

EDMONTON ZONE





EDMONTON ZONE

Introduction

In 2016-2017, the Medically At-Risk Driver (MARD) Centre at the University of Alberta conducted a

Provincial Transportation Needs Assessment. The overall goals were to: 1) assess the transportation needs of seniors and persons with disabilities (PWD) in the province of Alberta, and 2) make the results available to communities throughout the province in order to help them understand and better address the transportation needs of seniors and PWD in their communities.

The 5 Provincial Health Zones are: North, Edmonton, Central, Calgary, and South. If you wish to see a more detailed map of the 5 Zones, go to www.albertahealthservices.ca/ahs-map-ahs-zones.pdf.

Banister Research, under contract to MARD, interviewed 1,535 individuals throughout the 5 Zones of the province. This total consisted of:

- 347 senior non-drivers,
- 1,043 senior drivers, and
- 145 PWD

The results presented in this report are for the Edmonton Zone. In each of the sections, we present the findings from the interviews with non-drivers and drivers 65 years of age and older (referred to as seniors from this point forward). The findings from PWD are presented in a separate report (see Alberta Provincial Transportation Needs Assessment - Persons with Disabilities: Rural and Urban Alberta).



As you go through this report, you will notice that the results from senior non-drivers and drivers are similar but not identical. That is, often, the ratings from senior drivers are somewhat higher (or lower depending on how the question is asked) than senior non-drivers. For the most part, these differences should not make a difference in any decisions that you may make regarding implementing or adapting transportation services for seniors in your community.

EDMONTON ZONE

Sections of the Report

Section 1: Demographics

In this section, there are descriptions of those we interviewed in this region - their age, sex, marital

status, income, living arrangements, and place of residence. There also is information on health status (e.g., long-term illnesses and disabilities, use of mobility aids, and overall physical health). Information for each of these areas is presented for senior non-drivers and senior drivers.

Section 2: Unmet Transportation Needs

In this section, you will find information on the unmet transportation needs of senior non-drivers and drivers in this region. For example, information is provided on the percent of senior non-drivers and drivers who do not get to medical appointments or to the grocery store, or who do not attend social events because they do not have a ride. There also is information on the differences between senior non-drivers and drivers in terms of quality of life, sense of well-being, and on measures of social isolation (e.g., companionship, feeling left out, and feeling socially isolated). We have included these last 3 measures because lack of adequate transportation is a primary cause of social isolation among seniors who cannot or who choose not to drive.

Section 3: Awareness and Use of Transportation Services

In this section, you will find information on awareness of transportation services for seniors in the community (e.g., senior's van, community bus, handi-van service). We also ask about use of these services for trips such as going to medical appointments, for grocery shopping, recreational activities, visits with family and friends, or attending religious activities. For senior non-drivers, we asked them about their awareness and their use of these types of services. Based on previous research, we know that seniors who drive most often do not use alternate forms of transportation services. As such, we asked senior drivers to "think about seniors in their community" when answering these two sets of questions.

Section 4: The Importance of 'Senior Friendly' Transportation Services

In this section, you will find feedback on the importance of 'senior-friendly' features of transportation services. These features have come to be known as the 5 A's, with these A's consisting of Availability, Acceptability, Accessibility, Adaptability, and Affordability. Again, we asked senior non-drivers to answer from their own perspective. For senior drivers, we asked them to "think about seniors in their community" when answering these questions.

Section 5: Summary

In this section, we provide a summary of the findings and how your community can use these results to develop or improve alternate forms of transportation services for seniors. We also encourage you to access a similar report on the unmet transportation needs of PWD in rural and urban Alberta.

EDMONTON ZONE

Before You Get Started -- A Bit More About the Study

As mentioned in the Introduction, we interviewed a total of 1,535 individuals in the province (347 senior non-drivers, 1,043 senior drivers, and 145 PWD). The results presented in this report are based on responses from 101 senior non-drivers and 297 senior drivers living in the Edmonton Zone of the province. Participants were recruited via random digit dialing as well as through organizations providing services to seniors. For random digit dialing, phone numbers were selected randomly from a bank of telephone numbers in Alberta. Those individuals who were eligible to participate in the survey and consented to participate were interviewed by Banister Research personnel. In addition to random digit dialing, we also recruited senior non-drivers via organizations throughout the province providing services to seniors. These primary contacts assisted in recruitment by explaining the study to their clientele and asking if they would be willing to be contacted for possible inclusion in the study. The names and phone numbers of individuals who indicated that they were willing to be contacted were provided to MARD researchers. The contact information of those who met study criteria was then given to Banister Research, with the interview completed at a time and date convenient to the individual. The research received ethics approval from the University of Alberta's Health Research Ethics Board.

3

EDMONTON ZONE

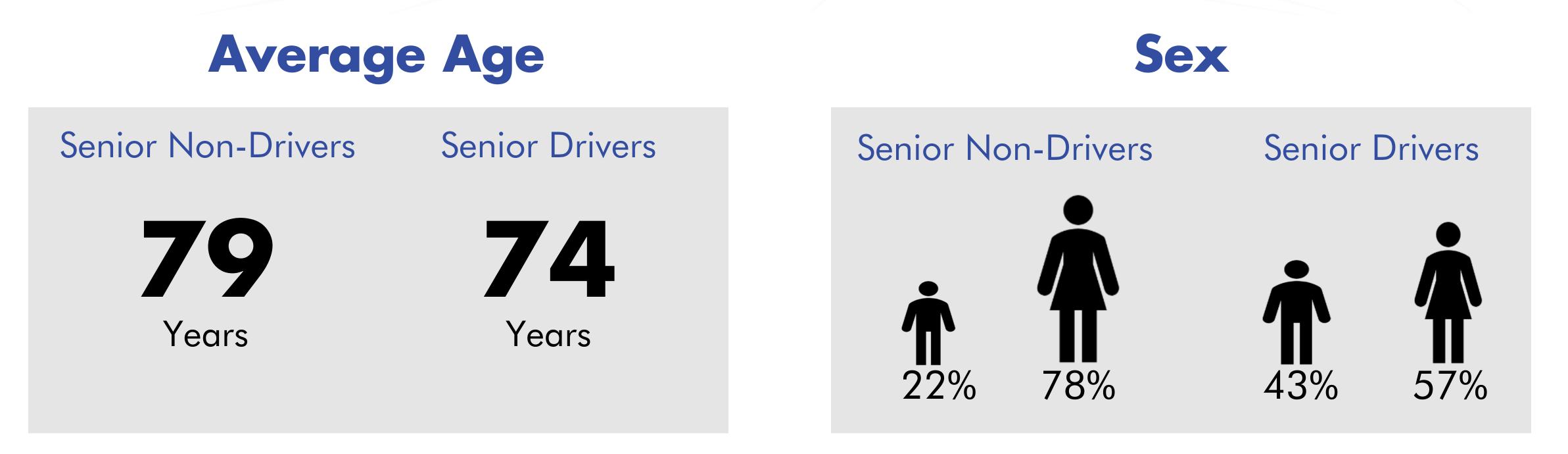
Before You Get Started -- A Bit More About the Data

The results presented in this report are based on responses from 101 senior non-drivers and 297 senior drivers living in the Edmonton Zone of the province. You might be wondering how 'representative' these two samples are as compared to our sample of senior non-drivers and senior drivers in other regions in the province of Alberta. To determine if there were differences in the responses from senior non-drivers in the Edmonton Zone and senior non-drivers in all the other regions of the province, we ran a number of statistical analyses. What we found was that there were no statistically significant differences between senior non-drivers across the 5 regions of the province for all of our 'demographic' measures (e.g., age, sex, living arrangements, place of residence, employment status, income, overall physical health, disability status, physical health interfering with activities of daily living, and use of mobility aids). We used this same process to determine if there were differences between senior drivers in all the other regions of the province. Again, what we found was that there were no statistically significant differences between senior drivers and senior drivers in all the other regions of the province for all of our demographic measures. What this means is that although the sample sizes of senior non-drivers and senior drivers are smaller in some of the Zones in the province as compared to other Zones, we can be confident that the results for each of the Zones are representative of what senior non-drivers and senior drivers overall had to say.

When looking at our sample, you can see that, overall, we have more females than males who participated in the survey. This pattern is consistent with the overall population statistics showing that there are more females than males in the senior population as a whole (women live longer than men on average). When looking at the percent of senior drivers who are female and those who are male, you can see that we have more senior drivers who are female in our sample. This finding is inconsistent with the national trend of there being more senior males who are licensed to drive than there are senior females. The higher proportion of older female drivers in our sample may be due to our sampling strategy. That is, we used what is called random sampling (a technique where each person interviewed is chosen by chance) as opposed to quota sampling (a technique where the final sample has the same proportions of individuals as the entire population). It also may be that older females are more likely to be in the home and, as such, more likely to answer the telephone than are their senior male counterparts, and this may be particularly so in rural areas. Finally, we also have more older female non-drivers in our sample. This pattern is not unexpected as the current cohort of seniors is made up of a large number of women who have never driven.

Finally, on the questions where we asked senior drivers to "think about seniors in their community", when we compared their answers to answers from senior non-drivers, the trend was for senior drivers to 'overestimate' the needs or the importance or use of services for "seniors in their community". The good news is that most often, the answers between senior non-drivers and senior drivers are consistent in that they recognize that there are unmet transportation needs of seniors in the region, and that there is a need for more responsive forms of transportation for seniors in communities throughout the region.

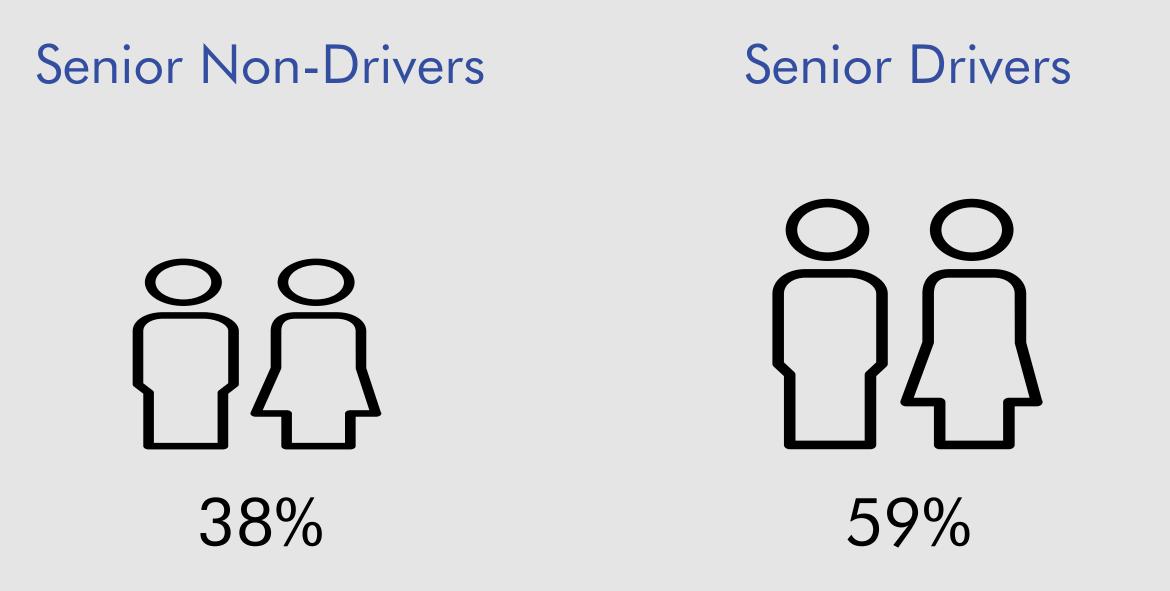
EDMONTON ZONE



As you can see above, senior non-drivers were slightly older than senior drivers. In terms of sex, there were more females (for both senior non-drivers and senior drivers) who participated in the survey.

Marital Status





Slightly more than one-third of the senior non-drivers were married and more than half of the senior drivers were married.

Annual Household Income < \$20,000



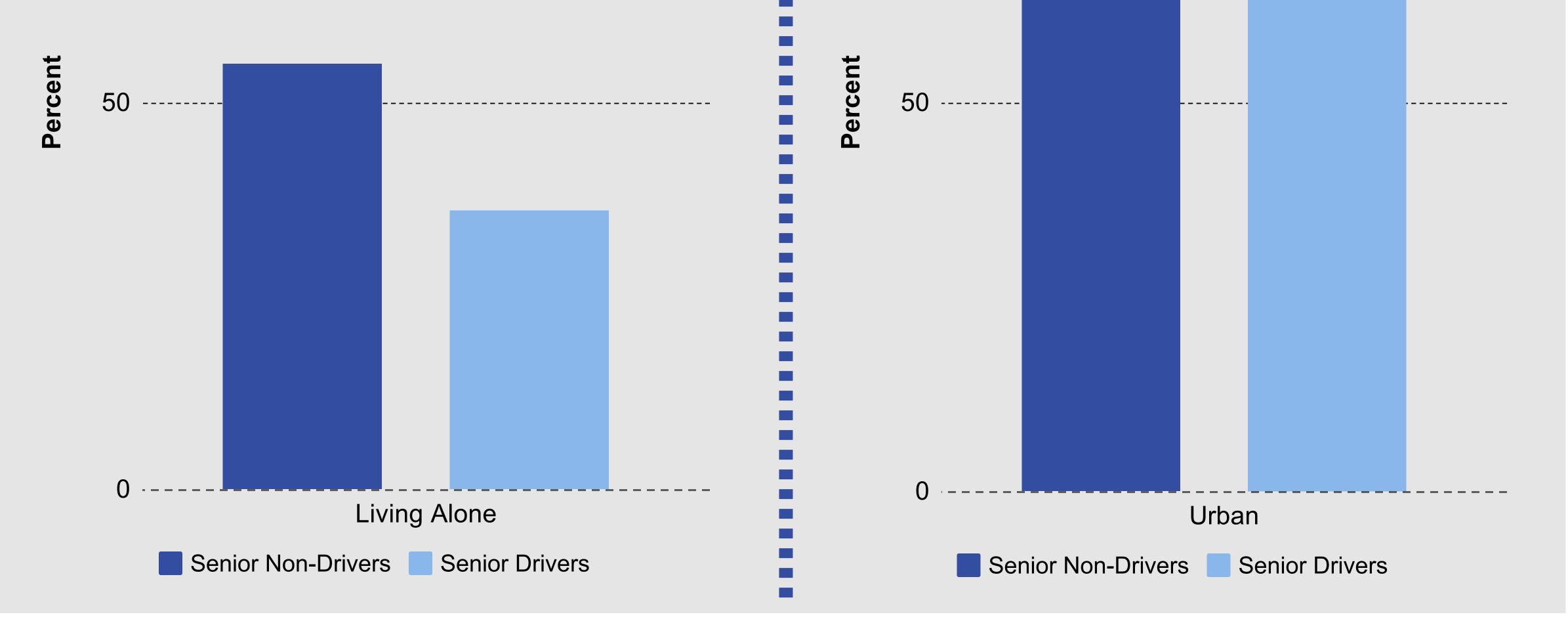
Almost 20% of senior non-drivers had annual household incomes that were less than \$20,000. In comparison, only 3% of senior drivers had annual household incomes less than \$20,000.

EDMONTON ZONE

Living Arrangements

100 -----

Place of Residence



As you can see from the graph on the left, more than half (55%) of senior non-drivers lived alone, with slightly more than one-third (36%) of senior drivers living alone.

In the graph on the right, you can see that the majority of senior non-drivers and senior drivers that we interviewed in the Edmonton Zone lived in a city (e.g., Edmonton, Fort Saskatchewan, Leduc, Sherwood Park*, Spruce Grove, and St. Albert). You also can see that there were more senior non-drivers (81%) living in a city than senior drivers (69%). The remainder of the senior non-drivers and senior drivers were living in rural areas (that is, in a town**, village, hamlet, or on a farm).

* Note that Sherwood Park is a hamlet, but is recognized by the Government of Alberta as an Urban Service Area equivalent to a city. As such, it has been coded as an urban area.

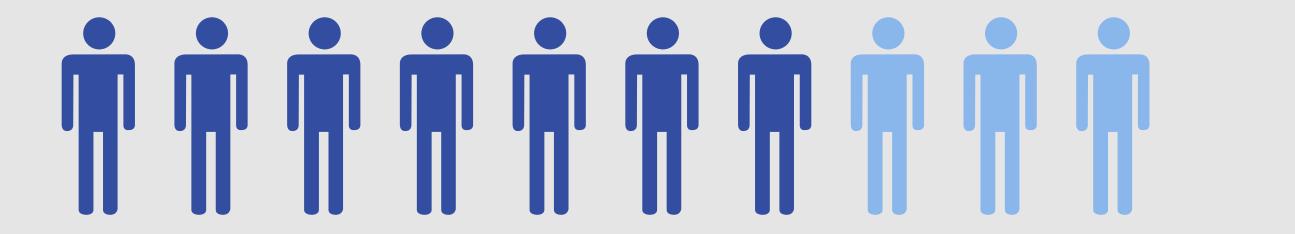
** Note that Alberta Municipal Affairs defines towns as having a population of at least 1,000 people and may exceed 10,000 people unless it requests a change to city status.

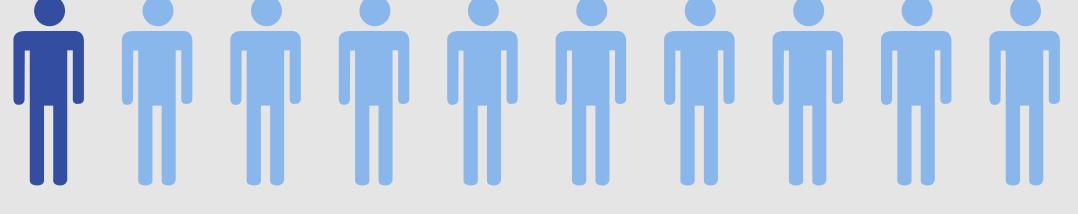
EDMONTON ZONE

Long-Term Illnesses / Disabilities

Senior Non-Drivers

Senior Drivers





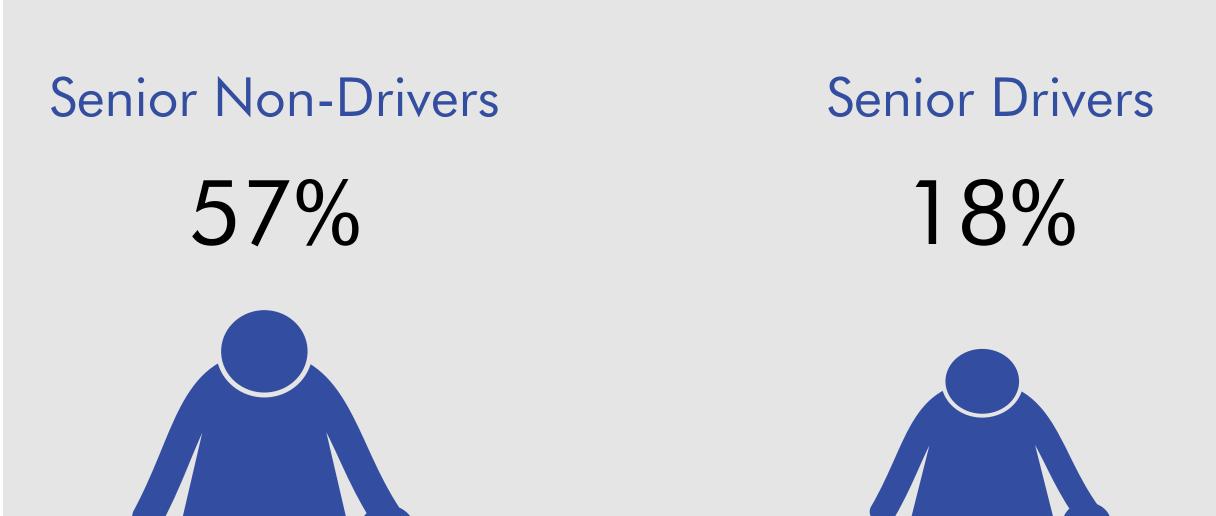


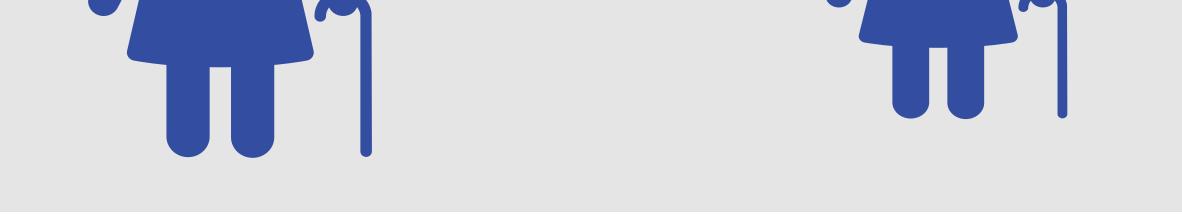


Almost 7 out of 10 senior non-drivers indicated that they had a long-term illness or disability. On the other hand, only 1 out of 10 senior drivers told us that they had a long-term illness or some type of disability.

Common illnesses were arthritis, heart problems, diabetes, Parkinson's disease, strokes, and problems with vision. Common disabilities were arthritis, as well as back, neck, and hip problems.

Use of One or More Mobility Aids





More than half (57%) of senior non-drivers said that they used some type of mobility aid (e.g., cane, walker, wheelchair). This compares to about 18% of senior drivers using some type of mobility aid.

EDMONTON ZONE

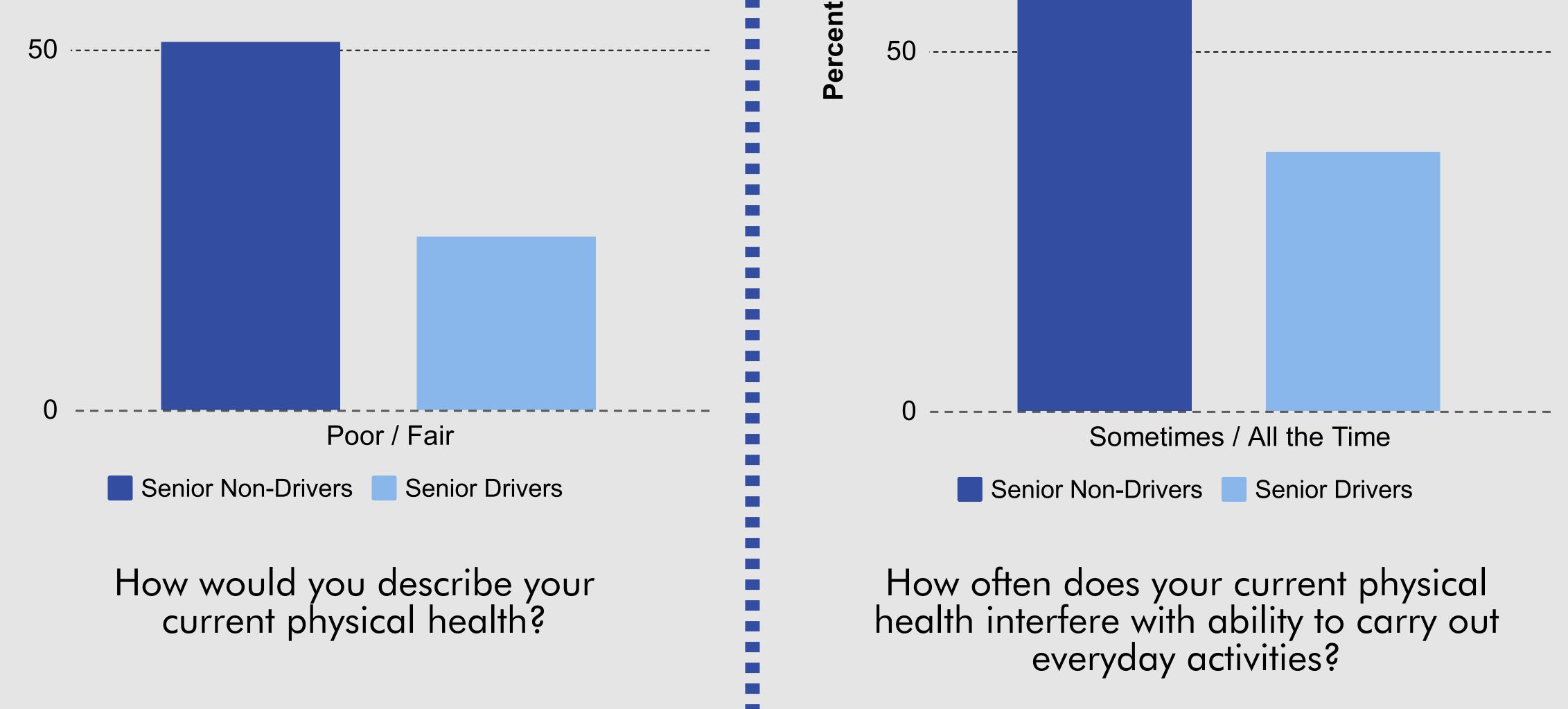
Physical Health



cent

Pe

50



When asked about their physical health, about half (51%) of senior non-drivers said that it was "poor or fair", with less than one-quarter (24%) of senior drivers saying their physical health was "poor or fair" (see graph above to the left).

And, as you can see in the graph above to the right, close to two-thirds (61%) of senior non-drivers said that their physical health interfered "sometimes or all the time" with everyday activities as compared to slightly more than one-third (36%) of senior drivers indicating that their physical health interfered "sometimes or all the time" with everyday activities.

EDMONTON ZONE

Rely on Family or Friends for Transportation

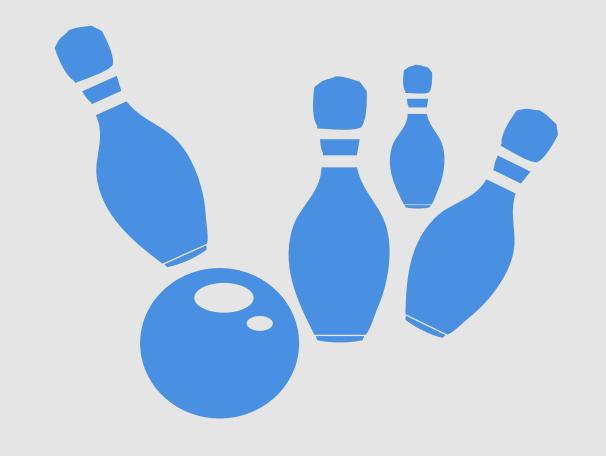
To Medical Appointments

For Essential Services

For Recreational / Leisure / Religious Activities







Senior	Senior	Senior	Senior	Senior	Senior
Non-Drivers	Drivers	Non-Drivers	Drivers	Non-Drivers	Drivers
25%	10%	41%	9%	27%	8%
At Least Once		At Least Once		At Least Once	
a Month		a Week		a Week	

Not unexpectedly, a greater percent of senior non-drivers relied on family or friends for transportation in general than did senior drivers.

For example, in the last 6 months, 25% of senior non-drivers relied on family or friends at least once a month for rides to medical appointments as compared to 10% of senior drivers.

In terms of transportation for essential services, 41% of senior non-drivers relied on family or friends at least once a week over the last 6 months for trips for getting groceries or for banking as compared to just 9% of senior drivers.

And, for rides to recreational, leisure, or religious activities, close to 30% of senior nondrivers relied on family or friends at least once a week over the last 6 months for these types of trips as compared to 8% of senior drivers.

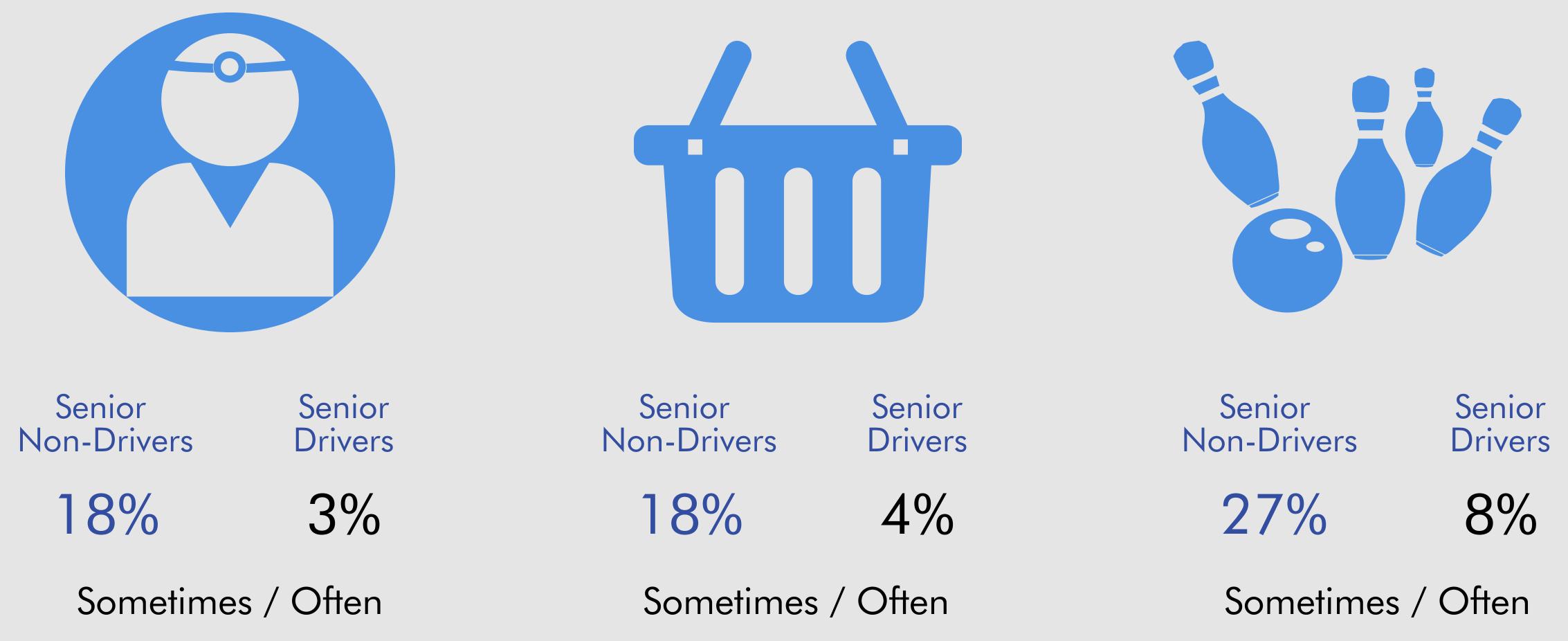
EDMONTON ZONE

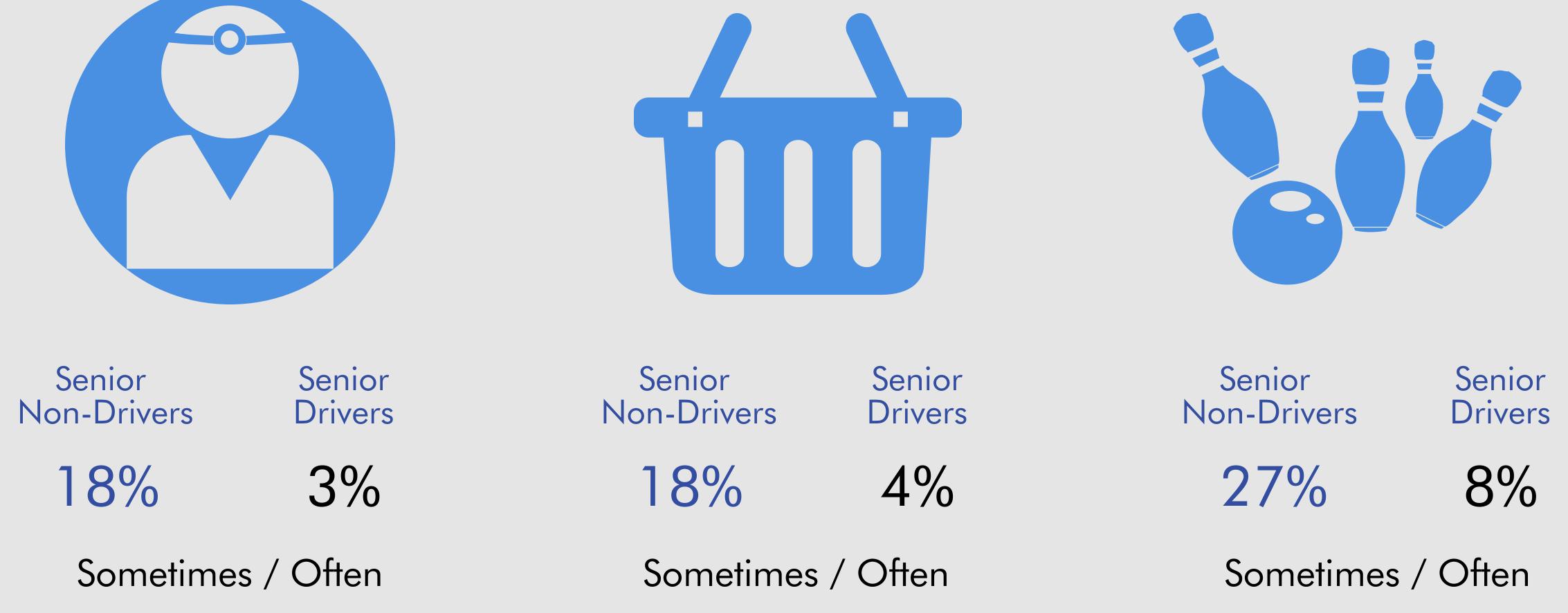
Unable to Access Services / Activities

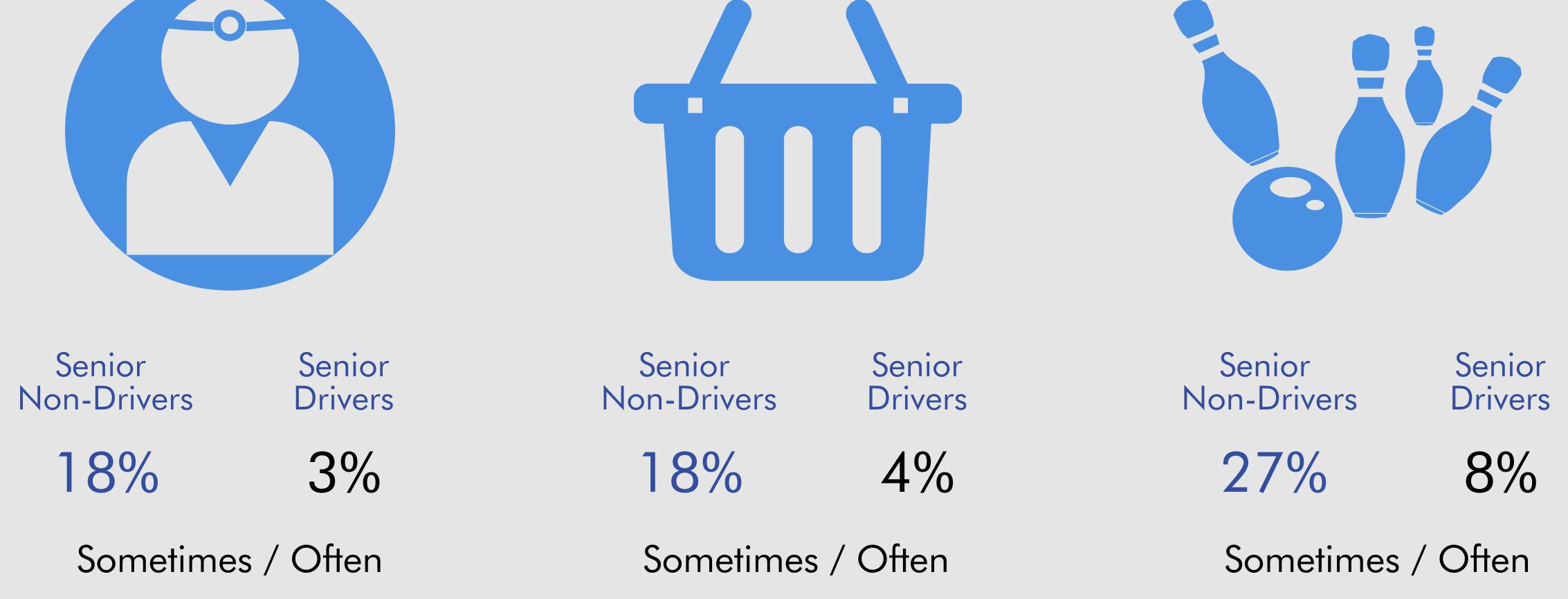
Medical Appointments

Essential Services

Recreational / Leisure / **Religious Activities**







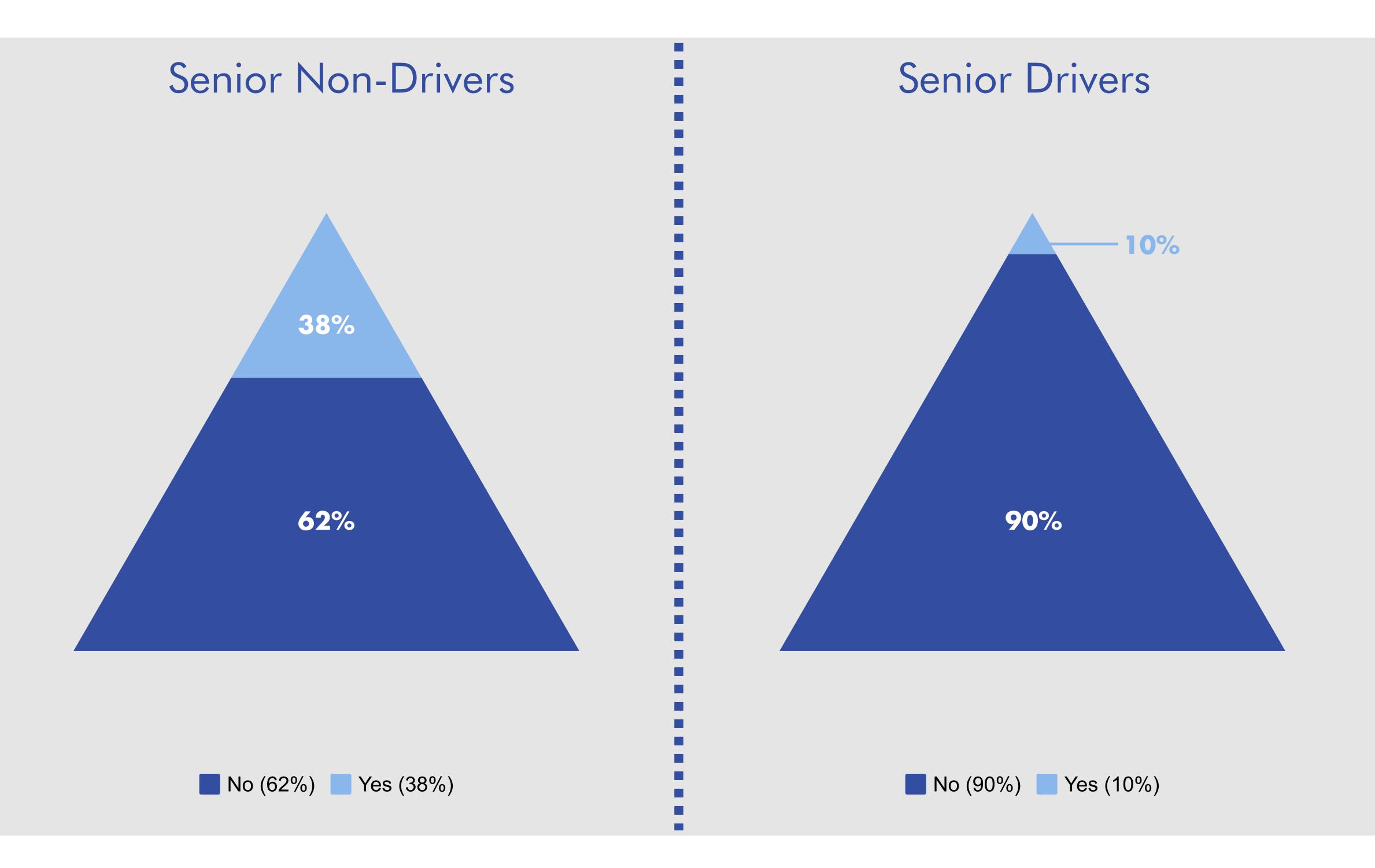
As you can see above, a greater percent of senior non-drivers "sometimes or often" did not get to medical appointments, did not have access to essential services such as getting groceries, or did not get to recreational, leisure, or religious activities in the last 6 months because they did not have a ride (percents range from 18% to 27% across the three types of services and activities). Conversely, very few senior drivers (3% to 8%) said that they "sometimes or often" were unable to access these same services and activities because

they did not have a ride.

EDMONTON ZONE

Overall Transportation Deficiency

Percent of Seniors with Unmet Transportation Needs for At Least One Trip Type



Consistent with the results from the last few pages, you can see that in the graph above to the left that more than one-third (38%) of senior non-drivers said that yes, in the last 6 months, they had unmet transportation needs for at least one type of trip (e.g., medical appointments, essential services, recreational, social, or religious activities) because they did not have a ride. On the other hand, only 10% of senior drivers said that yes, in the last 6 months, they had unmet transportation needs for at least one of these trip types.

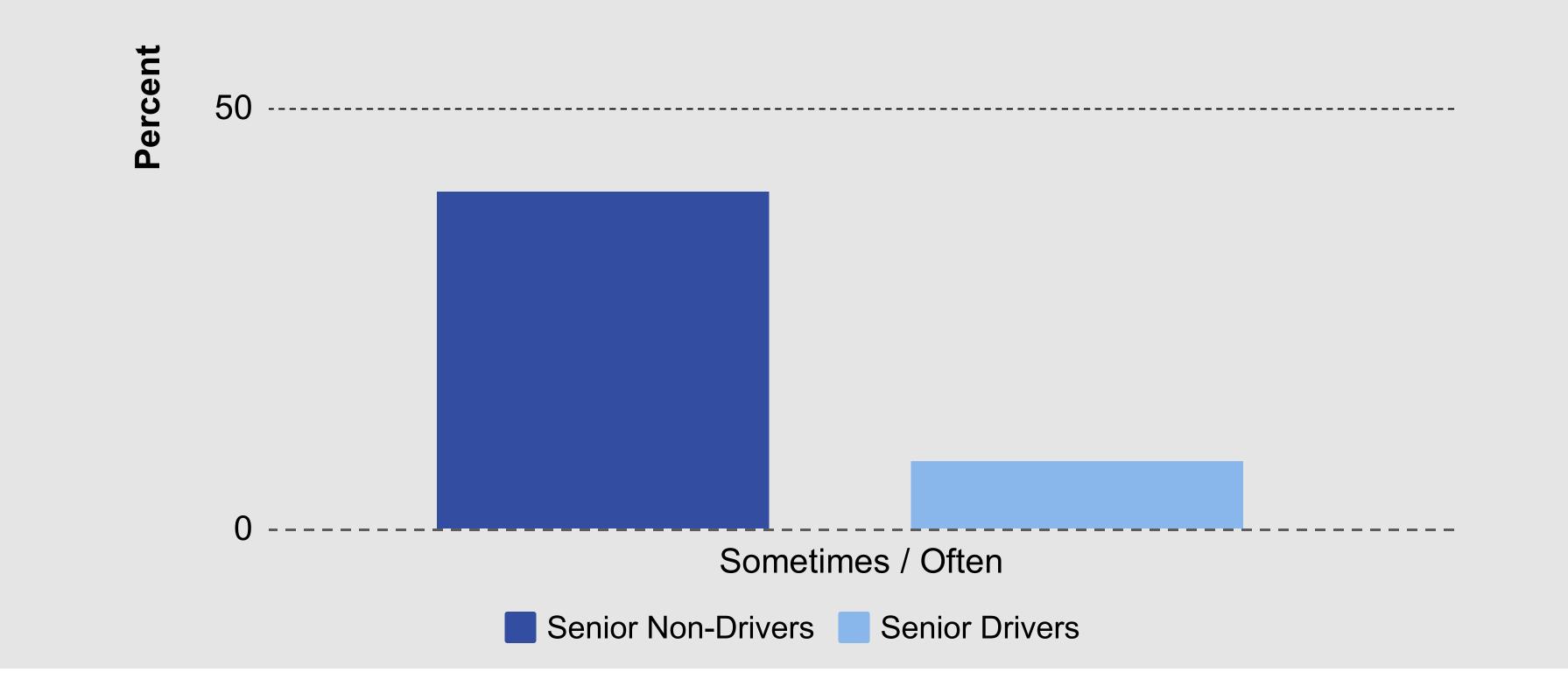
Conversely, 62% of senior non-drivers and 90% of senior drivers said no, they did not have unmet transportation needs in the last 6 months for at least one of the trip types described above.

EDMONTON ZONE

Non-Participation in Community Activities

Frequency of Not Participating in More Recreational, Social, Religious, or Other Group Activities Because of Not Having a Ride

100 -----



When asked how often that they felt like they wanted to participate in more recreational, social, religious, or other group activities but couldn't because they didn't have a ride, 40% of senior non-drivers said "sometimes or often".

Compare this to senior drivers where only 8% said that they "sometimes or often" felt like they wanted to participate in more recreational, social, religious, or other group activities but couldn't because they didn't have a ride.

EDMONTON ZONE

Quality of Life and Well-Being

Quality of Life

100

50 -----

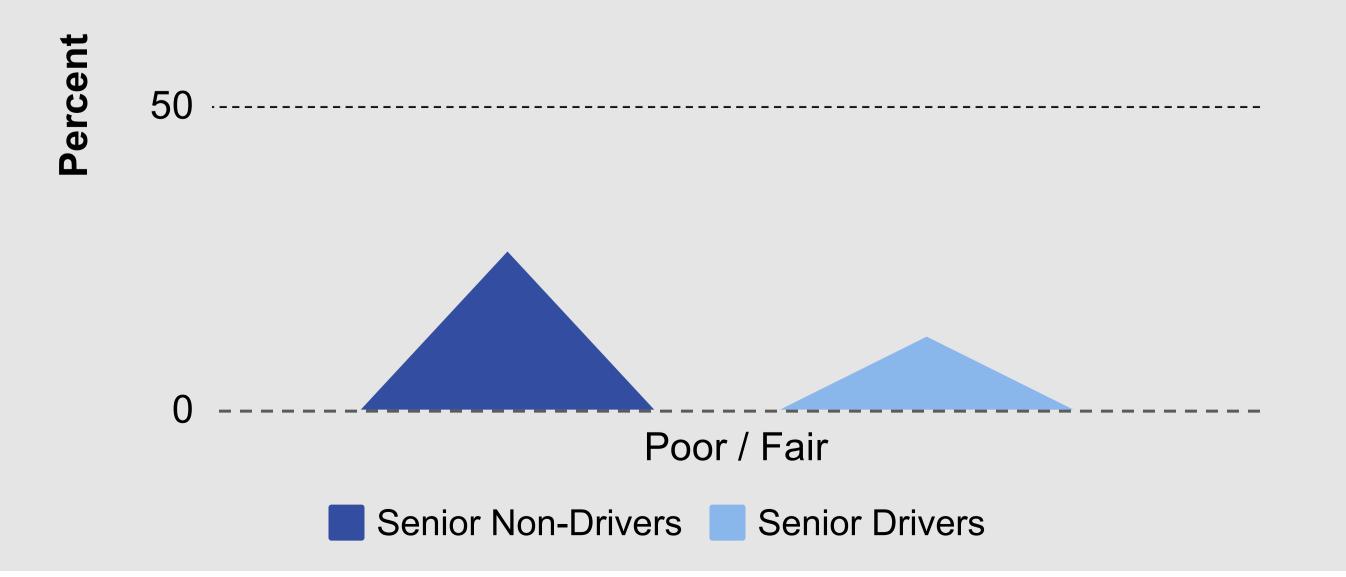


When asked about quality of life, one-quarter (25%) of senior non-drivers rated their quality of life as "poor or fair". On the other hand, very few (14%) senior drivers rated their quality of life the same way (see graph above).

A similar pattern was found on ratings of well-being. That is, more than one-quarter (26%) of senior non-drivers rated their sense of well-being as "poor or fair", with very few (12%) senior drivers rating their sense of well-being in the same manner (see graph below).

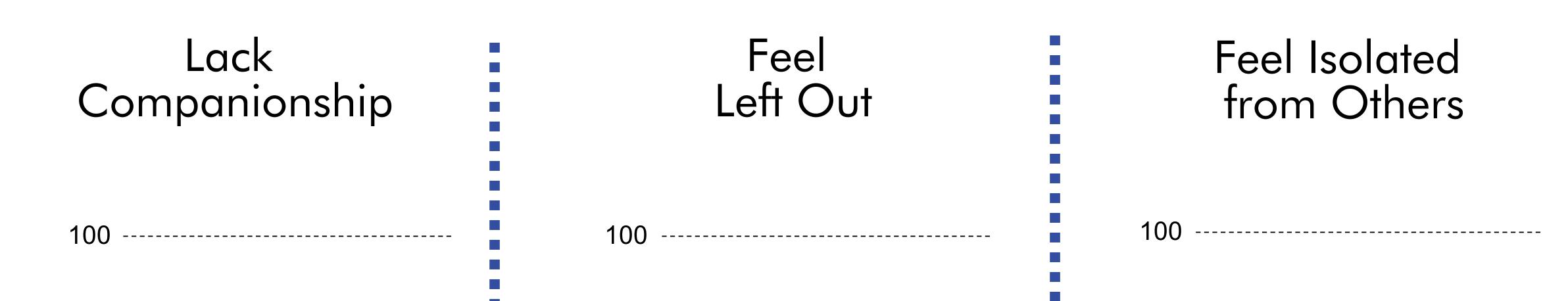
Sense of Well-Being

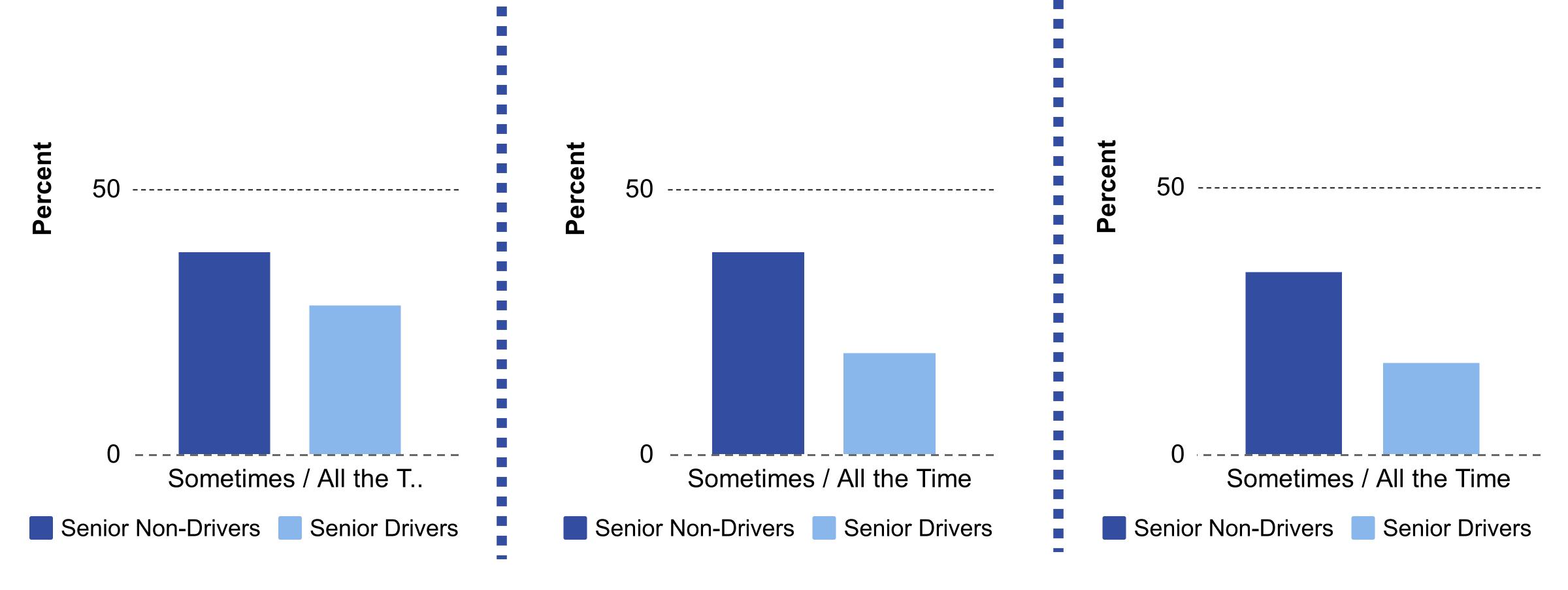
100



EDMONTON ZONE

Companionship, Feeling Left Out, Feeling Isolated





When asked about social isolation, more than 1/3 (38%) of senior non-drivers told us that they lacked companionship "sometimes or all the time", more than 1/3 (38%) felt left out "sometimes or all the time", and more than 1/3 (34%) felt isolated from others "sometimes or all the time". Compare this to the responses from senior drivers where 28% said that they lacked companionship, 19% felt left out, and 17% felt isolated from others "sometimes or all the time".

SECTION 3: AWARENESS AND USE OF TRANSPORTATION SERVICES EDMONTON ZONE

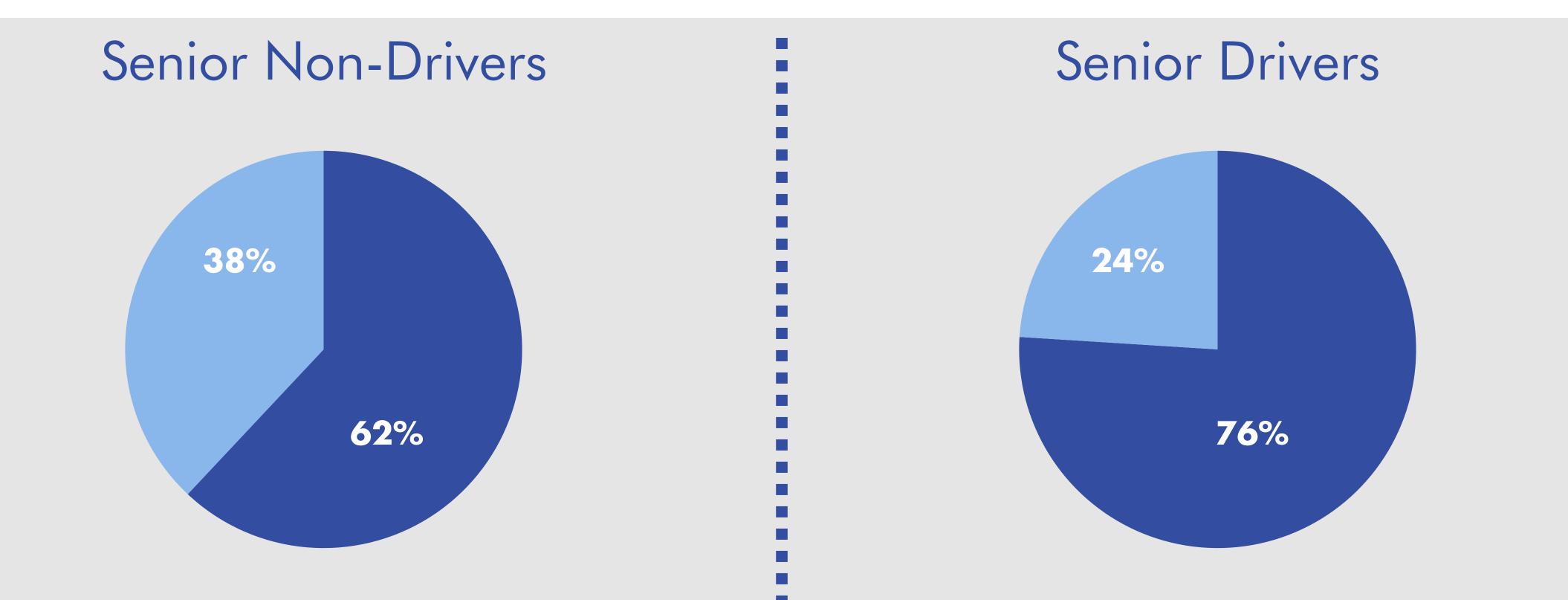
Alternate Transportation Services in the Community



In terms of availability, 81% of senior non-drivers and 83% of senior drivers said that there was some form of alternate transportation service available in their community^{*}, with a seniors' bus and handibus most often identified. Taxis also were identified as being available in the community by the majority of senior non-drivers and senior drivers. An important caveat is that the respondents that we interviewed from the Edmonton Zone were from 16 of the 66 communities (24%) in the Edmonton Zone. As such, the percents given above (81% and 83%) are not representative of the availability of alternate transportation services of 'all communities' in this region. That is, for many of the communities in this Zone, there are no alternate transportation services available.

* Respondents who lived on farms answered the question in relation to their nearest community (e.g., hamlet, village, town).

Seniors' Use of Alternate Transportation Services



Yes (62%) No (38%)

Do you use the alternate transportation services that are available?

Yes (76%) No (24%)

Do seniors in your community use the alternate transportation services that are available?

When asked about the use of alternate transportation services, almost two-thirds (62%) of senior non-drivers said that they used these available services (see graph above to the left). On the other hand, more than three-quarters (76%) of the senior drivers thought that seniors in their community used the transportation services that were available (see graph above to the right).

SECTION 3: AWARENESS AND USE OF TRANSPORTATION SERVICES EDMONTON ZONE

Importance of Alternate Transportation Services in the Community



of senior non-drivers said that if they needed transportation, and none were available, they "would not be able to get VS.

36%

of senior drivers said that if seniors in their community needed transportation, and none were available, seniors "would not be able to get

where they wanted to go".

where they wanted to go".

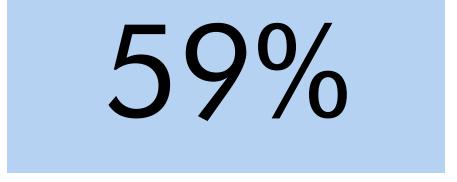
VS.

of senior non-drivers said that alternate transportation services are "somewhat or very important" to their quality of life.



of senior drivers said that alternate transportation services are "somewhat or very important" to seniors' quality of life.

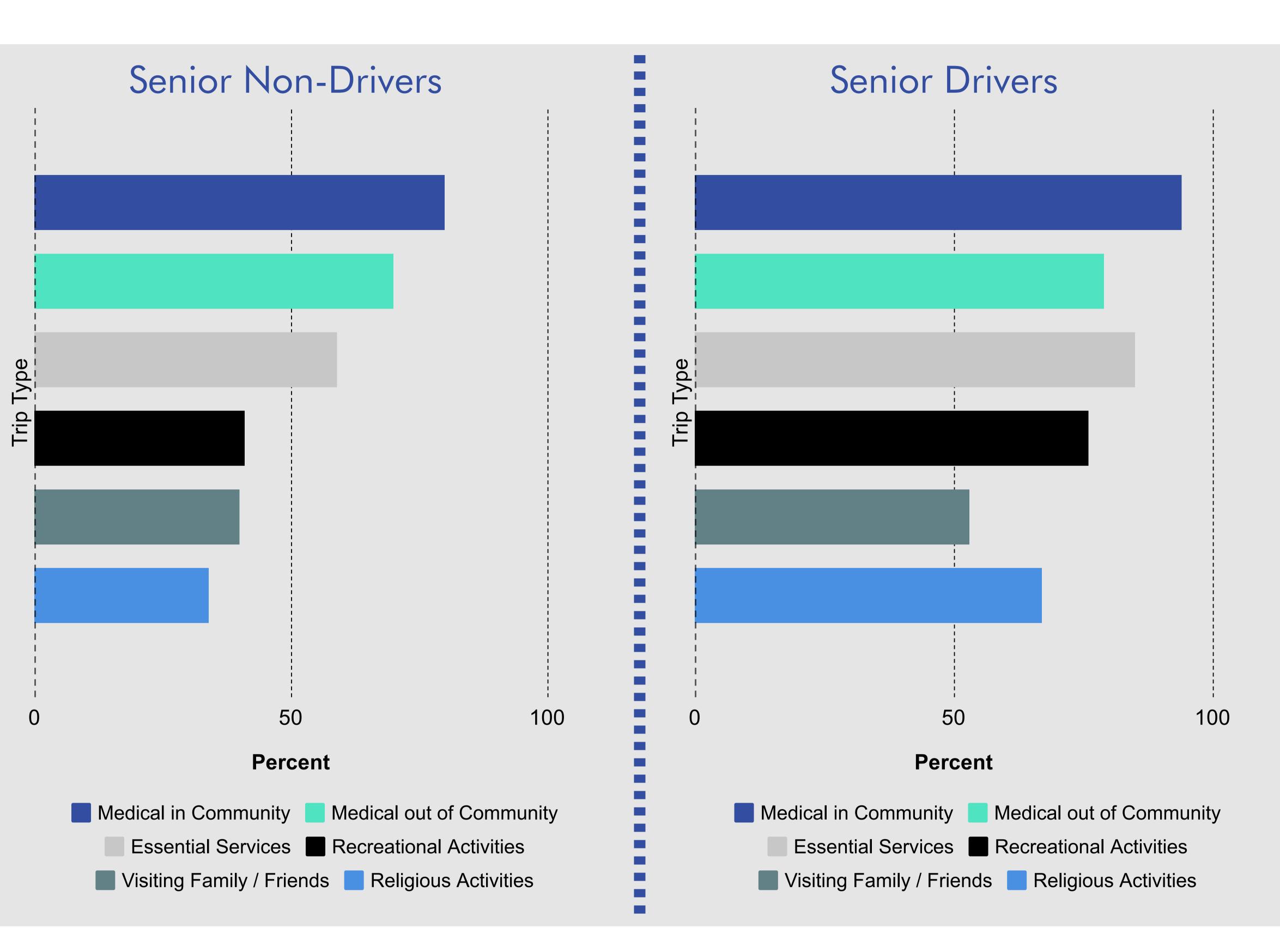




of senior non-drivers said that they were "somewhat or very likely" to use ride-sharing services if they were available in the community. of senior drivers said that they thought seniors were "somewhat or very likely" to use ride-sharing services if they were available in the community.

SECTION 3: AWARENESS AND USE OF TRANSPORTATION SERVICES EDMONTON ZONE

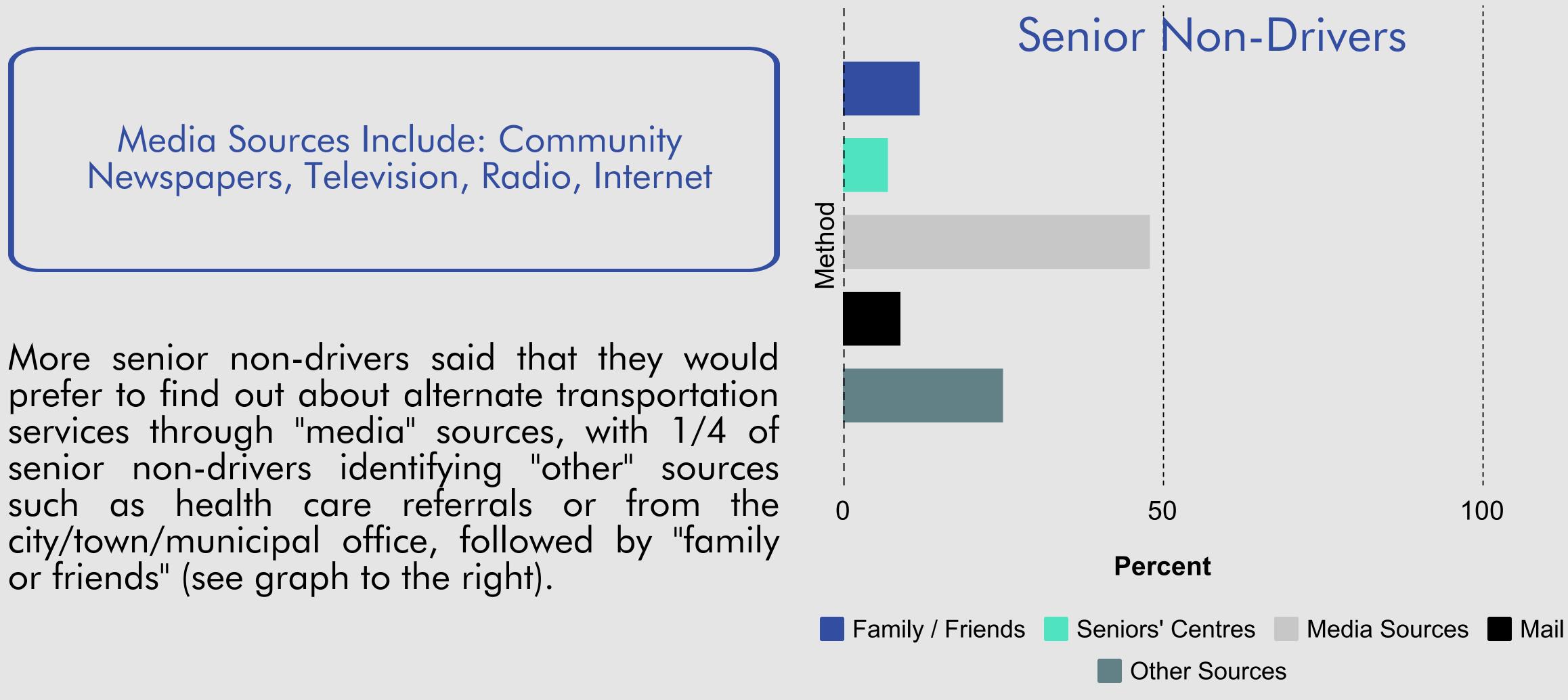
Use of Alternate Transportation Services



When asked what they would use alternate transportation services for if they were available in the community, you can see in the graph above to the left that the majority of senior non-drivers said they would use the services for transportation to medical appointments in the community (80%) and out of the community (70%) and for access to essential services such as grocery shopping (59%). A smaller percent of senior non-drivers said that they would use the services for attending recreational, social ("visiting family or friends"), or religious activities.

The pattern of responses from senior drivers was somewhat similar (see graph above to the right) to those from senior non-drivers. That is, senior drivers thought that seniors in the community would use the services for transportation to medical appointments in the community (94%) and outside the community (79%) and for access to essential services such as grocery shopping (85%). Although the percents were lower, more than half of the senior drivers also thought that seniors in the community would use the services for attending recreational, social, or religious activities.

Preferences for Finding out About Alternate Transportation Services



Senior Drivers

Other Sources

Other Sources Include: Health Care Referral, City/Town/Municipal Office, Pamplets

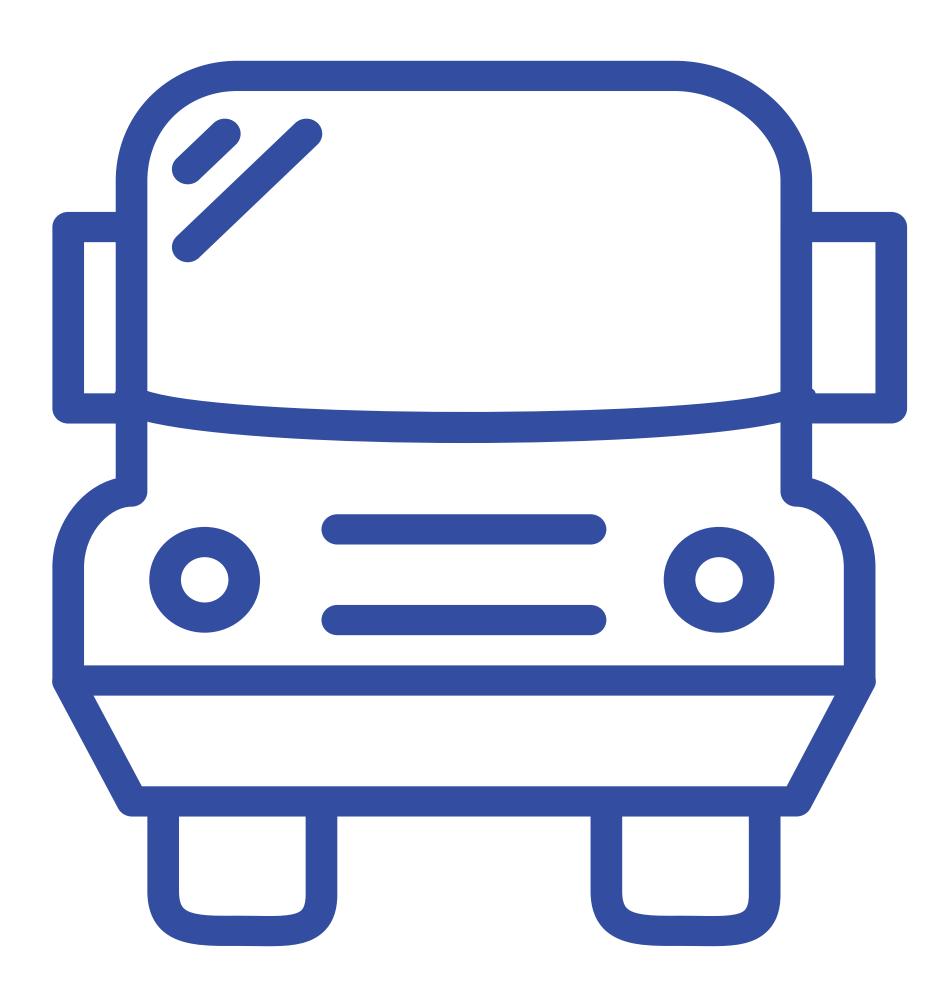
More than half of senior drivers thought that seniors in their community would prefer to find

out about alternate transportation services through "media" sources (e.g., newspaper, television, radio, internet), with fewer senior drivers identifying sources such as "seniors' 100 50 centres", "family or friends", or "other" sources as Percent a preference (see graph to the left). Family / Friends Seniors' Centres Media Sources Mail

18

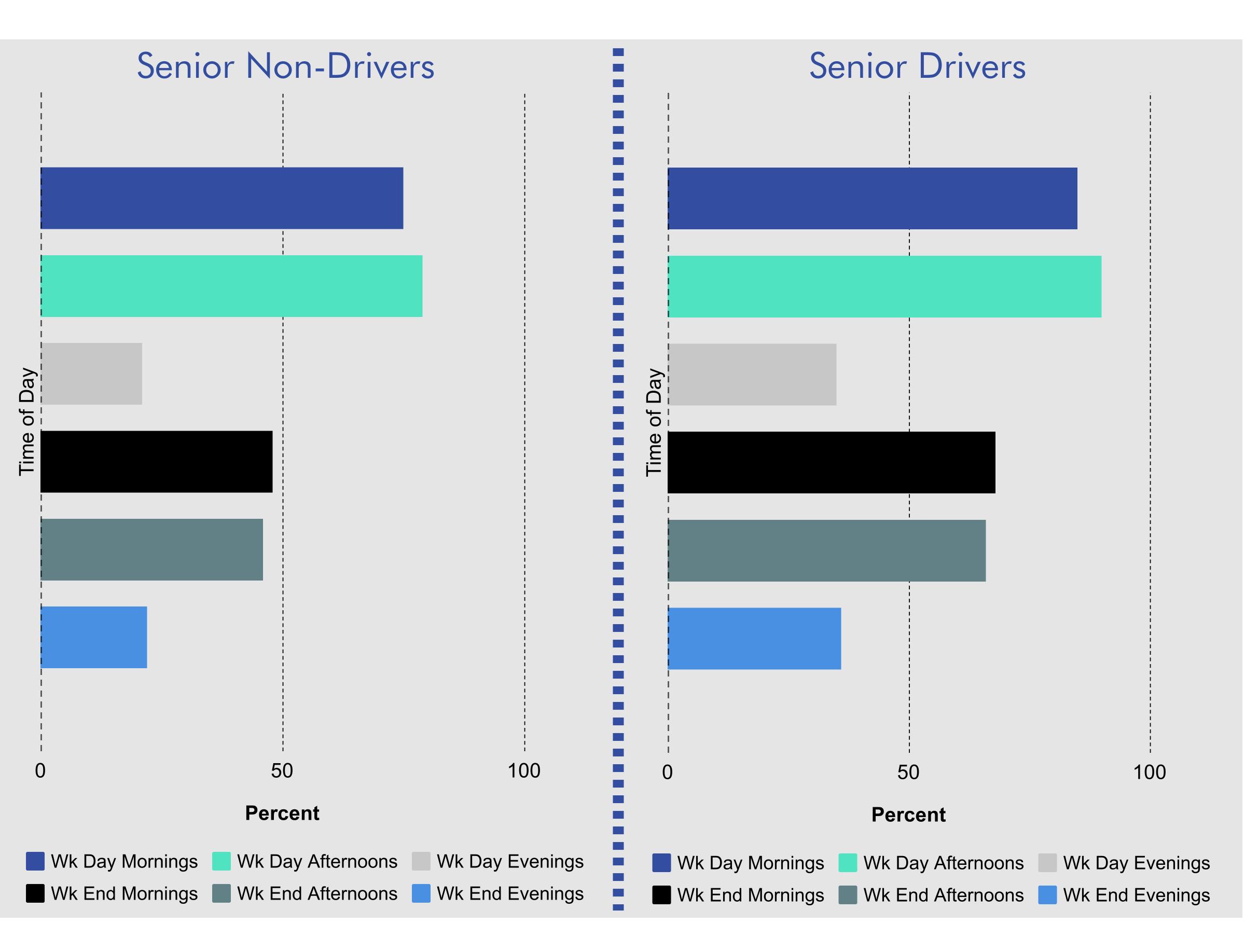
5 A's of 'Senior Friendly' Transportation

The 5 A's	Description					
Availability	Refers to transportation services that are provided and those services are available when needed (e.g., days, evenings; weekdays, weekends).					
Acceptability	Refers to transportation in which service quality is acceptable in terms of advance scheduling; vehicles are clean and well-maintained; service providers provide driver 'sensitivity to seniors' training.					
Accessibility	Refers to transportation in which the service provider provides 'door-to-door' and 'door-through-door' transportation; provides transportation to essential and non-essential activities.					
Adaptability	Refers to transportation that can accommodate riders wanting to make multiple stops (trip chaining); service providers allow for different types of routes (fixed vs. user response) and passenger service (single vs. group); service providers can accommodate wheelchairs and walkers; escorts can be provided.					
Affordability	Relates to the cost of transportation and transportation that is affordable (e.g., uses volunteer drivers to reduce costs, vouchers, or coupons available, etc.).					



Availability

Time of Day that Alternate Transportation Services Should be Available



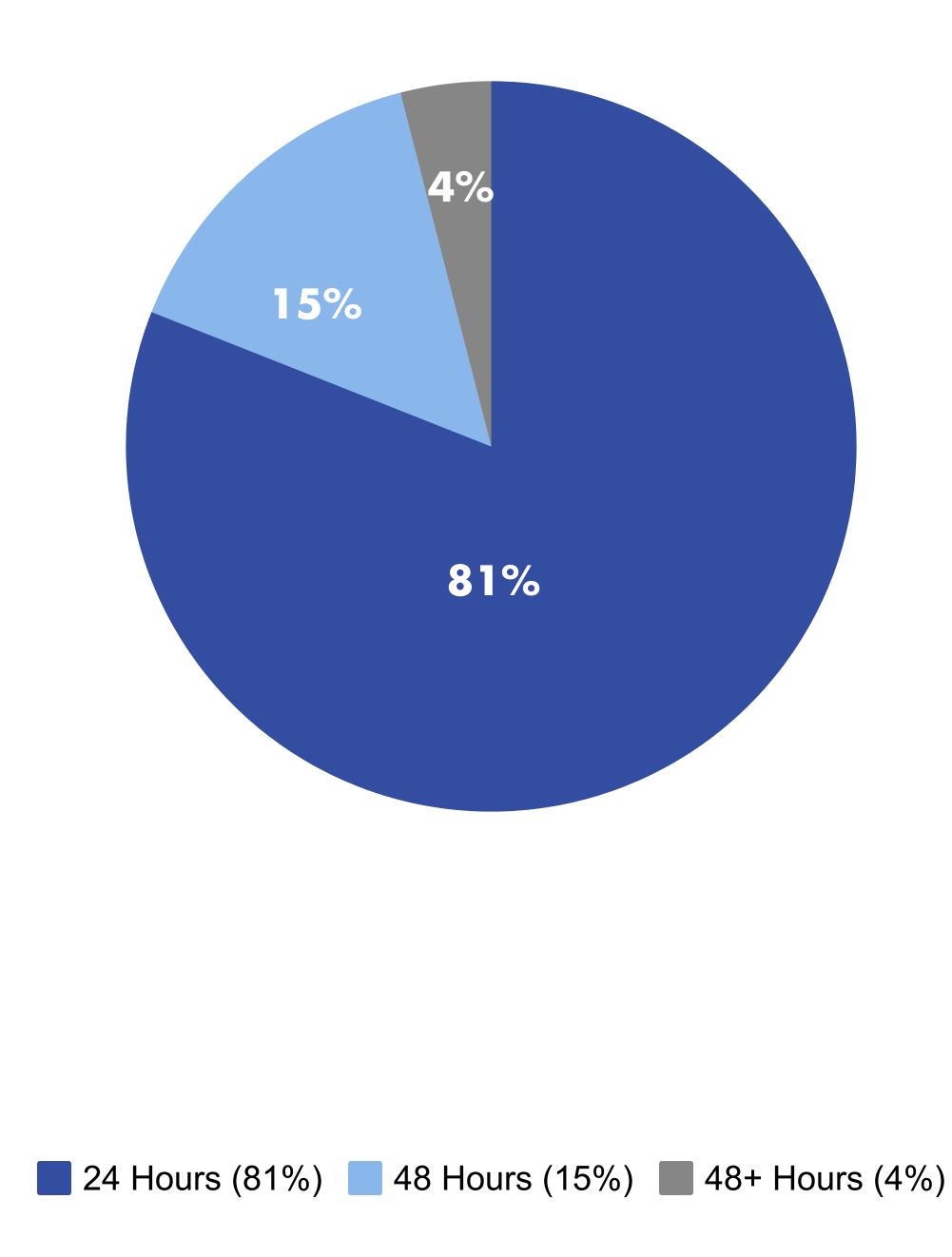
When asked what time of day that alternate transportation services should be available, senior non-drivers identified weekday mornings and afternoons (75% and 89%, respectively), followed by weekend mornings and afternoons (48% and 46%, respectively) (see graph above to the left). Less than one-quarter of the senior non-drivers identified evenings (weekday and weekend) as a time period that these types of services should be available. A similar pattern was evident for senior drivers although the percent for senior drivers for each time period was higher as compared to senior non-drivers (see graph above to the right).

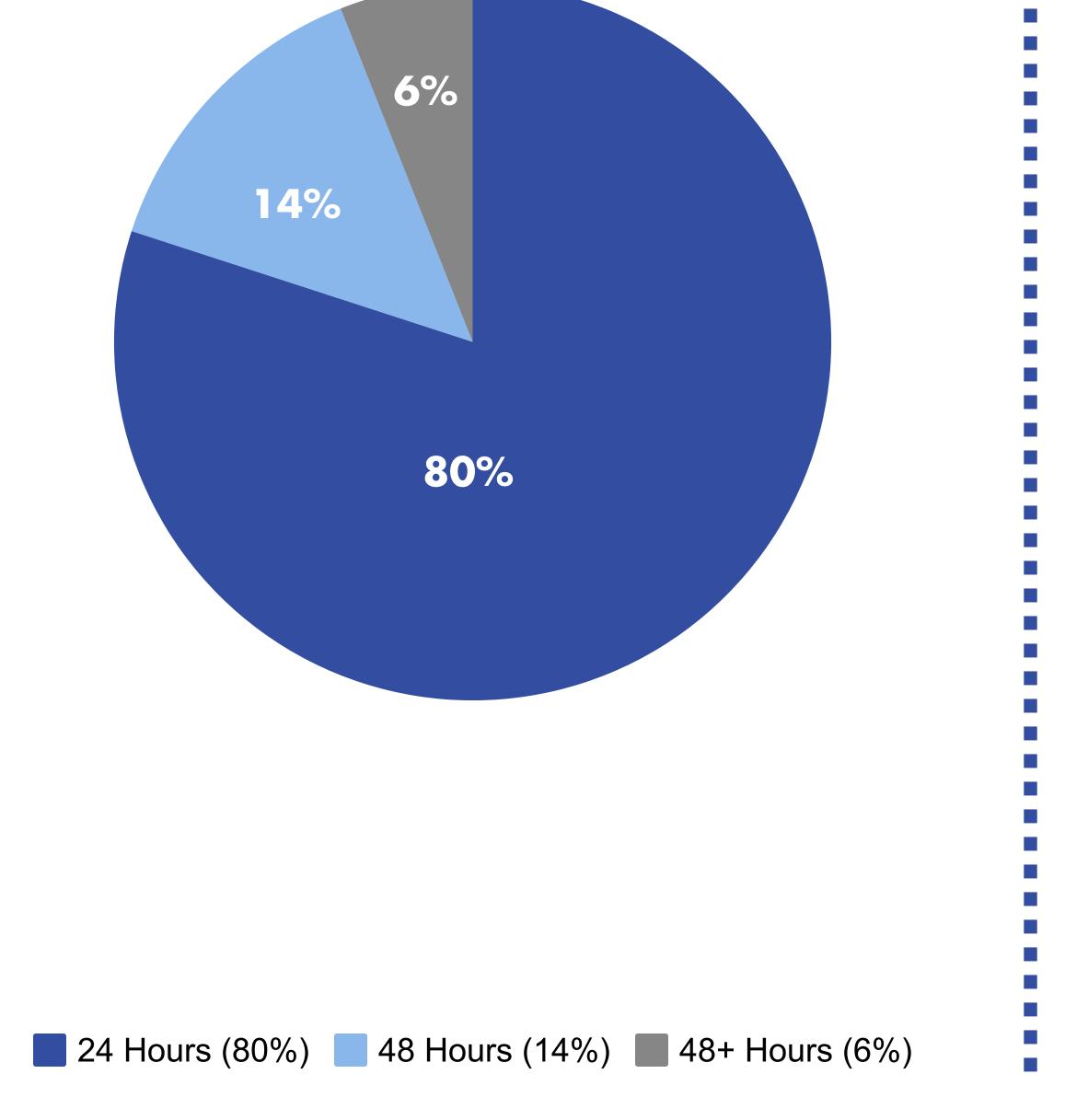
Acceptability

Booking a Ride in Advance

Senior Non-Drivers

Senior Drivers





When asked about booking a ride for alternate transportation services, about 80% of senior nondrivers and senior drivers thought that it was "somewhat or very reasonable" to be able to book 24 hours in advance. On the other hand, few senior non-drivers (20%) and senior drivers (19%) thought that having to book a ride 48 hours or greater in advance was "somewhat or very reasonable".

Acceptability

Booking a Trip Online

VS.



of senior non-drivers said that they would be "somewhat or very likely" to book trips online for alternate transportation services.

29%

of senior drivers said that they thought that seniors would be "somewhat or very likely" to book trips online for alternate transportation services.

61%

Driver Knowledge related to Seniors' Health/Mobility Issues

>85%

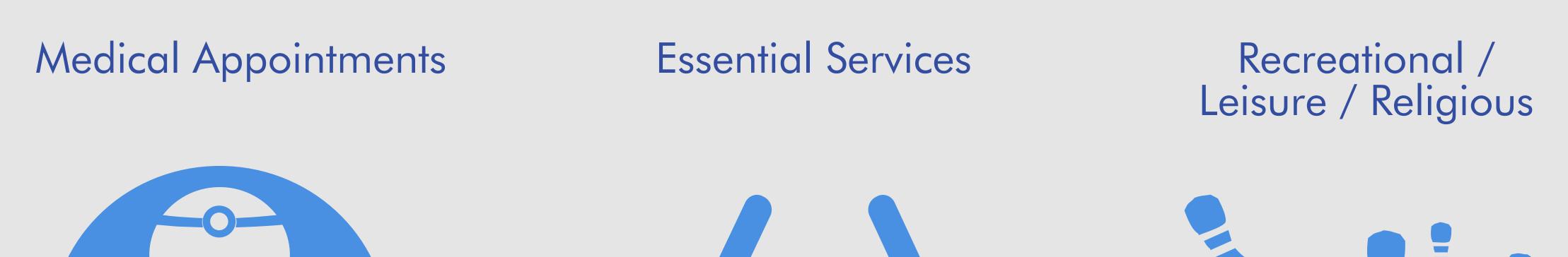
Almost all senior non-drivers and senior drivers said that it was "somewhat or very important" for alternate transportation service provider drivers to be knowledgeable about health issues related to seniors (e.g., senior clientele may need assistance getting in and out of the vehicle, may need more time in



getting from "A" to "B", etc.).

Accessibility

Importance of Having Alternate Transportation Services for Different Trip Types

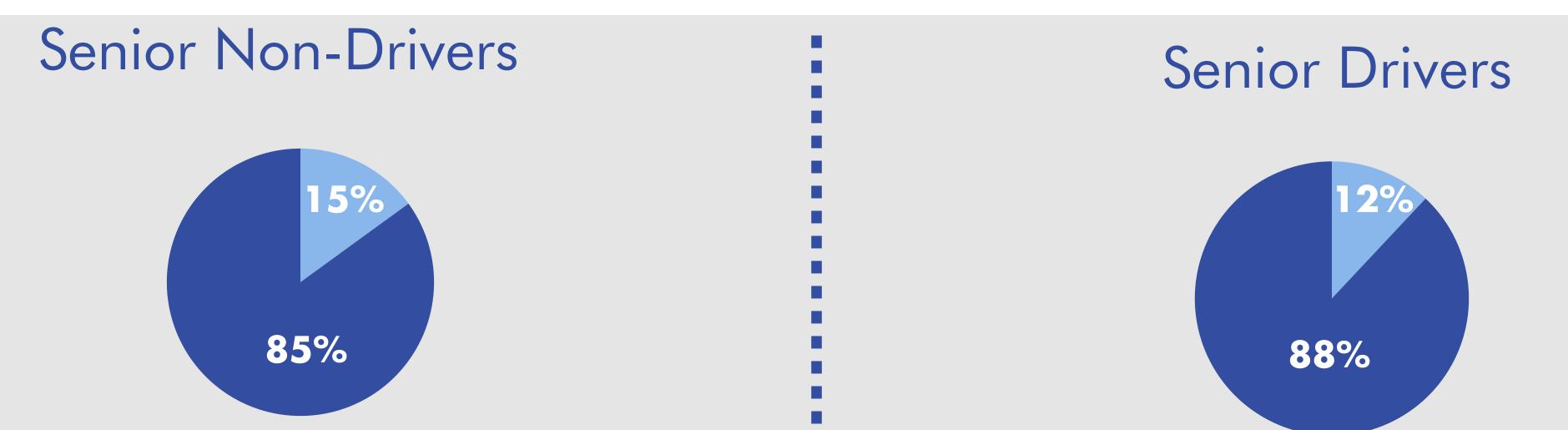


Senior Non-	Senior	Senior Non-	Senior	Senior Non-	Senior
Drivers	Drivers	Drivers	Drivers	Drivers	Drivers
93%	98%	85%	97%	72%	91%
Somewhat / Very		Somewhat / Very		Somewhat / Very	
Important		Important		Important	

When asked about how important is it to have alternate transportation services available in the community for medical appointments (e.g., doctor's appointments, diagnostic testing, other medical procedures, etc.), for essential services such as grocery shopping or banking, and for recreational/leisure activities such as bingo or socializing with friends, visits with family and/or friends, or religious activities, you can see that having alternate transportation services for each of these trip types was rated as being "somewhat or very important" by the vast majority of both senior non-drivers and senior drivers.

Adaptability

Importance of Alternate Transportation Services that Allow for Multiple Stops

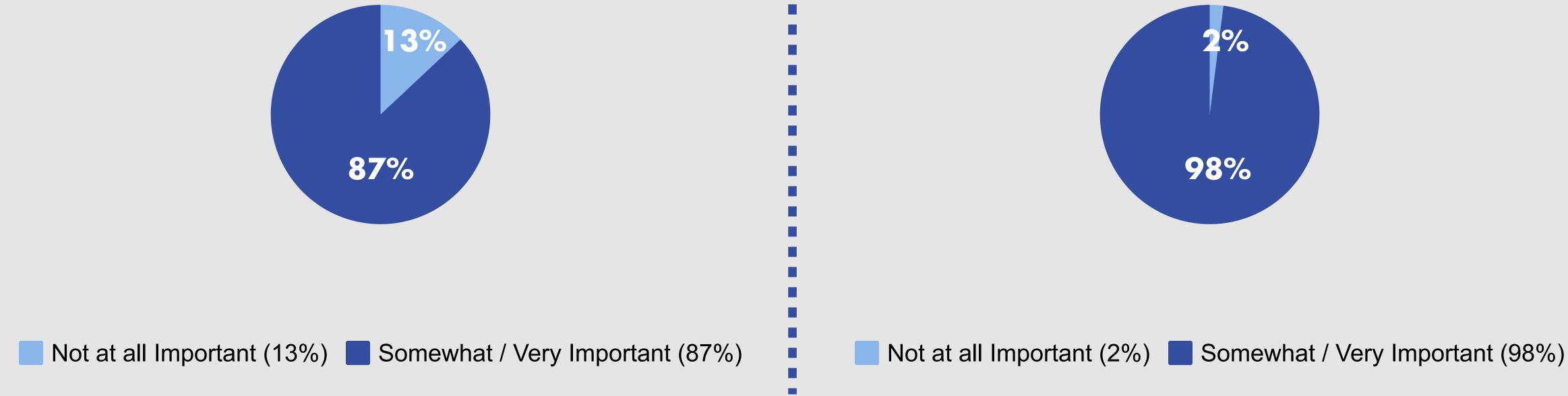


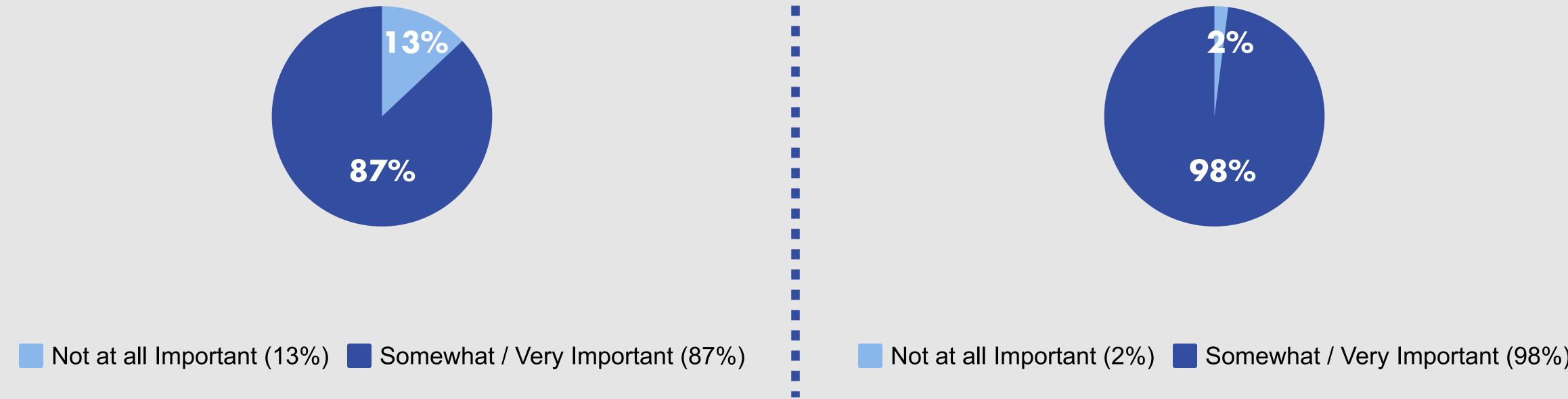
When asked about the importance of alternate transportation services that allow for multiple stops (e.g., stopping at the bank and then the grocery store on the way home from a medical appointment), you can see in the graphs above that both senior non-drivers and senior drivers rated this feature as being "somewhat or very important" (85% and 88% of senior non-drivers and senior drivers, respectively). This same pattern was evident when asked about transportation services that can accommodate wheelchairs and/or scooters (see graphs below).

> Importance of Alternate Transportation Services that Accommodate Wheelchairs and/or Scooters

Senior Non-Drivers

Senior Drivers





Affordability

Senior Non-Drivers

How much can you AFFORD to pay for a oneway ride of ~30km?

\$13.18

How much are you WILLING to pay for a oneway ride of ~30km?

\$14.23



Senior Drivers

How much can seniors AFFORD to pay for a oneway ride of ~30km? How much are seniors WILLING to pay for a oneway ride of ~30km?

\$14.43

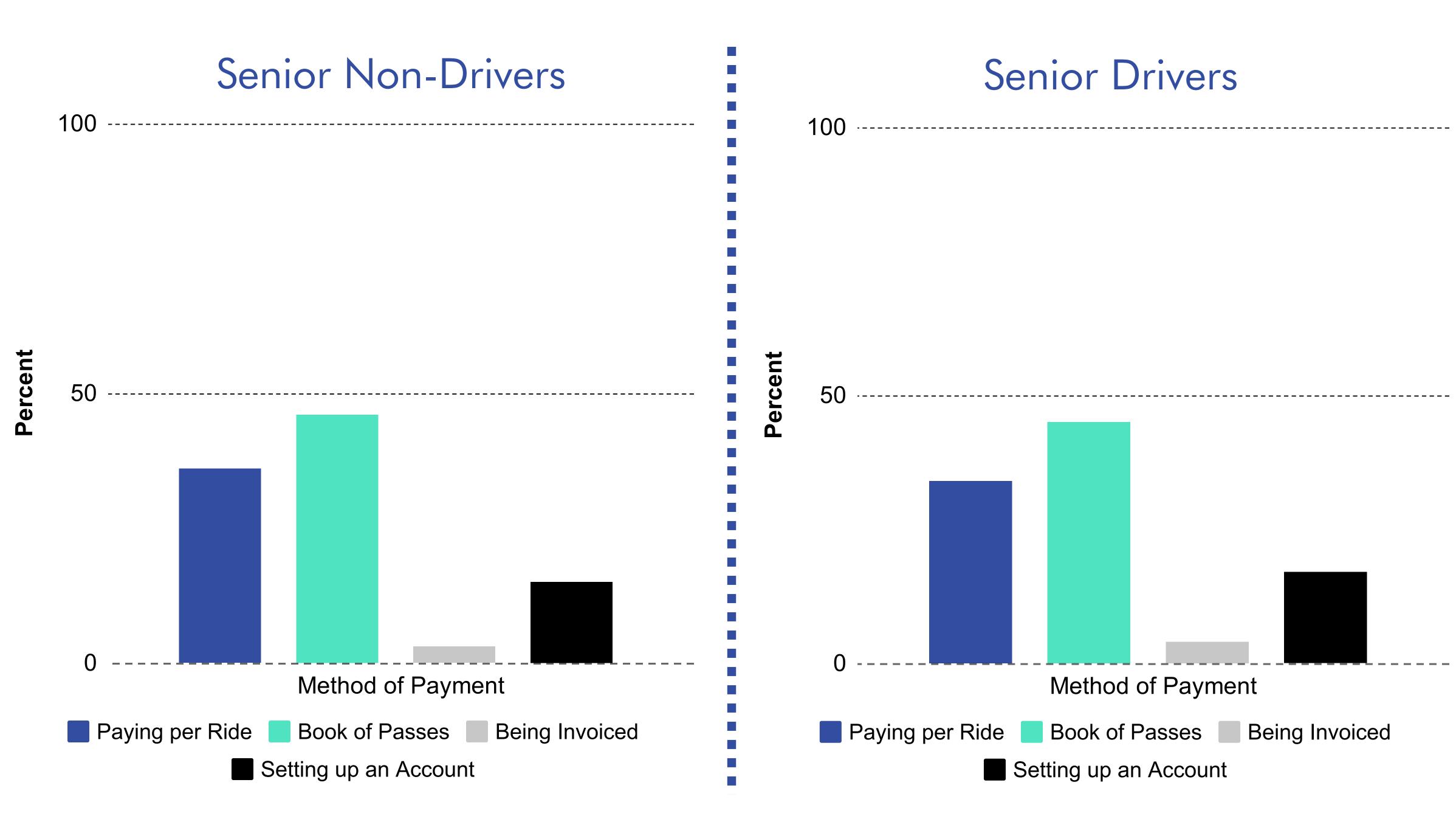
\$13.51

When asked about the cost of alternate transportation services, senior non-drivers indicated that they could afford to pay about \$13.00 for a one-way ride of approximately 20 miles (\sim 30 km) but were willing to pay about \$14.00 for a one-way ride of the same distance. For senior drivers, they thought that seniors in the community could afford to pay about \$14.50 but would be willing to pay about \$13.50 for a ride of the same distance.



Affordability

Preferred Method of Payment



When asked about the preferred method of payment, 46% of senior non-drivers indicated that they would prefer purchasing a "book of passes" for alternate transportation services, followed by "paying per ride" (36%) (see graph above to the left). A similar pattern was evident for senior drivers (see graph above to the right). Few senior non-drivers and senior drivers chose "being invoiced" or "setting up an account"

with the service provider as a preferred method of payment for these types of services.

SECTION 5: SUMMARY

EDMONTON ZONE

Using the Results to Make a Difference in the Lives of Seniors

Over the next several decades, the number of individuals 65 years of age and older in Alberta is projected to double. The availability of transportation services for seniors outside of 'public transit' is important given the aging of the population and the associated increases in dependency on alternate forms of transportation service with age. There now is ample evidence that a number of characteristics affect the transportation mobility of seniors in our communities. For example, older females are more likely to be transportation dependent than are their same-aged male counterparts. Older individuals who live alone and those with lower household incomes are more likely to be transportation disadvantaged. Where you live also affects transportation mobility in that, in general, seniors living in rural areas are more likely to be transportation dependent (and more likely to have unmet transportation needs) than their urban counterparts. Health status and disability also are important factors influencing transportation mobility, with poor health status and the presence of a disability associated with transportation dependency and unmet transportation needs.

As our population ages, the need for alternate transportation services for seniors in both rural and urban areas will continue to increase. Currently, there are about 200 alternate transportation service providers in Alberta, providing service to more than 150 of our communities (see www.mard.ualberta.ca). Because of these service providers, many seniors in our province are able to get to medical appointments, shop for groceries, and attend social activities in their community. But, almost three-quarters (3 out of 4) of the 739 communities in Alberta are without transportation services for seniors. And, seniors living in rural communities are particularly disadvantaged when it comes to alternate forms of transportation.

The availability of responsive forms of alternate transportation for seniors in communities across Alberta means that seniors will be able to 'age in place'. It also means that many seniors will be able to continue to contribute to their community through their volunteer work or serving as role models and mentors. But, developing these services is difficult. What is the need? Who will use the service? What types of trips are needed? What days and what times should the service be available? How do seniors want to pay? How much can they pay? The results presented in this report provide answers to many of the questions that communities face when starting up a transportation service for seniors or when improving existing services.

We also encourage you to access our Transportation Toolkit. This Toolkit consists of 6 sections - the first 3 sections of the Toolkit help to build the foundation of an alternate transportation service, with the last 3 sections devoted to launching and building the sustainability of the service. The Toolkit is available at no charge and can be accessed online at www.mard.ualberta.ca. Or, for a hard copy, email us at mard@ualberta.ca.

If you have questions about the results or wish to discuss how your community can best use the results to improve alternate transportation for seniors, please call or email us.

CONTACT INFORMATION

EDMONTON ZONE

Citation

Dobbs, B. M., Pidborochynski, T., & Hussey, E. (2017). Alberta Provincial Transportation Needs Assessment -Edmonton Zone. Edmonton, AB: University of Alberta.

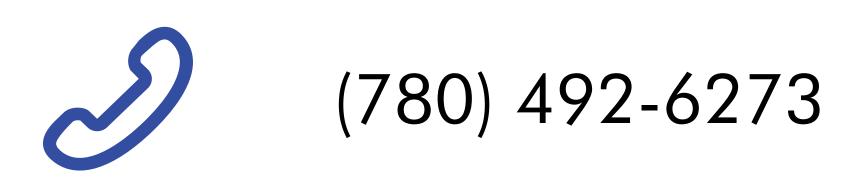
Bonnie M. Dobbs, PhD

Tara Pidborochynski, MSc

Emily Hussey, BSc

Department of Family Medicine

University of Alberta





mard@ualberta.ca



www.mard.ualberta.ca

