



Resource toolkit for supporting mature drivers in the community:

Promoting safety, independence and well-being





ABOUT THE TRANSPORTATION OPTIONS NETWORK FOR SENIORS

The Transportation Options Network for Seniors (TONS) is a community coalition of multi-sectoral stakeholders involved in ensuring that seniors in Winnipeg can access affordable, accessible and appropriate transportation when they need it. The coalition was formed in 2000 in response to the serious difficulties experienced by older adults in accessing mobility resources. TONS formerly operated under the name Seniors Transportation Working Group. TONS currently focuses upon public transportation, rural transportation and private transportation.



ABOUT THE INSTITUTE OF URBAN STUDIES

Founded in 1969 by the University of Winnipeg, the Institute of Urban Studies (IUS) was created at a time when the city's "urban university" recognized a need to address the problems and concerns of the inner city. From the outset, IUS has been both an educational and an applied research centre. The Institute has remained committed to examining urban development issues in a broad, non-partisan context and has never lost sight of the demands of applied research aimed at practical, often novel, solutions to urban problems and issues.



PREFACE

To our dedicated Senior Resource Councils across Manitoba:

For over a decade, you have played an invaluable and unique role in the dissemination of information and provision of support for mature drivers in the community. In June of 2000, the South Winnipeg Seniors Resource Council gathered peers to raise awareness of transportation-related challenges faced by older adults. The outcome of this event was the Winnipeg Seniors Transportation Working Group. From its grassroots beginnings, the group has since expanded into the Transportation Options Network for Seniors (TONS), a coalition of stakeholders devoted to advancing the mobility needs of older adults in Manitoba.

More recently, TONS has focused its efforts upon the area of driver safety - a sensitive and difficult issue for numerous individuals and families in our communities. Often considered the “go-to” people on transportation options for older adults, senior resource coordinators have expressed a need for practical tools to use with their clients. As older drivers strive to stay safe on the road, transition to alternate methods of transportation or ‘give up the keys,’ there are numerous resources which can provide assistance, support, and confidence to help seniors maintain independence and well-being.

With the support of the Public Health Agency of Canada, this toolkit was developed by the Institute of Urban Studies at the University of Winnipeg (IUS) and TONS primarily to address the gap in resources identified by senior resource coordinators. The toolkit is intended to expand opportunities for senior resource coordinators to provide support to aging drivers and their families/loved ones. The toolkit is a starting point for TONS in the assembling, dissemination and coordination of resources within the community. The engagement of other actors in the community will be part of a more comprehensive, long-term strategy to be developed by TONS.

TONS acknowledges the importance of collaborating with Seniors Resource Councils in order to achieve the necessary impacts now and in the future. None of this would be possible were it not for the dedication of senior resource coordinators across the province. As such, we thank you for your hard work with elders in our communities and hope that you’ll provide feedback to help us make improvements!

Linda Rigaux
Chair, Transportation Options Network for Seniors





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INTRODUCTION

This toolkit is a comprehensive document that will open readers up to the wealth of resources and opportunities available to mature drivers, their families/loved ones, health professionals and community members. With the understanding that senior resource coordinators have a range of knowledge and experience in this area, the information presented here intends to support both newcomers and veterans alike. This hands-on tool will help to demystify the process of providing support to mature drivers in your community.

Composed of four parts, the toolkit can be navigated as follows:

- Part one provides a snapshot of the needs of mature drivers in the community and directs readers to which resources can be useful for various circumstances, specifically through the role of a senior resource coordinator
- Part two is a detailed description of the challenges faced by older drivers, specifically issues, risks and decisions.
- Part three informs of the various resources that have been developed to support the needs of older drivers. This includes developing an understanding of the intended audiences, the formats and objectives of each, as well as which resources are most recommended.

- Part four is a one-of-a-kind compendium of resources for addressing the needs of aging drivers. This guide provides a listing, description, and links for more than sixty resources. In addition to the links, it also includes digital copies of the resources on a CD.

We hope that the toolkit provides you with something new to share with your clients, peers, families and members of the community!



Part one

Providing support to mature drivers in the community:
Identifying needs and resources



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1.0 Indicators of driving longevity

A sensitive issue for many, the relationship between aging and driving is largely misunderstood. Ability to drive does not necessarily decline with age. There are actually many indicators that influence driving ability, including health and abilities of individuals, their awareness and agency, as well as their access to resources and social supports.

These are multiple and described in detail in the following sections but presented in an abbreviated format in the table below. Therefore, a person's *ability to understand, and respond, to declines in ability* is what determines their longevity as a driver.

Health and abilities	Awareness and agency	Resources and social support
<ul style="list-style-type: none"> • Effects of cognitive decline • Range of vision-related impacts • Prevalence of use, and impact of, medications and other common substances • Changes to physical ability such as reduced flexibility and reaction time • Acute health crises such as stroke • Chronic health issues such as diabetes • Degenerative health conditions such as macular degeneration and dementia 	<ul style="list-style-type: none"> • Monitoring driving abilities & changes to skills • Learning of opportunities for support & adaptations • Accepting assistance from loved ones (or other preferred professionals) with self-assessment and alternatives to driving • Regulating driving and proper use of medications and common substances • Value of self-assessment and professional evaluation • Benefits and risks of restricted driving • Prolongation of safe driving through vehicular adaptations • Awareness of processes that lead to prolonged driving or loss of license • Adapting to changes through behavioural and vehicular modifications • Developing confidence with using alternative methods of transportation • Adopting self-guidance, control and positive attitude 	<p>Availability of programs and tools</p> <ul style="list-style-type: none"> • Access to evaluation and assessment options that help drivers to make decisions about safety, monitoring, transitioning and retirement • Active and ongoing engagement in driver safety education through refresher courses, discussion groups, etc. • Mobility counselling which considers an individual's needs • Options for travel-training in usage of public transportation, taxis, volunteer rides, etc. • Established systems of support such as discussion groups <p>Understanding from the community:</p> <ul style="list-style-type: none"> • Awareness of aging and driving • Support from family, friends, loved ones, caregivers, health professionals, etc. in taking steps to address issues effecting driving, whether preventive or of an urgent matter • Assurances and commitments of ongoing and responsive assistance



2.0 Identifying opportunities for support: Areas of need and risk

Addressing the needs of mature drivers should not be approached with the assumption that driving cessation is a certain outcome. Instead, support for mature drivers ought to strive to improve safety, maintain independence and foster well-being. Although this requires the collaboration of several parties, senior resource coordinators are often approached for information on where to start and what to do. As a starting point, the resource needs of drivers can be assessed by considering their personal circumstances and current abilities.

2.1 *Four areas of need: awareness, agency, resources and support*

Founded in the understanding that there are numerous determinants of driving longevity, the following statements broadly define the needs of mature drivers. Ultimately, these require collaboration, coordination and input from many parties. However, senior resource coordinators can contribute as part of the solution to this complex issue by focusing upon activities that promote these four areas.

1. Awareness

Older adults deserve to be fully informed and develop an understanding of the challenges created by the process of aging which can impact driving safety and ability; as well as of the processes, benefits and outcomes of assessment and evaluation.

2. Agency

Older adults ought to be in control of driving-decisions while they are cognitively able through encouragement to plan ahead for changes to driving behaviours; and by accepting assistance with self-assessment and alternatives if ever necessary.

3. Resources

Older drivers need resources and programs in order to make wise decisions and feel confident throughout their phases of mobility, including prolonging their safe driving years, transitioning to alternate methods of transportation and coping with the emotional and social impacts of driving retirement.

4. Support


Older adults deserve support from their family, friends and community to know that they are not alone as they endeavour to address changes in their driving and to be sure that they'll have options for getting out of their home following cessation of driving.



2.2 Two priority areas: Risk reduction and prevention & planning

Drivers generally fall into two categories of need for assistance. This is determined by the levels of risk that they pose to themselves and to the community. The first area of priority describes the needs of those most at-risk who require interventions to reduce potential for harm. The second area of priority encompasses the population of mature drivers that are not currently experiencing elevated risks of harm but who could benefit from opportunities to increase their driving longevity. The following table summarizes important information about who falls into each group and what could be done to support them.

Description	Priority area one: Risk reduction	Priority area two: Prevention and planning
Objective	Addressing the immediate needs of seniors/families currently experiencing challenges with driving and safety	Prevention amongst aging drivers not yet experiencing difficulties through safely prolonging driving, and planning for transition
Engagement	Pertains to a narrower audience of persons requiring help now	Speaks to able drivers for whom aging and health have not impacted ability
Issues	This group is experiencing diminished or impaired driving ability due largely to health conditions or advanced effects of aging	This group would do well to consider maintaining and sharpening their skills for as long as possible, to be aware of warning signs of diminished health and driving, and to plan for transitioning away from driving if and when it becomes necessary
Goals	Professional assistance with assessment, monitoring, adaptation and retirement from driving. As well, education, materials, resources, social/emotional support, access to alternative transportation options	Education, materials, resources for monitoring changes, access to alternative transportation options



Priority area one: Addressing the immediate needs of seniors/families currently experiencing challenges with driving and safety

There are three important distinctions to be made amongst mature drivers in this category. The first is that degenerative cognitive declines create changes to driving ability which are irreversible. As such, addressing the needs of these drivers does require assistance in the direction of driving retirement. The second is that other changes of a degenerative nature, such as impacts to vision, can be adapted for (for some time). However, these must be addressed so that vehicular and behavioural adjustments can be made towards safety. The third is that mature drivers without a support system are most at-risk of deleterious effects to unsafe driving. Efforts are necessary to ensure that these drivers are aware of opportunities for adaptation, assistance and alternative methods of transportation.

1. Degenerative health conditions such as dementia, Parkinson's and Macular Degeneration are cause for concern with respect to driving and safety because declines to functioning are irreversible. As a result, those afflicted cannot use education, training or self-restriction to improve driving. Rather, careful monitoring and consultation with medical professionals can only prolong ability until voluntary or medical removal of a driver's license is necessary. Depending on the extent of declines at the time that they are assessed, the drivers and/or their families need to be informed about, and supported through, transitioning to alternative methods of transportation.

For example, according to the Health Sciences Centre's (Disabled) Driver Assessment Management Program (DAMP), cognitive declines linked to dementia are the primary medical reason that people lose their license in Manitoba. The prevalence of this issue is reflected in the volume of materials that focus on Alzheimer's/dementia and driving. Assessments, conversation guides and family-assisted rides are resources that can be used to address the issues.

2. The volume of older adults using medications and the lack of awareness of effects of substance use upon driving is a public hazard. In addition, the mismanagement of these drugs or misuse of alcohol when paired with driving can have deleterious impacts. It can only be inferred that many older drivers are unknowingly effected.

If drivers were equipped with proper information and resources about the impact of medications on body chemistry as the body ages, they would be able to make wise decisions about usage. Doctors, nurses and pharmacists are ideal sources of knowledge on the matter but in the absence of this advice there are good informational brochures and guides that offer tips. Further, alternate methods of transportation may be necessary when undergoing treatments – whether of a temporary or permanent nature.

3. Monitoring the effects of various chronic or serious health conditions which can seriously impact driving (such as diabetes, seizures, cataracts, glaucoma and sleep apnea)




is an essential component of assisting older drivers. Health care professionals can offer regular check-ups or evaluations to ensure that mobility and motor skills are not compromised beyond ability to drive safely. Families, caregivers and neighbours can offer assistance with regular check-ins and remind drivers that they care to help them maintain mobile.

4. Physical rehabilitation or mechanical adaptations may be necessary to compensate for changes to physical ability. Persons experiencing mechanical difficulties or recovering from stroke(s), can generally be assisted, and their driving improved, through the use of adaptive devices. This, however, requires consultation with a physician for referral to an evaluation, assessment and then adaptation. Older drivers need to know that these options exist, are available to them, where to go for help, the associated costs, and confidence that they are not at risk of losing their license if they pursue this opportunity.
5. The most at-risk drivers and/or their families/loved ones need to be aware that there are others experiencing difficulties similar to their own and that there are resources available to assist them with these challenges, especially those living alone or without assistance. Awareness-raising campaigns can reach the audiences of older drivers, families, and the general public. The promotion and availability of resources offers pathways to solutions for an otherwise lonely and difficult challenge.

Priority area one: Addressing the immediate needs of seniors/families currently experiencing challenges with driving and safety

Issue requiring intervention	Objectives of activities needed to assist drivers	Resources needed to assist drivers	Role of participants needed to assist drivers
Degenerative health conditions	Decision making about driver status, assistance with transition and/or retirement	Assessments, conversation guides, transportation planning worksheets, family-assisted or volunteer rides, outlets for emotions	Medical and professional advice, assistance/support from loved ones, information and transportation planning
Medication and alcohol usage	Patient education	Assurance that medications are prescribed and dispensed with appropriate information, possibly alternate methods of transportation	Advising from doctors, nurses, pharmacists
Chronic or serious health conditions	Monitoring of changes to ability	Regular check-ups, assessments, support, alternate methods of transportation	Medical and professional advice, assistance/support from loved ones, information and transportation planning
Changes to physical ability	Assessment, physical rehabilitation and/or implementation of adaptive devices	Demystification of process, awareness of options, where to go for help, associated costs, alternate methods of transportation	Medical and professional advice, assistance/support from loved ones, information and transportation planning
Lack of awareness amongst most at-risk drivers and their families/loved ones	Information and support	Informational materials and knowledgeable point-person in the community to assist with navigation of “transition/retirement” options	Counselling older drivers and/or their families/loved ones on a personal level about issues, assessment, transition, options, etc



Priority area two: Prevention amongst aging drivers not yet experiencing difficulties through safely prolonging driving, and planning for transition

In recent years, there has been a push for prevention and risk reduction through education and training. Numerous resources have been developed to help older drivers extend their driving years safely. This priority area encompasses opportunities for improved safety available to all drivers, but particularly useful for mature drivers. Therefore, drivers in the community of all ages can benefit from the following activities and resources:

1. Driver comfort and safety can be ensured through proper fitting and regular maintenance of their vehicle. Guidelines and suggestions for this are widely available. Brochures and online tips are helpful.
2. Driving skills can be maintained. Refresher courses, education sessions, and self-restricted driving tips are of some of the strategies employed for this purpose.
3. Driving acuity can be improved. Practice provided by driver training, reaction times improved by physical fitness and specialized software programs can help.
4. Driving ability can be monitored through evaluation such as self-assessment and/or consultation with health professionals such as physicians, occupational therapists or specialists. If drivers can get a sense of their baseline ability, it is possible to make adjustments to driving habits and to monitor changes over time.
5. Knowing the warning signs and impacts of various medical conditions common in the aging population as they relate to driving. For example, navigating through the sudden onset of stroke or identifying the tremors of Parkinson's may be possible with education and training.
6. Developing comfort with conversations about transportation needs and options with peers, loved ones and relevant professionals can reduce the personal burden upon mental health as changes ensue. Conversation guides, online discussions/forums, workshops, and theatrical productions encourage group discussion and connect individuals to peers.
7. The impact of retiring from driving can be reduced through preparation, planning, and training for use of alternative methods of transportation. Diversifying a person's transportation options 'toolkit' can help deliver a sense of options and diversifying this 'portfolio' can pay dividends upon retirement from driving.

Priority area two: Prevention amongst aging drivers not yet experiencing difficulties through safely prolonging driving, and planning for transition

Issues requiring intervention	Resources needed to assist drivers	Objectives of activities needed to assist drivers	Role of participants needed to assist drivers
Inadequate vehicular fitness	Brochures, guides, consultant to assist	Proper fit and regular maintenance	<ul style="list-style-type: none"> • Informed stakeholders and agencies to spearhead programs • Trained adult educators or peer speakers to deliver information sessions • Trained instructors for in-vehicle education • Hosting sites for dissemination of materials • Trained advisors to inform older adults of transportation options
Driving skills can decline if not maintained	Refresher courses, education sessions, and self-restricted driving tips and hands-on training	Revision of driving rules and practices, considerations to maintain health	
Drivers do not seek to improve habits	Driver training, focus on physical fitness, specialized software programs	Improved acuity through speedier reaction times and adherence to road rules	
Driving abilities change over time	Evaluation such as self-assessment and/or consultation with health professionals, materials for tracking changes	Monitoring of health and changes to driving ability over time, especially as related to illness and/or medications	
Sudden onset of health crises	Education and practice	Navigate through an emergency such as a stroke or tremor	
Planning for driving retirement is taboo	Conversation guides, online discussions/forums, workshops, and theatrical productions encourage group discussion and connect individuals to peers	Increase awareness and comfort with the concepts of prolonged driving and the importance of driving retirement	
Retirement from driving can be a traumatic life event	Resources and materials for preparation, planning, and training for use of alternative methods of transportation	Reduce the impact of retirement from driving by developing familiarity with options and alternatives	
‘Transportation Options Toolkit’ is necessary for navigating the alternatives	Guide, travel planning counsellor	Ease the impact of transitioning to alternate methods of transportation by allowing drivers to plan their options	



3.0 Connecting mature drivers with useful resources

The most useful support that can be provided to mature drivers is guidance through usage of tools at appropriate times. The goals of drivers and helpers alike ought to be to:

- Know how to identify declines early so that appropriate interventions can be made
- Plan for changes, if possible, while still cognitively/physically able to do so
- Adapt behaviours and make modifications in consideration of physical changes
- Use cognitive training methods to maintain/sharpen driving abilities through aging

Not intended to replace medical advice, the role of a senior resource coordinator is to provide assistance to mature drivers as part of supportive team of health professionals, educators and family/friends/caregivers. In this role, resource coordinators can help members of the community to identify where a person sits along the spectrum of health, mobility and independence. This can assist in gauging the support needs of that individual and resources to be recommended based on circumstances/levels of risk. *Driving transitions education: Tools, scripts and practice exercises* is strongly recommended to senior resource coordinators as the most comprehensive manual for developing the background and skills required for effective conversations about driver safety.

3.1 Identifying driver's level of risk and need

This toolkit equips resource coordinators with opportunities for prevention, education and planning. Broadly, this could also include helping someone to drive safely by getting a proper assessment and making important adjustments, to transition away from dependence on their personal automobile through use of resource options, to arrange alternate methods of transportation is necessary and to connect with a support network. As a first step, it is important to gather information about a mature driver's personal circumstances (health & abilities, awareness and social support) so as to identify which priority area they fall into. This will help to determine the types of interventions necessary, as well as the resources, objectives and limitations of support that can be offered. The following questions may help to gather a sense of where to begin.

Health and abilities

If a driver is not experiencing cognitive declines, there are still opportunities for improving safety.

- Does the driver seem to be at a point where they could potentially benefit from interventions to continue driving?
- Is this intervention being done as a preventive measure when the driver is still fully able or are they experiencing declines?
- How are the driver's abilities declining?
- Are they experiencing chronic health conditions that impact driving?
- Are they taking medications or using other substances that could influence their ability to drive?
- Would they benefit from or do they require a formal assessment?



Awareness

Get a sense of each driver's personal knowledge and ability to gauge their driving.

- Are they aware of how to monitor their medications and modify their driving when under the influence of these substances?
- Are they self-restricting their driving in any way?
- Do you suspect or do you know if the driver has been involved in any accidents or collisions?
- Do they have friends/family that have given up or lost their license?
- Do they understand the opportunities provided by a formal assessment?
- Are they fearful of losing their license?
- Do they have a sense of how to access or use alternate methods of transportation?

Social support

As it is the preference of older drivers to have assistance from familiar individuals, especially those most trusted and closest to them, it is ultimately best to have these people on board with providing assistance. Conversation guides inform as to who should be engaged in the process of helping mature drivers.

- Has the driver expressed a preference for who ought to assist them through driving-related transitions?
- Have you been approached by a family member of a driver, and if so, are they willing to participate in the development of a plan to assist the driver?
- Is the driver isolated (e.g. live alone) or do they have support from family/friends?

3.2 Recommending resources

Use the information gathered through your conversation(s) to locate them into a 'priority group'. Once you have a better understanding of what support they might need, follow the recommendations (resources, objectives, roles) in the tables describing the needs of each priority group. These relevant resources are listed and described in the compendium. The following two sections describe in greater detail the specific issues facing mature drivers and resources available for you to share.



Part two

Challenges faced by mature drivers:
Issues, risks, and decisions



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Introduction

This section answers four main questions that relate to health, safety and decision-making for mature drivers:

- What are the main issues that complicate a person's ability to drive as their health declines?
- Who is most-at-risk of causing or being injured in a vehicular accident as a result of health-related declines?
- What are the three main ways in which people respond to changes in their driving abilities?
- What are the factors that influence driving decisions?

After perusing the information found here, readers will have a better understanding of the challenges, risks and considerations faced by mature drivers as they age.

1.0 What are the main issues that complicate a person's ability to drive as their health declines?

According to recent research, older adults are viewed by persons of all other ages to be the “worst drivers.” Yet, age is not something that can determine a person's ability to drive. The process of aging is however linked to interrelated factors which impact driving ability among older adults. These indicators are a more valid form of identifying the circumstances that will influence changes in driving ability – some of which can be adapted for and some of which are irrecoverable as they deteriorate.

- Health and history of illness such as hypertension or, stroke
- Usage of medications and/or substances
- Changes to physical abilities such as vision, hearing, reaction time and flexibility
- Declining cognition resulting from Alzheimer's or dementia

1.1 Health and history of illness

Studies suggest that while being of older age, poorer health, poorer physical functioning and slower speed of thought are significant factors in driving cessation, declining health in the process of aging is an overarching theme in the research as health and mobility are directly related to personal well-being. Mobility declines can lead to depression, reduced life satisfaction and isolation and loneliness. For example, nondrivers are more likely to be institutionalized in long-term care settings than those who drive. Declining health in the process of aging comprises a broad spectrum of issues that effect the ability to drive including medication usage, physical impairments, declining vision and cognition. Health conditions such as having a stroke may cause paralysis and apraxia (inability to perform learned movements) while dementia effects one's internal “map” and points of reference which can result in weaving in traffic lanes, disorientation and getting lost in familiar places. Some problems, such as declining central vision, may be quite obvious to drivers. Cognitive changes, however, are subtler; their onset reduces the driver's ability to detect loss of function. Declining health in the process of aging occurs over time effecting older drivers at different rates and while many older drivers respond to changes in declining health by self-regulating their driving, not all are aware of age related changes. Research shows that not having a stroke, heart failure and a better self-rating of health led to longer times to

driving cessation; however, those in the “oldest-old” cohort (75 years and older) are at the highest risk of being involved in a fatal crash due to declining health conditions such as fragility of bones and loss of cognitive function.

Table 1. Health conditions related to aging that effect driving

Condition	Effect on Driving
Stroke	<ul style="list-style-type: none"> • Driving suspended
Seizures	<ul style="list-style-type: none"> • Driving suspended until physician confirms seizures are under control
Diabetes	<ul style="list-style-type: none"> • In the short term, diabetes can cause blood glucose (sugar) levels to be too high or too low. As a result, a diabetic can feel sleepy, light-headed, confused, or can even lose consciousness or have a seizure. These cognitive changes compromise driving alertness and ability
Sleep Apnea	<ul style="list-style-type: none"> • Disrupts sleep at night causing daytime drowsiness • Effects alertness when driving. Drivers are prone to falling asleep at the wheel

1.2 Usage of medications and alcohol

Older adults as a group consume more medications and have more chronic conditions than any other portion of the population. Adults over 65 make up 13 percent of the population, but account for 34 percent of all prescription medications and 42 percent of retail prescription expenditures. As medication usage increases with age, there is increased risk of adverse drug effects due to mismanagement of medication (e.g. multiple drugs and dosages, multiple administration times and drug combinations). The process of aging causes changes

to body chemistry in which drugs have stronger effects than when we were younger; therefore, older adults are more susceptible to adverse drug reactions including alcohol due to these physiological changes. Older adults who abuse alcohol or other drugs, or whose medications are not appropriately adjusted, could be unaware of the risks they are taking because their perception of reality may be altered. Furthermore, much of patient’s knowledge about their medication comes from their clinicians; however, few drivers receive warnings about potentially driver-impairing medication, the implications of which create a lack of awareness to potentially unsafe driving behavior.

Medications commonly used by older drivers include anti-arthritics, muscle relaxants, anti-inflammatory drugs, anti-depressants, anti-anxiety agents, beta blockers, and anti-convulsants.

Table 2. Substances and medications commonly used by older adults which effect driving

Drugs/Medications	Effect on Driving
<p>Drugs for anxiety such as Valium, Xanax, Klonapin, Ativan, etc.</p> <p>Drugs for sleep problems such as Halcion, ProSom, Ambien, etc.</p>	<ul style="list-style-type: none"> • Studies suggest that drugs for anxiety or sleep problems increase the risk of traffic accidents. In addition, the interactions between some of these drugs and alcohol can be dangerous
<p>Anti-depressants such as Prozac, Pamelor, Elavil, Zoloft, etc.</p>	<ul style="list-style-type: none"> • Drugs for depression can lead to problems with attention and motor coordination. While there are differences among these drugs, studies show that in general, they impair driving performance and increase the risk of traffic accidents. This risk appears to increase as the dosage of medication increases
<p>Pain killers such as codeine</p>	<ul style="list-style-type: none"> • Pain medications are widely used among older adults. Studies show that the use of these may interfere with the ability to drive safely • Even some Nonsteroidal anti-inflammatory drugs can cause confusion that results in dangerously slowed driving and poor response time to traffic situations. Muscle relaxants and narcotics increase this effect.
<p>Medication for high blood pressure</p>	<ul style="list-style-type: none"> • High blood pressure medication can impair the driver's response by causing dizziness and fatigue. Beta blockers may cause confusion and insomnia (resulting in poor driving response time or falling asleep at the wheel).
<p>Over the counter medication for sleep, pain or allergies as well as dietary and herbal supplements</p>	<ul style="list-style-type: none"> • Not only do medications effect the way the body functions, but dietary and herbal supplements also do, and could lead to dangerous interactions
<p>Alcohol</p>	<ul style="list-style-type: none"> • Alcohol has a powerful effect on the body, both physical and psychological. Alcohol is the single most important factor in fatal traffic accidents



1.3 Changes to physical abilities

Overall physical fitness affects one's ability to function on a day-to-day basis. Problems with daily physical functioning may precede problems in other areas, such as driving. Overall functioning is also important because older drivers may have several minor physical or medical problems, each of which taken separately may not affect their driving ability very much, but when taken together, could make driving dangerous.

1.3.1 Reaction Times

Conditions associated with aging decrease the speed and coordination of movement. Yet in certain well-learned tasks such as routine driving, older adults seem unimpaired. But add unfamiliar settings, emergency stops for pedestrians or animals, and "surprise" maneuvers made by other vehicles, and the effects of slowed reaction time may become apparent.

1.3.2 Strength and Flexibility

Conditions associated with aging affect head and neck mobility, muscle strength, endurance, and flexibility necessary for driving a car and turning to view traffic. Arthritis is a common condition that restricts movement, slows reaction time, and is sometimes painful enough to affect concentration. Arthritis or other conditions that limit joint mobility make it difficult to get in and out of a vehicle or fasten a seat belt. Many people compensate for these diminishing functions and remain safe drivers, but for some the severe loss of function may mean cutting back or stopping driving. Methods of compensation

can include changing driving patterns, increasing physical exercises, or installing and using adaptive equipment in the vehicle. Many older drivers understand that unfamiliar locations and unexpected traffic patterns present problems for them. In response, they try to avoid driving in these situations. Exercise can reverse some problems with strength and endurance. Adaptive equipment fitted to cars accompanied with training drivers in the use of such features can help with these limitations in movement and response time.

Table 3. Physical conditions related to aging that effect driving

Condition	Effect on Driving	Risk of Developing Condition with Aging
Arthritis, crippling inflammation of joints, stiffness in hips, knees, ankles and feet	<ul style="list-style-type: none"> Dexterity loss can effect the use of dashboard controls Reduced range of motion effects reaching for and fastening seat belts. Loss of strength required for turning the steering wheel or pressing the gas and brake pedals effects vehicle operation 	<ul style="list-style-type: none"> 50 percent of middle-aged adults 80 percent of people in their 70s
Leg problems	<ul style="list-style-type: none"> Can be the result of balance problems, vision, sensory or strength. These in turn effect speed in responses to traffic, staying in traffic lanes and responding to visual cues. 	<ul style="list-style-type: none"> Severity and pain increase with age
Cold feet, legs, and hands in cold weather (poor circulation)	<ul style="list-style-type: none"> Slower mobility effects driving operations and slows depressing of the brake. 	
Falls	<ul style="list-style-type: none"> Can be the result of balance problems, vision, sensory or strength. These in turn effect speed in responses to traffic, staying in traffic lanes and responding to visual cues 	<ul style="list-style-type: none"> One-third of adults 65 years and over fall each year

1.3.3 Vision

Vision is the primary sense used in driving. About 90 percent of the information required for driving safety relates to vision. Normal aging effects a number of eye functions key to older drivers seeing objects on and near the roadway. Many older adults can or have adapted their driving when they recognize these normal changes.

Dynamic Visual Acuity

Dynamic visual acuity is the ability to see a moving object. With age this ability declines, especially under low-light conditions that occur at dusk and dawn. One example is driving at dusk when it begins to rain.

A pedestrian steps off the curb a half a block away from the driver who has difficulty seeing the pedestrian until only a few feet away.

Depth Perception

Depth perception is the ability to determine distance of objects. With age, changes in the eye's lens decrease the ability to accurately determine distances between two objects.

Older drivers tend to use the distance of the approaching vehicle, rather than the speed of the vehicle, to determine safe turning, changing lanes, or merging.



Useful Field of View

The “useful field of view” refers to the area that one can see and cognitively process and interpret. When in complex driving situations, attention is restricted to the area immediately in front of the driver. For drivers with this decreased visual attention, they can only see the car directly in front and not the pedestrian stepping from the curb. Drivers may be able to increase their useful field of view through retraining by an occupational therapist or other health professional.

Contrast Sensitivity

The capacity to sharply see the difference between two similarly colored objects indicates one’s ability to perceive contrast. With age, older adults tend to develop cataracts that change perception of color and background. When driving, the inability to see the difference in contrast affects distance judgment. Drivers may have difficulty in determining distance of an object, resulting in “tailgating” or hitting a curb. Other examples include the ability to see objects lying in the road that are a similar color to the pavement, faded highway lane makers, or pedestrians in dark clothing at night.

Glare Recovery

Glare occurs when:

1. The intense brightness of an object – such as the headlights from an oncoming car overcomes our eyes’ ability to accommodate, or
2. The eye’s ability to focus on incoming light diminishes, due to aging or other causes.

With age, the eye’s lens hardens, thereby increasing the amount of “stray” light that enters the eye. This light scatters, causing the appearance of “dazzling bright spots.”

Resistance to glare declines by 50 percent every 12 years after age 40. Time to recover from glare also increases with age. Glare effects driving by momentarily blinding the driver. Glare from on-coming headlights at night requires quick recovery to maintain the car’s appropriate course.

Peripheral Vision

Peripheral vision is the ability to see objects to the side when the eyes are focused forward. With age, the range of side vision decreases. For example, many older people report that all of a sudden a car whizzed past or a vehicle from another lane pulled in front of them. Reduced peripheral vision results in “blind spots” around the car, so older people are suddenly surprised when something comes into their narrowed field of view. Adaptive equipment and retraining can improve the driver’s ability to overcome the blind spots. In many cases, proper adjustment of side-view mirrors on a vehicle also can help eliminate some blind spots.

Light/Dark Adaptation

Light and dark adaptation is the ease with which the eye can adjust to changes from dark or dim lighting to bright areas. Adaptation diminishes with age as the eye muscles become less elastic. For example, many older drivers have difficulty seeing when entering or leaving a tunnel.

Table 4. Age-related conditions that effect vision and driving

Condition	Effect on Driving	Risk for Developing Conditions with Aging
Cataracts	<ul style="list-style-type: none"> • Obstruct vision, impairing ability to clearly see the road, pedestrians, signs • Impair the ability to distinguish between light and dark (contrast sensitivity), causing distance misjudgment to other vehicles, road barriers or pedestrians 	<ul style="list-style-type: none"> • 50 percent of those 65-74 • 70 percent of those 75 years and over
Glaucoma	<ul style="list-style-type: none"> • Blind spots develop as the optic nerve deteriorates • Side vision (peripheral vision) reduced resulting in vehicles seemingly “to come out of nowhere.” 	<ul style="list-style-type: none"> • Age 40 years and over • Family history of glaucoma, diabetes, nearsightedness • African American Descent
Macular Degeneration	<ul style="list-style-type: none"> • Detailed vision diminishes (e.g., letters appear to be missing, straight lines appear crooked) • Difficulty seeing road signs, traffic, and pedestrians • Eyes may be more sensitive to light and glare, making night driving difficult • Difficulty staying in lane 	<ul style="list-style-type: none"> • Age 60 years and over • Family history • People with light eye color • Cigarette smoking



1.4 Declining cognition

Driving requires cognitive (mental) abilities such as memory, visual processing, attention and decision making. Studies indicate that speed of thinking declines with age and is almost always caused by depression or dementia. This change can lead to slow or hesitant driving, unexpected lane changes and slowed reactions to driving situations. All of these things combine to increase the chance of being in a traffic accident. The following descriptors outline some of the areas which may effect driving:

1.4.1 Memory

Older adults may become more easily distracted and therefore find difficulty paying attention to incoming information and storing it appropriately. Age-related conditions may slow the ability to retrieve memories. When driving, this slowed processing effects both the ability to quickly interpret the distance to oncoming traffic and the speed to respond.

1.4.2 Attention

Attention-Switching

Drivers must quickly transfer attention from one traffic situation to another. Attention switching requires rapidly processing a number of events while paying attention to steering a course. Vision, hearing, or cognitive impairments can influence attention switching.

Divided Attention (“Multitasking”)

Older drivers can experience difficulty in dividing their attention among multiple tasks. Difficulty in switching rapidly from one task to another makes using cellular phones, navigation systems, tuning the radio, or even listening to conversations among passengers disruptive to driving concentration.

Complete Missing Information

Drivers continually fill in missing information from cues around them. Fast-moving traffic, diminished visibility, or missing traffic signs may give only partial information that drivers must complete. With cognitive slowing, the ability to fill in missing information diminishes, putting the driver at risk.

1.4.3 Dementia

Older adults who do not suffer from dementia are often able to assess their driving and make appropriate changes in driving behavior without family, partner, or professional help. Dementia effects cognitive functions critical to driving, such as judgment, reaction time, and problem-solving abilities, and causes physical and sensory problems that increase driving risk. Once a doctor diagnoses dementia, the question is not “if” a person should stop driving, but rather “when.” For Alzheimer’s disease, early and clear warning signs indicating the disease is effecting driving can include:

- Needing more help than in the past with directions or learning a new driving route
- Having trouble remembering the destination of the trip or locating one’s parked car



- Getting lost in familiar places
- Having trouble making turns, especially left turns
- Feeling confused when exiting a highway or by traffic signs such as a four-way stop
- Receiving citations for moving violations
- Finding that others frequently honk their horns
- Stopping at green lights or braking inappropriately drifting out of road lane
- Causing damage to one's car without the ability to explain what happened
- Finding other people are questioning the individual's driving safety
- Having difficulty controlling anger, sadness, or other emotions while driving

At the point when these signs occur, the driver should see a driver rehabilitation specialist immediately for an evaluation. A driver rehabilitation specialist provides on-and off-road tests to assess driving and can help determine how driving ability is changing. The driver rehabilitation specialist can help determine when driving is no longer safe. This evaluation gives a starting point for measuring safe driving capabilities. As the disease progresses, driving will become unsafe. A doctor can provide a referral to options in Manitoba. In addition to dementia, other conditions may result in similar types of cognitive impairment including stroke, Parkinson's disease, diabetes, cardiovascular damage, and the side effects of some medications. Sometimes a change in medications, dosage, or timing of doses may be sufficient to restore memory and attention functions.

Table 5. Cognition-impacting, age-related conditions that effect driving

Condition	Effect on Driving	Risk of Developing Conditions with Aging
Dementia	<ul style="list-style-type: none"> • Loss of internal "map" and points of reference can result in weaving in traffic lanes, disorientation, and getting lost in familiar places • Disorientation can cause driving at dangerously slow speeds, inappropriate turns, or stopping • Perception of own driving ability usually does not match other people's perceptions or the actual driving performance • Thirty percent of older adults with dementia are current drivers 	<ul style="list-style-type: none"> • 11.6 percent for those 65-84 • 47.8 percent for those 85 years and over
Parkinson's disease	<ul style="list-style-type: none"> • Slowed processing speed and delays in initiating movements can result in problems at intersections • Decision making, memory, attention, reaction time, and vision are effected 	<ul style="list-style-type: none"> • Incidence of Parkinson's disease increases over the age of 60



2.0 Who is most at-risk of causing or being injured in a vehicular accident as a result of health-related declines?

Older drivers are neither good nor bad drivers based upon age. In order to help drivers to stay safe behind the wheel, as well as to recognize when it is unsafe to drive, it is valuable to understand the statistics generated by reported incidents. These facts illustrate a clearer picture about who is most likely to cause an accident where property, the driver, and/or another person are injured as well as who is most susceptible to injury in an accident. The following indicators of age, driving experience, gender and rate of incident by kilometers driven are described in relation to the risks of at-fault accidents and harm, as well as injury amongst older adults.

2.1 Overview of the facts

Older adults are among the fastest-growing segment of our population. Not only will there be more drivers, but these drivers will also drive more kilometers per year than previous generations, and will continue to drive at older ages as older adults' reliance on driving as the primary method of transportation is likely to increase on account of the following factors:

- Baby Boomers tend to live in suburban areas and expect to age where they live
- The private vehicle remains the most common mode of transportation for seniors
- The next generation of seniors will be more accustomed with the freedom to travel, have higher incomes and more active lifestyles

Motor-vehicle crashes are among the leading causes of injuries and fatal accidents among individuals ages 65 and older. The number of older drivers in the United States is expected to increase dramatically in the next 25 years. In 1999, individuals aged 65 years and older comprised approximately 16 percent of the driving population in the United States and accounted for 14 percent of fatal crashes in the country. It is estimated that by 2030, 25 percent of the driving population will be 65 years old or older and will account for 25 percent of fatal crashes. This increase in the number of older drivers may be even greater than anticipated because, in addition to the aging of the population as a whole, increasing numbers of older women will drive as their current cohorts age.

While the absolute number of crashes among older drivers is low, when adjusted for the average mileage driven, crash rates increase with advancing age, as does the likelihood of injury, hospitalization, or death resulting from a crash. Several studies have demonstrated a two-to four-fold increase in rates of injury, hospitalization, and death among individuals 65 years old and older compared to younger individuals in crashes of similar magnitude. While the youngest and oldest drivers are at greatest risk for at-fault fatal crashes, older drivers are more likely to be responsible for their own death rather than others. It is not age per se, however, that accounts for the increased risk of crashes. Rather it is likely that functional impairments due to, or compounded by, medical conditions or medications give certain older drivers this higher chance of being in a crash.



Studies shows three principal findings in relation to the risks associated with older drivers:

1. Drivers' risks to themselves and to other road users decline rapidly until around age 25, continue declining gradually until ages of approximately 65 to 70, begin increasing again around age 70, and increase more rapidly after approximately age 75.
2. Relative to other age groups, drivers aged 85 and older have the highest rate of their own deaths; approximately two to three times that of 16- and 17- year-old drivers.
3. Older drivers pose more risk to their passengers, occupants of other vehicles, and non motorists than the lowest-risk drivers do. The degree to which older drivers' risk to these categories of road users is elevated depends upon whether risk is measured on a per-driver, per-trip, or per-kilometer basis.

2.2 Age

Despite the myth that older drivers are perceived to be less skillful than the average driver, older drivers are among the safest drivers. In fact, the actual number of accidents involving older drivers decreases as age increases. Experts attribute this decline to self-imposed limitations, such as driving fewer kilometers and avoiding night driving, rush-hour traffic and other difficult conditions. Therefore, sharing the roadways with older drivers poses a relatively low risk to other drivers. However, older drivers, especially after the age of 75, have a higher risk of being involved in a collision for every kilometer they drive. The rate of risk is nearly equal to the risk of younger drivers age 16 to 24. The rate

of fatalities increases slightly after age 65 and significantly after age 75. This higher rate is due to the increased inability to withstand the physical trauma that often occurs with age. Although older persons with health issues can be satisfactory drivers, they have a higher risk of injury or death in an accident, regardless of fault.

Declining health in the process of aging comprises a broad spectrum of issues that effect the ability to drive including medication usage, physical impairments, declining vision and cognition. Health conditions such as dementia effects one's internal "map" and points of reference which can result in weaving in traffic lanes, disorientation and getting lost in familiar places. Some problems, such as declining central vision, may be quite obvious to drivers. Cognitive changes, however, are subtler; their onset reduces the driver's ability to detect loss of function. Declining health in the process of aging occurs over time effecting older drivers at different rates and while many older drivers respond to changes in declining health by self-regulating their driving, not all are aware of age related changes. Research shows that not having a stroke, heart failure and a better self-rating of health led to longer times to driving cessation; however, those in the "oldest-old" cohort (75 years and older) are at the highest risk of being involved in a fatal crash due to declining health conditions such as fragility of bones and loss of cognitive function.

Table 6. Conditions related to aging and the risks associated with driving:

Condition	Effect on Driving	Risk of Developing Condition with Aging	Crash Risk
Dementia	<ul style="list-style-type: none"> Loss of internal “map” and points of reference can result in weaving in traffic lanes, disorientation, and getting lost in familiar places. Disorientation can cause driving at dangerously slow speeds, inappropriate turns, or stopping Perception of own driving ability usually does not match other people’s perceptions or the actual driving performance 	<ul style="list-style-type: none"> 11.6 percent for those 65-84 47.8 percent for those 85+ 	<ul style="list-style-type: none"> Up to 3-4 times higher than older adults with no cognitive impairment
Arthritis, crippling inflammation of joints	<ul style="list-style-type: none"> Dexterity loss can effect the use of dashboard controls Reduced range of motion effects reaching for and fastening seat belts Loss of strength required for turning the steering wheel or pressing the gas and brake pedals effects vehicle operation 	<ul style="list-style-type: none"> 50 percent of middle-aged adults 80 percent of people in their 70s 	<ul style="list-style-type: none"> May increase crash risk
Sleep apnea	<ul style="list-style-type: none"> Disrupts sleep at night causing daytime drowsiness. Effects alertness when driving. Drivers are prone to falling asleep at the wheel 		<ul style="list-style-type: none"> May increase crash risk
Leg problems	<ul style="list-style-type: none"> Ability to move the foot between the brake and gas pedal 	<ul style="list-style-type: none"> Severity and pain increase with age. 	<ul style="list-style-type: none"> Three or more foot abnormalities result in twice the crash risk compared to people with two or fewer foot abnormalities
Falls	<ul style="list-style-type: none"> Can be the result of balance problems, vision, sensory or strength. These in turn effect speed in responses to traffic, staying in traffic lanes and responding to visual cues 	<ul style="list-style-type: none"> One-third of adults 65 + fall each year 	<ul style="list-style-type: none"> Crash involvement is significantly related to having fallen within the past two years
Cold feet, legs, and hands in cold weather (poor circulation)	<ul style="list-style-type: none"> Slower mobility effects driving operations and slows depressing of the brake 		<ul style="list-style-type: none"> May increase crash risk
Blood sugar not in balance resulting in confusion or unconsciousness	<ul style="list-style-type: none"> Nearly half of all diabetes cases occur in people 60 and older 70 percent of people dependent on insulin develop diabetic retinopathy 		<ul style="list-style-type: none"> Crash risk increases up to four times with diabetic retinopathy
Vision impairments	<ul style="list-style-type: none"> 40 percent of people dependent on insulin develop bleeding from the back of the eye. If untreated, both lead to serious visual loss 		



2.3 *Driving experience*

The amount of experience that a driver has with decision making on the road has an important role to play in safety. Amongst previous generations of drivers, women sometimes took up driving at an older age, once their spouse passed away. As such, some older women on the road have been less-experienced drivers; potentially comparable to those in the 16-25 age group. This may have translated to higher risk due to inexperience in addition to the higher risks associated with health declines. However, newer (current and upcoming) generations of driver generally don't have the same inequity between driving years and gender. Women now generally become licensed drivers early on in life, with many contributing to households with multiple, individual vehicles.

2.4 *Gender*

Research suggests that the longer an individual has been driving, the more difficult it will be for that person to stop driving or transition to alternative methods of transportation. However, studies show that older women drivers are more likely than men to give up driving at a younger age and in better health; whereas men tend to keep driving as long as their health allows them to, women give up driving for various, less pressing reasons. This gender difference has significant impact on both safety and mobility. Voluntary driving cessation of older drivers has mostly been discussed as positive behavior implying good judgment, without considering possible negative implications. Previous studies focusing on the consequences of driving cessation have shown it to be related to personal mobility loss and decrease in out-of-home activities, along with increased depressive symptoms. Therefore,

voluntary driving cessation at a relatively early old age may be problematic because it may restrict mobility without increasing safety. Since early retirement from driving mainly concerns older women, the underlying reasons and components for the gender difference becomes essential in preventing early driving cessation and mobility loss of older women.

Thus, while driving cessation is related to personal driving history, women generally stop driving sooner than men do so in better health while men generally continue driving as long as their health allows them to. Health implications on early driving cessation for men and women may result in social isolation and reduced mobility leading to reduced life satisfaction, loneliness and cognitive decline causing depression or dementia.

Gender deconstructed:

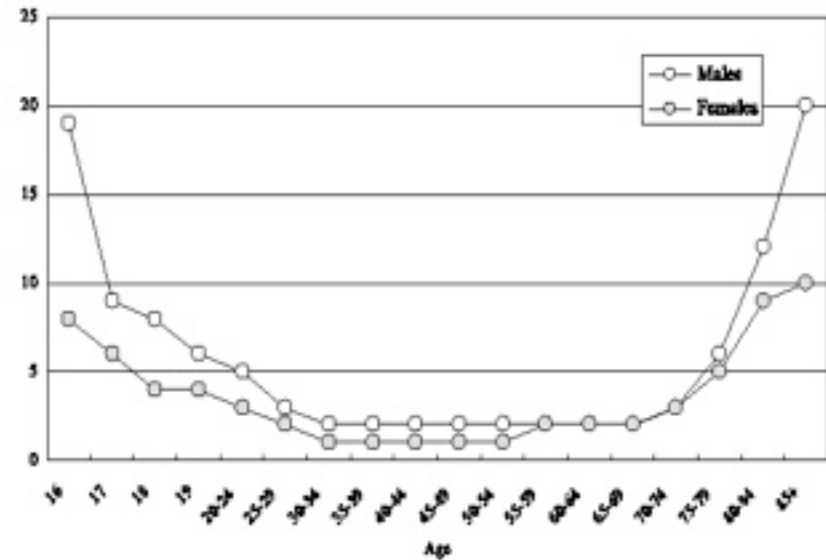
- Two-thirds of women over 65 now drive. With women's increased independence, their driving is also thought to increase. It is estimated that by the year 2030, nine out of ten older women are expected to be behind the wheel
- For both drivers and former drivers, women were three to four times more likely to be passengers than men
- A long and active driving career is strongly associated with driving continuation for older women; driving cessation for women with an active driving history was closely similar to what is known about the driving cessation of men
- Compared to older women, older men make less drastic changes to their driving habits as they age and are more reluctant to cede their driving privileges

- More men than women report that they drive after consuming alcohol
- In 2005, male drivers 65 and older were twice as likely as female drivers to die in a crash (either through their fault or the other driver's). While similar differences between the sexes exist with younger drivers, a possible explanation for these differences later in life is that older men drive later in life and more often than women
- Some older people who are physically and cognitively capable of driving may simply lose confidence in their ability to drive or no longer feel comfortable or secure traveling at certain times or under certain conditions. In particular, older women who drive infrequently may lose confidence or key driving skills through lack of practice
- Older women voluntarily stop driving at younger ages and in better health than their male counterparts. Furthermore, women are more likely than men to cite stress and a desire to avoid difficult driving situations as contributing factors to driving cessation
- A man who is 70 today is expected to outlive his driving years by about six years; a woman who is 70 today is expected to outlive her driving years by about 11 years

2.5 Rate of incident by kilometers driven

Several studies analyzing driver death rates in relation to age have shown that driver death rates form a “U-shaped” curve wherein young drivers have high death rates, the rates decrease through young adulthood, level off in middle age, and increase to their highest levels at the oldest ages.


Figure 1: 2003 U.S. Age-Related Fatal Collision Risk



Fatal collisions involvement rate per million miles traveled

Source: A.F. Williams/ Journal of Safety Research 34 (2003) 5-15

One study analyzed driver death rates per capita, per licensed driver, and per kilometer driven in relation to driver age and sex, and also the death rates of pedestrians in relation to the age and sex of the drivers involved in the crashes in which they were killed, using data from years 1994 through 1996. The study reported that an 80-year old male driver has a 121 percent higher death rate per licensed driver and a 662 percent higher death rate per kilometer driven than a 40-year-old male driver, and reported similar patterns for females. However, when analyzing the rate of pedestrian fatalities in relation to driver age, the study reported that on a per-driver basis, 80-year-old drivers of either sex were less likely than 40-year-old drivers to be involved in crashes fatal to pedestrians. When analyzed on a per-kilometer-driven basis, 80-year-old drivers had higher rates of involvement in crashes fatal to



pedestrians than did 40-year-old drivers; however, the elevation was smaller than the elevation in their own death rates.

2.6 At-fault accidents and harm

Older drivers face substantially elevated risk of being involved in and responsible for crashes in which they die. They pose more risk to other road users than do the lowest-risk drivers. However, the degree to which older drivers' risk to other road users is elevated depends strongly upon whether risk is being measured on a per-driver, per-trip, or per-mile basis.

For example, research suggests that if a randomly-selected driver in his or her thirties and a randomly-selected driver aged 85 or older were to drive equal numbers of kilometers, the older driver would be over 15 times more likely than the younger driver to be responsible for and die as a result of a crash, and about 220 percent more likely than the younger driver to kill an occupant of another vehicle or a non-motorist. However, drivers in their thirties drive approximately 217 percent more kilometers on average than drivers aged 85 and older do. Without statistical adjustment for what occurs naturally, a randomly-selected driver aged 85 or older is about 720 percent more likely than a randomly selected driver aged 30 to 39 to die in a crash, but only about 0.8 percent more likely to kill an occupant of another vehicle or a non-motorist, over the course of a year. Finally, the public health impact of older drivers on other road users presently is relatively small. Drivers under age of 20 are responsible for more than twice as many deaths of occupants of other vehicles and non motorists as are all drivers aged 70 and older.

Different measures of risk answer different types of questions. Older drivers' elevated per-kilometer risk of dying, which other studies have found to be attributable mostly to their fragility, suggests the need for measures to reduce older drivers' risk of dying when involved in a crash, such as improved vehicle occupant protection systems. Older drivers' elevated per-trip and per-kilometer risk to other road users, which may be confounded by factors such as the relative safety of the types of roads on which they drive, suggests the need for measures to reduce older drivers' risk of being involved in severe crashes. Examples of such measures might include road safety improvements or vehicle-based collision avoidance systems. One can argue that the risk older drivers pose to other road users outside of their own vehicles as measured on a per-driver basis is most relevant to policies related to regulating driving privileges. Although the oldest drivers pose significantly elevated risk to other road users in relation to the amount that they drive, they also drive much less. The product of this elevated risk and reduced exposure is that drivers aged 85 and older and drivers in their thirties have virtually identical risks of killing an occupant of another vehicle or a non-motorist over the course of a year. These results demonstrate the importance of keeping clear what risk is most relevant when discussing measures targeting high risk group.



3.0 What are the three main ways in which people respond to changes in their driving abilities?

Regardless of age or phase along the driving continuum, driving can be a sensitive topic among older adults as it is a multi-dimensional issue comprised of numerous cross-cutting components such as health, safety and independence. The process of driving cessation can be a sudden event, such as having a stroke, or a slow process involving a series of choices ranging from self-regulation to refusal to cede driving; health and action largely determine the outcome.

Research has shown that former drivers fall into two groups, “proactives” and “reluctant acceptors.” The proactive group can be described as those older adults who made the decision to stop driving on their own and then, informed their family and friends of their intent while the reluctant acceptors can be described as those older adults who had realistic perspectives of their driving skills and reluctantly made the decision to quit. They were not proactive in the sense that they made specific plans to stop. Rather, they describe a slow process of resignation, usually prompted by deteriorating health or suggestions from their family or physician. A third group known as “resisters” exists. Resisters are described as older adults who are not realistic about their driving skills and continue to drive until they are forced to stop. Not surprisingly, such resisters may be practicing unsafe driving behaviors under diminished physical, cognitive and health conditions including impaired vision. Furthermore, compared to older women, men make less drastic changes to their driving habits as they age and are more reluctant to cede their driving privileges and talk about their driving.

While a man who is 70 today is expected to outlive his driving years by about six years, a woman who is 70 today is expected to outlive her driving years by about 11 years; thus, driving cessation is likely to occur at some point in the lives of older adults and interventions to support the transition process are characterized by three stages: pre-decision, decision and post-decision.

3.1 Three stages of transition: pre-decision, decision and post-decision

Pre-Decision

Involves increased difficulty in driving in which older adults find themselves in a balancing act, balancing obstacles to driving against the desire for independence. The pre-decision stage is also characterized by an awareness of driving abilities, emotional responses to driving and consequences of continuation or cessation.

Decision

Voluntary or involuntary decision to cease driving and the challenges of both making the decision and owning the decision.

Post-Decision

This phase is about making practical and emotional adjustments to lifestyle. Practical adjustments refer to finding new ways of accessing the community or substituting different interests that don't include drive while emotional adjustments refer to coming to terms with the losses that driving represented and maintaining feelings of control and ownership over the lifestyle.



3.2 *Prolonging driving*

The choice to prolong driving is to be aware of driving abilities in the context of changes due to the process of aging including health and cognition and to compensate for such changes accordingly. The most effective method of maintaining mobility and independence is by taking a proactive approach in the pre-decision stage or earlier to raise awareness of potential driving concerns and to plan ahead for future mobility needs; such a strategy may involve a series of choices and tools that can assist older drivers in making beneficial choices to prolong driving:

Examples of tools that may aide in prolonging driving:

- Self-regulation
- Conversations with physicians
- Refresher course
- Self-assessments
- Driver rehabilitation specialists
- Vehicular adaptations

3.3 *Transitioning to other methods of transportation*

The sudden move from driving full-time to not driving is a change that requires sensitivity and support as driving cessation is one of the greatest predictors of depression. While the choice to transition away from driving may be planned for proactively, such a choice may also be met with reluctance in the pre-decision, decision and post-decision stages. Raising awareness and planning ahead for future mobility needs in the pre-decision stage may prolong driving. Providing practical and

emotional support at the decision and post-decision stages may offset the challenges faced by older adults to find new ways of accessing the community and to take control and ownership over a new lifestyle without driving. By providing information about alternative methods of transportation, families, partners and communities can also help older adults make smoother transitions from driving full-time to cutting back or stopping altogether. To ease the transition from driving, families, partners and communities can:

- Encourage involvement with friends and continuation of usual activities outside of the home
- Explore a restricted license which allows for regulated driving behavior
- Arrange for a nondriver identification card
- Arrange for visitors either through family or friends or community friendly-visiting programs
- Identify counseling options such as peer counselors who share their experiences from cutting back or quitting driving
- Occupational therapists are trained in helping people with the transition from driving, cutting back or not driving and in keeping older adults connected with the community
- Take public transportation together. If an outing is enjoyable with someone else, the new transit rider may be more confident in using the service in the future
- Taxi vouchers which provide prepaid rides as a convenient method of transportation
- Transit training programs can empower older adults with the tools to maintain mobility and independence by building confidence in the use of public transportation



3.4 *Giving up the keys*

Giving up the keys is often an ‘end of pipe’ solution when all other options are exhausted and safety concerns outweigh the risk of being involved in an accident. The decision can be voluntary or involuntary and can be met proactively in which an individual has planned for their future mobility needs or reluctantly in which the decision may be characterized by challenges to own the decisions and making practical and emotional adjustments in coming to terms with the losses that driving represented. Still, others make the choice to resist giving up the keys and continue to drive despite being unsafe to do so.

Unsafe drivers are often so because:

- Physical, sensory, or cognitive impairments may prevent them from being the safe drivers they once were, and their adaptation strategies do not work
- Risk-taking habits continue from a younger age, and the driver fails to develop cautious behavior to match declining skills. These habits may include making a left turn with oncoming traffic, driving in the “fast lane,” or aggressive driving
- Psychosocial factors or mood-altering substances come into play. For example, older adults who abuse alcohol or other drugs, or whose medications are not appropriately adjusted, could be unaware of the risks they are taking because their perception of reality may be altered


Taking away the car keys or a driver’s license – or selling or disabling the car – should be a last resort. To someone in the early stages of the dementia, such actions seem abrupt, extreme, disrespectful and

punitive. And people with mild dementia can ignore or get around those strategies by driving without a license, fixing the car or buying a new one. As one person with dementia noted, “If they disabled my car, I would call someone to fix it.” In addition, the person with more advanced dementia may not recall that their license has been revoked or that there was an important reason for their keys to “disappear.”

Once a person has stopped driving, it is important to decide whether taking away the keys, license and car will help the person adjust – or make it more difficult. Some caregivers remove the keys or the car from sight to avoid having the driving issue resurface. But others let people keep their keys, car and license to help them maintain a sense of dignity. Some people with dementia stop driving but carry their driver’s license as photo identification.

4.0 What are the factors that influence driving decisions?

If transitioning from driving was simply a matter of hanging up the keys and having alternate mobility options guaranteed for life, it wouldn’t be the sensitive or difficult issue that it is. The truth of the matter is that for most drivers the act of driving, and its associated benefits, represent much more. Driving provides people with the opportunity to connect, in an independent fashion, to activities, places and people that matter to them. Driving is connected with a sense of identity, control and belonging. The process, or even the notion, of ‘giving up driving’ is therefore one that borders upon all of those concepts. Adding to the psycho-social dimension of aging, the loss of driving abilities increase a person’s vulnerability by increasing fear of the unknown, potentially compromising social inclusion, and reducing



confidence. There are two main elements that factor into decisions related to driving, many of which are beyond a person's control:

- The intricate realm of personal and social considerations
- The broader influence of environmental factors

It is for these reasons that driving amongst the aging population must be addressed as an issue of public concern, rather than as one of personal responsibility.

4.1 Personal and social considerations

In this toolkit, mature drivers are described as a group, although their uniformity is broken up by the distinguishing indicators that place them along a continuum of mobility and ability. This group is made up of individuals, each with a unique history and personal life that effect their reasoning behind driving.

4.1.1 Independence

A person's sense of independence is very important as it defines what tasks and person can/cannot undertake with/without assistance. As aging-in-place and isolation are common scenarios experienced by older adults in Manitoba, there is a fear that loss of independent driving ability will compromise personal flexibility and social cohesion.

4.1.2 Health

In addition to the health conditions that lead to driving retirement, there is an onslaught of other situations that can result from the


process itself. Research from McGill University reported that older adults fear the loss of their license more than cancer as it is considered a tangible obstacle with immediate consequences. The emotional impact is equated to a traumatic life event and considered to contribute to loneliness, depression, and further health declines when experienced without proper supports.

4.1.3 Peer pressure

Many older drivers, especially those who were raised during the Depression, espouse an ethic of community support which involves lending a helping hand to their peers. This generation is has generously given of their time, money and resources so that others have rides when they need them. This community of volunteer drivers and spouses responsible for their partners' transportation needs feels responsible for continuing to provide a service that may not be safe for them to perform. They have often observed their friends losing their license or giving up driving with less than optimal outcomes. They would rather help the problem by driving than contributing to it by giving up the keys.

4.1.4 Dependence on private automobile

With the prevalence of private automobiles usage as a primary source of travel, fewer people are aware of, or experienced in, using alternate methods of transportation. This dependency makes transitioning to other mobility options more challenging, and sometimes even daunting. For persons not too vulnerable to travel alone, or aboard alternate methods of transportation, it would be useful to expand knowledge and practice of alternatives while still possible. Awareness



and proximity of options, as well as ease and suitability of use, will often determine the effectiveness of this approach.

4.1.5 Understanding and support

Depending on an individual's needs and circumstances, such as living alone or with a spouse, it is possible that the levels of understanding from those around them will influence their ability to transition away from driving. All people need to be appropriately informed of the opportunities of prolonging their safe driving years, or the importance of retiring driving. Knowing that this needn't be a lonely exercise may promote more mature drivers to take steps towards safety behind the wheel. Receiving positive messages that speak not only to them but those around them will help produce a more conducive environment for making important decisions.

4.1.6 Costs of maintenance and income

For many seniors, the changes to income experienced following retirement present the need to make budgetary cutbacks. This was primary reason for driving cessation cited by approximately one hundred older adults interviewed aboard buses. Either as preventive measure or following costly incidents such as collisions, driving retirement was viewed as a more viable alternative than private vehicle ownership by persons still able to use the public transportation system.

4.2 Environmental factors

Lastly, the environment that surrounds and influences mature drivers must be taken into consideration when providing assistance or

planning for alternatives. An individual first needs to understand their options so that they can feel safe and confident as they strive to make healthy changes in their driving behaviours.

4.2.1 Awareness and information


Awareness of important changes that may influence driving ability contributes to knowing what indicators to monitor and how to adapt to increase safety. Listening to the warning signs is less stressful when a mature driver has an idea of which actions to take in order to address these situations. Reducing the mystery that surrounds the process of evaluation/assessment and adaptation can reduce secrecy about personal issues and improve driving conditions for all.

4.2.2 Tools and resources

In order to prolong driving, to transition from driving, or to give up the keys, mature drivers require resources such as self-assessment tools, educational programs and adaptive devices if they are take steps that improve safety, maintain independence and promote well-being. Where resources exist, they must be accessed and used. Where resources exist but are underused, demand must increase so that there is innovation. Where resources are lacking or have not yet been created, it is important that mature drivers voice their needs so that these can be addressed.

4.2.3 Guidance and assistance

There are numerous tasks involved in 'driving transition' that cannot be undertaken alone; these gaps have been identified as requiring the



attention of an additional helper. Making vehicular modifications, travel planning for alternatives, consideration of a person's preferences/needs with respect to information or support, social commitments not to drive and/or to be driven by loved ones all go a long way towards making the transition from driving less stressful and more successful.

4.2.4 Options and alternatives

The types of mobility alternatives available to mature drivers will influence their appeal in comparison to a private vehicle.

Transportation options must be available, accessible, adaptable, affordable, appropriate and acceptable. This will translate differently for every individual depending upon circumstances such as health, mobility, location, cost and ease of use.



Part three

Resources for supporting the needs of mature drivers:
Understanding target audiences, common formats and objectives of tools



TABLE OF CONTENTS: *Part three*

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1.0 How can we support the safety, independence and well-being of mature driver as they adapt to changes in their personal lives and health?

There are numerous tools and resources that already exist to support older drivers. They are generally written for four audiences: drivers, families, medical professionals and the community. These resources appear in various formats and range from brochures to courses and medical evaluations to software programs. The objectives of these tools are discussed here as they correspond to each of the ‘phases’ along the mobility continuum such as prolonging driving, transitioning from driving and retiring from driving.

1.1 Audiences

Tools and resources to support older drivers monitor and improve their driving skills and to transition to alternative methods of transportation are generally written for four audiences including drivers, family and friends of drivers, medical professionals and the wider community. Such tools and resources vary from conversation guides for driver supports, self-assessments and brochures for drivers to physician guides to assessing and counselling older drivers.

1.1.1 Drivers

Tools and resources for older drivers such as self-assessments and mobility guides are written to promote independence by raising awareness of age-related changes to driving; they empower older drivers with the education and confidence to become proactive in making choices and adjustments to prolong their driving, provide


recommendations on alternative methods of transportation and provide resources such as cost calculators and community contact information to stay connected to the community. Such tools should be disseminated to older drivers as early as possible as proactive drivers who are aware and preventive are able to make choices to prolong driving; for example, utilizing vehicular adaptations, consulting a driving specialist, attending a driver refresher course, etc.

1.1.2 Family and friends of drivers

When informative decisions cannot be made on account of declining health and cognition such as Alzheimer’s and mild to severe dementia, or, when drivers are faced with the decision to stop driving with reluctance or resistance, interventions initiated by family or friends of drivers may be required to assist older drivers who may be unsafe to themselves or others on the road. As family and friends of drivers can influence driving safety among older adults, tools and resources written for family and friends encourage emotional and practical support and understanding for older adults who are voluntarily or involuntarily met with the decision to stop driving. Tools and resources formatted for family and friends of older drivers provide education and awareness of age-related changes and provide recommendations on how to approach an older driver about their driving. For example, a guide may provide recommendations on when it is appropriate for family and friends of drivers to take away the keys.

1.1.3 Medical professionals

Tools and resources written for medical professionals such as physicians, pharmacists and nurses focus on raising awareness to



the issues faced by older drivers in the context of health and safety. Comprehensive tools focus on age-related changes such as declining health, cognition and medication usage while physician guides provide recommendations on assessing and counselling older drivers by providing recommendations on how to diagnose and treat older adults with conditions that effect driving. Comprehensive tools and resources focus on demystifying the myths older drivers have about loosing their license and reinforce the role medical professionals play in helping to maintain mobility through prolonging driving.

1.1.4 Community

Documents developed for purposes program planning and public education aim to increase awareness of the challenges faced by mature drivers amidst both the aging population and the community-at-large. Resources such as DriveWell: Promoting driver safety and mobility in your community provide valuable and succinct information about the broad issues, the specific challenges and the many opportunities for supporting mature drivers. Additionally, ready-to-use presentation materials, moderator guides and suggested group activities facilitate the process of raising awareness and empowering community.


1.2 Formats of Resources

Regardless of age or phase along the driving continuum, driving can be a sensitive topic among older adults as it is a multi-dimensional issue comprised of numerous cross-cutting components such as health, safety and independence. The formatting of tools and resources plays an important role in communicating effectively to their audience; imagery, wording and tone should be considered and used to build

support through emotional and practical understanding. For example, personal stories are effective in connecting with older adults as opposed to the use of scare tactics to encourage changes to driving behavior. The formatting of tools may be as simple as a brochure for drivers about driving and medication usage, or a much more comprehensive booklet containing educational material, guidance, and contact sheets to communicate with drivers the risks associated with driving and medication usage. Considering audience, imagery, wording and tone in the formats of worksheets, videos, educational materials, etc. can influence how well that tool or resource communicates with its intended audience.

1.2.1 Comprehensive vs. specific

Comprehensive tools and resources that are specialized for a particular function (e.g. a mobility guide for planning safe transportation) are generally better as they are able to capture the complexities faced by older drivers in greater detail than specific tools. For example, comprehensive tools may include quotes and personal stories from older adults to better connect with older drivers and case studies to illustrate different phases along the mobility continuum. By identifying key themes and topic areas such as mobility and independence, health and safety, the importance of planning ahead, etc., comprehensive tools are able to provide practical support by taking a thorough approach through guidance, education, worksheets and contact information. For example, a comprehensive resource may incorporate a self-assessment tool within a mobility guide to raise awareness of potential driving concerns, educate older drivers of the risks associating with driving, and provide recommendations on how to prolong driving.



Specific tools and resources, such as brochures, are limited in their ability to communicate the broader scope of issues faced by older adults; however, they are able to support larger recommendations or identify specific issues of concern. For example, a brochure about driving and medication usage may educate drivers about the risks associated with driving while taking medication and recommend older adults initiate conversations with their doctors about driving. Such conversations may lead to proactive behavior and changes to unsafe driving practices to help maintain mobility and prolong driving.

Specific tools can be disseminated easily in places such as hospitals, pharmacies and clinics. As opposed to comprehensive tools, specific tools can communicate a message in a “quick and easy” format that can be widely accessible.

1.2.2 Education

Educational tools and resources for drivers may be formatted into comprehensive tools such as mobility guides and driver refresher courses. By raising awareness and informing drivers of the issues, they provide the foundation from which to assist older drivers make informed decision about their driving; however, when informative decisions cannot be made on account of declining cognition such as Alzheimer’s and dementia, educational tools and resources may be formatted for family and friends of drivers.

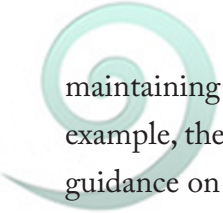
Educational tools and resources for family and friends of drivers may be formatted into comprehensive tools such as planning and conversation guides. By raising awareness and informing family and friends of drivers, they provide the foundation from which family and

friends of drivers can assist older drivers make informed decisions about their driving; particularly, when the decision to stop driving is met with reluctance or resistance, educational material can offer emotional understanding through the lenses of older adults.

Educational tools and resources for medical professionals including physicians, pharmacists and nurses, may be formatted into comprehensive tools such as physician guides to assessing and counselling older drivers; or, specific tools such as brochures about driving and seizures disseminated in hospitals, pharmacists and clinics. By raising awareness and informing medical professionals, physicians can adopt preventive practices - including assessment and counselling strategies - to better identify drivers at increased risk for crashes, help them enhance their driving safety, and ease the transition from driving if and when it becomes necessary. Educational material may demystify the myths older drivers have about losing their license and offer medical professionals emotional understanding through the lenses of older adults.

1.2.3 Instruction/guidance

Tools and resources provide instruction and guidance to assist older drivers monitor and improve their driving and to transition to alternative methods of transportation. Instruction and guidance to drivers, family or friends of drivers and medical professionals should be realistic and achievable to assist older drivers make informed choices. For example: “Move closer to public transportation” is not a realistic recommendation as individual needs and circumstances such as income influence the feasibility of such a recommendation. Rather, instruction and guidance should identify key themes and topic areas such as



maintaining mobility and independence, or, driving and dementia. For example, the format of tools and resources that provide instruction and guidance on planning ahead for future mobility needs and unforeseen changes to driving can incorporate the use of worksheets such as vehicle cost calculators and community contact information to deliver comprehensive options to assist older drivers make informed choices. Resource formats that provide instruction and guidance include conversation guides, refresher courses and peer support programs

1.2.4 Worksheets

Tools and resources that incorporate worksheets are generally incorporated into comprehensive guides. Examples include vehicle cost calculators that assist older drivers in identifying the cost-benefits of owning and operating a vehicle and may encourage older adults to explore the use of public transportation as an affordable alternative to driving. Other examples include self-assessments for drivers and planning guides for family and friends of drivers. Worksheets for medical professionals may include checklists and sample letters informing their patients they are no longer safe to drive. Worksheets are best when supported by educational material and can assist older drivers, family and friends of drivers and medical professionals make informed decisions about driving by offering a visual snapshot of individual circumstances and customized recommendations.

1.2.5 Contacts

Tools and resources that help older adults stay connected to the community provide drivers with information on local transportation services such as handi-transit and senior resource councils that can

arrange support services including driver refresher courses. Such tools and resources support older adults with access to mobility options; particularly, older adults living alone or on low incomes are at higher risk of developing depression and cognitive impairments such as dementia due to reduced mobility and social isolation. Contact resources should focus on disseminating contact information on mobility options and support services to older adults living alone or on low incomes.

1.2.6 Video

Video resources can assist training initiatives such as transit training programs, driver refresher courses and community campaigns such as television ads. The effectiveness of video format is dependent on audience, wording, imagery and tone and should be considered to build emotional and practical understanding. For example, videos employing scare tactics to encourage changes to driving behavior or depict older drivers as the worst drivers do not resonate with older adults. Rather, videos that connect with older adults on a personal level are more effective; for example, using stories and quotes from older adults, or, a community spokesperson to build relational support can be more effective as they recognize the cross-cutting issues involved in driving and approach them with sensitivity while still being effective in communicating the risks associated with driving.



1.3 Tools for Prolonging Driving

1.3.1 Self-Assessment Tools

Mobility is one of the most important themes in the transition from driving as the automobile is associated with freedom and independence. As such, the automobile is by far the preferred method of transportation; however, planning ahead for one's future mobility needs is very rare. Consequently, sudden driving cessation such as having a stroke can lead to reduced mobility and social isolation, the implications of which can lead to reduced life satisfaction, isolation and loneliness causing cognitive decline such as depression or dementia.

The best tools found in the research promote independence and mobility with the goal of supporting older adults in the context of driving for as long as one can safely do so. Numerous self-assessment tools have been developed for older drivers interested in maintaining their mobility with the purpose of raising awareness of potential driving concerns. Such tools are not designed to improve cognitive function unless combined with a “hands-on” approach such as on-road driver training but rather, refer older drivers to specialists such as driver refresher courses and occupational therapists.

Examples of self-assessment tools:

- Enhanced Driving Decisions Workbook
- Driving Decisions Workbook
- The Older Wiser Driver

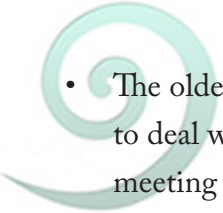
1.3.2 Professional evaluation

A useful step in understanding an individual's resource needs is the guidance provided by the assessment of a trained occupational therapist and/or driving rehabilitation specialist. The Health Sciences Centre in Winnipeg offers the (Disabled) Driver Assessment Management Program free of cost to mature drivers who have been referred by their doctor or by Driver Licensing. The goal of the program is to help people to stay on the road safely, to recommend and provide vehicular modifications for those experiencing physical declines and to determine suitability for operation of a vehicle. Almost always, DAMP is able to help a driver to improve their abilities so long as the declines that they are experiencing are not of an irreversible cognitive nature.

1.3.3 Conversation Guides

Research indicates that families and friends of older drivers see few benefits to discussing driving concerns with loved ones. Although older adults and their families say they should discuss the process of reducing and ceasing driving, in practice, such a conversation either rarely takes place or goes poorly. Here are some reasons:

- A significant barrier to talking about driving is fear of the older person's response.
- Families and partners may find confronting older adults about unsafe driving to be “disrespectful” or “meddling,” and may be accompanied by disapproval from others in the family or community.

- 
- The older driver's adult children and grandchildren may not want to deal with the question of what roles they might have to play in meeting transportation needs if driving is restricted.
 - If the loved one is the main driver in the household, isolation might increase not just for that driver but for the non-driving spouse or partner as well.
 - Well-meaning older drivers may resist offers from relatives and friends for rides by simply responding, "I don't want to be a burden."

The discussion is postponed until a crisis has occurred – a poor time for developing a transportation plan. On the other hand, receiving rides from family and friends can foster a sense of being cared for and provides a positive social interaction that can reduce loneliness. Overwhelmingly, the personal automobile remains the transportation method of choice for both drivers and nondrivers. Nondrivers identified riding with a friend or family member as the most preferred alternative to driving or to taking some form of public or assisted transportation.

In a survey conducted by The Hartford/MIT AgeLab, "We Need to Talk...Family Conversations with Older Drivers," of 7,200 home-dwelling adults age 50 and older, more than half of the older adults followed the suggestions made in conversations about driving. The Hartford/MIT survey also indicates that older drivers have specific preferences for these conversations that vary based on several factors, such as marital status, gender, health and presence of other supportive individuals. Marital status is a significant factor that determines who should have the conversation with the older driver. The top choice of married drivers (50 percent) is to hear about driving concerns first

from their spouses. Older drivers living alone prefer to have these conversations with their doctors, adult children or a close friend. The following outlines these groups in further detail:

Spouses

Men prefer to hear from a spouse slightly more than do women. Spouses have the advantage of observing driving over time and in different situations, as well as years of experience in dealing with sensitive topics and each other's limitations. Not all married couples choose their spouses for this conversation. More than 15 percent of older men and women said their spouses were their last choice for hearing about driving concerns, reinforcing the importance of assessing individual preferences before having conversations about driving.

Doctors

Outside of the family, the opinions of doctors are often valued by older drivers. About 27 percent of those living with spouses and over 40 percent of those living alone said they want to hear first from their doctor. Many older adults think that physicians can precisely determine their ability to drive safely. And people who have health problems are more likely to listen to the advice of a doctor about driving. However, not all doctors agree that they are the best source for making decisions about driving. Physicians may not be able to detect driving problems based on office visits and physical examinations alone. They can assess diminished visual, cognitive and motor skills, or refer the driver to an assessment program for evaluation. This referral may avoid unnecessary conflict when the doctor, family members, and older driver have differing opinions. Family members should work with doctors and share observations about driving behavior and health issues to help older adults make good driving decisions.



Adult Children

Adult children seem to have more influence with parents over 70 than with younger parents in their 50s and 60s. These differences often correlate to health changes and shifts in parent-child relationships later in life. Older drivers also tend to be more open to adult children who live nearby. Women are generally more receptive than men to the prospect of hearing from their adult children. Men are slightly more inclined to choose sons over daughters, while women are more likely to choose daughters. Among individuals living alone, almost one third said they would prefer to hear about unsafe driving from their adult children, while nearly 15 percent of men and women living alone ranked their children as the last ones from whom they want to hear about driving.

Other supportive helpers

Persons other than spouses and adult children may influence driving decisions. Some older adults would be open to hearing from a close friend, a sibling, or an adult child's spouse. Approximately 10 percent of older drivers living alone said they would choose a close friend to initiate the driving conversation. These preferences most likely reflect the quality of their relationships.

Police Officers

More than anyone else, older adults strongly prefer not to hear about driving concerns from police officers. While some older adults may not welcome families talking about their driving, they still find it preferable than hearing from police. However, police intervention may be necessary in situations where an older driver is unsafe and unwilling to curtail driving.

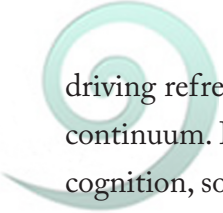
Conversation guides such as The Hartford/MIT AgeLab's We Need to Talk...Family conversations with older drivers are written for driver supports and suggest that family conversations with older drivers can influence driving safety among older adults. Such guides describe how older drivers are at risk and include recommendations for early planning through constructive communication. Many guides come with worksheets and indicators for driver supports to identify unsafe driving habits and transportation planning guides.

Examples of conversation guides include:

- We Need to Talk...Family Conversations with Older Drivers
- At the Crossroads: Family Conversations about Alzheimer's Disease, Driving and Dementia
- How to Help and Older Driver: A Guide for Planning Safe Transportation

1.3.4 Driver Refresher Courses

Older adults who are concerned about their driving, or express interest in driver training do so because they want to maintain their mobility and independence for as long as possible (not necessarily because they are concerned about their driving). The driver refresher course is a resource available to older drivers developed to raise-awareness of potential driving concerns and to help older adults maintain mobility and independence for as long as one can safely do so. They are not intended to improve cognitive function unless combined with a "hands-on" approach such as on-road driver training. Most of the tools found in the research including conversation and mobility guides as well as self-assessment tools recommend older adults take a



driving refresher course regardless of age or phase along the driving continuum. Besides physical and health related declines to vision and cognition, some older adults have not attended any form of driver training since they first got their license many years ago. As a result of these factors, many older adults have a lack of confidence in their driving abilities. In one study, older adults indicated that they had taken a defensive driving class to “polish up” on the rules of the road and to see if any new techniques could be learned to help them drive more defensively. Thus, driver refresher courses designed for the older driver focus on confidence building, reviewing of traffic rules, defensive driving techniques and dealing with the physical effects of driving throughout the process of aging; specifically, driver refresher course content may include understanding the following components:

- The element of risk
- How to share the road with other drivers
- How to handle driving emergencies
- How to compensate for visual changes
- Techniques for improving night vision and safety
- Road sign review
- Road rage related problems
- Seniors and prescription drug problems
- Supplemental inflatable restraint systems
- Children and air bags – why they are a dangerous combination
- Anti-lock braking systems
- Highway driving and why it is a problem

Examples of driver refresher courses:

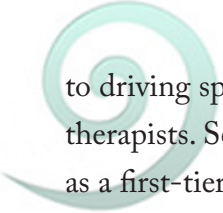
- **55 Alive/Mature Driving:** Course has been developed by the Canada Safety Council and is delivered in Manitoba by the Safety Services Manitoba. The course is designed for and is available to older adults at no charge.

1.3.5 Cognitive Training Programs

Driving requires cognitive (mental) abilities such as memory, visual processing, attention and decision making. Studies indicate that speed of thinking declines with age and is almost always caused by depression or dementia. This change can lead to slow or hesitant driving, unexpected lane changes and slowed reactions to driving situations. All of these factors combine to increase the chance of being in a traffic accident.

The research has emphasized that a combined theoretical and “hands-on” approach such as driver training can improve cognitive function. Staying active and mobile can reduce declines to cognitive impairments leading to depression or dementia. One study demonstrated that an education program consisting of classroom and on-road training targeted to the common errors of older drivers enhanced their performance on written and on-road tests. The study suggests that such interventions may allow older drivers to continue driving safely for longer and maintain their out-of-home mobility.

While self-assessment tools such as “The Older and Wiser Driver” promote driving mobility and independence, their primary objective is to raise awareness for potential driving concerns and refer older adults



to driving specialists such as driver refresher courses and occupational therapists. Self-assessment tools and mobility guides are effective as a first-tier approach in the multi-dimensional process of driving cessation; however, they do not improve cognitive function unless combined with a “hands-on” approach such as on-road driver training. Furthermore, cognitive training should be ongoing (e.g. healthy and active lifestyle) to maintain a consistent level of cognitive function over longer periods of time.

Examples of cognitive training programs include:


- DriveABLE participates in ongoing medical and community education courses, information brochures and presentations focusing on cognitive assessments for at-risk drivers. Products include DCAT (In Office Cognitive Driving Assessment Tool): Software for identifying drivers with impairments in cognitive abilities relevant for driving, and, DORE (On-Road Evaluation): A specialized on-road evaluation designed to measure cognitive function while driving. The evaluation is administered by a certified DriveABLE assessor using a standardized road test and one of DriveABLE’s own vehicles. DriveABLE is a private service with an office in Winnipeg where they conduct cognitive evaluations for older drivers interested in maintaining their mobility.
- Occupational therapy helps to solve the problems that interfere with our ability to do the things that are important to us (e.g. driving). Occupational therapists believe that activities describe who we are and how we feel about ourselves. If we are unable to do the things we want, or need to do, to live and enjoy our lives, our general well-being may be affected. As such, “Canada’s

Occupational Therapy Resource Site” provides information on the types of support an occupational therapist can offer including driving evaluations. Occupational therapists can play a supporting role in helping older adults maintain their mobility and independence as they are qualified to conduct cognitive assessments and provide recommendations such as vehicle adaptations.

1.3.6 Self-Regulation

As the automobile is the preferred method of transportation representing freedom and independence, planning ahead for one’s future mobility needs is very rare. Consequently, sudden driving cessation such as having a stroke can lead to reduced mobility and social isolation, the implications of which can lead to reduced life satisfaction, isolation and loneliness causing cognitive decline such as depression or dementia. To cope with physiological and health related changes associated with the process of aging, including declining self-confidence and increased dependence, many older adults choose to self-regulate their driving to maintain mobility. Self-regulation is when older drivers make adjustments in their driving behavior that adequately match their changing cognitive, sensory and motor behaviours.

In one study, older adults defined self-regulation as much more than the changes in behavior due to declining health and ability. The older adults in the study indicated that self-regulation is a process that gradually happens over time and directly impact’s one’s identity and feelings of self-worth. The study also found that household composition impacted decisions related to self-regulation; for instance, those from a two-person household were more willing to let their



partner drive or share in the driving, while those who lived alone were less likely to self-regulate their driving.

Driver tools such as self-assessments and mobility guides promote self-awareness and recommend adjusting for age-related physiological and psychological changes by self-regulating driving. Age-related physiological and psychological changes may include visual and cognitive impairments such as reduced peripheral vision and divided attention. Recommendations for self-regulation include avoiding conditions where driving may be a problem. These driving conditions include night-driving, driving in bad weather, unfamiliar areas or in heavy traffic.

1.3.7 Vehicular Adaptations

Often, older drivers feel safer in a familiar car. Nevertheless, a car with up-to-date features and a comfortable fit will give the driver an added margin of safety. Vehicular adaptations can compensate for changes in physical health. For example, light-sensitive mirrors can darken to reduce headlight glare while pedal extensions, steering wheel knobs, hand controls for the brakes and accelerator and other equipment can help drivers with special needs. The following features and adaptations can enhance driver safety.

Height-adjustable seats

People get progressively shorter with age, losing as much as three inches in height by age 75. In many cars, the seat height can be adjusted so the driver has a good line of sight from all windows.

Tilt/telescoping steering wheel

Safety experts recommend that drivers of any age sit with their shoulders level with the top of the steering wheel and their breastbone at least 10 inches away from the airbag. A steering wheel that both tilts and telescopes (adjusts fore and aft) helps the driver find a safe, comfortable position.

Height-adjustable safety belt anchors

Many cars in all price ranges now offer adjustable shoulder-belt anchors for a comfortable fit, regardless of the driver's size. Alternatively, sheepskin or padded "sleeves" for the shoulder belt may improve comfort and prevent chafing. Do not use belt-adjusting clips or straps that squeeze the lap and shoulder belts together over the driver's stomach. Although they promise greater comfort for short people, they can position the lap belt too high, over the abdomen rather than across the pelvis, leading to increased injuries in a crash.

Good visibility

Avoid wide roof pillars (which create over-the-shoulder blind spots) and high rear deck lids or aerodynamic spoilers (which block sight lines when backing up). And keep all windows clean, inside and out. Vaporized plastic from the interior forms a film on the windows that restricts visibility, especially at night. Regular cleaning every few months prevents this from building up. Similarly, keep headlight lenses clean to get as much light on the road as possible.

Legible instruments

Letters, numbers, and symbols on the gauges and controls should be easy to read in any light. The dimmer switch should be used to adjust the dashboard lighting at night — set it at a low but readable level to make the road seem brighter.



Big, glare-proof mirrors

At the very least, the rear-view mirror should have a setting that cuts headlight glare from trailing vehicles, and the car should have outside mirrors on both sides to eliminate blind spots. Some cars now offer light-sensitive mirrors (inside and out) that darken automatically to reduce headlight glare. These self-darkening mirrors are extremely effective at reducing glare while maintaining excellent rearward visibility. Wide-angle rear-view mirrors and a convex side mirror may help drivers with reduced neck flexibility or peripheral vision, but they distort distances and require practice to use safely.

Convenience features

Push-button controls and levers are easier for older drivers to use than knobs, which require turning or twisting. Power windows and door locks eliminate cranking and reaching; they provide extra security, too. Power steering (often eliminated from the standard equipment list on economy cars) compensates for reduced arm strength. Variable-assist power steering varies the force required to turn the wheel, making it easier to turn at low speeds, such as when parking, but firmer at high speeds on the highway.

Adaptive equipment

Pedal extensions, steering wheel knobs, hand controls for the brakes and accelerator, and other equipment can help drivers with special needs.

Tools that recommend the use of adaptive equipment:

- Adapting Motor Vehicles for Drivers

- How to Help an Older Driver: A Guide for Planning Safe Transportation
- ACT Retiring from Driving

1.3.8 Medical support such as modification of medication

As medication usage increases with age, there is increased risk of adverse drug effects due to mismanagement of medication (e.g. multiple drugs and dosages, multiple administration times and drug combinations). The process of aging causes changes to body chemistry in which drugs have stronger effects than when we were younger; therefore, older adults are more susceptible to adverse drug reactions including alcohol due to these physiological changes. Older adults who abuse alcohol or other drugs, or whose medications are not appropriately adjusted, could be unaware of the risks they are taking because their perception of reality may be altered. Furthermore, much of patient's knowledge about their medication comes from their clinicians; however, few drivers receive warnings about potentially driver impairing medication, the implications of which create a lack of awareness to potentially unsafe driving behavior.

Tools and resources for drivers encourage initiating conversations with their physicians and pharmacists regarding the medication they are taking and how it can effect safe driving; particularly, resource materials recommend older adults speak honestly with their physicians and pharmacists about which (or all) medications they aren't taking. While most people can drive safely while they are taking medication, physicians can help minimize the drug's effects by adjusting dosage, administration times and changing to medication that does not cause drowsiness.



Resources for medical support:

- Driving when you are taking medication
- At the crossroads: Family Conversations about Alzheimer's Disease, Driving & Dementia
- Driving Decisions Workbook

1.4 Resources for Transitioning to Other Methods of Transportation

1.4.1 Planning

While many older adults can continue to drive safely for many years, a study comparing average life expectancy and maximum driving age for people over 70 suggests that the majority of older drivers in the United States will outlive their ability to drive by about 7 to 10 years. Many communities are not equipped to handle the needs of large numbers of older adults who are no longer able to drive. In addition, older adults who stop driving may have higher rates of institutionalization than adults who drive.

While mobility is a recurring theme in the research, planning ahead for one's future mobility needs is very rare. For example, one study found that many older adults who perceived a likelihood of driving problems within five years expected to keep driving beyond five years. The implications of not planning ahead for future mobility needs or unforeseen changes to driving can lead to reduced mobility and social isolation causing depression or dementia.

Early planning for older adults driving future may:

- Reduce stress on the older driver who may feel “forced” to continue driving when skills have diminished because no alternatives were planned
- Avoid crash fatalities and injuries with discussions about safety promotion
- Reduce family and partner stress in struggling over the car keys
- Reduce use of door-to-door public transportation (paratransit) by ensuring that capable drivers remain on the road


Resources available to older drivers and driver supports centering on the transition from driving vary from conversation guides and pledges to transit training programs.

Conversation Guides

Conversation guides such as The Hartford/MIT AgeLab's “We Need to Talk...Family conversations with older drivers” are written for driver supports and suggest that family conversations with older drivers can influence driving safety among older adults. Such guides describe how older drivers are at risk and include recommendations for early planning through constructive communication. Many guides come with worksheets and indicators for driver supports to identify unsafe driving habits and transportation planning guides.

Cost Calculators

Cost calculators measure the cost of operating a vehicle including insurance, fuel and maintenance. When compared to using public transportation and taxi services, owning a car may outweigh the costs-benefits of using public transportation. These are widely available



online as stand-alone tools but are better built-in to comprehensive documents as part of a planning/transition strategy. For example, *At the crossroads: Family Conversations about Alzheimer's Disease, Driving & Dementia* incorporates a series of planning worksheets of which the cost calculator is only one element.

1.4.2 Training and Education

Training and education tools may not necessarily benefit older adults experiencing cognitive declines such as memory loss or dementia. While older adults with certain medical conditions may qualify for handi-transit, training and education tools are most effective among older-adults in the early transition. Such tools may encourage a proactive approach in making informed choices and adjustments to prolong driving.

Travel Training

Winnipeg Transit offers 'bus orientation' seminars to groups interested in learning about bus ridership. This is most useful for physically able drivers still in the planning and transition phase of the mobility spectrum. Handi-transit is a more suitable alternative for those with physical impairments too frail to access the public system and volunteer rides for those with cognitive declines that which require personal assistance.

Traveling on public transportation can trigger both negative and positive emotions. People may fear for personal safety, getting lost or being stranded, forgetting routes, using the lift, having health problem while riding public transit, not being able to communicate, or falling. Riders may be leery of crowds and even the vehicle itself. Negative

responses can come from past experiences or stories relayed by friends about vehicle operator insensitivity or behavior of other passengers. Yet, the positive feelings of freedom to visit friends, conduct daily business or attend a special event can motivate potential users to begin the transit adventure.

The goals of such transit training programs are to provide trainers with confidence that they can successfully share with older participants the overwhelming amount of information about transit in a manner that smoothes the progress of older adult learning and inspires older people to use transit.

Certified Driver Rehabilitation Specialists

Driver rehabilitation specialists such as occupational therapists provide clinical driving assessments and conduct on-road evaluations to assist older drivers in prolonging the period of safe driving. Driver rehabilitation specialists can also recommend adaptive devices and provide follow-up training in safe driving techniques.

Safety Services Manitoba

Safety Services Manitoba specializes in full-service programming in occupational safety, road safety and community safety. In partnership with Manitoba public insurance, Safety Services Manitoba offers the Mature Driver workshop for older drivers. Training includes a review of traffic laws and road safety rules including how to compensate for the physical effects of aging.



1.4.3 Counselling and Guidance

Physicians

Physicians are most likely to be the first person ‘in authority’ to encounter a driver who is medically impaired. By providing effective health care, physicians can help their patients maintain a high level of fitness, enabling them to preserve safe driving skills later in life and protecting them against serious injuries in the event of a crash. By adopting preventive practices— including assessment and counselling strategies —physicians can better identify drivers at increased risk for crashes, help them enhance their driving safety, and ease the transition to driving retirement if and when it becomes necessary. Assessments and counselling strategies may include assessment of vision, cognition and physical ability in terms of medical fitness to drive. Physicians may also refer patients to driving rehabilitation specialists such as occupational therapists who are trained to conduct both on and off-road testing and can recommend the use of vehicular adaptive equipment to prolong driving safety.

Driving is a difficult topic to address, particularly when there is risk of damaging the patient-physician relationship, violating confidentiality, and potentially losing patients. To complicate matters, many physicians are uncertain of their legal responsibility to report unsafe drivers to the driver licensing authority.

Protecting the patient’s physical and mental health is considered the physician’s primary responsibility. This includes not only treatment and prevention of illness, but also caring for the patient’s safety. With regards to driving, physicians should advise and counsel their patients about medical conditions and possible medication side effects that may impair their ability to drive safely.

Nurses

Nurses can play an active role older-driver safety in disseminating information about health and safe driving to older patients and keeping doctors informed of family and patient concerns about vehicle operations. Nurses can also play an important role in participating in or conducting a community information effort to promote older driver safety or conduct office-based assessments at the direction of physicians.

Occupational Therapists

Physicians can refer patients to occupational therapists for more help with driving issues. Some occupational therapists have taken advanced training to conduct both on and off-road driving fitness assessments and interventions, and can identify alternative mobility solutions. Occupational therapists and driver rehabilitation specialists can prescribe adaptive features to the vehicle that can extend the period of safe driving.

1.5 Support for Retiring from Driving

1.5.1 Emotional Understanding

Driving can be a sensitive topic for older adults and the most effective tools are those that connect with older adults on a personal level by building rapport as opposed to using “report” language. For example, the use of personal stories, case studies and using a spokesperson in a community campaign are effective ways of connecting with older adults in the transition from driving.



1.5.2 Social support

Community Support

Because transportation and mobility issues present a cross-cutting issue for health care, social services, civic participation, and business concerns, representatives in each of these areas have a major stake in keeping older adults active, mobile, and connected to their communities. The complexity of the issues and costs related to transportation and mobility present an overwhelming responsibility for any one sector. Building collaborations for coalitions or partnerships has greater power and probability for success than the sum of individual efforts. As such, organizations and individuals with a stake in older adult mobility can come together to understand the capacity of older adults and the existing networks that they rely upon to stay connected. After assessing these resources, stakeholders can maintain and expand programs and services to reinforce the existing capacity of both older adults and networks without duplicating efforts. By working together, organizations build trust and credibility within communities by establishing a partnership of “equals,” not ownership by one organization. The trust can increase the number of organizations and groups supporting a community initiative related to older drivers and transportation.

Key Elements of Successful Community Collaboration

- | |
|--|
| • Establishing dialogue |
| • Securing host organization to facilitate the effort |
| • Receiving commitment of resources by host organization and others to expand discussions and planning |
| • Increasing community knowledge about a common concern |
| • Establishing consensus thinking to address issues of mutual concern |
| • Generating community involvement and interest |
| • Formulating and implementing strategies and interventions |
| • Sharing resources |
| • Developing long term solutions |
| • Promoting institutional change |

Faith-based Organizations

Faith-based communities and organizations often help the older adult who has restricted or ceased driving by providing rides to religious services, social events, medical appointments, or spiritual activities. Some of these organizations have developed supplemental transportation programs adding to alternative transportation options in a community.

Volunteer Organizations

Volunteers from non-profit organizations help keep down the costs of transportation programs by driving older community members to needed destinations. Most knowledgeable on the availability of these options are senior resource coordinators who oversee the coordination of these volunteers or connect older members of the community with rides.



Part four

Compendium of resources to support mature drivers:
Listing, descriptions and links



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1.0 About the compendium

This compendium of resources contains over 60 items that have been found online or obtained through relationships with stakeholders. As described in the previous section, they vary greatly in their intended objectives, their target audience(s) and their level of comprehensiveness. The resources for supporting mature drivers that have been selected for inclusion here represent a range in the quality of tools available. They have been organized primarily by audience, secondarily by theme/objective, and thirdly, alphabetically by title. They are also available in digital format in the accompanying CD. Some are interactive online tools and as such are not available digitally.

1.1 How to use this guide

You will find that *comprehensive*, and *specific* resources will help you to become informed of the opportunities available to support mature drivers. These three levels of information speak to the needs of various audiences. Using a combination of tools will likely be necessary in order to meet the appropriate and diverse needs of each driver. The descriptions that follow offer analyses of the tools available. We urge you to peruse as many as you can. This will facilitate familiarity with the diversity of information/programs available to you and your client as you select individualized combinations of resources to meet their needs.

Comprehensive

The more comprehensive the tool, the more useful it is for a reader as a stand-alone document. These resources will identify the issues, provide advice, and supply worksheets for activities and planning.

- For example, see item G1: *At the Crossroads: Family conversations about Alzheimer's disease, driving and dementia*, which contains information about declines, how to address these concerns with loved ones and worksheets such as cost calculators and written commitments for safe driving strategies.

Specific

Many brochures and booklets have been developed to address very narrow concerns related to some aspect of older adults and driving. These tend to focus on one subject matter and do it well.

- For example, see item C3: *Carfit: Helping mature drivers find their safest fit*, which deals specifically with how to ensure that drivers are properly fitted to their vehicle in order to increase safety.

1.2 Credibility of sources

As a final note before you get started, it is important to mention that there is a limitation to these recommendations. Much of the information presented in this toolkit was based on peer-reviewed research which, to date, has largely focused upon identifying the challenges and needs of older drivers. The suggestions made here for resources are not made upon evidence-based findings of effectiveness towards behavioural change. Rather, as is common with many public health interventions, these tools provide opportunities for diverse

approaches to reaching a large audience with varying needs. The most credible resources are developed in response to evidence-based research. For example, to name a few, the following were developed with research conducted by the accompanying source:

- *At the crossroads*, Massachusetts Institute of Technology (MIT)/ Hartford Financial Services Group
- *DriveWell*, National Highway Transportation Safety Association (NHTSA)/American Society on Aging (ASA)
- *Driving transitions education* and numerous health brochures, National Highway Transportation Safety Association (NHTSA)
- *Enhanced driving decisions workbook*, University of Michigan Transportation Research Institute (MTRI)
- *How to help an older driver*, American Automobile Association (AAA) Foundation for Traffic Safety

- Medical guides, American Medical Association (AMA)/ Canadian Medical Association(CMA)
- *No place to go*, University of Victoria’s Center on Aging
- *We need to talk*, Massachusetts Institute of Technology (MIT)/ Hartford Financial Services Group

1.3 Links to credible sites with several resources

As a quick reference and informational tool, many of the resources itemized in the compendium can be located by beginning your search at the following links. The recommended sites offer users a range of tools from reliable sources such as those listed above. More importantly, these sites are home to a multitude of links where you can find numerous tools for sharing – some online/interactive, others downloadable and printable.

Links to credible sites with several resources

Organization	Link
American Automobile Association (AAA) Foundation for Traffic Safety	http://www.seniordrivers.org/home/
American Society on Aging (ASA)	http://www.asaging.org/asav2/drivewell/index.cfm?CFID=39896966&CFTOKEN=33900909
AgeLab: Massachusetts Institute of Technology (MIT) & Hartford Financial Services Group	http://www.thehartford.com/alzheimers/index.html
National Highway Transportation Safety Association (NHTSA)	http://www.nhtsa.dot.gov/portal/site/nhtsa/menuitem.31176b9b03647a189ca8e410dba046a0/
OT Works! Canada’s Occupational Therapy Resource Site	http://www.otworks.ca/otworks_page.asp?pageid=784

Furthermore, it is hoped that the easy-to-use headings in the “Listing” will guide you to the appropriate resource for your clients’ needs.

2.0 Listing

RESOURCES FOR MATURE DRIVERS

Number	Format	Title	Page
A. Awareness tools about health and driving			
A1	Tip Sheet	AMA Successful aging tips	66
A2	Brochure	DriveABLE: Driving skills can change	66
A3	Booklet	DriveABLE: The senior driver – myths & facts	67
A4	Website	Driving safely while aging gracefully	67
A5	Brochure	Driving when you have arthritis	67
A6	Brochure	Driving when you have cataracts	67
A7	Brochure	Driving when you have diabetes	68
A8	Brochure	Driving when you have glaucoma	68
A9	Brochure	Driving when you have had a stroke	68
A10	Brochure	Driving when you have had seizures	68
A11	Brochure	Driving when you have macular degeneration	69
A12	Brochure	Driving when you have Parkinson's Disease	69
A13	Brochure	Driving when you have sleep apnea	69
B. Awareness tools about effects of medications and alcohol upon driving			
B1	Checklist	Awareness of medication effects for the older driver	69
B2	Poster	DriveABLE: Diseases and medications can cause impaired driving	70
B3	Brochure	Driving when you are taking medication	70
B4	Information Sheet	Drugs that can possibly affect driving skill	70
B5	Information Sheet	Effects of alcohol on driving performance	70
B6	Newsletter	Older adults and driving: What are the issues?	70
C. Awareness tools about adaptations for safety			
C1	Booklet	Adapting motor vehicles for older drivers	71
C2	Tip Sheet	AMA: Tips for safe driving	71
C3	Brochure	Carfit: Helping mature drivers find their safest fit	71
C4	Booklet	How's your driving? Safe driving for seniors	72
C5	PowerPoint Presentation	Safety & the older driver	72

Number	Format	Title	Page
D. Self-assessment tools for evaluation and adaptation of driving abilities/practice			
D1	Booklet	ACT: Older drivers' handbook	72
D2	Checklist	AMA: Am I a safe driver?	72
D3	Booklet	Drivers 55 plus: Check your own performance	73
D4	Booklet	Driving decisions workbook	73
D5	Online Software/ CD-ROM	Roadwise review online: A tool to help seniors drive safely longer	73
D6	Website	Safe driving for older adults	74
D7	Website	The enhanced driving decisions workbook	74
D8	Booklet	The older and wiser driver	74
E. Cognitive assessment resources			
E1	Evaluation	DriveABLE	75
E2	Website	OT Works: Canada's occupational therapy resource site	75
E3	Evaluation	The (Disabled) Driver Assessment Management Program (DAMP)	75
F. Planning tools for transitioning or retiring from driving to alternate methods of transportation			
F1	Booklet	A seniors guide to transportation services <i>*Strongly recommended</i>	76
F2	Booklet	ACT: Retiring from driving	76
F3	Worksheet	DriveABLE: Costs of driving	76
F4	Booklet	Out and about: A transportation and mobility guide for older adults in Howard County, their families and caregivers	77
F5	Brochure	Transportation options: Costs and benefits	77

RESOURCES FOR FAMILIES, FRIENDS, AND CAREGIVERS OF MATURE DRIVERS

Number	Format	Title	Page
G. Conversation, planning and information resources			
G1	Booklet	At the crossroads: Family conversations about Alzheimer's disease, driving and dementia	77
G2	Booklet	How to help an older driver: A guide for planning safe transportation	78
G3	Booklet	How to understand & influence older drivers	78
G4	Booklet	We need to talk... Family conversations with older drivers	79

Number	Format	Title	Page
G5a	Brochure	DriveABLE: Worried about someone's driving?	79
G5b	Information Sheet	DriveABLE: Decisions about driving	79
G6	Checklist	Ten questions to ask the family (from The driving and dementia toolkit)	79
G7	Information Sheet	Tough issues in driving	80
H. Peer support for persons supporting older adults through transition or retirement from driving			
H1	Online Forum	Convincing elderly parents to give up driving: What's your experience?	80

RESOURCES FOR COMMUNITY (INCLUDING SENIOR RESOURCE COORDINATORS)

Number	Format	Title	Link
I. Counselling and role play			
I1	Guidebook	Driving transitions education: Tools, scripts and practice exercises <i>*Best tool for senior resource coordinators</i>	80
I2	Video	No particular place to go	81
J. Planning and educational tools			
J1	Manual	DriveWell: Promoting older driver safety and mobility in your community	81
J2	PowerPoint Presentation	DriveWell: PowerPoint presentations	882
J3	Video	DriveWell: Video	82
J4	PowerPoint Presentation	Retiring from driving: Three types of drivers	82
K. Reports and background information			
K1	Website	Family and friends concerned about an older driver: Final report	83
K2	Booklet	Older adults' knowledge about medications that can impact driving	83
K3	Web Page	Older drivers programs for traffic safety	83
L. Training for alternatives			
L1	Manual	Alameda County older adult group training manual	84
L2	Booklet	Getting around: Alternatives for seniors who no longer drive	84
L3	Demonstration	Winnipeg Transit bus tutorial	84

RESOURCES FOR HEALTH PROFESSIONALS

Number	Format	Title	Page
M. Information, assessment and counselling guides for health professionals			
M1	Booklet/CD-ROM	AMA: Physician's guide to assessing and counselling older drivers	85
M2	Booklet	CCMTA: Medical standards for drivers	85
M3	Booklet	Determining medical fitness to operate motor vehicles: CMA's guide for physicians	85
M4	PowerPoint Presentation	Dementia and driving checklist	86
M5	Booklet	Driving and dementia toolkit	86

3.0 Descriptions

3.1 Resources for mature drivers

A. Awareness tools about health and driving

A1. AMA: Successful aging tips

Description:	Tip-sheet provides recommendations on healthy aging
Summary:	“Successful Aging Tips” from the “Physician’s Guide to Assessing and Counseling Older Drivers” is a list of four tips, each providing a set of recommendations on healthy aging. Tips include: 1) Take care of your health, which promotes a healthy diet and active lifestyle; 2) Keep yourself safe, which recommends making the home a safe place to prevent falls; 3) Take care of your emotional health, which recommends staying connected with family and friends and keeping the mind active with books, classes etc.; and 4) Plan for your future, which recommends planning ahead for future mobility needs and unforeseen changes to driving.
Website:	http://www.ama-assn.org/ama1/pub/upload/mm/433/appendixb.pdf

A2. DriveABLE: Driving skills can change

Description:	Brochure raises awareness of age-related changes to driving
Summary:	“Driving Skills Can Change” is a brochure written for older drivers and driver-supports. Even the best drivers can become unsafe due to health conditions such as stroke, Alzheimer’s disease and other dementias. Warning signs may include close calls, driving too slowly or getting lost and confused. “Driving Skills can Change” recommends one of DriveABLE’s cognitive assessments in which motor skills and mental abilities necessary for safe driving are tested in the office or on-the-road.
Website:	http://www.driveable.com/resources/Skills%20lo.pdf

A3. DriveABLE: The senior driver - myths & facts

Description:	A PowerPoint presentation for physicians which identifies and redresses common myths about older drivers
Summary:	Written for physicians, this identifies and redresses common myths about older drivers and provides tips to help the physician meet the challenges of the driving issue and to help manage risk. For example, one myth: "Driving is not a physician's responsibility" describes the responsibilities of physicians as being most likely to be the first person 'in authority' to encounter a driver who has become medically impaired. The presentation includes topic areas such as cognitive decline and tips and advice for physicians such as assessment and planning ahead.
Website:	http://www.driveable.com/resources/Myths.pdf

A4: Driving safely while aging gracefully

Description:	Physical effects of aging and coping tips for older drivers to remain safe on the road
Summary:	Online tool for drivers which describes the physical effects of aging and coping tips to remain safe on the road for as long as possible. The website includes sections on vision, physical fitness and cognition. Each section begins with descriptions of various symptoms associated with vision, physical fitness and cognition and then provides recommendations for drivers to cope with such conditions. The tool recommends keeping alert to changes by being aware of physical limitations, talking with a doctor, planning ahead for future mobility needs and unforeseen changes to driving, and refreshing knowledge of safe driving practices by attending a mature driver refresher course.
Website:	http://www.nhtsa.dot.gov/people/injury/olddrive/Driving%20Safely%20Aging%20Web/index.html

A5. Driving when you have arthritis

Description:	Brochure to help drivers, family and health professionals talk about how arthritis can effect the ability to drive safely
Summary:	Arthritis can make joints swollen and stiff, which can limit how an individual can bend or move their shoulders, hands, head and neck. This can make it harder to grasp the wheel, turn the steering wheel, apply the brake and gas pedals, or look over the shoulder to check blind spots. Most people with arthritis can still drive safely depending on how well it is managed. If medication is used to treat arthritis, medications that do not cause drowsiness are recommended. As staying fit and active can prolong driving, it is recommended that individuals with arthritis talk to their doctors about exercises to keep joints strong and supple.
Website:	http://www.nhtsa.gov/people/injury/olddrive/arthritis/index.htm

A6. Driving when you have cataracts

Description:	Brochure to help drivers, family and health professionals talk about how cataracts may effect the ability to drive safely
Summary:	Having cataracts may make it harder to see the road, street signs, other cars, and people walking because a cataract clouds the eye's lens. With cataracts, objects look blurry, headlight glare is more intense, night vision is worse and double-vision may be present. In the early stages, a cataract may be so small that it does not effect vision; over time, the cataract may worsen and cloud more of the eye's lens making driving unsafe. Brochure recommends planning trips to avoid when vision is most effected and keeping the vehicle clean including windows and headlamps to ensure vision is not further reduced. An eye care specialist may recommend surgery depending upon the severity. Cataract surgery is the most common surgical procedure in the United States.
Website:	http://www.nhtsa.gov/people/injury/olddrive/Driving_cataract/index.htm

A7. Driving when you have diabetes

Description:	Brochure to help drivers, family and health professionals talk about how diabetes can effect the ability to drive safely
Summary:	People with diabetes are able to drive unless limited by certain complications from diabetes. In the short term, diabetes can make blood glucose (sugar) levels too high or too low resulting in sleepiness, confusion, blurred vision, loss of consciousness or seizure. In the long run, diabetes can lead to problems that effect driving such as nerve damage in hands, legs, feet and eyes. In some cases, diabetes can cause blindness or lead to amputation. Brochure recommends that drivers do not drive when blood glucose levels are too low and to ensure a blood glucose meter and plenty of snacks are on hand.
Website:	http://www.nhtsa.gov/people/injury/olddrive/Diabetes%20Web/index.html

A8. Driving when you have glaucoma

Description:	Brochure to help drivers, family and health professionals talk about how glaucoma may effect the ability to drive safely
Summary:	Glaucoma may cause partial vision loss or total blindness and usually effects peripheral vision. Because glaucoma effects peripheral vision, many people may not be aware of their vision losses until its advanced stages. With glaucoma, drivers may not see other cars, bicyclists, or pedestrians that are outside the central field of view. Doctors can often treat glaucoma and slow its progression; however, it is very important to have glaucoma checked on the regular basis by an eye care expert.
Website:	http://www.nhtsa.gov/people/injury/olddrive/Driving_glaucoma/index.htm

A9. Driving when you have had a stroke

Description:	Brochure to help drivers, family and health professionals talk about how having a stroke may effect the ability to drive safely
Summary:	A stroke may cause temporary or permanent weakness or paralysis on one side of the body causing difficulty in driving such as turning the steering wheel or applying the brake, thinking clearly about traffic around the vehicle and drifting across lane markings and into other cars. Most stroke survivors can return to independent, safe driving depending on the severity of the stroke and where in the brain the stroke took place. Doctors can provide information about rehabilitation after a stroke which may include seeing a driving rehabilitation specialist to return to safe driving.
Website:	http://www.nhtsa.gov/people/injury/olddrive/Stroke/index.html

A10. Driving when you have had seizures

Description:	Brochure to help drivers, family and health professionals talk about how having one or more seizures may effect the ability to drive safely
Summary:	Having a seizure can cause you to lose control of your body, change the way you act and sense things or make you pass out suddenly. If you are having a seizure while driving, you could lose control of your car and cause a crash. "Driving When you have had Seizures" is a brochure for drivers that emphasizes that many people who have had seizures are able to return to driving once their seizures are under control. Brochure is an American document with references to American institutions but still relevant in the broader scope.
Website:	http://www.nhtsa.gov/people/injury/olddrive/Seizures%20Web/index.html

A11. Driving when you have macular degeneration

Description:	Brochure to help drivers, family and health professionals talk about how macular degeneration may effect the ability to drive safely
Summary:	Macular degeneration can distort central vision and can lead to loss of sharp vision. Macular degeneration can also make it difficult to read road signs and traffic signs. Visual changes due to macular degeneration in the early stages may be unnoticeable; however, such changes may worsen over time making it difficult to see clearly. Brochure recommends seeing an eye care expert if family history of macular degeneration is present or if changes in vision are noticed. Surgery and/or antioxidant vitamins may help retard its progression. Eye care specialist may recommend seeing a driving specialist to determine how macular degeneration has effected driving.
Website:	http://www.nhtsa.gov/people/injury/olddrive/Driving_macular/index.htm

A12. Driving when you have Parkinson's Disease

Description:	Brochure to help drivers, family and health professionals talk about how Parkinson's disease may effect the ability to drive safely
Summary:	Parkinson's disease can cause arms, hands, or legs to shake. It can also make it harder to balance, or start to move from a still position. With Parkinson's disease, individuals may not be able to react quickly to a road hazard, turn the steering wheel, use the gas pedal or push down the brake. Individuals with Parkinson's disease may still be able to drive if in the early stages and if medications are taken to control the symptoms. Brochure recommends asking a doctor about medicines and surgeries that may be able to help treat symptoms of Parkinson's disease. Brochure also recommends staying fit and active to maintain muscle strength needed for driving.
Website:	http://www.nhtsa.gov/people/injury/olddrive/Parkinsons%20Web/index.html

A13. Driving when you have sleep apnea

Description:	Brochure to help drivers, family and health professionals talk about how sleep apnea may effect the ability to drive safely
Summary:	Sleep apnea is a condition in which breathing is interrupted during sleep and the body reacts by partially or completely awakening each time an individual stops breathing. Sleep apnea results in not getting restful sleep and individuals often remain sleepy throughout the day. Untreated sleep apnea can make it difficult to stay awake and alert while driving. It is rare that than an effective treatment cannot be found for sleep apnea, but other health issues may complicate the treatment plan. Brochure recommends talking with a doctor to find a treatment plan, avoiding alcohol as it is known to worsen sleepiness and planning ahead for alternative methods of transportation such as rides with family and friends.
Website:	http://204.68.195.151/people/injury/olddrive/

B. Awareness tools about effects of medications and alcohol upon driving

B1. Awareness of medication effects for the older driver

Description:	Checklist to assist older drivers to identify medications that can effect driving
Summary:	One-page checklist which lists twelve medical conditions and the types of medications used to treat that condition including their potential effects on driving.
Website:	http://www.co.rockland.ny.us/Age/Driving/Awareness%20of%20Medication%20Effects.pdf

B2. DriveABLE: Diseases and medications can cause impaired driving

Description:	Healthcare office poster
Summary:	Informational healthcare office poster that describes how medically impaired drivers are at risk due to declining cognition. Poster also outlines the responsibilities of physicians: "...must always consider both the interest of the patient and welfare of the community exposed to the patient's driving."
Website:	http://www.driveable.com/resources/DriveABLEPosterDec6.pdf

B3. Driving when you are taking medication

Description:	The goal of this brochure is to help older drivers and their health care professional talk about how medications may effect the ability to drive safely
Summary:	Tool discusses why people take medication and the potential dangers of taking more than one kind of medication at a time (a common occurrence among older adults). Brochure encourages honest and open conversations with doctors. Maintaining safe mobility requires openness about usage of prescribed medications. Brochure is an American document with references to American institutions but still relevant in the broader scope.
Website:	http://www.nhtsa.dot.gov/people/injury/olddrive/medications/index.htm

B4. Drugs that can possibly affect driving skill

Description:	List of medications that can effect driving
Summary:	One-page list of medications that can effect driving. List includes energy and weight-loss drugs and anti-nauseates such as Gravol. Potential side-effects of drugs that can effect driving include drowsiness, dizziness, blurred vision and unsteadiness.
Website:	http://www.solutionsforseniors.cimnet.ca/cim/dbf/Driving_Drugs_and_Alcohol_hand-out.pdf?im_id=153&si_id=29

B5. Effects of alcohol on driving performance

Description:	Information on the effects of alcohol on driving
Summary:	One-page information sheet describing the effects of alcohol on driving. For example, the ability to divide attention between two or more sources of visual information is compromised after drinking alcohol. Impaired drivers will favour one task over another, with possibly disastrous results.
Website:	http://www.solutionsforseniors.cimnet.ca/cim/dbf/Driving_Drugs_and_Alcohol_hand-out.pdf?im_id=153&si_id=29

B6. Older adults and driving: What are the issues?

Description:	Article describing normal changes to physical and mental health that can effect the ability to drive safely.
Summary:	This article begins with the story of a 72 year old woman in Manitoba who side-swiped a car while driving at night. Despite being accident-free for many years, she admitted to her family that she had problems with glare at night for the past few years. She had decided to stop driving at night for fear of hurting herself or someone else. The article continues to discuss how normal changes to physical and mental health can effect the ability to drive safely; particularly, the article provides information on changes in vision and the effects of alcohol and medication on driving. The article recommends non-judgemental and open communication with older family members and friends when it comes to their driving abilities. The article also recommends the use of vehicular adaptations such as larger side-view mirrors to prolong safe driving.
Website:	http://www.afm.mb.ca/AFM%20Library/documents/IVOlderAdults.pdf

C. Awareness tools about adaptations for safety

C1. Adapting motor vehicles for older drivers

Description:	An older driver's guide to using adaptive devices for their vehicles.
Summary:	The information in this document is based on the experience of driver rehabilitation specialists and other professionals who work with people who require adaptive devices for their motor vehicles. The steps outlined represent a proven process – evaluating personal needs, making sure the vehicle “fits” those personal needs, choosing appropriate features, installing and training to use adaptive devices and practicing good maintenance. “Adapting motor vehicles for older drivers” is written for drivers of modified vehicles, each section also contains important information for people who provide transportation for passengers with special needs.
Website:	http://www.nhtsa.dot.gov/portal/site/nhtsa/menuitem.31176b9b03647a189ca8e410dba046a0/

C2. AMA: Tips for safe driving

Description:	Tip-sheet provides recommendations on safe driving
Summary:	“Tips for Safe Driving” from the Physician’s Guide to Assessing and Counseling Older Drivers is a list of four tips, each providing a set of recommendations on safe driving. Tips include: 1) ‘Drive with care’ recommends driving at speed limit, planning trips ahead of time, self-regulating driving, talking to a doctor about the effects of medications and never drinking and driving; 2) ‘Take care of your car’ suggests making sure there is plenty of gas in the car, ensuring windshields and mirrors are clean and replacing windshield wipers when they become worn; 3) ‘Know where you can ride’ recommends making a list of alternative methods of transportation for when the car is in the shop or when driving does not feel safe such as at night; and 4) ‘Take a driver safety class - brush up on safe driving skills.’
Website:	http://www.ama-assn.org/ama1/pub/upload/mm/433/appendixb.pdf

C3. Carfit: Helping mature drivers find their safest fit

Description:	Vehicular adjustments and adaptations to fit the needs of aging drivers
Summary:	“Carfit: Helping Mature Drivers Find Their Safest Fit” provides recommendations on vehicular adjustments and adaptations to fit the needs of aging drivers and to maintain driving safety. For example, Carfit recommends a clear line of sight over the steering wheel, easy to access gas and brake pedals, being able to get in and out of the vehicle easily and being able to sit comfortably without pain or stiffness in the the knees, hips and neck or shoulders. A variety of adaptive features can also be added to compensate for physical changes or simply to make the vehicle fit more comfortably or safely. Examples of such adaptive features include: seatbelt extendors, visor extendors, steering wheel covers, pedal extendors, leverage handles and larger panoramic mirrors.
Website:	http://www.seniordrivers.org/pdf/carfit.pdf

C4. How's your driving? Safe driving for seniors

Description:	Safety tips and checklists prompting available services in Ontario
Summary:	“How’s your driving?” provides recommendations on staying safe and mobile such as seeing a doctor for regular vision and hearing checkups and to implement an exercise program to maintain strength. The guide also recommends planning ahead for future mobility needs and unforeseen changes to driving as well as being aware of age-related changes to driving. This document is written primarily for drivers in Ontario aged 80 years and older. Ontario drivers aged 80 years and older must renew their license every two years, complete a vision test, attend an education session and take a written test. “How’s your driving?” provides further details on Ontario’s licensing policies and provides contact information to various resources including testing centers and education sessions.
Website:	http://www.mto.gov.on.ca/english/pubs/seniors-guide/pdfs/seniors-guide.pdf

C5. Safety & the older driver

Description:	PowerPoint presentation for older drivers and driver supports
Summary:	“Safety & the older driver” is a PowerPoint presentation for older drivers and driver supports which covers a number of topic areas including medication use and effects including alcohol and strategies for safe medication use. “Safety & the older driver” describes how driving and wellness is an ongoing process and that each driver is unique in their challenges and solutions. Included in the presentation are strategies for safer driving which recommend self-regulation and developing an action plan to improve driving wellness.
Website:	Digital copy available only on CD

D. Self-assessment tools for evaluation and adaptation of driving abilities/practices

D1. ACT: Older Drivers’ handbook

Description:	Handbook focuses on giving older drivers information about how to determine for themselves whether they are driving safely, how to continue to drive safely and when to make the decision to transition away from the automobile
Summary:	This Australian guide is written for older drivers in the Australian Capital Territory (ACT) and begins with an adapted version of the AAA Foundation for Traffic Safety’s “The Older and Wiser Driver” (self-evaluation tool). The self-evaluation is followed by an in-depth review of the questions. The book recommends that all drivers read through the tips and suggestions for improvement which include tips for driving alternatives, what to do after an accident, road rules and first-aid techniques (from St. John Ambulance Australia). Given that the document originates in Australia, the content is relevant for drivers in terms of driving safety and awareness.
Website:	http://www.tams.act.gov.au/_data/assets/pdf_file/0006/97044/ACT_Older_Drivers_2008.pdf

D2. AMA: Am I a Safe Driver?

Description:	Checklist that can assist older drivers identify potentially unsafe driving practices
Summary:	“Am I a Safe Driver?” from the “Physician’s Guide to Assessing and Counseling Older Drivers” is a list of twenty statements that may indicate that driver safety is at-risk. If any of the statements are checked, the checklist recommends talking to a doctor to find ways to improve driver safety.
Website:	http://www.ama-assn.org/ama1/pub/upload/mm/433/appendixb.pdf

D3. Drivers 55 plus: Check your own performance

Description:	Driver self-rating tool which generates a score based on answering 15 questions; remainder of booklet offers tips and suggestions for improvement based on the 15 questions answered
Summary:	This guide is a slightly adapted version of the AAA Foundation for Traffic Safety's "The Older and Wiser Driver" (self-evaluation tool). The self-evaluation is followed by an in-depth review of the questions in which test scores are categorized into three groups: Go! (safe driver), Caution! (driver engaged in questionable practices) and Stop! (dangerous driver). The book recommends all drivers read through the tips and suggestions for improvement. Guide also clarifies misconception that driving ability is not necessarily related to age but also includes decreasing cognitive function and medication use as contributors to decreasing driving ability. "Drivers 55 Plus" also recommends 1) older drivers take a refresher course or enlist the help of an occupational therapist to evaluate driving ability, and; 2) talk to a doctor/pharmacist regarding the use of medication and planning ahead for future mobility needs and unforeseen changes to driving.
Website:	http://www.aaafoundation.org/pdf/driver55.pdf

D4. Driving decisions workbook

Description:	Self evaluation guide to identify age-related changes to driving habits and abilities
Summary:	The "Driving Decisions Workbook" is a very thorough, well written and comprehensive self-evaluation workbook that was originally tested to be delivered prior to on-road training. The workbook provides the framework from which to raise self-awareness (but not necessarily to increase cognitive function). The five sections within this workbook (on the road, seeing, thinking, getting ahead, and health) include feedback for each answer and offer further explanation and recommendations for older drivers. For example, the section on thinking approaches concerns such as selective attention and speed of thinking while the section on health deals with the concerns of driving and medication.
Website:	http://deepblue.lib.umich.edu/bitstream/2027.42/1321/2/94135.0001.001.pdf

D5. Roadwise review online: A tool to help seniors drive safely longer

Description:	Online screening tool for older drivers to measure certain mental and physical abilities important for safe driving.
Summary:	"Roadwise Review" is a scientifically validated screening tool developed by the AAA Foundation for Traffic Safety and noted transportation safety researchers. The free online software allows seniors to measure in the privacy of their own home the eight functional abilities shown to be the strongest predictors of crash risk among older drivers. The abilities assessed in "Roadwise Review" includes leg strength and general mobility, head/neck flexibility, high-contrast visual acuity, low-contrast visual acuity, working memory, visualization of missing information, visual search and useful field of view. A CD-ROM is also available by following the web links to retrieve the contact information for the traffic safety representative in Manitoba.
Website:	http://www.seniordrivers.org/driving/driving.cfm?button=roadwiseonline

D6. Safe driving for older adults

Description:	Physical effects of aging and coping tips for older drivers to remain safe on the road
Summary:	This is an interactive online tool for drivers which describes the physical effects of aging and tips to remain safe on the road. The self-assessment component consists of five questions: 1) How is your vision? 2) Do you have control over your vehicle? 3) Does driving make you nervous, scared or overwhelmed? 4) Are loved ones concerned? and 5) Do you drive with children or young adults? Each question considers several indicators and makes recommendations to cope with physical changes. Question five: "Do you drive with children or young adults?" emphasizes the additional safety responsibilities of older drivers driving with children and young adults and provides advice on how to use child safety seats effectively.
Website:	http://204.68.195.151/people/injury/olddrive/olderadultswebsite/

D8. The older and wiser driver

Description:	Online driver self-rating tool which generates a score based on answering 15 questions
Summary:	This online self-assessment tool for drivers is published by Manitoba Seniors and Healthy Aging Secretariat and is an adaptation of the AAA Foundation for Traffic Safety's "The Older and Wiser Driver." The self-evaluation is followed by an in-depth review of the questions in which test scores are categorized into three groups: Go! (safe driver), Caution! (driver engaged in questionable practices) and Stop! (dangerous driver). There is a link in each of these three categories which provide suggestions for improvement that include taking a driver refresher course, planning ahead and self-regulation.
Website:	http://www.gov.mb.ca/shas/resourcesforseniors/driver/quiz.html

D7. The enhanced driving decisions workbook

Description:	Revised version of the "Driving Decisions Workbook" (online self-assessment guide to identify age-related changes to driving habits and abilities)
Summary:	This is an online and revised version of the "Driving Decisions Workbook," a reputable self-assessment tool for drivers. The questionnaire asks about 3-5 questions per page and is about 27 pages long. Primarily posed in multiple choice format, the questions are easy to read and understand. The workbook contains three sections: seeing, thinking and getting around - each having to do with safe driving. Users have the option of adjusting the font size and saving the assessment results to their personal computer. Based on the answers, the evaluation suggests possible health concerns that the individual may be experiencing (e.g. poor depth perception, impaired coordination) and difficulties in driving caused by these health concerns (e.g. backing up, responding to traffic signals).
Website:	http://www.um-saferdriving.org/firstPage.php

E. Cognitive assessment resources

E1. DriveABLE

Description:	DriveABLE is an international organization that offers a series of products for identifying driver impairments stemming from cognitive or physical declines. DriveABLE has private office in Winnipeg which conducts cognitive evaluations for older drivers interested in maintaining their mobility
Summary:	The three main products are informational tools and evaluation options. Community education resources such as brochures and presentations focus on cognitive assessments for at-risk drivers and are available online for download. The “In Office Cognitive Driving Assessment Tool” (DCAT) is a software program that identifies impairments to cognitive abilities relevant for driving. This testing is administered in a clinical setting by a professional. The “On-Road Evaluation” (DORE), is designed to measure cognitive function while driving. This is administered by a certified DriveABLE assessor using a standardized road test and one of DriveABLE’s own vehicles. These services are offered for a fee. In Winnipeg, Dr. Andrew Jones has a background in psychology. He can be reached by phone 204-791-7736 or via email at DriveABLEMB@shaw.ca
Website:	http://www.driveable.com/

E2. OT Works: Canada’s occupational therapy resource site

Description:	Website with numerous useful links for mature drivers, this page focuses upon demystifying the process of driver evaluations.
Summary:	Occupational therapists are certified to conduct driving evaluations; such evaluations are administered to pinpoint difficulties as opposed to taking one’s license away. The evaluations are conducted in two parts: 1) Clinical: Occupational therapist begins the evaluation by determining the effects of medical conditions, medications and functional limitations upon their clients’ driving tasks; 2) On road: Testing takes into account physical ability and endurance for vehicle-handling, visual/perceptual skills, and cognitive/behavioural skills.
Website:	http://www.otworks.ca/otworks_page.asp?pageid=788

E3. The (Disabled) Driver Assessment Management Program (DAMP)

Description:	Driver assessment program at the Health Sciences Centre’s Department of Occupational Therapy
Summary:	The (Disabled) Driver Assessment Management Program (DAMP) operates two days a week at the Health Sciences Centre’s Department of Occupational Therapy. Through the referral of a physician/Driver Licensing, DAMP will administer one-on-one physical and cognitive evaluations (including an on-road test) for drivers of all ages. Using measurements and qualitative strategies to ensure each driver’s personal circumstances are considered, the goal of assessment is to keep driver’s behind the wheel safely for as long as possible. This may include rehabilitation, adaptation devices, driving tips or education. Suggestions are shared with the client as well as with Driver Licensing. The department of Driver Licensing is the body responsible for enforcement of recommendations but it is up to the driver to heed the advice. There is no protocol for supportive services following removal of license.
Website:	http://www.otworks.ca/otworks_page.asp?pageid=785

F. Planning tools for transitioning or retiring from driving to alternate methods of transportation

F1. A seniors guide to transportation services

Description:	Guide for finding transportation for older adults in Winnipeg, Manitoba <i>*Strongly recommended</i>
Summary:	Developed by the Good Neighbours Active Living Centre in Winnipeg, this one-of-a-kind transportation guide is intended for older adults looking for alternative methods of transportation in Winnipeg. The compilation provides contact information for various transportation resources in Winnipeg including 55 Alive/Mature Driving program (an education program to help older drivers continue to drive safely,) senior resource councils in Winnipeg (information on the types of services they offer,) and taxi companies (including limos, vans, shuttles and charters; and wheelchair services.) This guide is especially useful for older adults who have difficulty using public transportation or do not have the social supports necessary to maintain mobility and independence.
Website:	Digital copy available on CD or by request from outreachgnscc@mts.net

F2. ACT Retiring from driving

Description:	Mobility guide to encourage drivers who are ready to consider transitioning away from driving
Summary:	“ACT Retiring from Driving” was developed as a follow-up to the “ACT Older Drivers’ Handbook” and is written for older drivers in the Australian Capital Territory (ACT). The guide presents issues such as the importance of mobility and independence, risks faced by older adults and recognizing signs that it may be time to retire from driving. Handbook also includes a cost calculator, self-assessment tool and quotes from older drivers. “ACT Retiring from Driving” is consistent with research and depicts older adults being active and independent, smiling, planning their trips together and spending time with friends. While this guide is very comprehensive for drivers, some of the recommendations put forward in this document such as “try to live close to public transport” are not practical for all drivers.
Website:	http://www.livedrive.org.au/download_documents/retiring_from_driving.pdf

F3. DriveABLE: Costs of driving

Description:	Worksheet to help drivers determine how much their vehicle costs each year
Summary:	This form assists drivers in determining how much their vehicle costs each year. Vehicle cost calculators can help drivers evaluate the cost-benefits of owning and operating a vehicle as compared to using alternative methods of transportation. Vehicle cost calculators are often incorporated into tools for drivers and driver supports to assist in the process of mobility planning. See F5 for a more dynamic comparison tool.
Website:	http://www.driveable.com/resources/car%20cost.pdf

F4. Out and about: A transportation and mobility guide for older adults in Howard County, their families and caregivers

Description:	Guide for finding transportation for older adults and driver supports in Howard County, Maryland
Summary:	This mobility guide was developed to assist older drivers in Howard County, Maryland continue to drive for as long as possible and to help them transition, if necessary, to the best available method of transportation they are capable of using. It was also created to help seniors' family members or caregivers assist older drivers with their mobility issues. The guide discusses older driver safety issues and includes warning signs for drivers with dementia. Also included are numerous resources in Howard County such as driving rehabilitation specialists, driver refresher programs, transit training and neighbourhood associations. While this document is not relevant specifically to Winnipeg, it is a good example of a community mobility guide complete with a listing of local resources. See F1 for options in Winnipeg.
Website:	http://www.co.ho.md.us/OA/OADocs/outandabout08.pdf

F5. Transportation options: Costs and benefits

Description:	Brochure for drivers of all ages comparing the costs and benefits of a variety of transportation modes
Summary:	More dynamic than the traditional 'cost calculator', this descriptive and visually comprehensive brochure compares the opportunities and savings presented by alternate methods of transportation. Accounting for affordability, convenience, independence, accessibility and health, this tool allows reader to consider the greater picture of mobility options.
Website:	www.tonsmb.org

3.2 Resources for families, friends and caregivers of mature drivers

G. Conversation, planning and information resources for those assisting mature drivers to transition or retire away from driving

G1. At the crossroads: Family conversations about Alzheimer's Disease, driving and dementia

Description:	Guide to help people with dementia and their families prolong independence while encouraging safe driving
Summary:	"At the Crossroads..." is written for people with dementia and their families to help prolong independence while encouraging safe driving. Throughout this guide, there is an emphasis on building and implementing social support and early planning. The guide recognizes the need to approach the issues constructively and in a manner that fosters self-respect of the person with dementia and the safety of everyone on the road. Included is advice from caregivers, tips for balancing independence and safety, warning signs for drivers with dementia and several worksheets that include a guide for finding alternative transportation, conversation planning and a pledge to family for when an older adult is no longer able to make the best decisions for the safety of others and themselves. Quotes and stories from older adults relate on a personal level while the guide highlights a balance between dementia being a serious cause for concern and the hope that independence and mobility can still be maintained.
Website:	http://www.thehartford.com/alzheimers/AtTheCrossroadsBrochure.pdf

G2. How to help an older driver: A guide for planning safe transportation

Description:	Published by the AAA Foundation for Traffic Safety, this booklet provides driver supports with a framework for helping their loved one(s) to preserve personal freedom, mobility and safety
Summary:	“How to Help an Older Driver” is written for driver supports concerned about a loved one’s driving. The guide describes how driving is important to older adults in maintaining freedom and how the factors of ageing effect driving safety. Also included in this guide are recommendations on how to communicate effectively with a loved one, an indicator tool to identify at-risk driving behaviour (e.g. does the driver get lost or disoriented, even in familiar places?), advice on how to choose a car with up-to-date features, and other safety issues such driving and medication. “How to Help an Older Driver” is illustrated with cheerful cartoons that manage to present material a tactful and factual manner, ultimately promoting sensitivity and understanding.
Website:	http://www.aaafoundation.org/pdf/Odlarge.pdf

G3. How to understand & influence older drivers

Description:	A guide and planning document to assist families in initiating productive conversations about driving and to develop mobility plan.
Summary:	The information in this guide provides guidance for families and friends of older drivers to understand when and how to keep older adults connected to the people and activities that are important to them. This document is also intended to broaden the discussion about older driver safety and mobility by providing recommendations to assist older drivers in making informed choices about their driving behavior. This guide also lists suggestions on how to begin conversations with older drivers about safety concerns. Sections include recommendations and worksheets on how to begin the conversation, and how to develop and follow through with a mobility plan.
Website:	http://www.nhtsa.dot.gov/people/injury/olddrive/UnderstandOlderDrivers/2911OlderDriverSafety.pdf

G4. We need to talk...Family conversations with older drivers

Description:	Guide to help families initiate productive conversations about driving safety
Summary:	“We need to talk...” is written for driver supports and suggests that family conversations with older drivers can influence driving safety among older adults. The guide describes how older drivers are at risk and includes conversation guides for driver supports, advice on effective communication and with whom older adults prefer to speak with about their driving (e.g. spouses, adult children and physicians). “We Need to Talk...” recommends early conversations about driving safety and that such conversations should establish a pattern of open dialogue. The guide also includes transportation options worksheets, an indicator tool to identify at-risk driving behaviour and a vehicle cost calculator. The tone of this document is informative and sensitive as older adults and families of multi-ethnic backgrounds are depicted in a manner that communicates warmth and unity.
Website:	http://web.mit.edu/agelab/news_events/pdfs/weneedtotalk.pdf

G5b. DriveABLE: Decisions about driving

Description:	One-page information sheet to help families initiate a discussion with their loved one about their driving
Summary:	“Assessing the medically at-risk driver” is a one-page information sheet to help families initiate a conversation with their loved one about their driving. The short format of this specific tool recommends early discussions and planning such as signing a pledge. Included is a section about when driving must stop which discusses how the need to stop driving may be due to a lack of insight related to cognitive impairment that can cause resistance on the part of the older driver. The guide recommends that families be clear on why they have driving concerns (e.g. observations and/or those of others, medical conditions, legal risks, physician’s advice, etc.). The guide further recommends considering what driving means to their loved one in order to identify what topics will come up and how much resistance to expect. Also included are sample ‘starting points’ for families to consider when initiating a conversation with their loved one about their driving.
Website:	http://www.driveable.com/resources/Decisions%20about%20driving%20.pdf

G5a. DriveABLE: Worried about someone’s driving?

Description:	DriveABLE brochure outlines how driving skills can change, signs which raise potential red flags and the DriveABLE assessment which offers an unbiased and objective evaluation of cognitive function
Summary:	DriveABLE has produced numerous resources for drivers and driver supports for supporting drivers concerned about maintaining mobility. “Worried about Someone’s Driving?” discusses the risk of cognitively impaired drivers and recommends one of DriveABLE’s cognitive assessments. The brochure includes a cost calculator and a discussion guide which emphasizes being prepared (planning ahead) and being strategic (awareness of family dynamic, lack of driver insight on the issues) and focusing on the need for a driving assessment.
Website:	http://www.driveable.com/resources/Worried%20lo.pdf

G6. Ten questions to ask the family (from The driving and dementia toolkit)

Description:	Questionnaire for families to identify whether or not a loved one may be practicing unsafe driving behavior
Summary:	Questionnaire comes from the “Driving and Dementia Toolkit” and is written for physicians in the form of ten questions to help families identify if a loved one is practicing unsafe driving behavior.
Website:	http://www.cma.ca/multimedia/CMA/Content/Images/Inside_cma/WhatWePublish/Drivers_Guide/AppendixDe.pdf

G7. Tough issues in driving

Description:	Single sheet of tips on who should broach the subject of driving with an older adult – good for at-a-glance discussions
Summary:	Provided by the Addictions Foundation of Manitoba, it is a synthesis of findings presented in We Need to Talk, stemming from research conducted by MIT AgeLab. Options discussed are: spouses, adult children/supportive helpers, physicians, police officers. Website:
Website:	Digital copy only – available on CD

H. Peer support for persons supporting mature drivers through transition or retirement

H1. Convincing elderly parents to give up driving: What’s your experience?

Description:	Online forum discussing experiences, stories and strategies for helping older drivers transition away from the automobile.
Summary:	The American Association of Retired Persons (AARP) website has an online community for older adults and caregivers. Posted in one of the forums is a discussion in which a caregiver comments on her frustration in talking to her father about his driving: “We have talked to my father about this [driving cessation], and he adamantly refuses to recognize he is no longer capable of safe driving (according to him, the median he hit was inexplicably ‘built in the middle of the road’).” The discussion board includes 12 comments from other peers relating their experiences, stories and strategies for helping their loved one transition away from the automobile. The posted comments are very personal and therapeutic as caregivers in this thread support one another in what can be a difficult issue to approach.
Website:	http://www.aarp.org/community/groups/displayTopic.bt?groupId=92&topicId=1494012&rview=false&pageNum=1

3.3 Resources for community (including senior resource coordinators)

I. Counselling and role play

I1. Driving Transitions Education: Tools, scripts, and practice exercises

Description:	Guide to assist professionals who work with older adults, their families and the community in developing the skills required for effective conversations about driver safety. <i>*This is the best tool for senior resource coordinators.</i>
Summary:	The guide provides recommendations such as how to begin discussions with the public and how to deal with angry or negative emotions. Included within each section are checklists and tips for professionals to prepare for and engage effectively in such discussions, either privately or publicly. A section which incorporates practice exercises in a series of scenarios and responses are designed to help professionals such as senior center staff members, social workers, aging organizations and healthcare professionals to comfortably respond to and inform older adults, their families and the community. This guide is also designed to be used in conjunction with “DriveWell: Promoting Older Driver Safety and Mobility in Your Community” toolkit.
Website:	http://www.nhtsa.dot.gov/portal/site/nhtsa/menuitem.31176b9b03647a189ca8e410dba046a0/

I2. No particular place to go

Description:	A 20 minute theatre production in DVD format which explores the issues surrounding older driver safety.
Summary:	The University of Victoria's Centre on Aging has developed a theatre production in DVD format which explores the impact of the issues surrounding older driver safety. The play is based on a family leading an ordinary life until questions are raised about the grandfather's driving. As the family struggles to deal with a number of multifaceted challenges, the underlying issues begin to surface. The 50 minute DVD and guidebook are intended for use in educational workshops where a facilitator is present to guide the discussion. The purpose of the DVD and guidebook is to promote open dialogue about older driver safety among older adults, their families and others.
Website:	Digital copy of poster available on CD. The DVD itself will be ready for distribution in 2010. Contact Dr. Holly Tuokko, Director, Centre on Aging, University of Victoria (htuokko@uvic.ca)

J. Educational tools

J1. DriveWell: Promoting older driver safety and mobility in your community

Description:	Toolkit for driver supports, including organization, training, education guides, and materials
Summary:	“DriveWell” is a comprehensive document written for driver supports including organizations and families. The guide outlines the issues faced by older adults such as the effects of aging on driving capabilities, and health and safety. The DriveWell document also provides recommendations to community coalitions seeking ways to support older adults in the transition from driving from an organizational perspective covering topic areas and strategies such as community interventions, training materials and the implementation and evaluation of project design. DriveWell also provides research and recommendations on topic areas such as community building, medication usage and effects of medication on driving. The broad scope of this document captures the multi-dimensional complexities of the transition from driving and the cross-cutting issues involved in a comprehensive and easy to read package.
Website:	http://www.asaging.org/asav2/drivewell/toolkit.cfm

J2. DriveWell: PowerPoint presentations

Description:	A series of five PowerPoint presentations to be delivered with the moderator notes found in the DriveWell Toolkit.
Summary:	Five PowerPoint presentations developed by DriveWell to be delivered to older drivers and their families in a series of informational sessions that vary in length. Moderator notes are found in the DriveWell toolkit. The goal of these sessions is to introduce participants to strategies many older drivers can use to remain safe drivers on today's roads. Operating a vehicle requires a complex set of responses and decisions. The older driver's ability to respond quickly and decisively can be boosted by mental and physical exercise, and other healthy living habits. In addition to discussing healthy habits, these sessions will introduce adaptive equipment, car adjustments, trip-planning ideas and family conversations about safe driving.
Website:	http://www.asaging.org/asav2/drivewell/toolkit.cfm

J3. DriveWell: Video

Description:	Video presentation designed to trigger discussion about issues related to older drivers' independence and mobility and to support key components of the DriveWell Toolkit.
Summary:	This twenty minute video developed by DriveWell is designed to trigger discussion among viewers about issues related to older drivers' independence and mobility; and to support key components of the DriveWell Toolkit. The video is broken into five sections which include key messages which emphasize that changes in mental and physical abilities can effect driving safety. Furthermore, older drivers are adapting to the changing driving environment and to changes in their own abilities. The video also provides warning signs for driving impairment and encourages family discussions about driving safety and mobility planning.
Website:	Can be ordered at - http://www.asaging.org/asav2/drivewell/toolkit.cfm

J4. Retiring from driving: Three types of drivers

Description:	This PowerPoint presentation, written by AARP, explores the issue of driving cessation and the difficulties it presents for drivers and their families as well as providing recommendations for resources
Summary:	Presentation outlines stages and challenges faced by older drivers in the pre-decision, decision and post-decision stages and provides recommendations such as increasing awareness of alternative transportation options. Pre-decision stage is characterized by increased difficulty in driving; decision stage characterized by voluntary or involuntary decision to stop driving and challenges of both making the decision and owning the decision; post-decision stage is characterized by finding new ways of connecting with the community and coming to terms with the losses that driving represented. Presentation written by AARP and refers mostly to AARP programs such as the AARP Driver Refresher Program.
Website:	http://www.google.ca/search?q=aarp+driving+retirement&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a

K. Reports and background information

K1. Family and friends concerned about an older driver

Description:	Report written on risks, preferences and behaviours of older drivers including recommendations for implementing a social marketing strategy.
Summary:	Report written by the National Highway Traffic Safety Administration (NHTSA) on risks, preferences and behaviors of older drivers. Included are recommendations to support a comprehensive, cohesive and consistent social marketing campaign that achieves similar changes in national behavior as have the MADD and seat belt campaigns. Such a marketing campaign should seek to identify unsafe driving as a public health risk and to make intervention socially acceptable (e.g. "Friends don't let friends drive unsafely"). The report recommends that such a campaign should be targeted to the general public and authority figures such as healthcare, law enforcement, policymakers, lawmakers and the courts. The report also recommends establishing transportation and planning programs and developing mobility training programs to assist older adults in learning to use alternative methods of transportation.
Website:	http://www.nhtsa.dot.gov/people/injury/olddrive/FamilynFriends/faf_index.htm

K2. Older adults' knowledge about medications that can impact driving

Description:	Survey used to gather information on older driver's awareness of potentially driver impairing medication
Summary:	Much of patient's knowledge about their medication comes from their clinicians. Few drivers mentioned receiving warnings about potentially driver impairing medication. Research shows medication use rates increase with age; as such, there is increased risk of adverse drug effects due to complex administration regimens for doses and times which can lead to mismanagement of medication. The report emphasizes the importance of medication and driving as a safety issue and recommends more support within the medical community to educate patients on potentially driver impairing medication; increased patient awareness by pharmacists is also a key component.
Website:	http://www.aaafoundation.org/pdf/KnowledgeAboutMedicationsAndDrivingReport.pdf

K3. Older drivers programs for traffic safety

Description:	Written by the Canadian Medical Association (CMA), this guide is intended to help physicians determine whether or not their patients are fit to operate a motor vehicle
Summary:	"Determining Medical Fitness to Operate a Motor Vehicle" is written for physicians as a guide in determining whether or not their patients are safe to operate a motor vehicle. The document includes medical standards for fitness to drive and a section on aging which provides recommendations on cognitive impairment, multiple physical deficits and dementia. The guide is comprehensive in detailing factors that effect safe driving such as drugs and alcohol, aging, sleep disorders, psychiatric illness, vision and hearing.
Website:	http://www.cma.ca/index.cfm/ci_id/18223/la_id/1.htm

L. Training for alternatives

L1. Alameda County older adult group travel training manual

Description:	Toolkit for trainers conducting training workshops for older adults on how to use public transportation
Summary:	Very comprehensive community and organizational guide to starting a transit training program in which trainers spend a day teaching older adults on how to use public transportation. The guide provides recommendations to trainers including key methods of learning (seeing, hearing and doing) and detailed overviews of classroom and field training. The transit training manual also provides organizational recommendations on how to develop and plan such a program and evaluate its effectiveness.
Website:	www.acta2002.com/provider-toolkit/01ttmanual.pdf

L2. Getting around: Alternatives for seniors who no longer drive

Description:	Report on a community program to assist seniors with the transition from driving
Summary:	“Getting Around” is a community program that continues to operate to assist older adults with the transition from driving. The program focused on counselling and mobility planning and was designed to address the needs of older adults who could no longer drive, rather than those who could still prolong their safe driving years. By providing counselling, support networks, and practical solutions to address the costs and effort associated with other forms of transportation, the project helped prepare older drivers for the transition from driving and helped create an environment where driving themselves was not necessary. The report suggests that with leadership, collaboration of relevant organizations, and participation of trained volunteers, communities can develop systems to support older adults who no longer drive. Communities can save time and resources by replicating or adapting the model developed in Getting Around— implementing this local solution to help meet the transportation needs of older adults in their area who no longer drive.
Website:	http://www.getting-around.org/home/

L3. Winnipeg Transit – Bus orientation

Description:	An initiative designed to assist community groups with teaching seniors about how to use the new, low floor buses in Winnipeg
Summary:	Winnipeg Transit will take a bus to your group for a tutorial on boarding, seating and exiting the new accessible buses. The Department of Community Relations can be contacted at 204-986-5717 for scheduling of this service.
Website:	http://myride.winnipegtransit.com/en/using-transit/contactingtransit

3.4 Resources for health professionals

M. Information, assessment, and counseling guides for health professionals

M1. AMA physician's guide to assessing and counseling older drivers

Description:	Guide to help physicians determine whether or not their older adult patients are unfit to drive and recommendations on how to treat and counsel them.
Summary:	The "AMA Physician's Guide to Assessing and Counseling Older Drivers" raises awareness about driver safety among older adults in the context of the health professionals community. The guide illustrates through various case studies the complexities of the issues faced by older drivers by identifying various typeologies and perspectives of what would be seen through the lens of health professionals. Guide includes physician intervention and counseling strategies such as cognitive testing, referral to a specialist (e.g. occupational therapist) and recommendations on how to recommend driving retirement.
Website:	http://www.ama-assn.org/ama/pub/physician-resources/public-health/promoting-healthy-lifestyles/geriatric-health/older-driver-safety/assessing-counseling-older-drivers.shtml

M2. CCMTA medical standards for drivers

Description:	Guide developed by the Canadian Council of Motor Transport Administrators (CCMTA) to help physicians determine whether or not their patients are fit to operate a motor vehicle
Summary:	The standards within this document are intended as a guide in establishing basic minimum medical qualifications that can be utilized by both physicians and administrators in assessing an individual's ability to operate a motor vehicle. Many of the standards are adopted from the "Canadian Medical Association's Guide for Physicians in Determining Medical Fitness to Drive, sixth edition". Sections include vision, hearing, effects of drugs, alcohol and the ageing driver.
Website:	http://www.ccmta.ca/english/pdf/medical_standards_july06.PDF

M3. Determining medical fitness to operate motor vehicles: CMA's guide for physicians

Description:	Written by the Canadian Medical Association (CMA), this guide is intended to help physicians determine whether or not their patients are fit to operate a motor vehicle
Summary:	"Determining Medical Fitness to Operate a Motor Vehicle" is written for physicians as a guide in determining whether or not their patients are safe to operate a motor vehicle. The document includes medical standards for fitness to drive and a section on aging which provides recommendations on cognitive impairment, multiple physical deficits and dementia. The guide is comprehensive in detailing factors that effect safe driving such as drugs and alcohol, aging, sleep disorders, psychiatric illness, vision and hearing.
Website:	http://www.cma.ca/index.cfm/ci_id/18223/la_id/1.htm

M4. Dementia and driving checklist

Description:	PowerPoint presentation; the purpose of which is to train physicians in screening and assessing patients with dementia
Summary:	PowerPoint presentation for physicians; the purpose of which is to train physician's in screening for persons at risk of dementia and assessing patients with dementia using a ten minute driving assessment. The presentation examines older drivers in the context of a public health concern and goes on to demonstrate various assessment tests to screen persons at risk of dementia ranging in severity from mild to severe.
Website:	http://www.slideworld.com/slideshows.aspx/Dementia-and-Driving-Checklist-ppt-566130

M5. Driving and dementia toolkit

Description:	Question and answer guide for physicians speaking to patients/family
Summary:	The "Driving and Dementia" Toolkit is a simple guide written for physicians and provides recommendations on how to approach and assess older drivers through a series of "yes" or "no" questions and tips on how a physician can tell their patient that they are no longer safe to drive. Included in the toolkit is a sample letter recommending that the patient stop driving and notification that it is the physician's responsibility to voice driving concerns. A resource algorithm is also included to guide physicians in the process of diagnosing cognitive loss and dementia (includes referral to driving specialists).
Website:	http://www.cma.ca/multimedia/CMA/Content/Images/Inside_cma/WhatWePublish/Drivers_Guide/AppendixDe.pdf



APPENDIX A: SOURCES

The findings contained within this summary are sourced from written reports such as online journals and resource guides prepared by various research consortiums concerned about older drivers. The listing below identifies the research material from which the following findings are derived from:

AARP: Three Types of Drivers; Karen Kafantaris

Alameda County Older Adult Group Travel Training Manual; Nelson/Nygaard Consulting Associates

AMA Physician's Guide to Assessing and Counseling Older Drivers; American Medical Association

At the Crossroads: Family Conversations about Alzheimer's Disease, Driving and Dementia; The Hartford, MIT Agelab

Comparative optimism among drivers: An Intergenerational Portrait; Dominique Gosselin, Sylvain Gagnon, Arne Stinchcombe, Melanie Joanisse

Deconstructing A Gender Difference: Driving Cessation and Personal Driving History of Older Women; Liisa Hakamies-Blomqvist, Anu Siren

Determining Medical Fitness to Operate Motor Vehicles, CMA Driver's Guide; Canadian Medical Association

DriveWell: Promoting Older Driver Safety and Mobility in Your Community; National Highway Traffic Safety Administration

Driving and Alternatives: Older Drivers in Michigan; Lidia P. Kostyniuk, Jean T. Shope

Driving Decisions Workbook; David W. Eby, Lisa J. Molnar, Jean T. Shope, Jonathon M. Vivoda, Tiffani A. Fordyce

Enhancement of Driving Performance Among Older Drivers; Richard A. Marottoli

How to Help an Older Driver: A Guide for Planning Safe Transportation; AAA Foundation for Traffic Safety

Interventions to Reduce the Adverse Psychosocial Impact of Driving Cessation on Older Adults; Timothy D. Windsor, Kaarin J. Anstey

Life Planning for the Third Age; Civic Ventures

Longitudinal Predictors of Driving Among Older Adults from the ACTIVE Clinical Trials; Jerri D. Edwards, Brent J. Small, Lesley A. Ross, Michelle L. Ackerman, Karlene K. Ball, Stacy Bradley, Joan E. Dodson.

Older Adult's Knowledge About Medications That Can Impact Driving (2009); Paul A. MacLennan, Loring W. Rue, III, Gerald McGwin, Cynthia Owsley

Older Adults' Perspectives on Driving Cessation; Geri Adler, Susan Rottunda

Perception, Attitudes and Beliefs, and Openness to Change: Implications for Older Driver Education; Holly A. Tuokko, Phyllis McGee, Gillian Gabriel, Ryan E. Rhodes

Risks Older Drivers Pose to Themselves and to Other Road Users; Brian C. Tefft

Senior Drivers: Facts and Figures; Leo Tasca

To Drive or Not to Drive, That Isn't the Question – the Meaning of Self-Regulation Among Older Drivers; Laura K.M. Donorfio, Lisa A. D'Ambrosio, Joseph F. Coughlin, Maureen Mohyde

We Need to Talk... Family Conversations With Older Drivers; The Hartford, MIT Agelab

What does giving up driving mean to older adults, and why is it so difficult? Jean T. Shope