participants aged 45–64 and 65+ indicated that their annual household income was greater than or equal to \$20,000 (91.9% and 85.2%, respectively) (See Table B1-1).

Table B1-1. *Demographics of Participants Aged 45–64 and Aged 65+*^{9,10}

	45–64 Age Group (n = 181)	65+ Age Group (n = 198)
Average Age	56.3 (SD = 5.6)	73.1 (SD = 6.4)
	n (%)	n (%)
Sex		
Female	118 (65.2)	122 (61.6)
Male	63 (34.8)	76 (38.4)
Place of Residence		
Town	95 (52.5)	100 (50.5)
Village	21 (11.6)	26 (13.1)
Hamlet	3 (1.7)	2 (1.0)
Farm	30 (16.6)	53 (26.8)
County	32 (17.7)	17 (8.6)
Marital Status		
Married/common-law	139 (77.2)	124 (62.9)
Separated/divorced	16 (8.9)	9 (4.6)
Widowed	5 (2.8)	53 (26.9)
Single (never married)	20 (11.1)	11 (5.6)
Living Arrangements		
Live alone	31 (17.1)	59 (29.9)
Living with family/friends	148 (81.8)	131 (66.5)
Group setting (lodge/group home)	2 (1.1)	7 (3.6)
Dwelling		
Single detached/mobile home	174 (96.1)	177 (89.8)
Apartment/townhouse/semi-detached condominium	4 (2.2)	5 (2.5)
Lodge/apartment for seniors	2 (1.1)	15 (7.6)
Assisted living facility	1 (0.6)	--
Employment Status		
Retired	36 (20.0)	152 (77.9)
Employed (full-time)	67 (37.2)	7 (3.6)
Employed (part-time)	25 (13.9)	16 (8.2)
Unemployed looking for work	4 (2.2)	--
Unemployed not looking for work	5 (2.8)	--
Long-term disability/disability leave	10 (5.6)	--
Homemaker	12 (6.7)	4 (2.1)
Other	21 (11.7)	16 (8.2)
Income		
< \$20,000	12 (8.1)	24 (14.8)
≥ \$20,000	137 (91.9)	138 (85.2)
Driving Status		
Driver	175 (96.7)	198 (100.0)
Non-driver	6 (3.3)	--

⁹ The total n of the category does not always match the total n for each of the 45–64 and 65+ samples due to missing data in selected instances (i.e., non-responses).

¹⁰ Percentages within each category do not always total 100% due to rounding.

Physical Health and Mobility

When asked about their physical health and mobility:

- 54.1% of participants aged 45–64 and almost half (47.5%) of participants aged 65+ indicated that their physical health ‘never’ interfered with their ability to carry out everyday activities (i.e., shopping, dressing, preparing meals);
- 35.9% of participants aged 45–64 and 41.4% of participants aged 65+ indicated that their physical health interfered with their ability to carry out everyday activities ‘sometimes’;
- 9.9% of participants 45–64 and 11.1% of participants aged 65+ indicated that their physical health interfered with their ability to carry out everyday activities ‘all the time’ (see Figure B1-1).

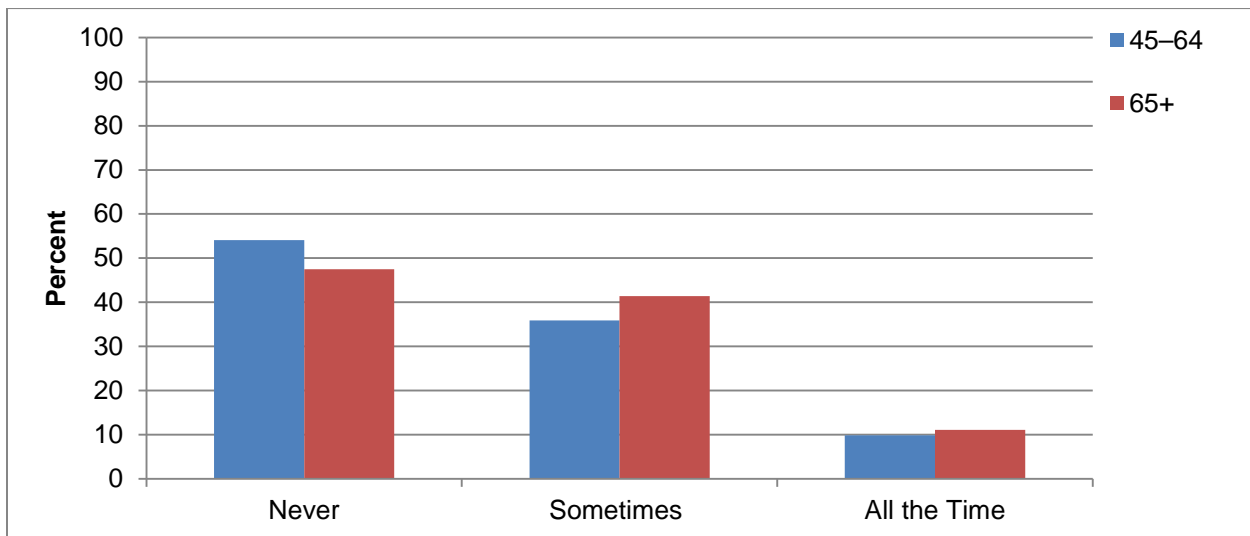


Figure B1-1. Ratings on interference of physical health on ability to carry out everyday activities (45–64 and 65+).

In terms of use of mobility aids, less than one-quarter (10.5%) of participants aged 45–64 used any form of mobility aid (i.e., walker, cane, wheelchair, electric scooter, and/or crutches). In contrast, more than one-quarter (27.2%) of participants aged 65+ indicated that they used some form of mobility aid, a difference that was statistically significant ($p < .000$). A cane was the most common form of mobility aid used for both participants aged 45–64 and 65+. As shown in Figure B1-2:

- Less than 10.0% of participants in either age group used a walker as a mobility aid, with 2.8% of participants aged 45–64 and 7.6% of participants aged 65+ indicating that they used this mobility aid ($p = .04$);

- A greater percentage (25.8%) of participants aged 65+ indicated that they used a cane to assist with their mobility, compared to 9.4% of participants aged 45–64, a difference that was statistically significant ($p < .000$);
- Few participants in either age category used a wheelchair, electric scooter, or crutches.

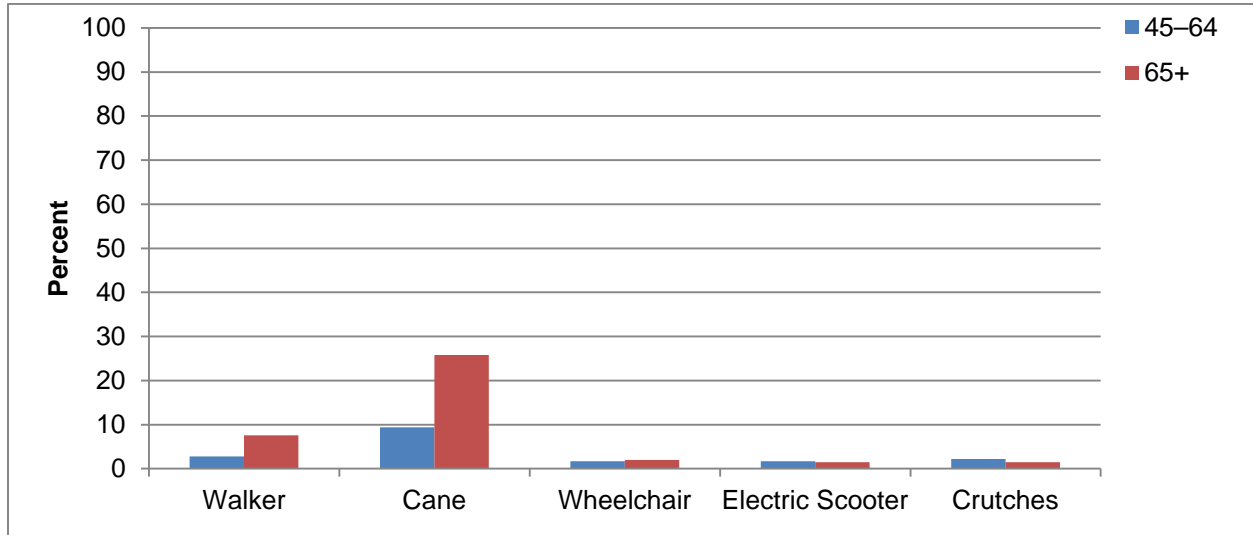


Figure B1-2. Use of mobility aids (45–64 and 65+).

B.1.2. Getting Around

Participants also were asked how they ‘get around’ in a typical week. As noted earlier, the vast majority of participants aged 45–64 and 65+ indicated that they currently drove (96.7% and 100%, respectively). Results indicated that:

- On average, participants aged 45–64 drove 5.1 (SD = 2.0) days per week compared to 3.9 (SD = 2.2) days per week for those aged 65+, with this difference not statistically significant ($p = < .000$).

When asked about the number of days that they relied on *family members* to ‘get to where they wanted to go’:

- Less than one-quarter of participants aged 45–64 (21.5%) and 65+ (23.2%) indicated that they relied on family members for transportation one or more times per week, a difference that was not statistically significant ($p > .05$).

Similarly, when asked about the number of days that they relied on *friends* to 'get to where they wanted to go':

- 13.8% of participants aged 45–64 and 14.1% of participants aged 65+ indicated that they relied on friends for transportation one or more times per week, with this difference not statistically significant ($p > .05$).

B.1.3. Unmet Transportation Needs

All participants were asked how often in the last six months they were unable to go to medical appointments, shop for groceries, get together with family, or attend social functions or religious activities because they did not have a ride. As shown in Figure B1-3:

- 15.8% of participants aged 45–64 and 12.2% of participants 65+ indicated that they had 'sometimes/often' been unable to get to medical appointments *in their community* because they did not have a ride;
- 16.1% of participants of aged 45–64 and 12.1% of participants aged 65+ indicated that they had 'sometimes/often' been unable to get to medical appointments *outside of their community* because they did not have a ride;
- 13.0% of participants aged 45–64 indicated that within the last six months they had 'sometimes/often' been unable to shop for groceries because they did not have a ride compared to 7.7% of participants aged 65+;
- A similar percentage of participants aged 45–64 and 65+ indicated that in the last six months they had 'sometimes/often' been unable to get together with family because they did not have a ride (10.0% and 10.2%, respectively);
- A similar percentage of participants aged 45–64 and 65+ indicated that they had 'sometimes/often' been unable to attend social functions because they did not have a ride (13.8% and 12.4%, respectively);
- 14.8% of participants aged 45–64 indicated that they had 'sometimes/often' been unable to attend religious activities because they did not have a ride compared to 8.6% of participants aged 65+.

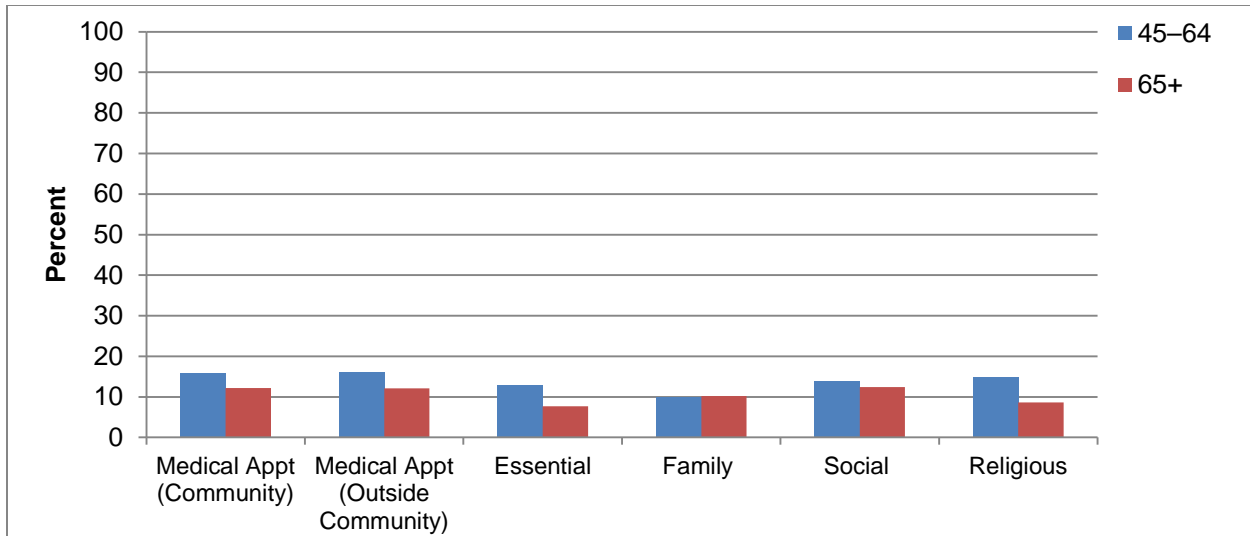


Figure B1-3. Ratings on inability to go to different appointments/activities because of not having a ride (45–64 and 65+).

B.1.4. Current Satisfaction of Transportation Needs of Seniors

Satisfaction of Transportation Needs of Seniors for Different Types of Trips

Participants also were asked *how well* the *transportation needs of seniors in their community* were being met for different types of trips (i.e., health-related appointments, essential trips such as grocery shopping and banking, visiting with family and friends, social activities, and for religious activities). As can be seen in Figure B1-4, compared to participants aged 65+, a higher percentage of participants aged 45–64 responded that the transportation needs of seniors in their community were being met ‘not at all well’ across all five trip categories (i.e., health-related, essential, visits with family/friends, social, and religious).

Specifically:

- More than one-third (38.9%) of participants aged 45–64 indicated that the health-related transportation needs of seniors in their community were being met ‘not at all well’ whereas 28.1% of participants aged 65+ rated these transportation needs as being met ‘not at all well’ ($p = .04$);
- Almost half (42.7%) of participants aged 45–64 indicated the transportation needs of seniors in their community for essential services (i.e., grocery shopping, banking) were being met ‘not at all well’ compared to 31.0% of participants aged 65+ ($p = .03$);
- Over half (51.4%) of participants aged 45–64 indicated that the transportation needs of seniors in their community for visiting with family/friends were being met ‘not at all well’

whereas less than half (39.8%) of participants aged 65+ rated these transportation needs as being met 'not at all well' ($p = .04$);

- A greater percentage of participants aged 45–64 indicated that the transportation needs of seniors in their community for social activities were being met 'not at all well' compared to participants aged 65+ (44.5% and 30.6%, respectively) ($p = .01$);
- Almost half (47.3%) of participants aged 45–64 indicated that the transportation needs of seniors in their community for religious activities were being met 'not at all well' compared to 28.7% of participants aged 65+ ($p = .001$).

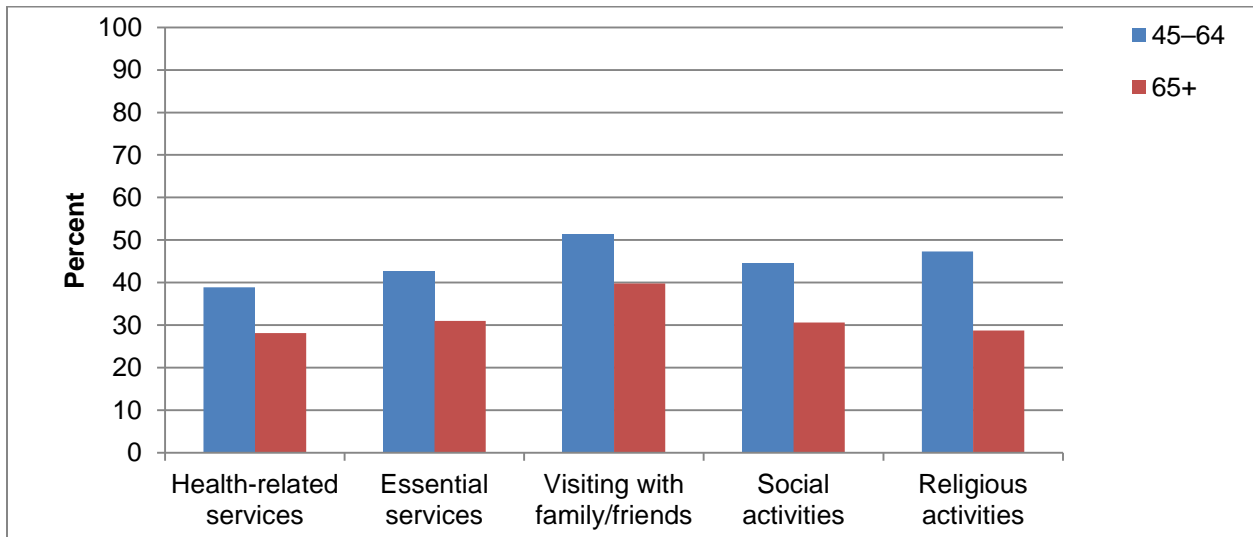


Figure B1-4. Ratings on transportation needs of seniors being met ('Not at all Well') for various appointments or activities (45–64 and 65+).

Satisfaction of Transportation Needs of Seniors Overall

Participants also were asked how well the *transportation needs of seniors in their community* were being met *overall*. As can be seen in Figure B1-5:

- More than one-third (39.5%) of participants aged 45–64 and almost one-third (31.1%) of participants aged 65+ indicated that the transportation needs of seniors in their community were being met 'not at all well';
- 56.8% of participants aged 45–64 and 60.5% of participants aged 65+ indicated that the transportation needs of seniors were being met 'somewhat well';
- Less than 10.0% of participants aged 45–64 and 65+ (3.7% and 8.4%, respectively) indicated that the transportation needs of seniors in the community were being met 'very well'.

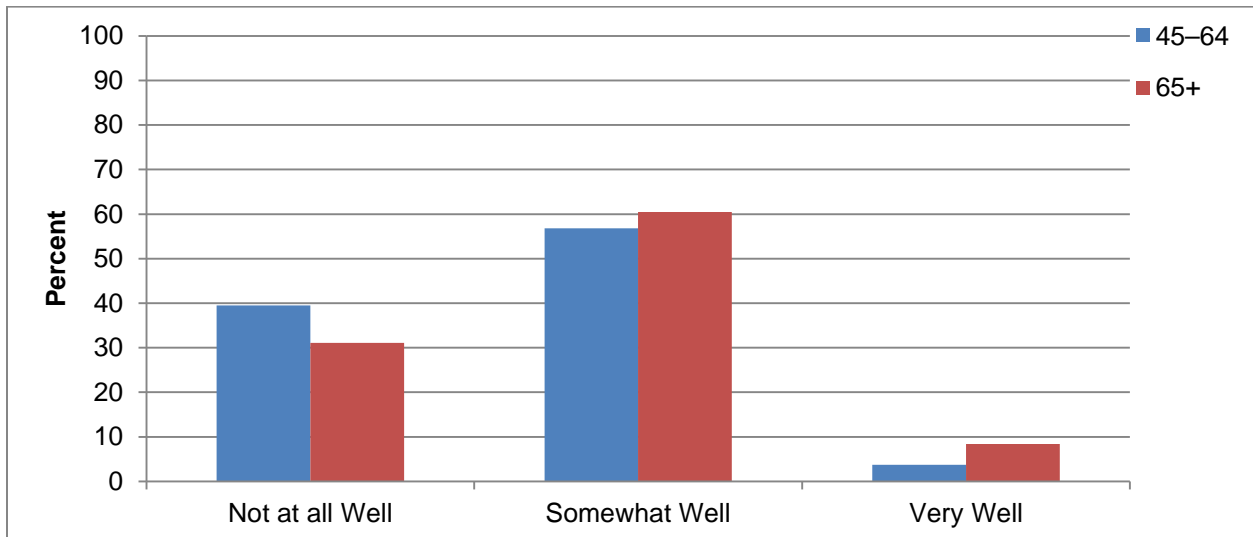


Figure B1-5. Ratings on transportation needs of seniors in the community being met ('Not at all Well') (45–64 and 65+).

B.1.5. ATS Services in the Community – Availability, Importance, and Use

Participants aged 45–64 and participants aged 65+ were asked if there were ATS services in their community and whether *seniors in their community* used those services. **ATS service** was defined as modes of transportation that exist outside of public transportation programs and include both for-profit and not-for-profit transportation by a service provider (i.e., private vehicles, buses, handivans, minivans) (36). When asked if there were any ATS services provided in the participant's community, 40.3% of participants aged 45–64 and 44.9% of participants aged 65+ responded 'yes'. Some of the ATS services identified included community buses and/or vans for seniors, volunteer drivers, handivan services, Driving Miss Daisy, and services offered by community organizations such as the Lion's Club and Pioneer Club.

Importance of ATS Services in the Community

When asked about the *importance* of having *ATS services available for seniors in their community*:

- Very few (2.3%) of the participants aged 45–64 and none of the participants aged 65+ rated the availability of these services as 'not at all important';
- Few participants aged 45–64 and 65+ rated the availability of these services as 'somewhat important' (13.3% and 18.9%, respectively);

- The majority of participants aged 45–64 rated the availability of these services as ‘very important’ (84.4%) with a similar percentage of participants aged 65+ rating the availability of these services as ‘very important’ (81.1%) (see Figure B1-6).

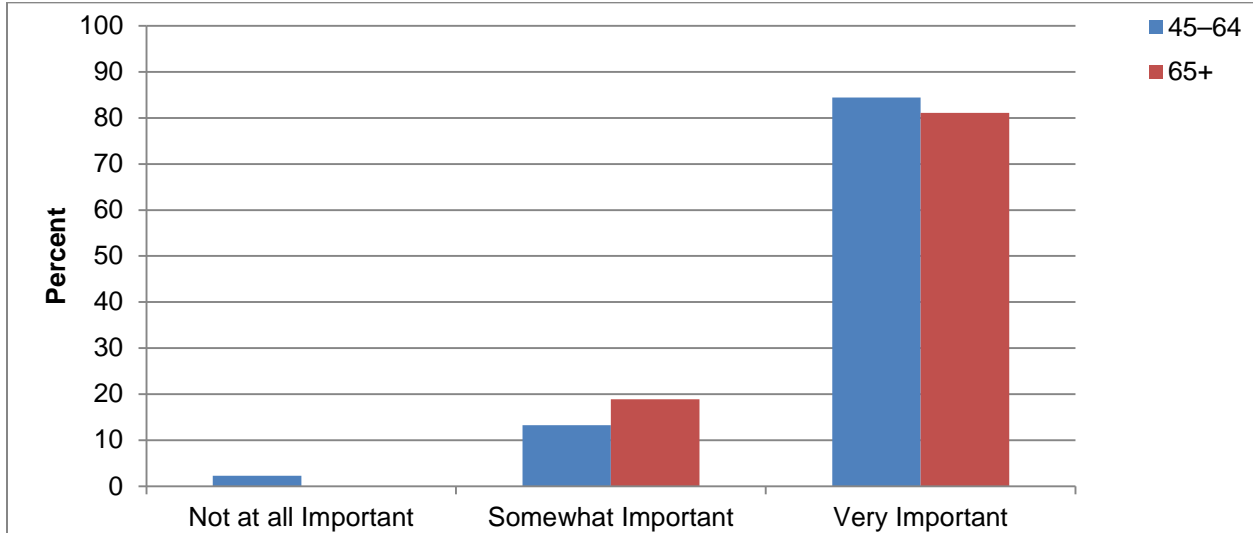


Figure B1-6. Ratings on importance of ATS services in the community (45–64 and 65+).

Use of ATS Services

When asked about the *likelihood of use* of ATS services *by seniors in their community* if those services were available:

- Few participants aged 45–64 and 65+ indicated that seniors would be ‘not at all likely’ (2.3% and 1.5%, respectively) to use the services;
- 26.1% of participants aged 45–64 and 31.6% of participants 65+ indicated that seniors would be ‘somewhat likely’ to use the service;
- The majority of participants aged 45–64 and 65+ indicated that seniors would be ‘very likely’ to use the service (71.6% and 66.8%, respectively) (see Figure B1-7).

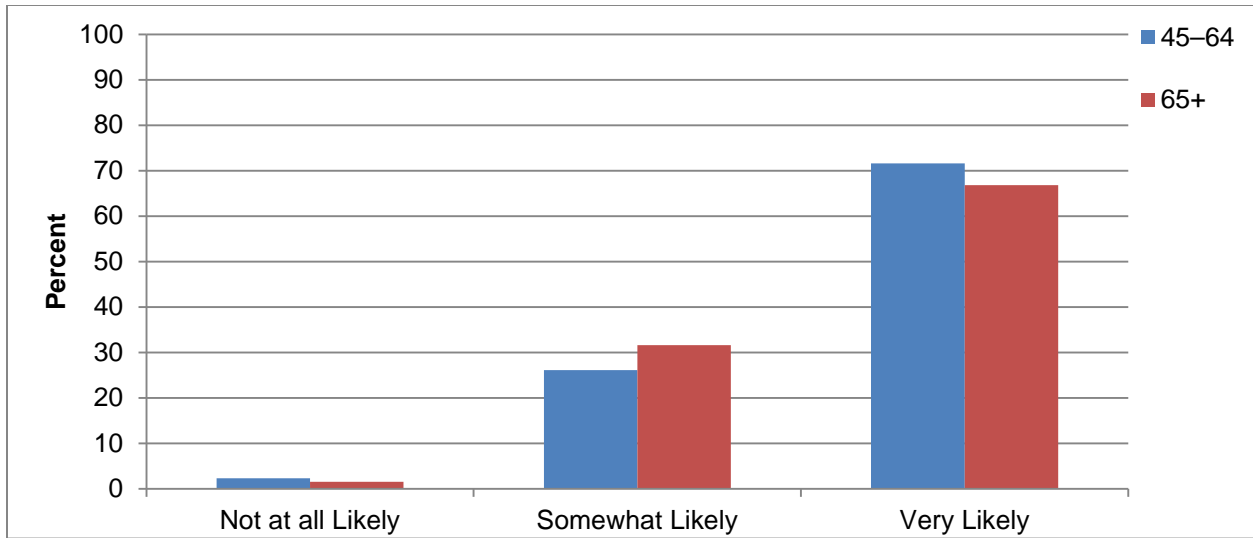


Figure B1-7. Ratings on the likelihood of seniors using ATS services (45–64 and 65+).

Times Most Likely to Use ATS Services

The final question in this section of the survey pertained to *times when seniors in the community* would most likely use ATS services if those services were available. As can be seen in Figure B1-8:

- A majority of participants aged 45–64 and 65+ indicated that the *most likely* time periods of use by seniors would be Weekday mornings (93.9% and 87.9%, respectively) and Weekday afternoons (87.8% and 76.3%, respectively);
- Less than one-quarter of participants aged 45–64 and 65+ indicated that seniors would *most likely* to use ATS services on Weekday evenings (23.2% and 17.2%, respectively);
- Fewer participants aged 45–64 and 65+ indicated that ATS services would be used on the weekend, with Weekend mornings and afternoons identified by participants aged 45–64 and 65+ as the time periods that seniors would be *most likely* to use these services (56.9% and 44.9% for Weekend mornings, respectively and 59.7% and 49.0% for Weekend afternoons, respectively);
- Less than one-quarter of participants aged 45–64 and 65+ indicated that ATS services would be used Weekend evenings (23.2% and 19.2%, respectively).

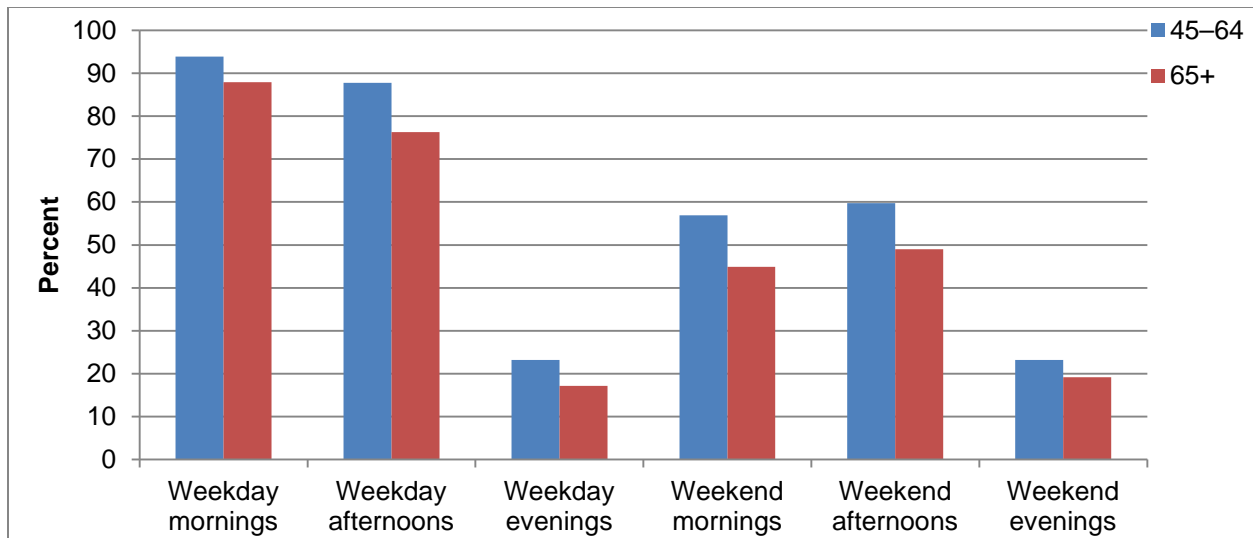


Figure B1-8. Ratings on the times seniors would use ATS services (45–64 and 65+).

B.1.6. Importance of Different Features of ATS Service Provision

In the final section of the survey, participants were asked to rate the importance of different features of ATS services for *seniors if those services were available in their community*. Specifically, participants were asked to provide input on booking rides, the availability of ATS services for different types of transportation needs, costs, willingness to pay for ATS services, as well as mode of payment for ATS services.

Booking Rides and Multiple Stops

In terms of *thinking about seniors in their community* and options for booking rides:

- The vast majority of participants aged 45–64 and 65+ indicated that having to book a ride at least 24 hours in advance was ‘somewhat/very reasonable’ (95.0% and 94.4%, respectively);
- The majority of participants aged 45–64 and 65+ (77.2% and 74.5%, respectively) also indicated that having to book a ride at least 48 hours in advance was ‘somewhat/very reasonable’;
- Less than half of participants aged 45–65 and 65+, however, indicated that having to book a ride more than 48 hours in advance was ‘somewhat/very reasonable’ (42.5% and 44.7%, respectively);
- Almost two-thirds of participants aged 45–64 (65.9%) and 65+ (63.5%) indicated that not having to book a ride in advance was ‘somewhat/very reasonable’ (see Figure B1-9).

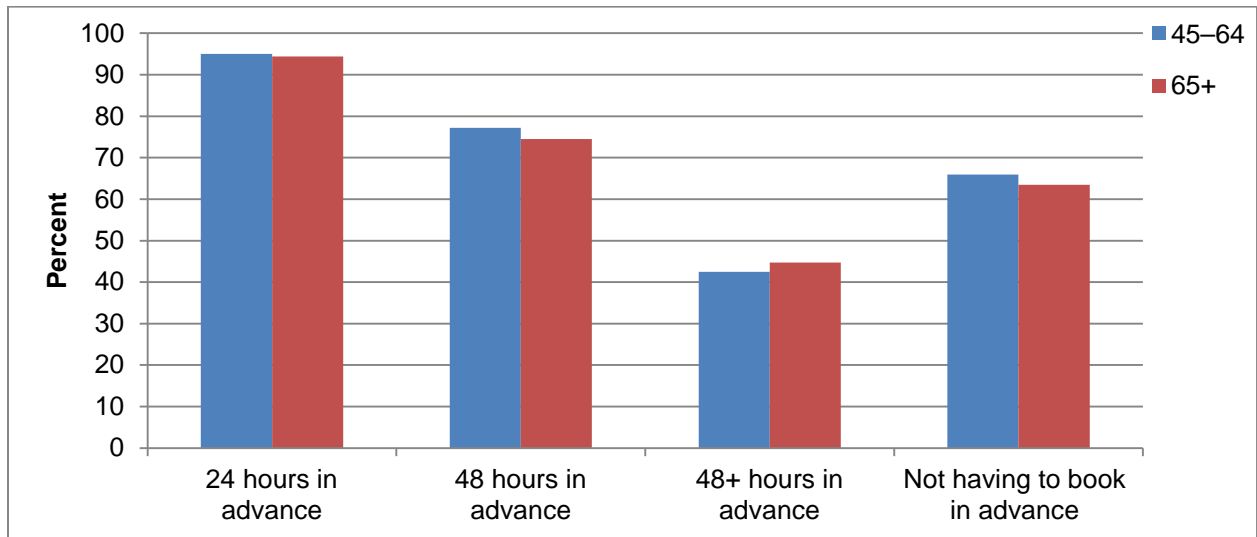


Figure B1-9. Ratings on reasonableness of booking rides with/without advance notice (45–64 and 65+).

Participants also were asked about *how important it was for seniors in their community* to have ATS services that allow for multiple stops during the trip (i.e., stopping at the bank and then the grocery store on the way home from doctor’s office). As can be seen in Figure B1-10:

- Few participants aged 45–64 and 65+ indicated that having this type of service was ‘not at all important’ (6.1% and 13.7%, respectively);
- The majority of participants aged 45–64 and 65+ indicated that having ATS services that allow for multiple stops during the trip was ‘somewhat/very important’ for seniors in the community (93.9% and 86.3%, respectively).

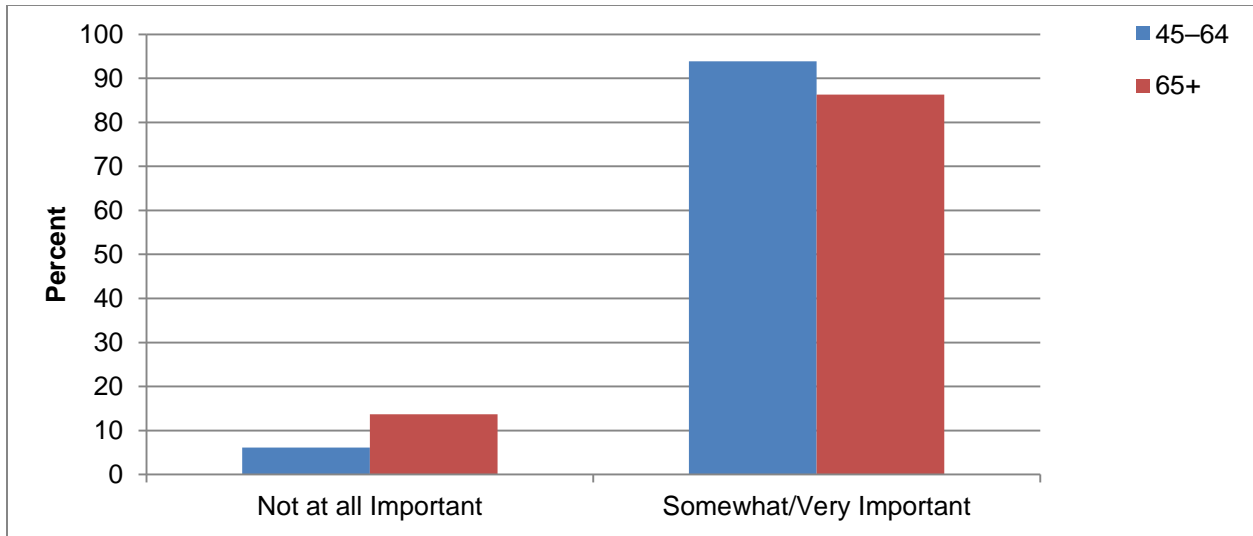


Figure B1-10. Ratings on importance of ATS services that allow multiple stops (45–64 and 65+)

Knowledgeable Drivers

Participants also were asked about *how important it was for seniors in their community* to have drivers who were knowledgeable about health issues (i.e., disabilities, illnesses that affect mental functioning such dementia). The vast majority of participants aged 45–64 and 65+ (97.8% and 96.9%, respectively) indicated that having drivers who were knowledgeable on these issues was ‘somewhat/very important’.

Importance of ATS Services for Different Types of Transportation Needs

Participants next were asked about *how important it was for seniors in their community* to have ATS services available for different types of transportation needs (i.e., health-related trips such as medical appointments, essential services such as grocery shopping and banking, visiting with family and friends, social activities, and for religious activities). All types of transportation needs were rated as being important, with a trend for higher ratings for health-related and essential trips. As shown in Figure B1-11:

- The vast majority of participants aged 45–64 and 65+ indicated that having ATS services available for seniors in the community for health-related appointments was ‘somewhat/very important’ (100% and 99.5%, respectively);
- The vast majority of participants aged 45–64 and 65+ also indicated that having ATS services available for trips to essential services was ‘somewhat/very important’ (98.3% and 92.9%, respectively);

- The majority of participants aged 45–64 (86.7%) and participants aged 65+ (74.7%) indicated that having ATS services available to provide rides to seniors in their community for visiting with family and friends was ‘somewhat/very important’;
- The majority of participants aged 45–64 and 65+ indicated that having ATS services available for seniors in the community for attending social activities was ‘somewhat/very important’ (91.2% and 84.8%, respectively);
- The majority of participants aged 45–64 and 65+ also indicated that having ATS services available for attending religious activities was ‘somewhat/very important’ (88.9% and 86.2%, respectively).

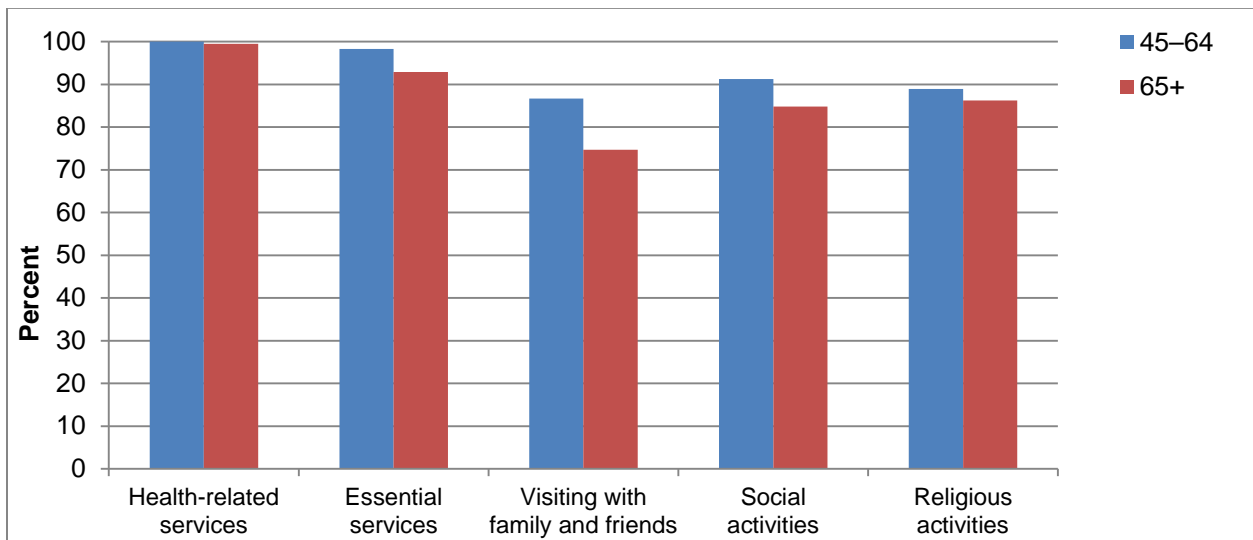


Figure B1-11. Ratings on importance of ATS services for different appointments/activities (45–64 and 65+).

Paying for Services

Participants were asked how much they thought seniors in their community could *afford* to pay and how much seniors in the community were *willing* to pay for a one-way ride of approximately 10.0 km. On average:

- Participants aged 45–64 indicated that they thought seniors could *afford* to pay \$7.18 (SD = \$4.82) but they would be *willing* to pay \$6.88 (SD = \$6.04);
- Participants aged 65+ indicated that they thought seniors could *afford* to pay \$8.87 (SD = \$7.03) and would be *willing* to pay \$8.08 (SD = \$6.79).

In terms of method of payment:

- 'Pay per ride' was identified as the preferred method with this option identified by participants aged 45–64 and 65+ (52.4% and 58.0%, respectively);
- 'Purchasing a book of passes in advance' was the second most preferred method of payment, with 25.8% of participants aged 45–64 and 26.8% of the participants aged 65+ responding in this fashion;
- The least preferred options for payment of services identified by participants aged 45–64 and 65+ consisted of 'setting up an account with the service provider with an automatic deduction of the cost of the ride' (19.1% and 12.6%, respectively) and 'being invoiced for your ride' (2.7% and 2.6%, respectively).

Finding out About Transportation Services

Participants also were asked how *they* would prefer to find out about transportation services in their community. In terms of preference:

- The top two preferences amongst participants aged 45–64 and 65+ were the community newspaper (54.7% and 59.6%, respectively) and by mail (i.e., Canada Post) (14.5% and 12.3%, respectively);
- Fewer participants aged 45–64 and 65+ identified health care referral (6.4% and 4.1%), family (1.9% and 2.3%), radio (1.0% and 1.8%), television (1.0% and 2.3%), senior's centre (4.1% and 8.2%), friends (2.3% and 2.9%), or the internet (14.1% and 6.5%) as preferred sources for finding out about transportation services in their community.

B.1.7. Importance of Municipal Funding for ATS Services

All participants were asked about how important it was to have municipal funding available for ATS services in their community. The vast majority of participants aged 45–64 and 65+ (97.2% and 97.5%, respectively) indicated that it was 'somewhat/very important' to have this type of funding available to offset the cost of providing ATS services in the community. As shown in Figure B1-12:

- Few participants aged 45–64 and 65+ rated the availability of municipal funding for ATS services as 'not at all important' (2.8% and 2.5%, respectively);
- 27.8% of participants aged 45–64 and 37.6% of participants aged 65+ rated the availability of this type of funding as 'somewhat important';

- 69.4% of participants aged 45–64 and 59.9% of participants aged 65+ rated the availability of municipal funding for ATS services as ‘very important’, with this difference not statistically significant ($p > .05$).

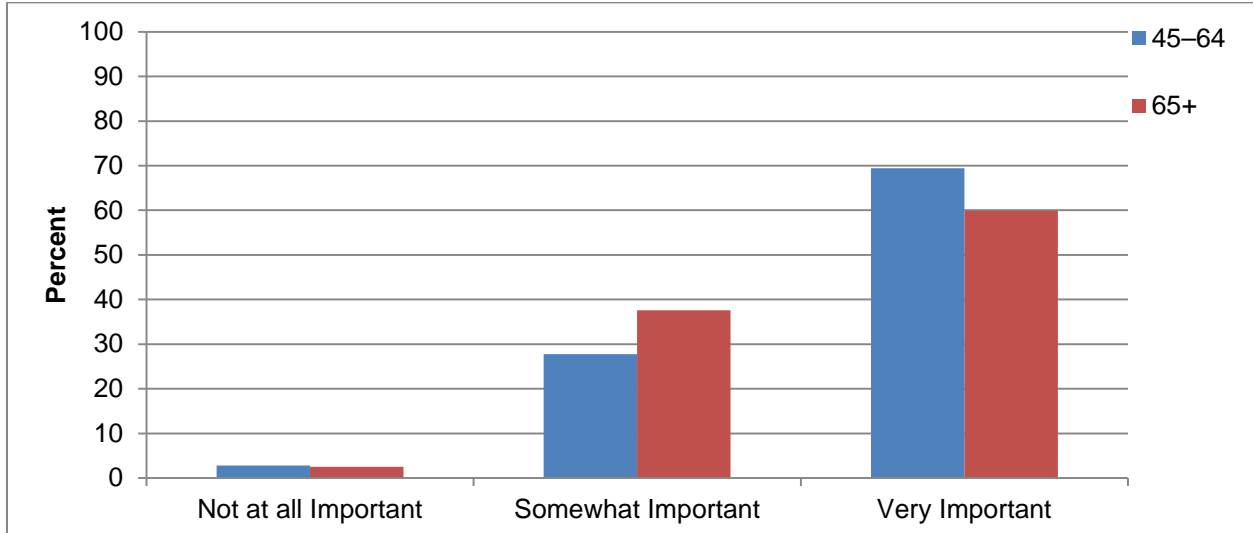


Figure B1-12. Ratings on importance of municipal funding for ATS services (45–64 and 65+).

SECTION B.2: ST Services for PWD (Sample Two)

B.2.1. Demographics

Thirty individuals 18 years of age and older met our criteria for PWD. Specifically, 30 individuals indicated that they had a long-term or recurring disability (i.e., physical, mental, sensory, psychiatric, or learning) that limited their ability to get around outside of their home *and* they did not drive. As shown in Table B2-1, the average age of PWD participants was 64.9 years (SD = 18.4; Range 27 to 98 years), with 66.7% female. The vast majority (93.2%) of PWD participants lived in a town, village, hamlet, or on a farm (see Table B2-1 for individual percentages), with the remaining participants (6.7%) residing in Lamont County.

Overall, one-third (33.3%) of PWD participants were married or living common-law, with the remainder separated or divorced (23.3%), widowed (33.3%), or single/never married (10.0%). In terms of living arrangements, one-third (33.3%) of PWD participants indicated that they lived alone, 50.0% indicated that they lived with a family member (i.e., spouse/partner, children) or friends, and 16.7% lived in a group setting (i.e., a lodge, group home). With respect to dwelling, 73.3% lived in a single detached or mobile home, 10.0% lived in an apartment, townhouse, or semi-detached condominium, 10.0% lived in a lodge or apartment for seniors, and 6.7% lived in an assisted living facility. Slightly more than half (56.7%) of the PWD participants were retired, 3.3% were employed full-time, with 10.0% unemployed and not looking for work. Slightly more than one-quarter (26.7%) were on long-term disability. One person (3.3%) selected 'homemaker' as an employment category. Twenty-two of the 30 (73.3%) PWD participants responded to the question on income. For those responding, 45.5% indicated that their annual household income was less than \$20,000 with the remaining participants (54.5%) indicating that their annual household income was equal to or greater than \$20,000. By definition, none of the PWD participants drove.

Table B2-1. *Demographics of PWD Participants* ^{12,13}

	Total Sample (N = 30)
Average Age	64.9 (SD =18.4)
	n (%)
Sex	
Female	20 (66.7)
Male	10 (33.3)
Place of Residence	
Town	22 (73.3)
Village	4 (13.3)
Hamlet	1 (3.3)
Farm	1 (3.3)
County	2 (6.7)
Marital Status	
Married/common-law	10 (33.3)
Separated/divorced	7 (23.3)
Widowed	10 (33.3)
Single (never married)	3 (10.0)
Living Arrangements	
Live alone	10 (33.3)
Living with family/friends	15 (50.0)
Group setting (lodge/group home)	5 (16.7)
Dwelling	
Single detached/mobile home	22 (73.3)
Apartment/townhouse/semi-detached condominium	3 (10.0)
Lodge/apartment for seniors	3 (10.0)
Assisted living facility	2 (6.7)
Employment Status	
Retired	17 (56.7)
Employed (full-time)	1 (3.3)
Employed (part-time)	--
Unemployed looking for work	--
Unemployed not looking for work	3 (10.0)
Long-term disability/disability leave	8 (26.7)
Homemaker	1 (3.3)
Other	--
Income	
< \$20,000	10 (45.5)
≥ \$20,000	12 (54.5)
Driving Status	
Driver	--
Non-driver	30 (100%)

¹² The total n of the category does not always match the n for the total sample due to missing data in selected instances (i.e., non-responses).

¹³ Percentages within each category do not always total 100% due to rounding.

Physical Health and Mobility

When asked about their physical health and mobility:

- 14.3% of the PWD participants indicated that their physical health ‘never’ interfered with their ability to carry out everyday activities (i.e., shopping, dressing, preparing meals);
- 35.7% indicated that that their physical health interfered with their ability to carry out everyday activities ‘sometimes’;
- 50.0% indicated that their physical health interfered with their ability to carry out everyday activities ‘all the time’ (see Figure B2-1).

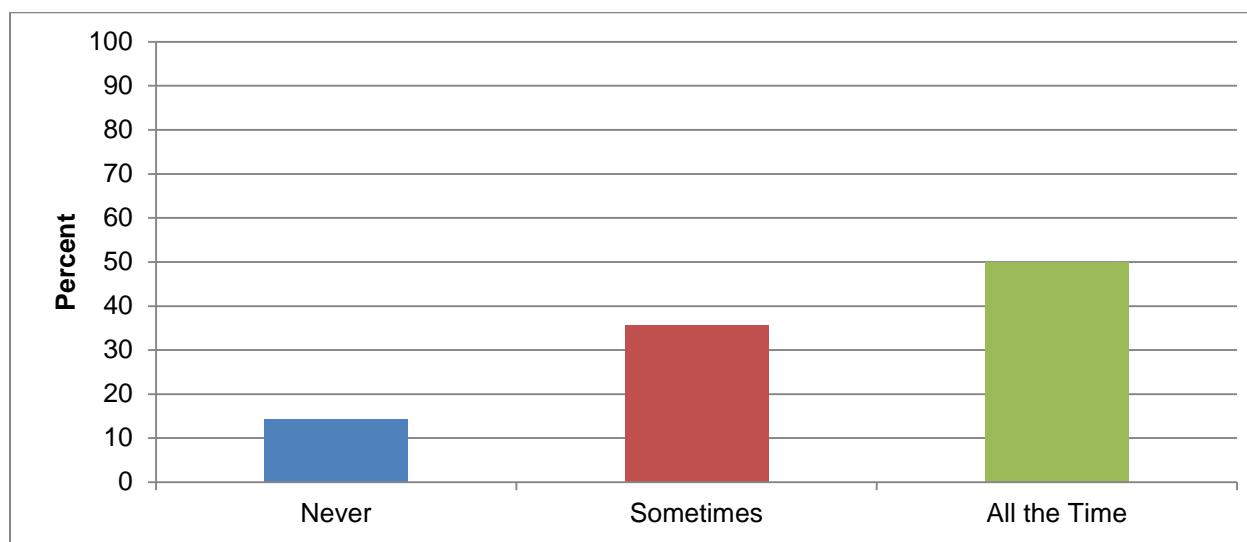


Figure B2-1. Ratings on interference of physical health on ability to carry out everyday activities (PWD).

In relation to use of mobility aids, 8 of the 30 PWD participants (26.7%) indicated that they *did not* use a mobility aid. As shown in Figure B2-2, for the 22 who indicated that they used a mobility aid¹⁴:

- 50.0% indicated that they used a walker;
- 36.7% indicated that they used a cane;
- 20.0% indicated that they used a wheelchair;
- 10.0% indicated that they used a scooter;
- 6.7% indicated that they used crutches.

¹⁴ Percentages total more than 100% in that some participants use more than one mobility aid.

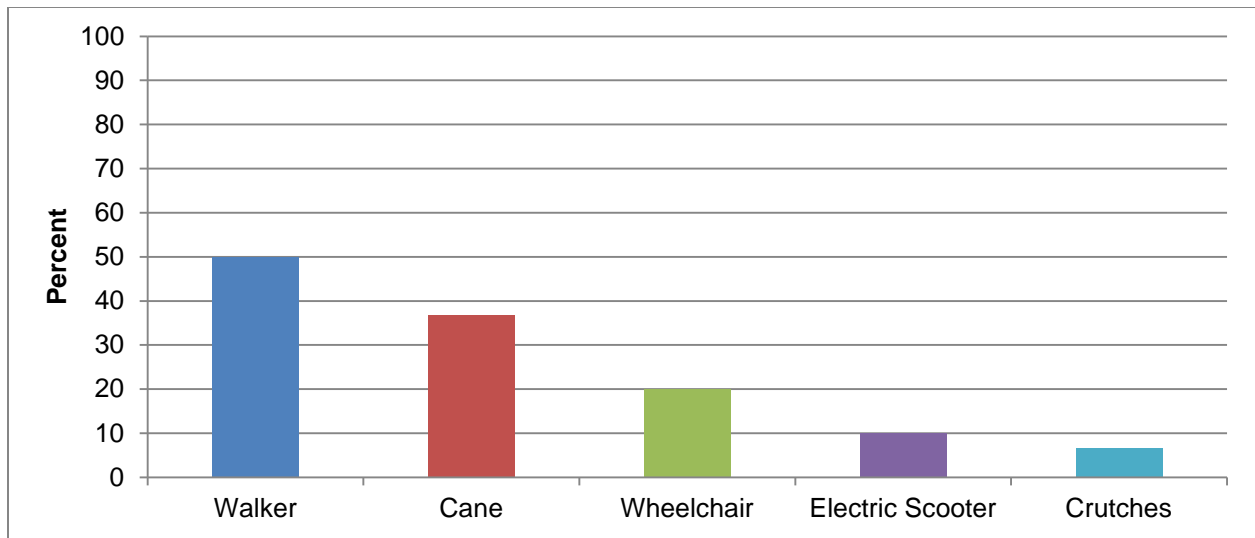


Figure B2-2. Use of mobility aids (PWD).

B.2.2. Getting Around

PWD participants were asked how they ‘get around’ in a typical week. None of the PWD participants drove which meant that they were reliant on others for meeting their transportation needs. Thirty percent of the 30 PWD participants indicated that, in a typical week, they received rides from *family members* at least once a week and 20.0% of PWD participants indicated that they received rides from *friends* at least once per week to ‘get to where they wanted to go’.

B.2.3. Unmet Transportation Needs

PWD participants were asked how often in the last six months they were unable to go to medical appointments, shop for groceries (essential), get together with family, or attend social functions or religious activities because they did not have a ride. As shown in Figure B2-3:

- One-half (50.0%) of PWD participants indicated that they ‘sometimes/often’ had been unable to go to a medical appointment *in their community*, with 51.8% indicating that they had ‘sometimes/often’ been unable to go to a medical appointment *outside their community*;
- Almost half of PWD participants indicated they had ‘sometimes/often’ been unable to shop for groceries (47.8%) or get together with family (48.0%) because they did not have a ride;

- More than one-half of PWD participants indicated that had ‘sometimes/often’ been unable to attend social functions (56.5%) or religious activities (47.8%) because they did not have a ride.

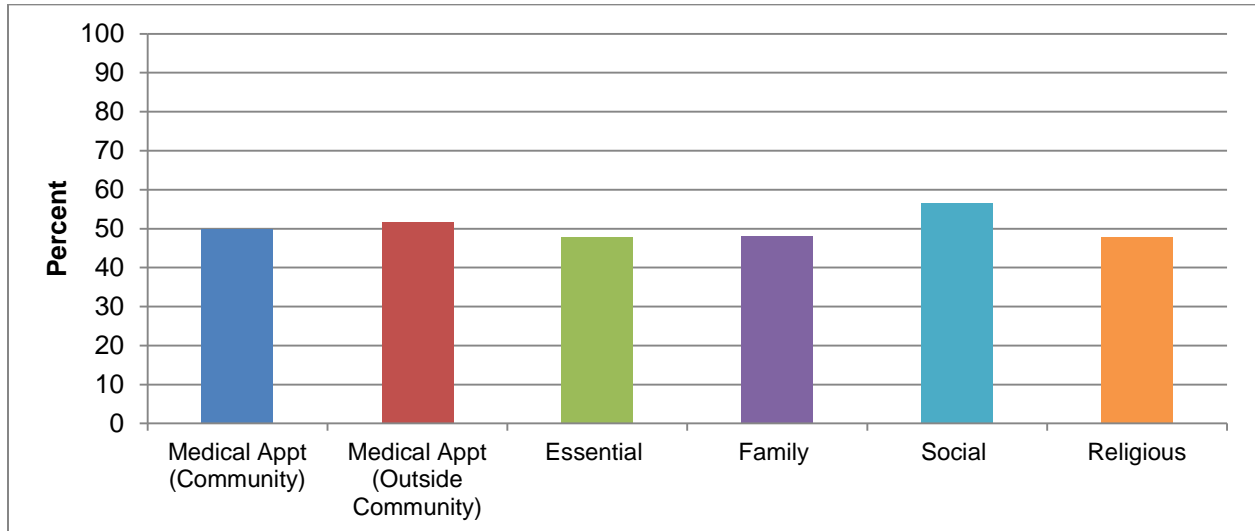


Figure B2-3. Ratings on inability to go to different appointments/activities because of not having a ride (PWD).

B.2.4. Current Satisfaction of Transportation Needs

Satisfaction of Transportation Needs of PWD for Different Types of Trips

PWD participants next were asked *how well their transportation needs* were being met for different types of trips (i.e., health-related appointments, essential services such as grocery shopping and banking, visiting with family and friends, social activities, and for religious activities). As shown in Figure B2-4:

- Almost half (46.4%) of PWD participants indicated that their health-related transportation needs were being met ‘not at all well’;
- Almost one-third (32.0%) of PWD participants indicated that their transportation needs for essential services such as grocery shopping and banking were being met ‘not at all well’;
- One-half or more of PWD participants indicated that their transportation needs for visiting with family and friends (53.8%), social activities (50.0%), and for attending religious activities (52.2%) were being met ‘not at all well’.

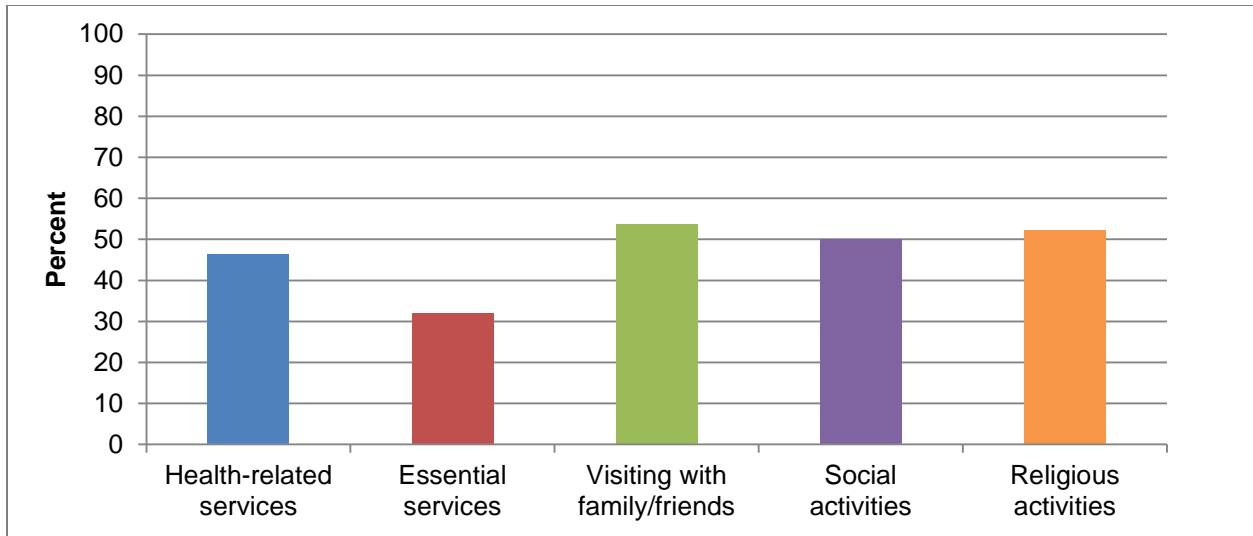


Figure B2-4. Ratings on transportation needs of PWD being met 'Not at all Well' for various appointments or activities (PWD).

Satisfaction of Transportation Needs of PWD Overall

PWD participants also were asked how well the *transportation needs of PWD* in their community were being met *overall*. As shown in Figure B2-5:

- More than three-quarters (76.2%) indicated that the transportation needs for PWD overall were being met 'not at all well';
- An additional 14.3% responded that the transportation needs for PWD overall were being met 'somewhat well';
- Few (9.5%) indicated that, overall the transportation needs of PWD in their community were being 'very well'.

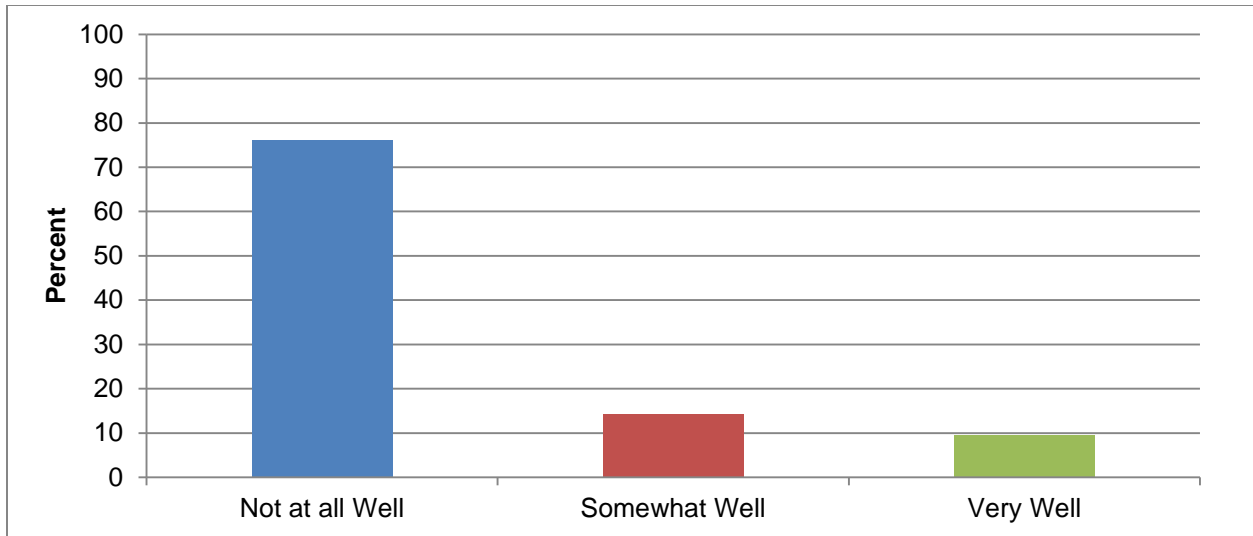


Figure B2-5. Ratings on transportation needs of PWD in the community being met ('Not at all Well') (PWD).

B.2.5. ST Services in the Community – Availability, Importance, and Use

In this section of the survey, PWD participants were asked *if there were* ST services in their community and whether they *used* those services. **ST services** were defined as transportation services that are designed to accommodate individuals with mobility restrictions that make it difficult or impossible to take conventional transit services, with this type of service typically equipped to accommodate persons with disabilities (38).

When asked if there were ST services for PWD provided in the participant's community, the majority (80.0%) indicated that there were no ST services for PWD available in their community. For those responding other than 'no':

- Few (3.3%) PWD participants responded 'yes';
- 16.7% of PWD participants indicated that they 'did not know'.

Importance of ST Services for PWD in the Community

When asked about the *importance* of having *ST services for PWD available in the community*, 100% of PWD participants indicated that it was important, with:

- 23.3% having rated it as 'somewhat important';
- 76.7% having rated it as 'very important' (see Figure B2-6).

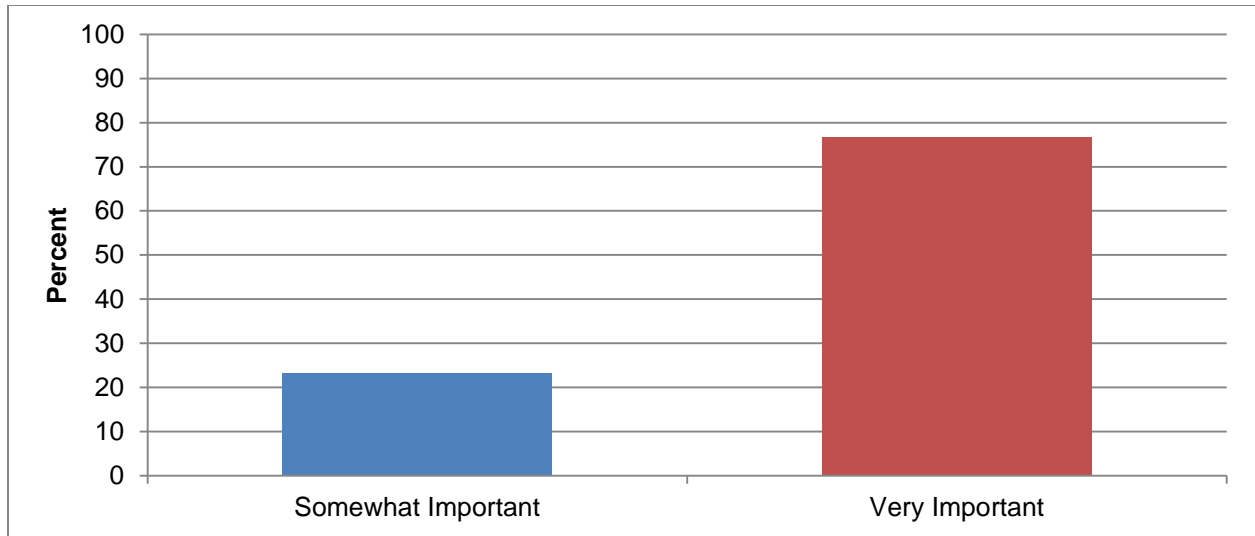


Figure B2-6. Ratings on importance of ST services in the community (PWD)

Use of ST Services for PWD

When asked about the *likelihood* use of ST services *by PWD in the community* if those services were available in the community:

- Few (3.3%) PWD participants responded that they would be ‘not at all likely’ to use ST services if those services were available;
- 16.7% of PWD participants indicated that they would be ‘somewhat likely’ to use ST services;
- Slightly more than three-quarters (76.7%) of PWD participants indicated that they would be ‘very likely’ to use ST services (see Figure B2-7).

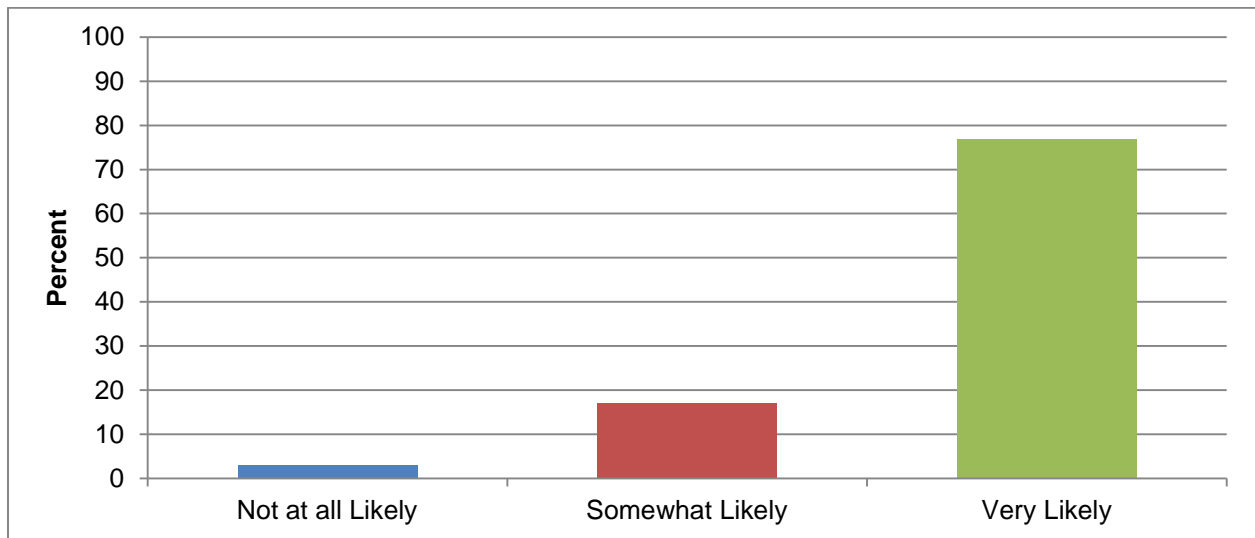


Figure B2-7. Ratings on the likelihood of using ST services (PWD).

Times Most Likely to Use ST Services for PWD

The final question in this section pertained to *times* that PWD would be *most likely* to use ST services if those services were available in the community. As can be seen in Figure B2-8:

- PWD participants indicated they would be *most likely* to use ST services during Weekday mornings (76.7%) and Weekday afternoons (60.0%);
- Fewer PWD participants indicated that they would be *most likely* to use ST services during the Weekday in the evening (16.7%);
- Fewer PWD participants indicated that they would *most likely* use ST services during Weekend mornings (33.3%), afternoons (20.0%), or evenings (16.7%).

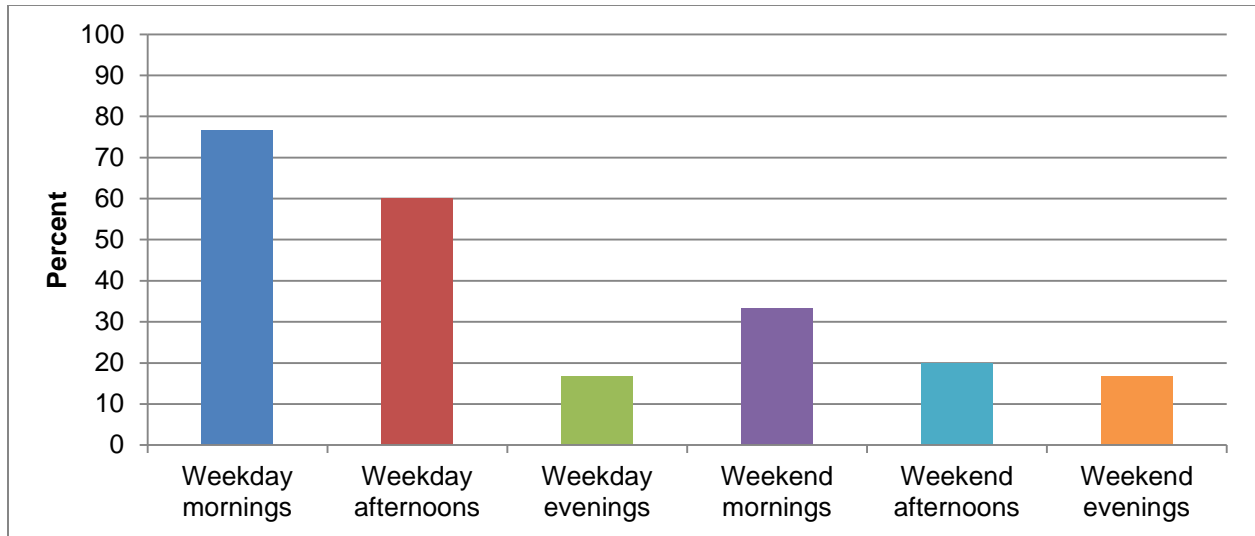


Figure B2-8. Ratings on the times of use of ST services (PWD).

B.2.6. Importance of Different Features of ST Service Provision

In the final section of the survey, PWD participants were asked to rate the importance of different features of ST services for PWD *if those services were available in their community*. Specifically, PWD participants were asked to provide input on booking rides, the availability of ST services for different types of transportation needs, costs, willingness to pay, as well as mode of payment for ST services.

Booking Rides and Multiple Stops

In terms of options for booking rides, and as can be seen in Figure B2-9:

- The majority (89.6%) of PWD participants indicated that having to book a ride at least 24 hours in advance was ‘somewhat/very reasonable’;
- The majority (82.1%) also indicated that having to book a ride at least 48 hours in advance was ‘somewhat/very reasonable’;
- Slightly more than half (51.8%) indicated that having to book a ride more than 48 hours in advance was ‘somewhat/very reasonable’;
- Close to two-thirds (65.5%) indicated that not having to book a ride in advance was ‘somewhat/very reasonable’.

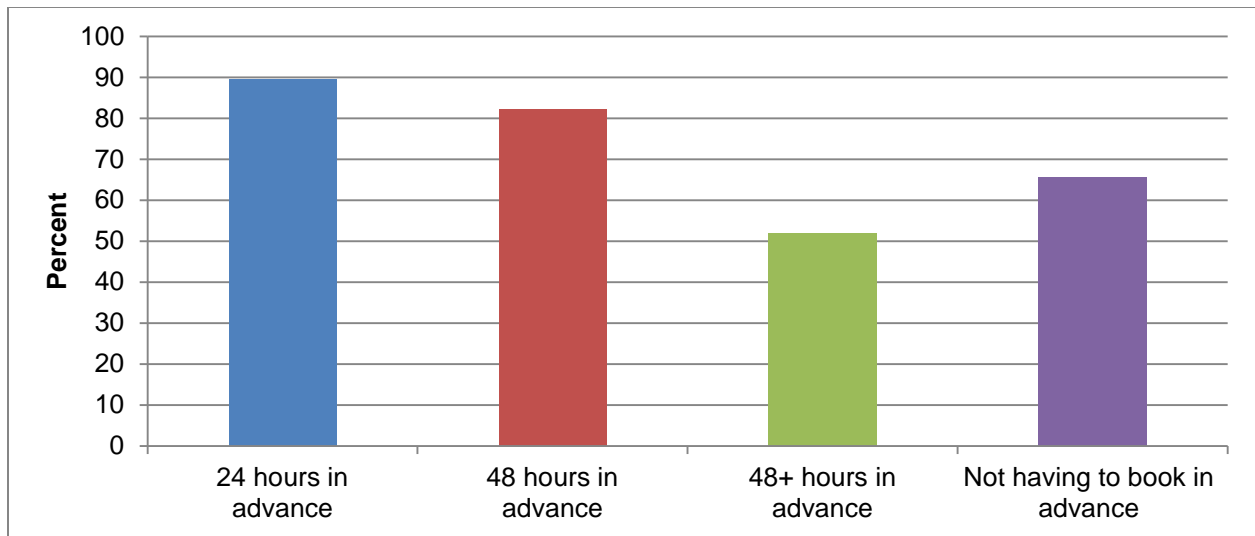


Figure B2-9. Ratings on the reasonableness of booking rides with/without advance notice (PWD).

PWD participants also were asked about *how important it was to them* to have ST services that allow for multiple stops during the trip (i.e., stopping at the grocery store and then the bank on the way home from doctor’s office). The majority (83.4%) of PWD participants indicated that having ST services that allowed for multiple stops was ‘somewhat/very important’. As shown in Figure B2-10:

- Less than 20.0% of PWD participants indicated that having ST services that allow for multiple stops during the trips was ‘not at all important’;
- More than one third (36.7%) of PWD participants indicated that this type of ST service was ‘somewhat important’;
- Almost half (46.7%) of PWD participants indicated that this type of service was ‘very important’.

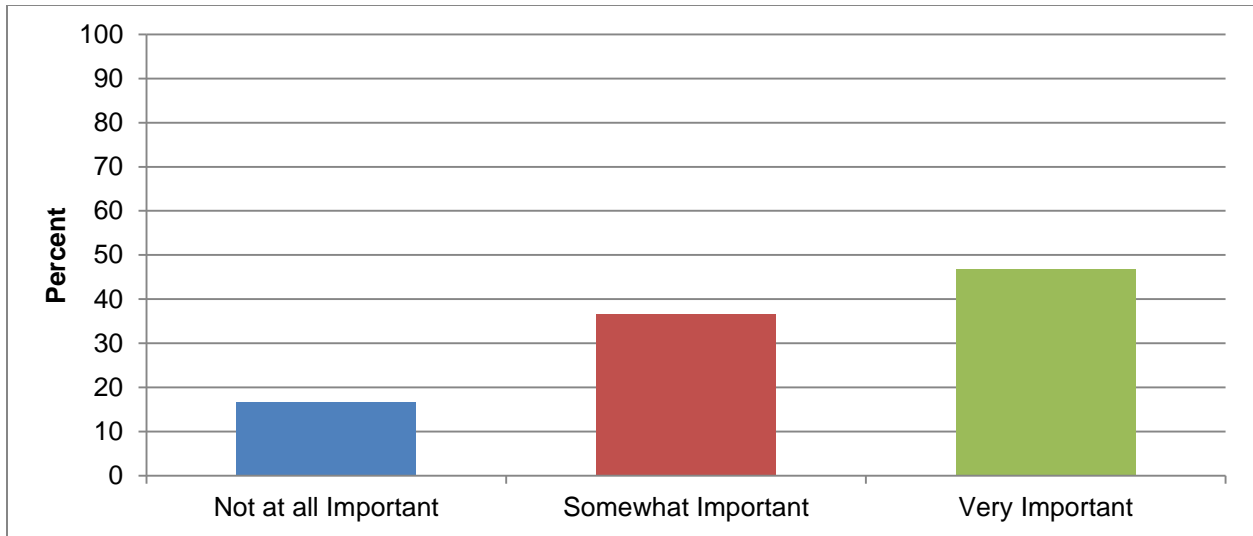


Figure B2-10. Ratings on the importance of ST services that allow for multiple stops (PWD).

Knowledgeable Drivers

PWD participants also were asked about *how important it was to them* to have drivers who were knowledgeable about health issues (i.e., disabilities, illnesses that affect mental functioning such as dementia). Ninety percent of PWD participants indicated that having drivers who were knowledgeable on these issues was ‘somewhat/very important’, with the majority (70.0%) rating is as ‘very important’.

Importance of ST Services for Different Types of Transportation Needs

PWD participants next were asked about the *importance* of ST services for different types of transportation needs (i.e., health-related trips such as medical appointments, essential services, visiting with family and friends, social activities, and for religious activities). As shown in Figure B2-11, all types of transportation needs were rated as being important, with:

- 93.3% of PWD participants indicated that having ST services available for health-related trips such as medical appointments was ‘somewhat/very important’;
- A high percentage (86.6%) of PWD participants also indicated that having ST services available for trips to essential services was ‘somewhat/very important’;
- 66.7% and 69.0% of PWD participants indicated that having ST services for visiting with family and friends and for social activities, respectively, was ‘somewhat/very important’;
- Finally, 60.7% of PWD participants indicated that having ST services for attending religious activities was ‘somewhat/very important’.

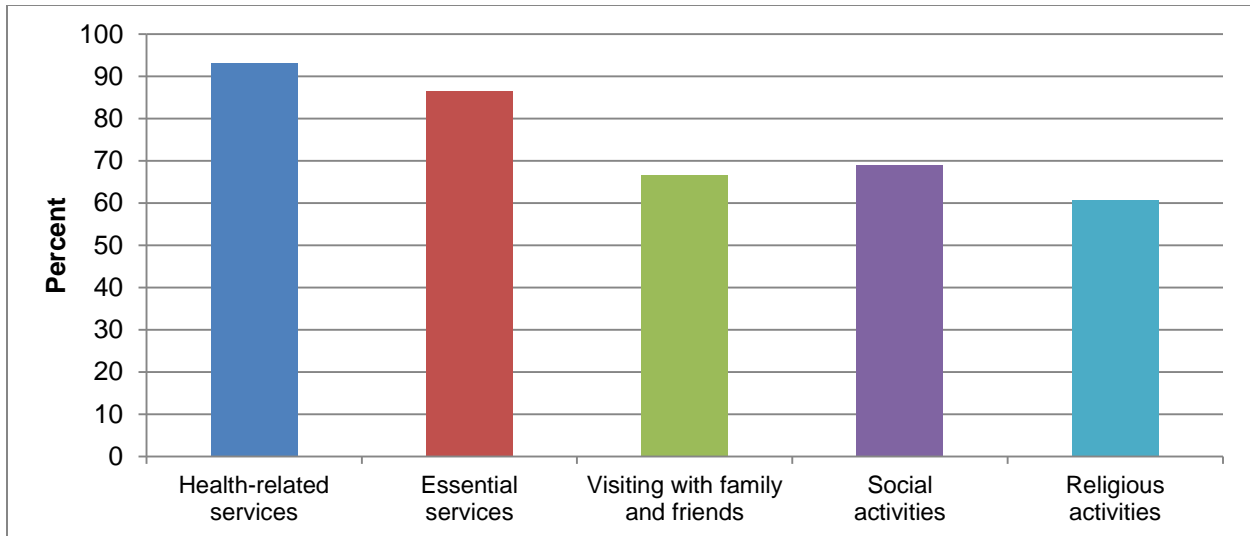


Figure B2-11. Ratings on importance of ST services for different appointments/activities (PWD).

Paying for Services

PWD participants were asked how much they could *afford* to pay and how much they were *willing* to pay for a one-way ride of approximately 10.0 km. On average, participants indicated that:

- They could afford to pay \$10.10 (SD = \$7.83), but were willing to pay \$13.13 (SD = \$11.26).

In terms of method of payment:

- 'Paying per ride' was the preferred method of payment (40.7%);
- 'Purchasing a book of passes in advance' (25.9%) and 'being invoiced for the ride' (18.5%) were the second and third most preferred methods of payment;
- 'Setting up an account with the service provider with an automatic deduction of the cost of the ride' was the least preferred payment option (14.8%).

Finding out About Transportation Services

PWD participants also were asked how *they* would prefer to find out about transportation services in their community. In terms of preference, PWD participants indicated that:

- The community newspaper (40.0%) and mail (i.e., Canada Post) (24.0%) were the top two preferences;
- Health care referral (12.0%), family (8.0%), radio (4.0%), senior's centre (4.0%), friends (4.0%), or the internet (4.0%) were identified by fewer participants as a preferred source for finding out about transportation services in their community.

B.2.7 Importance of Municipal Funding for ST Services

All PWD participants were asked about how important it was to have municipal funding available for ST services in their community:

- Few (10.3%) PWD participants indicated that having municipal funding available for ST services was ‘not at all important’;
- 17.2% of PWD participants rated the availability of this type of funding as ‘somewhat important’;
- Almost three-quarters (72.4%) of PWD participants rated the availability of this type of funding as ‘very important’ (see Figure B2-12).

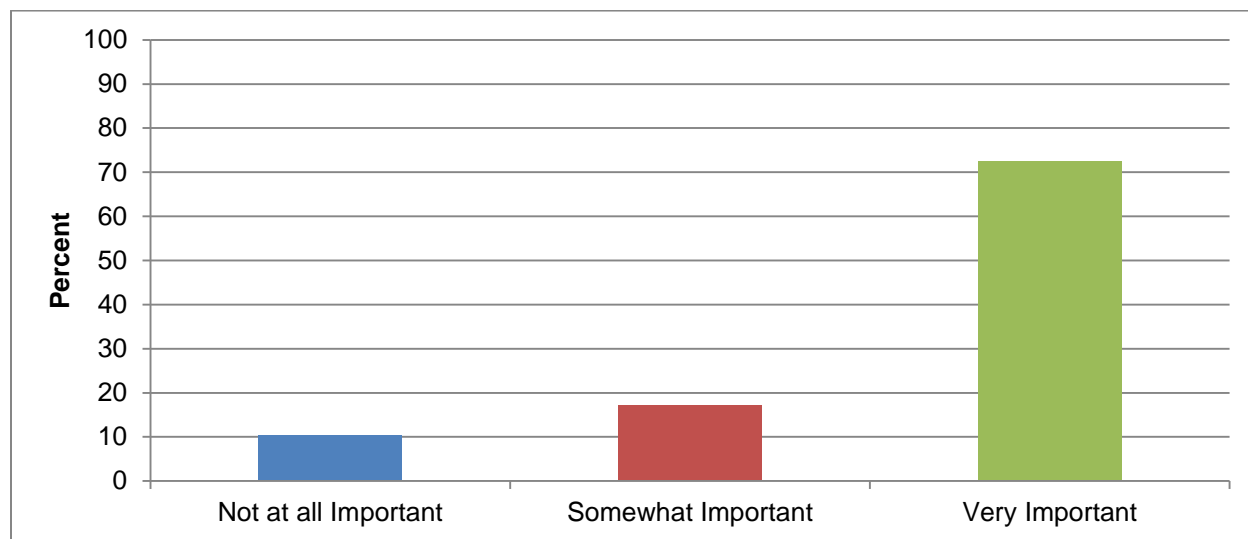


Figure B2-12. Ratings on the importance of municipal funding for ST services (PWD).

SECTION B.3: Non-Drivers as a Whole (Sample Three)

B.3.1. Demographics

Sample Three consisted of 34 individuals who indicated that they did not drive (representing 8.2% of the Sample as a Whole). Thirty of the 34 non-drivers (88.2%) were PWD. The remaining four non-drivers (11.8%) were 65 years of age and older. As shown in Table B3-1, the average age of the 34 non-driving participants was 66.4 years (SD = 18.0; Range 27 to 98 years), with 67.6% female. Overall, the vast majority (94.0%) of non-drivers lived in a town, village, hamlet, or on a farm, with the remainder (5.9%) residing in Lamont County. Specifically, more than two-thirds (67.6%) lived in a town, 17.6% lived in a village, and 2.9% lived in hamlet. Of the remaining 11.8%, 5.9% lived on a farm and 5.9% lived in the County. One-third (32.3%) of the non-drivers were married or living common-law, with the remainder separated or divorced (23.6%), widowed (35.3%), or single/never married (8.8%). In terms of living arrangements, over one-third (35.3%) reported living alone, 50.0% indicated that they lived with family (i.e., spouse/partner, children) or friends, and 14.7% lived in a group setting (i.e., a lodge, group home). With respect to dwelling, 73.5% of the non-drivers lived in a single detached or mobile home, 8.8% lived in a townhouse, semi-detached condominium, or apartment, 8.8% lived in a lodge or apartment for seniors, and 8.8% lived in an assisted living facility. Almost two-thirds (61.8%) of the non-drivers were retired. Few (2.9%) were employed full-time, 8.8% were unemployed and not looking for work, and 23.5% were on long-term disability. One person (2.9%) selected 'homemaker' as an employment category. Twenty-six of the 34 (76.5%) non-driver participants responded to the question on income. For those responding, 46.2% indicated that their annual household income was less than \$20,000 with the remaining participants (53.8%) indicating that their annual household income was equal to or greater than \$20,000.

Table B3-1. *Demographics of Non-Driver Participants* ^{15,16}

	Total Sample (N = 34)
Mean Age	66.4 (SD = 18.0)
	n (%)
Sex	
Female	23 (67.6)
Male	1 (32.4)
Place of Residence	
Town	23 (67.6)
Village	6 (17.6)
Hamlet	1 (2.9)
Farm	2 (5.9)
County	2 (5.9)
Marital Status	
Married/common-law	11 (32.3)
Separated/divorced	8 (23.6)
Widowed	12 (35.3)
Single (never married)	3 (8.8)
Living Arrangements	
Live alone	12 (35.3)
Living with family/friends	17 (50.0)
Group setting (lodge/group home)	5 (14.7)
Dwelling	
Single detached/mobile home	25 (73.5)
Apartment/townhouse/semi-detached condominium	3 (8.8)
Lodge/apartment for seniors	3 (8.8)
Assisted living facility	3 (8.8)
Employment Status	
Retired	21 (61.8)
Employed (full-time)	1 (2.9)
Employed (part-time)	--
Unemployed looking for work	--
Unemployed not looking for work	3 (8.8)
Long-term disability/disability leave	8 (23.5)
Homemaker	1 (2.9)
Other	--
Income	
< \$20,000	12 (46.2)
≥ \$20,000	14 (53.8)
Driving Status	
Non-driver	34 (100%)

¹⁵ The total n of the category does not always match the n for the total sample due to missing data in selected instances (i.e., non-responses).

¹⁶ Percentages within each category do not always total 100% due to rounding.

Physical Health and Mobility

In terms of physical health and mobility:

- 18.8% of non-drivers indicated that their physical health 'never' interfered with their ability to carry out everyday activities (i.e., shopping, dressing, preparing meals);
- 37.5% indicated that that their physical health interfered with their ability to carry out everyday activities 'sometimes';
- 43.8% indicated that their physical health interfered with their ability to carry out everyday activities 'all the time' (see Figure B3-1).

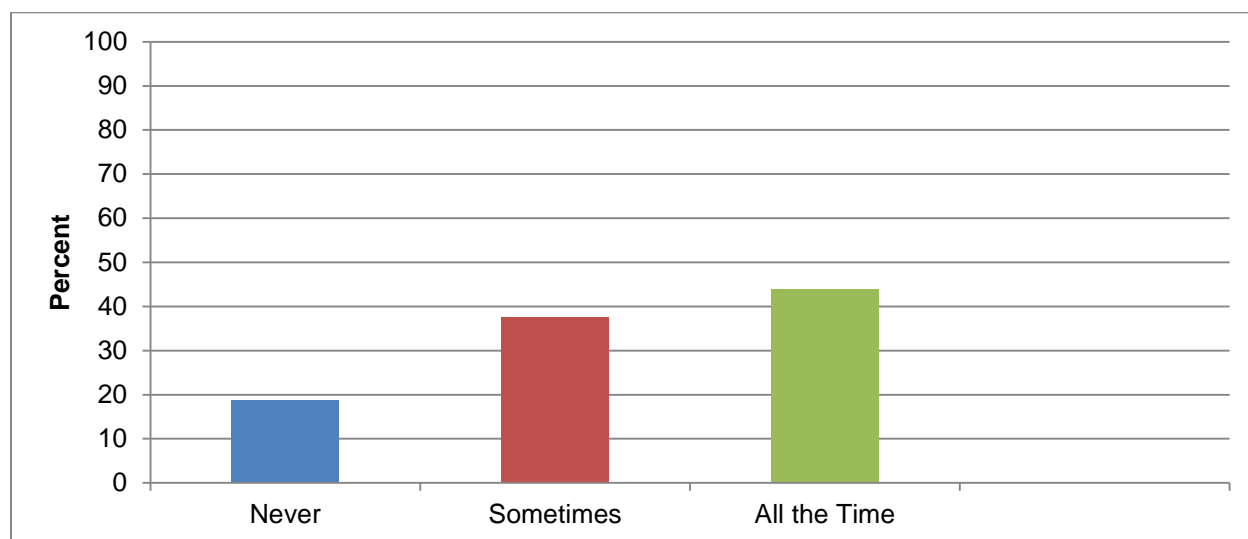


Figure B3-1. Ratings on interference of physical health on ability to carry out everyday activities (Non-drivers).

In relation to use of mobility aids, 12 of the 34 non-drivers (35.3%) indicated that they did not use any mobility aid. As can be seen in Figure B3-2, of the 22 participants who did use a mobility aid:

- 44.1% indicated that they used a walker;
- 32.4% used a cane;
- 17.6% used a wheelchair and 8.8% used a scooter;
- 5.9% indicated that they used crutches.

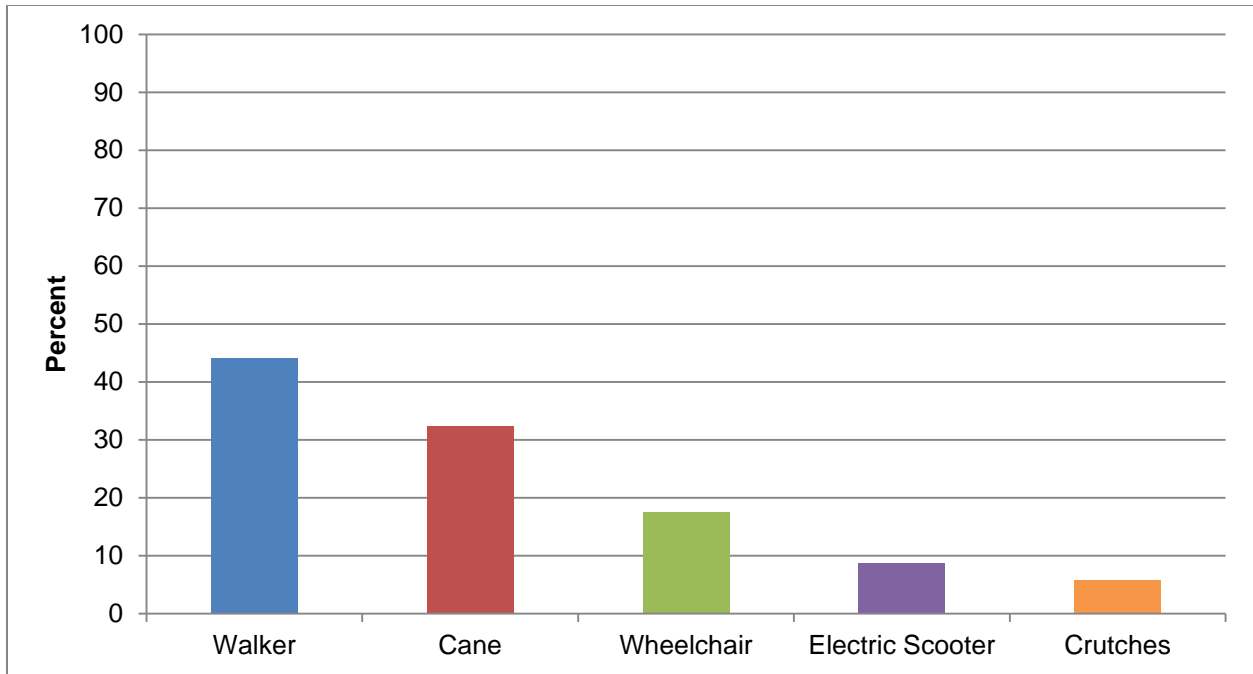


Figure B3-2. Use of mobility aids (Non-drivers).

In terms of results from the non-drivers on getting around, unmet transportation needs, features of service provision, etc., the probability of the pattern of results for this sample of 34 non-drivers being different from the 30 PWD participants who all were non-drivers is very low. A cursory examination of the data indicated that this was the case. What this indicates is that the data that are presented in Section B.2. of this report are representative of the sample of the 34 non-drivers being discussed in this section. As such, we have elected not to duplicate the presentation of those findings by re-presenting those data here.

SECTION B.4: Intermunicipal Transit (IMT) Service

B.4.1. Demographics

All participants (n = 413) responded to questions related to the importance and use of IMT service and the importance of funding for IMT service. As such, the demographics for participants responding to IMT service questions are identical to the demographics of the Sample as a Whole presented in Table A1-1 (see page 10 of this report).

B.4.2. Importance of IMT Service in the Community

All 413 participants were asked questions about the importance of having IMT service available in their community. **IMT service** was defined as a transit service that operates between municipalities, or across municipal boundaries (i.e., transit service between the participant's community to a major centre such as Edmonton) (30). Overall, 93.1% of the Sample as a Whole indicated that having IMT service available in the Capital Region was 'somewhat/very important'. The results in Figure B4-1 are presented for Sample One (participants aged 45–64 and 65+) and Sample Two (PWD participants). In terms of ratings for Sample One and Sample Two:

- The percentage of participants who indicated that having IMT service available in the Capital Region as being 'not at all important' was low for both Sample One and Sample Two (6.9% and 6.9%, respectively);
- The percentage of participants who indicated that having IMT service available in the Capital Region was 'somewhat important' was 31.6% of participants from Sample One and 24.1% of Sample Two participants;
- Finally, the percentage of Sample One and Sample Two participants who indicated that having IMT service available in the Capital Region was 'very important' was 61.4% and 69.0%, respectively.

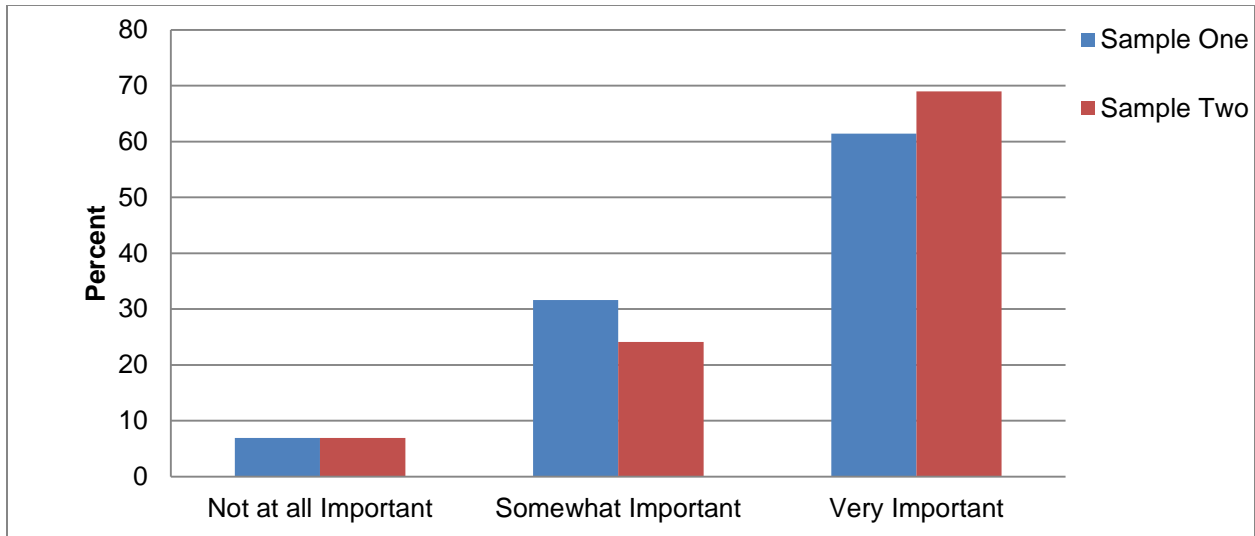


Figure B4-1. Ratings on importance of IMT service (Sample One and Two).

B.4.3. Likelihood of and Time Preference for Use of IMT Service

Participants also were asked about their *likelihood of using* IMT service if that service was in place in their community. More than half (59.2%) of the Sample as a Whole indicated that they would ‘somewhat/very likely’ use IMT service if it was available. With respect to Sample One and Sample Two and shown in Figure B4-2:

- Almost half (42.4%) of Sample One participants indicated that they would be ‘not at all likely’ to use the service, with fewer (20.0%) of the Sample Two participants responding in this fashion’;
- Less than one-third of Sample One and Two participants indicated that they would be ‘somewhat’ likely to use this IMT service (29.1% and 23.3%, respectively);
- 28.5% of Sample One and 56.7% of Sample Two participants indicated that they would be ‘very likely’ to use IMT service if it was available in their community.

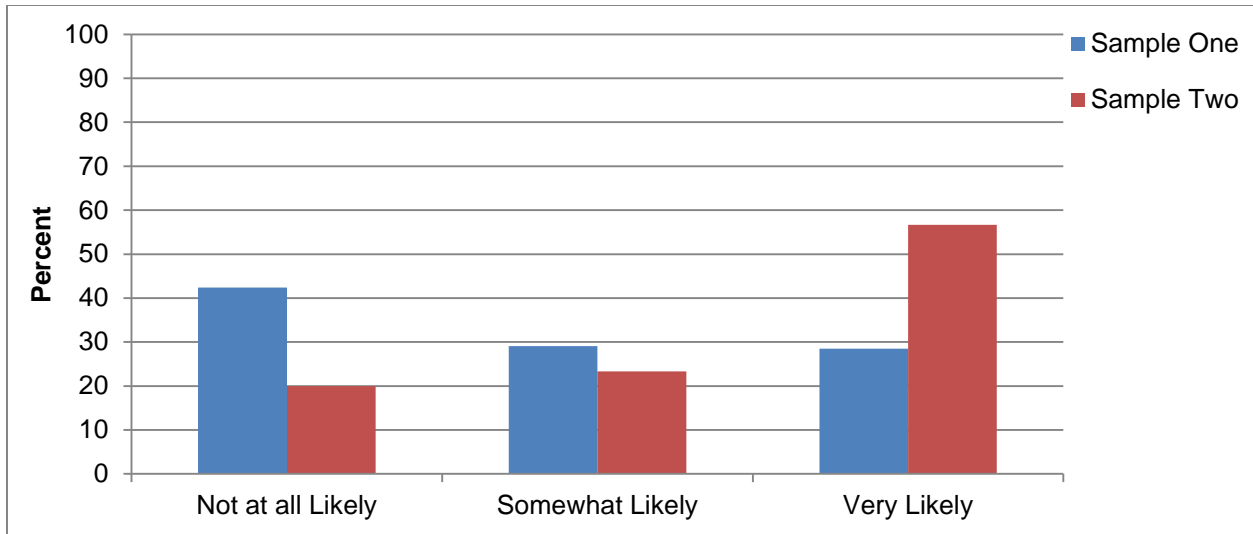


Figure B4-2. Ratings on the likelihood of use of IMT service (Sample One and Two).

Times Most Likely to Use IMT Service

The final question in this section pertained to participants' feedback on *times* when they would *most likely* use IMT service if that service was available in the community. Overall, participants indicated that they would mostly likely use IMT service Weekday mornings and Weekday afternoons followed by Weekend mornings and afternoons. In terms of the likelihood of use of IMT services as a function of sample:

- The majority of Sample One and Two participants indicated that they would *most likely* use IMT services Weekday mornings (80.7% and 83.3%, respectively) and Weekday afternoons (70.2% and 76.7%, respectively);
- Fewer participants from Sample One and Two indicated that they would *mostly likely* use IMT service Weekday evenings (21.7% and 16.7%, respectively);
- In terms of Weekend service, fewer participants from Sample One and Two indicated that they would *most likely* use IMT service Weekend mornings (44.6% and 30.0%) as compared to Weekday mornings;
- A similar percentage of participants from both Sample One and Two indicated that they would use Weekend IMT service during the afternoon as well (42.3% and 33.3%, respectively);
- However, fewer participants in both Sample One and Two indicated that they would use IMT services during the evening on Weekends (19.8% and 13.3%, respectively) (see Figure B4-3).

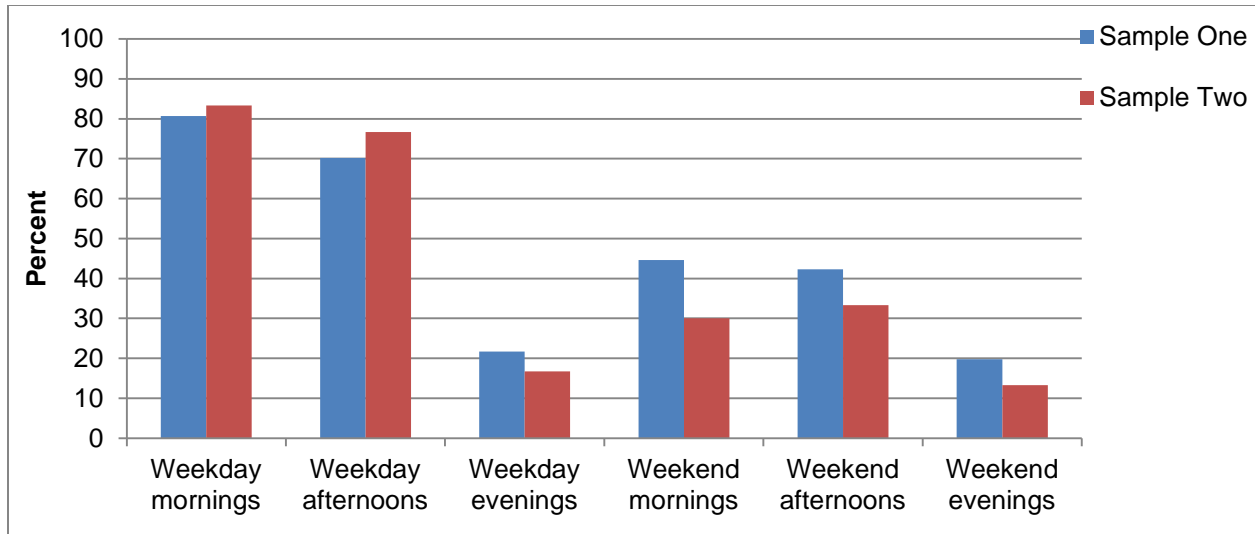


Figure B4-3. Ratings on the times of use of IMT service (Sample One and Two).

B.4.4. Importance of Municipal Funding for IMT Service

All participants were asked about how important it was to have municipal funding available for IMT service in their community. Overall, the vast majority of participants interviewed (95.0% of the Sample as a Whole) indicated that having municipal funding available for IMT was 'somewhat/very important'. As shown in Figure B4-4:

- Few Sample One and Two participants indicated that it was 'not at all important' to have municipal funding available for IMT service (4.8% and 9.5%, respectively);
- 26.6% of Sample One participants and 4.8% of Sample Two participants indicated that having municipal funding available for IMT service was 'somewhat important';
- The majority of Sample One and Two participants indicated that having municipal funding available for IMT was 'very important' (68.6% and 85.7%, respectively).

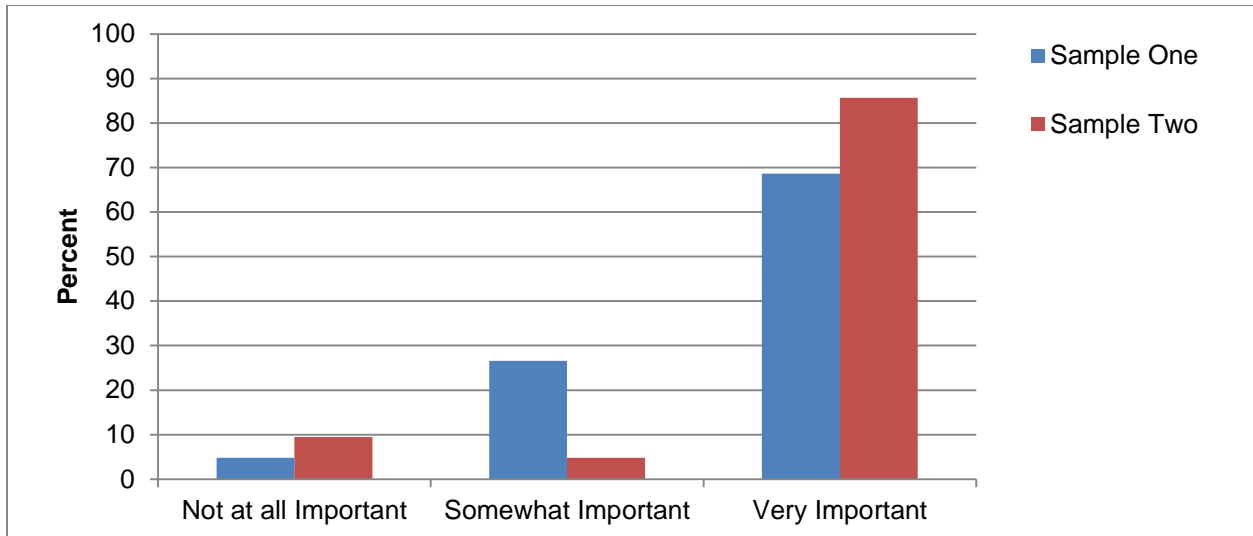


Figure B4-4. Ratings on the importance of municipal funding for IMT service (Sample One and Two).

SECTION B.5: Validity and Generalizability of the Results

An important question is how well the responses from participants aged 45–64 and 65+ (all who drove) correspond to the responses from non-drivers aged 65+ and the non-driver PWD participants. That is, what is the ‘validity’ of the responses from the participants in our samples who drove and who answered questions on transportation needs from the *perspective of seniors in their community*? To assess this validity, we compared responses from the two samples of **drivers** (i.e., drivers aged 45–64 and 65+) to responses from the **non-drivers** (who answered the questions from their own perspective) in the following areas:

- How well the transportation needs of *seniors* are being met for the different trip purposes (i.e., health-related trips such as medical appointments, essential services, visiting with family and friends, social activities, and religious activities);
- How well the transportation needs of *seniors* are being met overall.

The results of these comparisons are presented in Section B.5.1 and Section B.5.2. The results for *how well the transportation needs of seniors* are being met for different trip purposes are presented first (Comparison One), followed by *how well the transportation needs of seniors are being met* overall (Comparison Two).

B.5.1. Transportation Needs of Seniors for Different Trip Purposes (Comparison One)

For Comparison One, we examined the responses from the two samples of **drivers** (i.e., drivers aged 45–64 and 65+) across the five types transportation needs (health-related trips such as medical appointments, essential trips such as grocery shopping and banking, visiting with family and friends, social activities, and religious activities) to responses from **65+ non-drivers** (four who participated in the ATS services survey and 17 PWD who were aged 65+ in our sample). As can be seen in Figure B5-1:

- The responses from participants aged 45–64 and from the 65+ non-drivers are very similar across 4 of the 5 categories in comparison to the 65+ drivers. That is, a *higher percentage of participants aged 45–64* (i.e., adult children of seniors) *and 65+ non-driver participants* rated the health-related transportation needs for seniors, as well as transportation for visiting with family and friends, for social activities, and for religious activities as being met ‘not at all well’ as compared to *drivers aged 65+*;
- The exception to the pattern of ratings described on the previous page was for transportation for seniors for essential services (i.e., shopping, banking, etc.). That is,

the ratings for this category of trips across the three groups (*drivers aged 45–64 and 65+ drivers, and 65+ non-drivers*) are such that a greater percentage of the *65+ drivers* rated transportation for seniors for essential trips as being met ‘not at all well’ as compared to the *65+ non-driver participants*. As compared to the *65+ drivers* and the *65+ non-drivers*, a higher percentage of the *45–64 drivers* rated transportation for seniors for essential trips as being met ‘not at all well’, with this trend relatively consistent across all the five trip purposes.

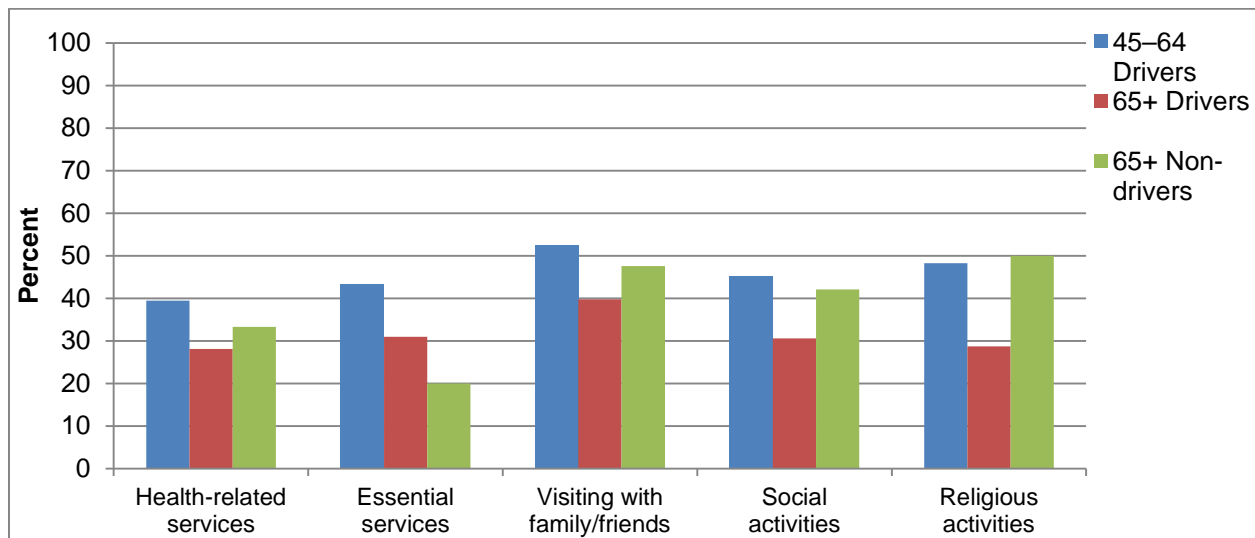


Figure B5-1. Ratings on transportation needs of seniors for various appointments or activities being met ‘Not at all Well’.

A statistical comparison of the results presented in Figure B5-1 indicates that the differences in ratings between *drivers aged 45–64* and *non-drivers* are not significant (all p values > .05), with the differences in ratings between the *drivers aged 65+* and the *non-drivers* also not statistically significant (all p values > .05). Thus, despite the apparent differences in ratings, this indicates that the ratings from *drivers aged 45–64*, from *drivers aged 65+*, and from *non-drivers* on unmet transportation needs can be considered to be the same. That is, their ratings are *similar estimates* of the unmet transportation needs of seniors in the community. As such, based on these data, the ratings from participants aged 45–64, with many of them likely to be adult children, and from *drivers 65+* can be considered as ‘proxies’ in terms of their assessment of unmet transportation needs of seniors in their community. Having said that, further research, with a larger sample size of senior non-drivers, as well as paired ratings from adult children and their parent on unmet transportation needs, would be important to see if these trends continue to hold.

B.5.2. How Well Transportation Needs of Seniors are Met (Comparison Two)

For Comparison Two, we again compared the responses from the two samples of **drivers** (i.e., drivers aged 45–64 and 65+) to those from the **65+ non-drivers** on how well, overall, the transportation needs of seniors in the community were being met. As can be seen in Figure B5-2:

- The pattern of results across the three groups is similar, with a higher percentage of participants in all three groups indicating that the transportation needs of seniors were being met ‘somewhat/very well’;
- It also is evident that a higher percentage of the 65+ non-drivers rated the transportation needs of seniors as being met being met ‘not at all well’ as compared to the 45–64 and 65+ drivers.

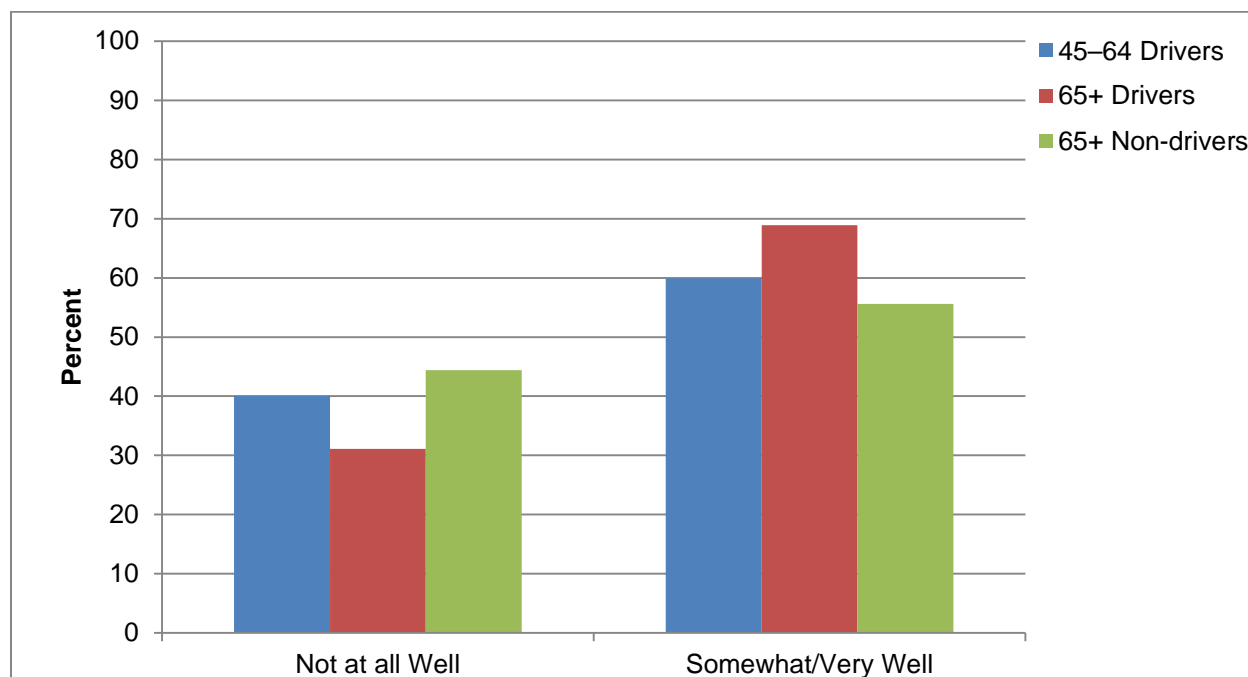


Figure B5-2. Overall transportation needs of seniors being met ‘Not at all Well’.

An analysis indicates that the differences in ratings across the three groups are not statistically significant ($p > .05$). Thus, as with Comparison One, despite the apparent visual differences in ratings across the three groups, we can interpret these results as an indication that the ratings from drivers aged 45–64, from drivers aged 65+, and from 65+ non-drivers on unmet transportation needs of seniors overall can be considered to be the same. That is, the ratings from the three groups are *similar estimates* of the overall unmet transportation needs of seniors

in the community. As such, ratings of unmet transportation needs of seniors in the community from participants who are aged 45–64 and from drivers aged 65+ can be considered as ‘proxies’ in terms of the assessment of the overall unmet transportation needs of seniors in their community. Again, further research, with a larger sample size of 65+ non-drivers would be important to see if this trend continues to hold.

SECTION C. DISCUSSION and CONCLUSION

SECTION C.1: Discussion

The primary objective of the study was to assess the transportation needs of two vulnerable segments of the population – seniors and persons with disabilities – in a sub-region of the Alberta Capital Region. Although limited, existing literature indicates that seniors and PWD are two segments of the population with unmet transportation needs (1-6,9,14). The results from this *Transportation Needs Assessment* provide further evidence of these unmet needs.

In terms of transportation mobility, the majority (90.3%; n = 373) of the participants interviewed indicated that they were currently driving, with the remaining 40 participants indicating that they did not drive. Of the 40 non-drivers, 30 self-identified as having a disability. Of interest, half of the participants aged 45–64 and 65+ *who did not self-identify as having a disability and who were all active drivers* indicated that their physical health interfered with their ability to carry out everyday activities such as shopping, dressing, or preparing meals ‘sometimes’ or ‘all the time’. Not surprisingly, the majority (86.0%) of PWD participants indicated that their physical health interfered ‘sometimes’ or ‘all the time’ with their ability to carry out everyday activities such as those described above. The high percentage of participants overall in this study reporting that their physical health interfered with their abilities to carry out everyday activities is a concern, particularly given that having a ‘disability’ has been identified as the most important individual characteristic influencing mobility, travel behavior, and difficulties with transportation (39).

Results from this *Transportation Needs Assessment* indicated that less than 25.0% of participants aged 45–64 and 65+ relied on *family members* to ‘get to where they want to go’. Less than 15.0% of participants aged 45–64 and 65+ relied on *friends* to ‘get to where they want to go’. These results are not surprising given the high percentage of drivers in these two groups. However, for PWD, reliance on others for transportation was more common with 30.0% of participants relying on *family members* and 20.0% relying on *friends* ‘to get to where they want to go’. The differences in driving status between the 45–64 and 65+ participants and the PWD participants likely accounts for this pattern of findings.

In terms of unmet transportation needs, less than 15.0% of the participants aged 45–64 and 65+ indicated that they were unable to meet their transportation needs for medical appointments, shopping for groceries, visits with family, or for social or religious activities because they did not have a ride. Again, this is not surprising, given the combination of the high percentage of

drivers, as well as reliance on family and friends for rides. A high percentage of PWD relied on family members and friends to get to where they wanted to go. Yet, about half of PWD in our study (57.0% of whom were seniors) indicated that they ‘sometimes’ or ‘all the time’ were unable to access community services (medical, groceries, etc.) because they did not have a ride. In a landmark paper, Carp argued that well-being among older adults (and PWD) depends on the satisfaction of basic needs (i.e., food, clothing, etc.), as well as higher-order needs such as socializing, recreation, worship, and maintaining feelings of usefulness (14). Success in satisfaction of these basic and higher order needs ultimately enables independent living, which in turn, positively influences well-being. The results presented here indicate that a significant percentage of PWD participants, and to a lesser extent, participants aged 45–64 and 65+ who drive are at-risk in terms of satisfaction of both basic and higher order needs.

One of the main objectives of this *Transportation Needs Assessment* was to better understand the unmet transportation needs of seniors and PWD. As such, participants aged 45–64 and 65+, were asked how well the *transportation needs of seniors in their community were being met overall*. The pattern of results is informative in that less than 10.0% of participants aged 45–64 and 65+ indicated that the transportation needs of seniors in the community were being met ‘very well’ overall. A similar pattern of results was evident for PWD, with only 9.5% of PWD participants indicating that the transportation needs of PWD in the community were being met ‘very well’. Of interest, when asked about the availability of specialized transportation (i.e., ATS services or ST services for PWD), 41.4% of participants 45–64; 41.9% of participants 65+; and 90.0% of PWD participants indicated that there were no services. Services that were identified included a senior’s van or bus, a community van, volunteer driver, taxi, or transportation from for-profit organizations. Given the pattern of findings described above, it is not surprising that the majority of participants surveyed rated the availability of ATS services and ST services for PWD as important. Specifically, 81.0% or more of participants aged 45–64 and 65+ rated having ATS services for seniors *available* in the community as ‘very important’, with the remaining 19.0% rating them as ‘somewhat important’. Similarly, 76.7% of PWD participants rated the availability of ST services for PWD in the community as ‘very important’, with the remaining 23.3% rating these services as ‘somewhat important’. What these results suggest is that there not only is awareness of the lack of transportation services outside of the private vehicle for seniors and PWD in these rural communities, but there also is recognition of the unmet transportation needs of these two segments of the population.

It also is interesting to note that the majority of participants indicated that, if specialized transportation services were available in the community, seniors and PWD would use those services. That is, the majority (98.2%) of participants aged 45–64 and 65+ indicated that if ATS services were available in the community, that seniors would be ‘somewhat/very likely’ to use those services. Eighty percent of PWD participants indicated that they would be ‘somewhat/very likely’ to use ST services.

As identified above, a primary objective of this *Transportation Needs Assessment* was to further our understanding of the transportation needs of seniors and PWD in a sub-region of the Capital Region. Another primary objective was to obtain feedback on features of specialized transportation service delivery if those services were to be made available for seniors and PWD in the sub-region. Specifically, participants were asked about the time that services would most likely to be used, the type of transportation the service would be used for, preferences for booking and paying for the service, and the importance of other features of service delivery such as multiple stops and knowledgeable drivers. Notably, many of the features described above fall within the 5 A’s of Senior Friendly Transportation (Availability, Acceptability, Accessibility, Adaptability, and Affordability) (40). That is, to be considered as ‘senior friendly’, service must be available when needed (i.e., days, evenings; weekdays, weekends), be acceptable (i.e., scheduling times acceptable, drivers knowledgeable on senior’s issues), be accessible (i.e., provide rides to essential and non-essential services), accommodate the needs of seniors in the community), be adaptable (i.e., accommodate multiple stops), and be affordable (i.e., options for payment methods; fares that are acceptable to seniors). A similar conceptualization of supplemental transportation programs for seniors and PWD has been developed by the Beverly Foundation in 2001 based on these same 5 A’s (41).

Results from this *Transportation Needs Assessment* related to each of the 5 A’s are discussed below. In terms of *Availability*, the majority of participants indicated that ‘Weekday’ mornings and ‘Weekday’ afternoons were the times that seniors and PWD would be *most likely* to use the identified transportation services (i.e., ATS services and ST services for PWD) *if those services were available* in the communities. With respect to *Acceptability*, the vast majority of participants aged 45–64, 65+, and PWD (76.0% and 82.1%, respectively) indicated that having to book rides at least 48 hours or less in advance was more reasonable, with having to book more than 48 hours in advance less reasonable. When asked about the importance of having drivers who are knowledgeable about health issues (i.e., disabilities, illnesses that affect mental health functioning such as dementia), the vast majority (97.4%) of participants aged 45–64 and 65+

indicated that having drivers who were knowledgeable on these issues were 'somewhat/very important'. This pattern of ratings is consistent with the ratings from PWD in that 90.0% indicated that having drivers who were knowledgeable on these issues was 'somewhat/very important'. These results are useful to organizations and/or service providers who are wishing to deliver or who are delivering transportation services to these two segments of the population. Specifically, the results underscore the need for the implementation of a training program for volunteer and paid drivers in order to better meet the needs of these two segments population.

Participants also were asked about the importance of multiple stops (Adaptability) during the trip (i.e., stopping at the grocery store and bank on the way home from doctor's office). This feature of service provision was rated as 'somewhat/very important' by the majority (90.1%) of participants aged 45–64 and 65+ with 83.4% of PWD participants rating this feature as 'somewhat/very important' for ST services for PWD.

When asked about paying for transportation services (Affordability), few participants indicated that that service should be 'free'. Rather, most participants thought that seniors could *afford* and would be *willing* to pay for the services. On average, participants aged 45–64 thought that the amount that seniors could *afford* to pay was more than they would be *willing* to pay (\$7.18 vs. \$6.88). A similar pattern of findings was evident for participants aged 65+ in that they thought seniors could *afford* to pay \$8.87 but would be *willing* to pay \$8.08. On the other hand, PWD participants indicated that they could *afford* to pay \$10.10 but they would be *willing* to pay \$13.13. These findings have important implications for the design and delivery of transportation services for seniors in that, often, the prevailing belief is that these transportation services should be available at no charge. Results from this *Transportation Needs Assessment* are consistent with the results from our previous provincial Transportation Needs Assessment (37) indicating that, in general, there is support for charging a modest price for the services. Importantly, having users pay at least some of the cost of these transportation services facilitates both the availability and sustainability of transportation services for seniors and PWD in the community. When asked about method of payment, the preferred method of payment identified by participants aged 45–64, 65+, and PWD was 'pay per ride'. The second most preferred method of payment identified by participants aged 45–64 and 65+ and PWD was 'purchasing a book of passes in advance'.

All participants were asked about the importance of having municipal funding available for ATS services or ST services in their community. The vast majority of participants aged 45–64 and

65+ (97.4%) indicated that it was 'somewhat/very important' to have this type of funding available to offset the cost of providing ATS services in the community. The vast majority (89.6%) of PWD also indicated that having municipal funding available for ST services in their community was 'somewhat/very important' in offsetting the cost of ST services. These results, as well as the results on the ability and willingness to pay for rides, are informative in that options for implementation or expansion of rural transportation services for seniors and PWD often include user-pay programs, through funding from local or provincial governments, or a combination of the two. With respect to funding for IMT services, overall, 95.0% of participants rated the availability of municipal funding for this service as 'somewhat/very important'.

One feature of specialized transportation services that is not identified in the 5 A's of Senior Friendly Transportation or Supplemental Transportation (40,41) is awareness of the services in the community. When asked about the availability of ATS services or ST services in the community, 20.0% of participants indicated that they 'didn't know'. When asked about 'finding out about services', the top two preferences amongst participants aged 45–64, 65+, and PWD were the community newspaper (54.7%, 59.6%, and 40.0%, respectively) and by mail (i.e., Canada Post) (14.5%, 12.3%, and 24.0%, respectively). These results are informative in that despite the ubiquitous use of the technology (i.e., internet, cell phones), conventional forms of communication were identified as the preferred source for finding out about transportation services in the community.

A limitation of this *Transportation Needs Assessment* is the small sample of seniors who do not drive as well as the small sample of PWD. The small sample of seniors who did not drive is important from three perspectives. First, the under-representation of the sample of non-drivers may mean that the findings presented herein are an under-representation of the transportation needs in this segment of the population. A larger sample size of non-driving seniors and PWD is needed to determine if the pattern of results from larger samples of these populations is consistent with the results presented. Second, many of the results presented in this report are based on responses from drivers aged 45–64 and drivers aged 65+. As such, it is reasonable to wonder about the 'validity' of the responses from these two segments of the population in relation to the unmet transportation needs of seniors who do not drive. To assess this validity, we compared responses from drivers aged 45–64 and 65+ to those of non-drivers aged 65+ on how well the transportation needs of *seniors* were being met for the different trip purposes and how well the transportation needs of *seniors* were being met overall. Despite the apparent visual differences in ratings (i.e., differences in percentages for participants 45–64 and 65+ who were

drivers vs. the 65+ non-drivers), these differences were not statistically significant. These results suggest that responses from participants who are aged 45–64, with many of them likely to be adult children, and drivers 65+ can be considered as relatively good ‘proxies’ of the unmet transportation needs of seniors in their community. Having said that, further research combined with a larger sample size of 65+ non-drivers would be important to see if these trends continue to hold. Future research on the congruency of ratings between adult children and their parent(s) on unmet transportation needs would also be informative. Third, the difficulty in recruiting 65+ non-drivers indicates that additional methodologies such as community-based recruitment are needed. In addition, an expansion of the population base to include the remaining regions in the Capital Region would likely yield a higher number of older non-drivers, which in turn would lead to more reliable results. The limitation of a small sample and relevance of this limitation as described above also applies to the sample of PWD. Again, expansion of the population base and the addition of community-based recruitment strategies would assist in addressing this limitation.

SECTION C.2: Conclusion

Canada’s population is aging, as is the population of the Capital Region. The percentage of PWD also is increasing. These changes bring with them challenges to local government and service providers. In general, older seniors wish to ‘age in place’. Yet, increasingly, due to the regionalization of many services, residents in rural communities are required to travel to urban centres. However, for those who do not drive, access to those services is hampered by the lack of alternate forms of transportation. The same holds true for PWD. Transportation services that are age- and disability-friendly are critical for the health and well-being of these two growing segments of the population. This means that knowledge about the adequacy of current transportation services, and, if inadequate, knowledge about the perceived transportation needs is requisite to meeting the mobility needs of these vulnerable populations.

The current study provides an important step toward understanding the adequacy and needs of relevant transportation services for seniors and PWD. The research focused exclusively on rural populations, where the challenges may be the greatest and empirical evidence is least available. In this initial research, three groups were administered questionnaires about transportation needs of seniors and PWD. The large majority of participants aged 45–64 and 65+ (without disabilities) responded that they perceived the transportation needs of seniors were not being met. Those 45–64 and those 65+ also responded that it was important to meet those needs with additional

services, and if those services were available, they would be used. The findings from this *Transportation Needs Assessment* also provide insights on features of service delivery that are deemed to be responsive to seniors and PWD. Expansion of the *Transportation Needs Assessment* throughout the Capital Region would address the major limitations associated with the current needs assessment. Results of an expanded *Transportation Needs Assessment* could be used to inform on policy and planning initiatives related to transportation needs of seniors who voluntarily or involuntarily stop driving and to PWD of any age in a rural setting.

APPENDICES

Appendix A. Acronyms

ATS service	Alternate transportation for seniors' service
CATI system	Computer Assisted Telephone Interview system
CRB	Capital Region Board
FOIPP	Freedom of information and protection of privacy
IMT service	Intermunicipal Transit service
MARD	Medically At-Risk Driver
<i>p</i>	<i>p</i> Value
PRL	Population Research Laboratory
PWD	Persons with Disabilities
RDD	Random digit dialing
SD	Standard deviation
ST service	Specialized transit service

Appendix B. Place of Residence for the Sample as a Whole

Table AB-1. *Place of Residence for the Sample as a Whole*¹⁷

	Total Sample (N = 413)
Place of Residence	
Town	218 (52.8)
Village	53 (12.8)
Hamlet	6 (1.5)
Farm	85 (20.6)
County	51 (12.3)
Locality¹⁷	
Lamont County	51 (12.3)
Bruderheim	38 (9.2)
Mundare	45 (10.9)
Town of Lamont	75 (18.2)
Andrew	32 (7.7)
Chipman	21 (5.1)
Hilliard	1 (0.2)
Star	1 (0.2)
St. Michael	4 (1.0)
Farm	85 (20.6)
Town of Redwater	60 (14.5)

¹⁷ Percentages within each category may not total 100% due to rounding.

Appendix C. References

- (1) Rosenbloom, S. (2007). Transportation patterns and problems of people with disabilities. In M. J. Field, & A. M. Jette (Eds.), *The future of disability in America* (pp. 519–561). Washington, DC: National Academies Press.
- (2) Sweeney, M. (2004). *Travel patterns of older Americans with disabilities* (Report No. 2004-001-OAS). Washington, DC: Bureau of Transportation Statistics, U.S. Department of Transportation.
- (3) Travis, L. L., Clark, D. E., Haskins, A. E., & Kilch, J. A. (2012). Mortality in rural locations after severe injuries from motor vehicle crashes. *Journal of Safety Research*, *43*(5-6), 375–380. doi:10.1016/j.jsr.2012.10.004
- (4) Turcotte, M. (2012). *Profile of seniors' transportation habits* (Catalogue No. 11-008-X). Ottawa, ON: Statistics Canada.
- (5) World Health Organization. (2013). *Disability and health* (Fact Sheet No. 352). Geneva, Switzerland: Author.
- (6) Arcury, T. A., Preisser, J. S., Gesler, W. M., & Powers, J. M. (2005). Access to transportation and health care utilization in a rural region. *The Journal of Rural Health*, *21*(1), 31–38.
- (7) Crosato, K. E., & Leipert, B. (2006). Rural women caregivers in Canada. *Rural and Remote Health*, *6*(2), 520.
- (8) Eberhardt, M. S., & Pamuk, E. R. (2004). The importance of place of residence: Examining health in rural and nonrural areas. *American Journal of Public Health*, *94*(10), 1682–1686. doi:94/10/1682 [pii]
- (9) Hanson, T. R., & Hildebrand, E. D. (2011). Can rural older drivers meet their needs without a car? Stated adaptation responses from a GPS travel diary survey. *Transportation*, *38*(6), 975–992.
- (10) Mattson, J. (2012). Transportation, distance, and health care utilization for older adults in rural and small urban areas. *Transportation Research Board of the National Academies*, *2265*, 192–199.
- (11) Popplewell, N. T. A., Rechel, B. P. O., & Abel, G. A. (2014). How do adults with physical disability experience primary care? A nation-wide cross-sectional survey of access among patients in England. *BMJ Open*, *4*(8), 1–8. doi:10.1136/bmjopen-2013-004714

- (12) Syed, S. T., Gerber, B. S., & Sharp, L. K. (2013). Travelling towards disease: Transportation barriers to health care access. *Journal of Community Health, 38*(5), 976–993.
- (13) Szymczynska, P., Innes, A., Mason, A., & Stark, C. (2011). A review of diagnostic process and postdiagnostic support for people with dementia in rural areas. *Journal of Primary Care & Community Health, 2*(4), 262–276.
- (14) Carp, F. M. (1988). Significance of mobility for the well-being of the elderly. In *Transportation in an aging society: Improving mobility and safety for older persons* (pp. 1–20). Washington, DC: Transportation Research Board.
- (15) Kim, S., & Ulfarsson, G. F. (2013). Transportation in an aging society: Linkage between transportation and quality of life. *Transportation Research Record: Journal of the Transportation Research Board, 2357*, 109–115. doi:10.3141/2357-13
- (16) McCracken, M., Tsetso, K., Jean, B., & Young, K. (2005). *Canadian rural partnership - advisory committee on rural issues - seniors in rural and remote Canada: Position paper*. Ottawa, ON: Government of Canada.
- (17) Nelson, J. A., & Gingerich, B. S. (2010). Rural health: Access to care and services. *Home Health Care Management & Practice, 22*(5), 339–343. doi:10.1177/1084822309353552
- (18) Statistics Canada. (2014). *Population projections for Canada (2013 to 2063), provinces and territories (2013 to 2038)* (Catalogue No. 91-520-X). Ottawa, ON: Author.
- (19) Alberta Treasury Board and Finance. (2014). *Population projection Alberta 2014–2041*. Retrieved from <http://finance.alberta.ca/aboutalberta/population-projections/2014-2041-alberta-population-projections.pdf>
- (20) Government of Canada. (2014). *Discussion paper: Canada Transportation Act review*. Ottawa, ON: Author.
- (21) Statistics Canada. (2013). *Disability in Canada: Initial findings from the Canadian Survey on Disability* (Catalogue No. 89-654-X). Ottawa, ON: Author.
- (22) Mattson, J., Hough, J., & Abeson, A. (2010). *Assessing existing and needed community transportation for people with disabilities in North Dakota*. Fargo, ND: Small Urban & Rural Transportation Center, Upper Great Plains Transportation Institute.
- (23) Krahn, G. L., Walker, D. K., & Correa-De-Araujo, R. (2015). Persons with Disabilities as an unrecognized health disparity population. *American Journal of Public Health, 105*, S198–S206.
- (24) World Health Organization. (2007). *Global age-friendly cities: A guide*. Switzerland: WHO Press.

- (25) Federal/Provincial/Territorial Ministers Responsible for Seniors. (2006). *Age-friendly rural and remote communities: A guide*. Ottawa, ON: Author.
- (26) Statistics Canada. (2012). *Living arrangements of seniors* (Catalogue No. 98-312-X2011003). Ottawa, ON: Author.
- (27) Public Health Agency of Canada. (2010). *The Chief Public Health Officer's report on the state of public health in Canada 2010: Growing older - adding life to years* (Catalogue no. HP2-10/2010E). Ottawa, ON: Author.
- (28) Canadian Institute for Health Information. (2014). *Drug use among seniors on public drug programs in Canada, 2012*. Ottawa, ON: Author.
- (29) Alberta Seniors and Community Supports. (2006). *A profile of Albertans with disabilities*. Edmonton AB. Government of Alberta.
- (30) Capital Region Board. (2009). *Capital Region intermunicipal transit network plan: Growing forward. The Capital Region growth plan. Appendix 3*. Edmonton, AB: Author.
- (31) Capital Region Board. (2011). *Capital Region Board – 30 year transit service plan*. Edmonton, AB. Author.
- (32) Alberta Municipal Affairs. (2015). *Lamont County statistics profile*. Edmonton, AB: Author.
- (33) Statistics Canada. (2011). *2011 Census of population*. Ottawa, ON: Author.
- (34) Alberta Municipal Affairs. (2015). *Town of Redwater statistics profile*. Edmonton, AB: Author.
- (35) Public Service Commission of Canada. (2007). *Guide for assessing persons with disabilities: How to determine and implement assessment accommodations*. Ottawa, ON: Author.
- (36) Dobbs, B. M., Lee, V., & Song, J. (2011, April). *Seniors' alternate transportation: A national and international scan of existing models and identification of unique models and innovative solutions*. Submitted to the Federal, Provincial, and Territorial Ministers, Government of Canada.
- (37) Dobbs, B., & Pidborochynski, T. (2011). *Perceptions and use of alternate transportation for seniors: Results from a provincial survey*. Edmonton, AB: The DR Group.
- (38) Capital Region Board. (n.d.). *Capital Region Board growth plan: Consolidated glossary*. Retrieved from http://capitalregionboard.ab.ca/-/reports/growth_plan_consolidated_glossay_-_final.pdf
- (39) Mattson, J. (2010). Transportation, distance, and health care utilization for older adults in rural and small urban areas. *Transportation Research Board of the National Academies*, 2265, 192–199.

- (40) The Beverly Foundation. (2010). *The 5 A's of senior friendly transportation: Beverly Foundation fact sheet series volume 2 #4*. Pasadena, CA: Author.
- (41) The Beverly Foundation. (2001). *Supplemental transportation programs for seniors*. Pasadena, CA: Author.

