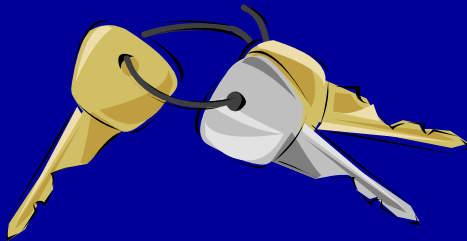


The Pathway from Driver to Passenger: Strategies & Interventions for Enhancing Community Mobility



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“I can barely see,
I can barely hear,
and I can barely walk,
but at least
I can still drive.”

-- *patient as told to his physician*

Session Overview

- Reframing the Discussion
- Overview Of Older Drivers
- Alzheimer's Disease and Driving
- Public Positions On Dementia & Driving
- Recommendations for Policy, Research, and Practice

Travel Mode by Driving Status 65+

	Drivers	Non-Drivers	Total
Car	91.4	65.4	89.0
Driver	72.7	--	66.0
Passenger	18.8	65.4	23.0
Walking	7.1	22.6	8.5
Transit	0.4	8.3	1.1
Bicycle	0.3	0.4	0.4

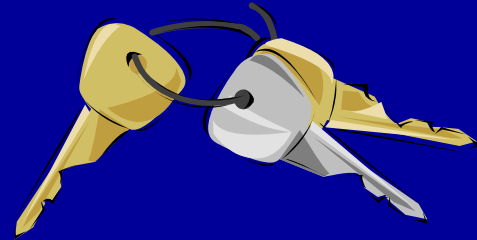
Source: 2001 NHTS, ICF Consulting Analysis in ICF 2006 NCHRP 20-65 Report

Concern for Isolation

“Of all older non-drivers, 54% do not leave their home on a given day, while only 17% of drivers stay home.”

Source: Bailey, L. (2004) Aging Americans: Stranded without Options. Surface Transportation Project.

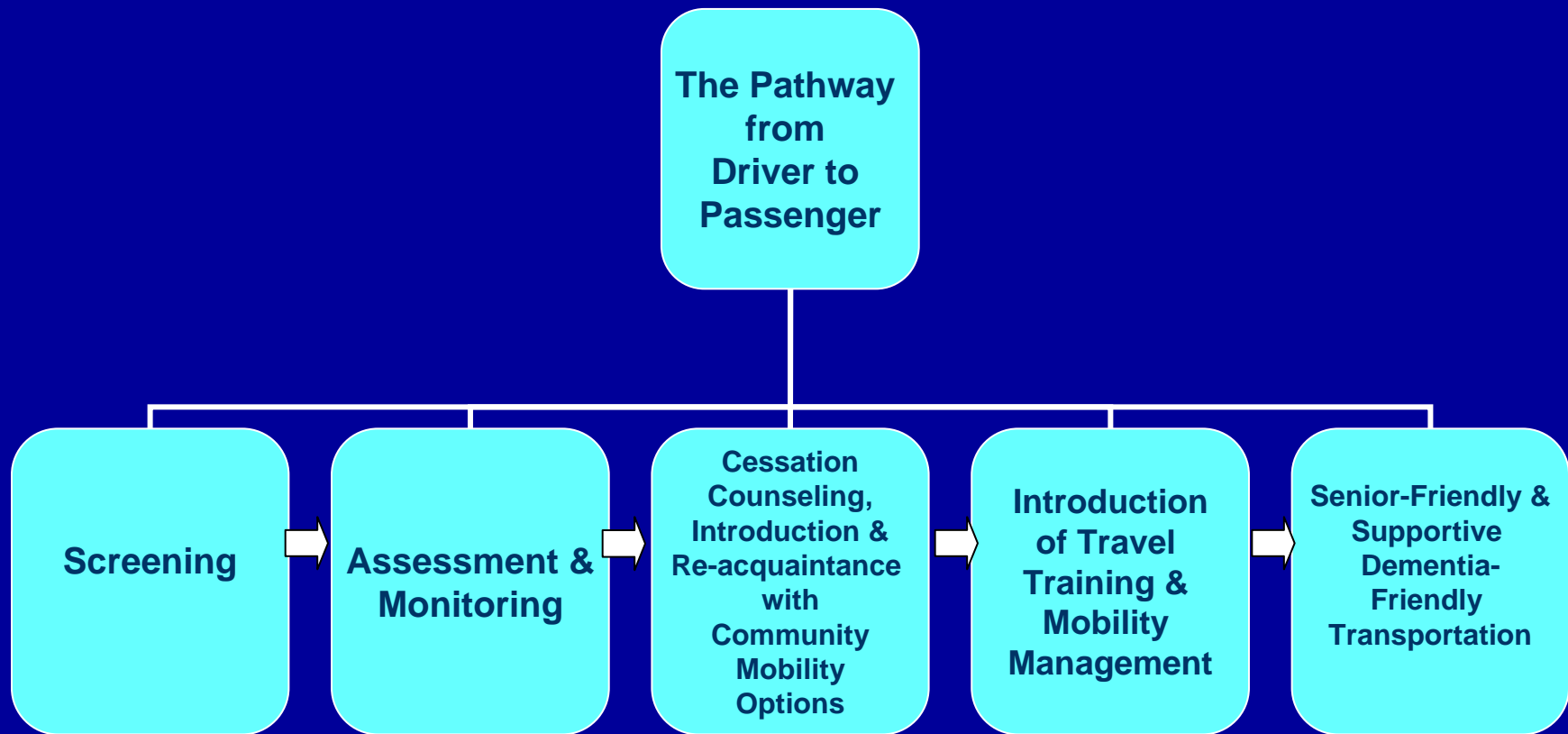
It is not just about giving up the
keys...



It is about assuring the full range of
community mobility options,
including supportive transportation.

It is about living.

Community Mobility Continuum



The Issue

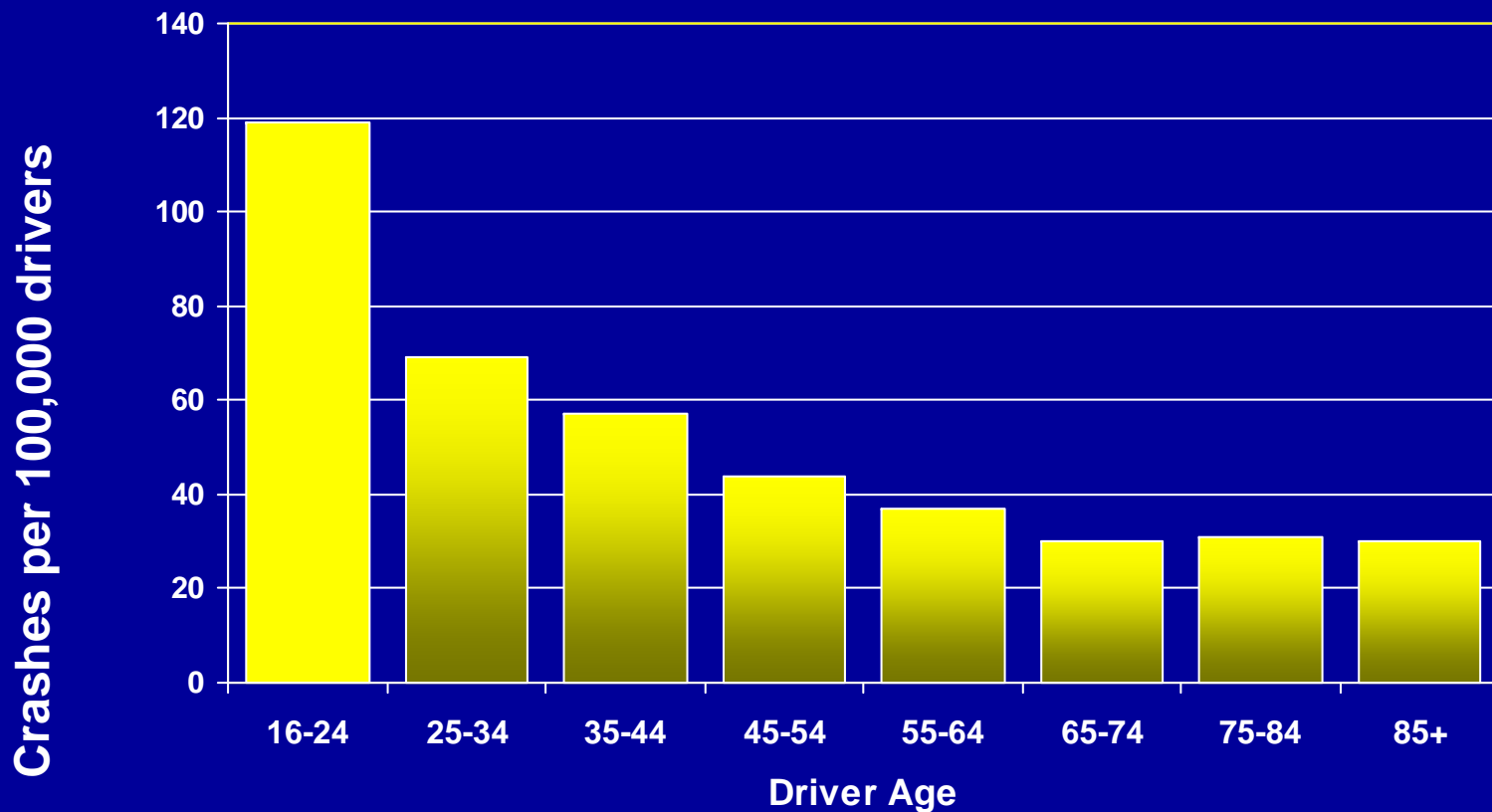
Currently about 40% of fatal automobile crashes are alcohol-related...

By 2025, more than 40% of all fatal crashes may be associated with age-related frailties, with visual and cognitive impairments as major contributing factors
(NHTSA, 2003)

White House Conference on Aging December 11-14, 2005

- Resolution #3 (1002 votes)
Ensure that Older Americans Have
Transportation Options to Retain Their
Mobility and Independence
- Resolution #47 (473 votes)
Support Older Drivers to Retain Mobility and
Independence through Strategies to Continue
Safe Driving

Older Drivers Have Fewer Crashes



(Source National Center for Statistics & Analysis, NHTSA/DOT 2000)

Overview of Older Drivers

- More older people—26 million age 70+
- Driving more miles than ever before
- Driving at older ages than ever before—19 million older licensed drivers in 2001
- More likely to suffer a fatality when in a crash
- Low mileage likely at greater risk
- About 10-15% of older drivers are presumed to be at-risk
- Driving expectancy is sig. less than life expectancy
- Few alternatives to driving



**It's not about AGE,
It's about functional impairments
that impact critical driving skills.**

Many Diseases & Conditions May Impair Driving Skills

- Medication use
- Effects of anesthesia & surgery
- Vision (cataract, macular degeneration, glaucoma)
- Cardiovascular(arrhythmias, CHF, Valvular HD)
- Cerebrovascular (stroke, TIA, etc)
- Neurologic (Brain tumor, Dementia,Migraine, Head injury, Parkinson's,MS, sleep disorders,seizures,etc)
- Metabolic (diabetes, hyper/hypothyroidism)
- Respiratory (COPD, respiratory failure)

Source: NHTSA

Percent with Medical Condition(s) Limiting Travel

	Men	Women	Total
65-70	12.9	16.7	15.1
71-75	18.1	21.7	20.1
76-79	26.8	29.2	28.2
80-84	29.4	35.5	33.1
85+	37.3	53.4	48.0

Source: 2001 NHTS, ICF Consulting Analysis in ICF 2006 NCHRP 20-65 Report









Driving expectancy is significantly less than life expectancy.

We All Should Be Planning For Non-driving Years

- Men outlive their ability to drive by 6 years; women outlive their ability to drive by 10 years.
- More than 600,000 people age 70+ stop driving each year

Source: Foley, Heimovitz, Guralnik, Brock (2002). Driving Life Expectancy of Persons Age 70 Years and Older in the United States. *American Journal of Public Health*, 92 (8):1284-1289.

Total Life Expectancy vs. Driving Life Expectancy

Age	Men		Women	
	TLE	DLE	TLE	DLE
70-74	17.7	11.5 	20.6	11.2 
75-79	13.5	8.0 	16.2	7.9 
80-84	9.8	5.0 	12.2	5.0 
85+	6.0	2.0 	7.9	1.8 

Source: Foley, Heimovitz, Guralnik, & Brock (2002), in ICF 2006 NCHRP 20-65 report.

Driving requires cognitive abilities such as memory, recognizing images (visual processing), attention, and decision-making.

Most older drivers cease or restrict their own driving when they experience changes in their ability to drive.

BUT SOME DON'T...



St. Petersburg, Florida Incident

October, 2005

- 93 y.o. community dwelling man with signs of dementia; wife passed away 7 years ago
- Mr. P. hit a pedestrian, drove 3 miles with body stuck on windshield...stopped at bridge toll booth
- Mr. P thought the body dropped from above

Drivers with dementia are less likely to cease or restrict their own driving.

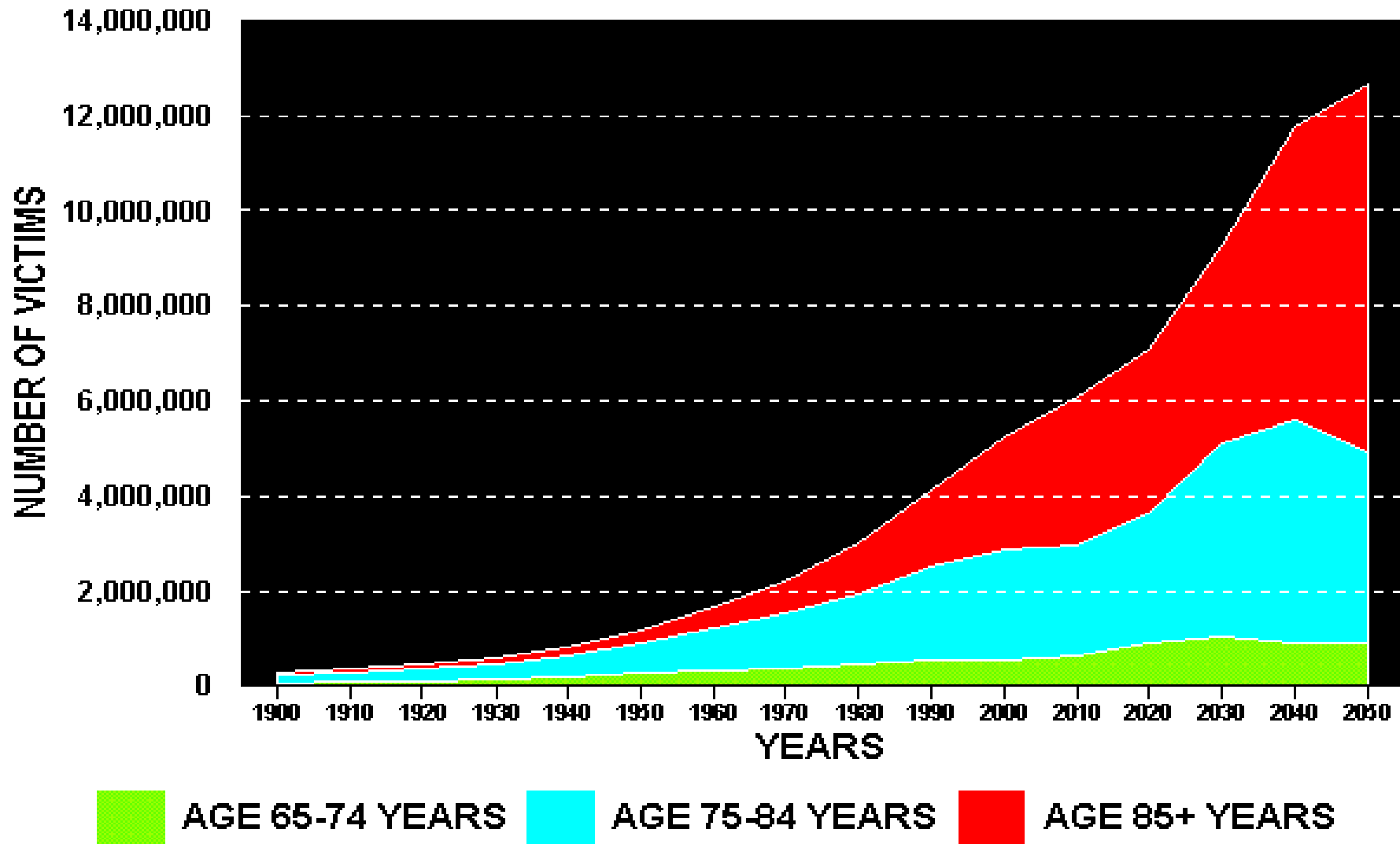
- Many who experience cognitive changes and decline lack insight into their loss of function.
- Objective assessment by a professional (such as an OT/CDR) is needed to determine if the driver's ability to operate a vehicle is impaired.



Every 72 seconds, someone in America develops Alzheimer's disease; given current treatment, by 2050, it will be every 33 seconds...

Source: Alzheimer's Association (2007)

PREVALENCE OF ALZHEIMER'S DISEASE (BY DECADES IN U.S.A. FROM 1900-2050)



Source: Alzheimer's Association, 2005, prepared by J. Pancer

The New Numbers

- About 5.1 million Americans today
 - 4.9 million age 65+
 - ~200,000 < 65 with early onset
- In Minnesota, 7% increase from 2000-2010 (from 88,000 to 94,000)

Source: Scherr, Bienias, & Evans (2004)

- By 2050, estimates range from 11.3 million to 16 million

Alzheimer's Association (2007)

In the Community & Driving

- **70% live in community/ ~ 20% live alone**
- **About 6 to 8% of persons with dementia reported as lost in studies of Safe Return™ registries, were lost while driving.**

Changes Associated With AD

- Short term memory loss
- Problems with language
- Disorientation to time and place
- Poor or decreased judgment
- Problems with abstract thinking
- Decreased reaction time
- Loss of balance/abnormal gait
- Visual-spatial impairment

Source: www.alz.org

Medical Conditions & AD

People with AD have, on average, at least 3 co-existing medical conditions (OTA 1990)

- Hypertension 60%
- Coronary heart disease 30%
- Congestive heart failure 28%
- Osteoarthritis 26%
- Cardiac dysrhythmias 25%
- Diabetes 21%

Source: Bynum, Rabins, Weller
(2004)

Why Driving Is A Concern

- More crashes
 - Cognitively impaired drivers are 7 times more likely than other drivers to have an at-fault crash (NHTSA, 1998)
- Getting lost
 - 44% of early stage AD patients who drive routinely get lost. • 40% were involved in crashes, a crash risk up to 3-4 times higher than in adults with no cognitive impairment (Lucas-Blaustein et al., 1988).
- Unaware of not being a “responsible driver”

Wandering and Driving

- Prevalence rates for wandering by all modes of up to 69% have been reported among people with dementia.
- Persons with dementia get lost while driving.
- Executive function is impaired (i.e. the ability to sequence tasks is compromised or limited in the person with dementia).
- While the ability to operate a vehicle may not be impaired early on, the ability to get from point A to point B and back again is a concern.

There is no argument among researchers that at some point people with the disease will be unable to drive safely (*the “argument” is when*)

Therefore, driving and community mobility options are issues that need to be addressed sensitively, inclusively and early in the disease process.





In a national survey, 82% of Alzheimer's caregivers reported providing assistance with transportation.

Source: *Family Care: Alzheimer's caregiving in the U.S. 2004*. Alzheimer's Association & National Alliance for Caregiving

There are lots of warning signs...

- Gets lost on familiar streets
 - Needs a “co-pilot” to cue directions in familiar areas
- Others are concerned
 - Police warnings, tickets, or “near-misses”
 - Gets honked at often
- Has difficulty understanding road signs
 - Confusion at exits
 - Increased agitation when driving
- Incorrect signaling
 - Moves into a wrong lane
 - Drives at inappropriate speeds
 - Stops inappropriately
 - Confuses brake and gas pedals
 - Scrapes or dents on car, garage or mailbox
 - Hits curbs



Promising Assessment Indicators

(no one test to recommend)

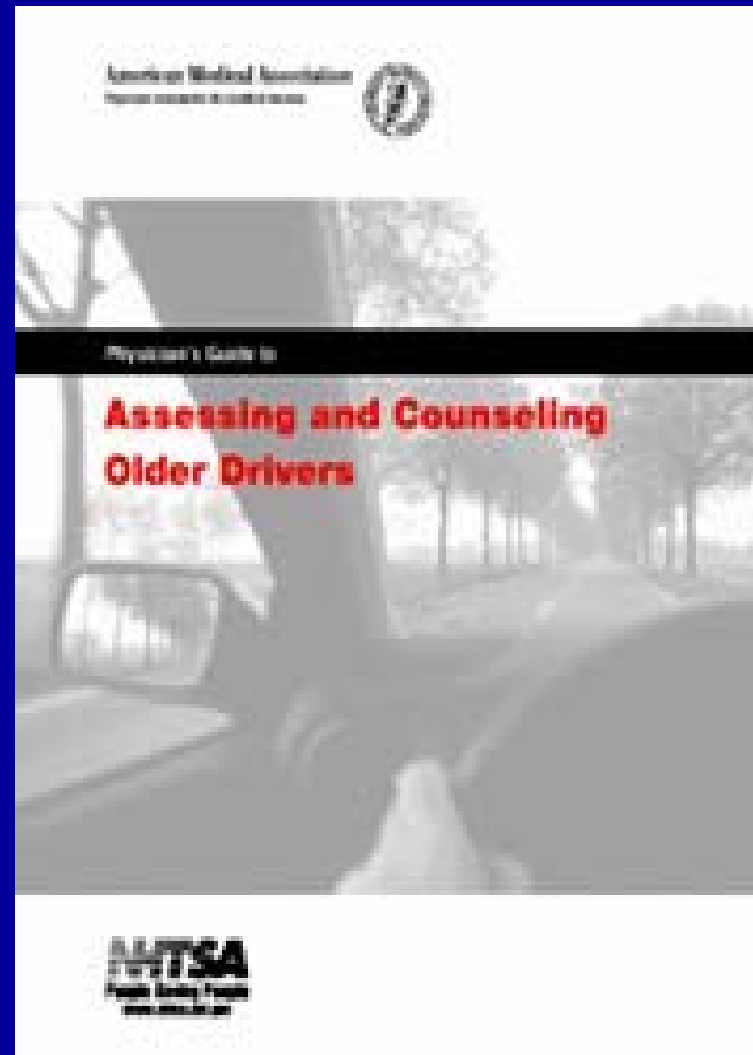
- Trail-Making Test, Part B
- Freund Clock Drawing Test
- Motor Free Visual Perception Test
- Useful Field of View
- Specialized on-road driving assessment

Physician's Guide to Assessing and Counseling Older Drivers

Provides physicians with the tools necessary for assessing older patients for medical fitness to drive.

www.ama-assn.org/go/olderdrivers

Courtesy of J. Schwartzberg. AMA



State Licensing & Reporting MINNESOTA

- Every 4 years
- In-person renewal
- Vision-testing required
- Written test if license expired for more than 1 year
- Road test if license expired for more than 5 years
- No age-based renewal procedures
- Has a Medical Advisory Board
- Physician reporting is encouraged
 - Physicians have immunity
 - Will accept confidential reports from others

Source: Physician's Guide to Assessing & Counseling Older Drivers, Wang et. al, 2003

The Occupational Therapist may also play
an important role in driving assessment

www.aota.org/olderdriver

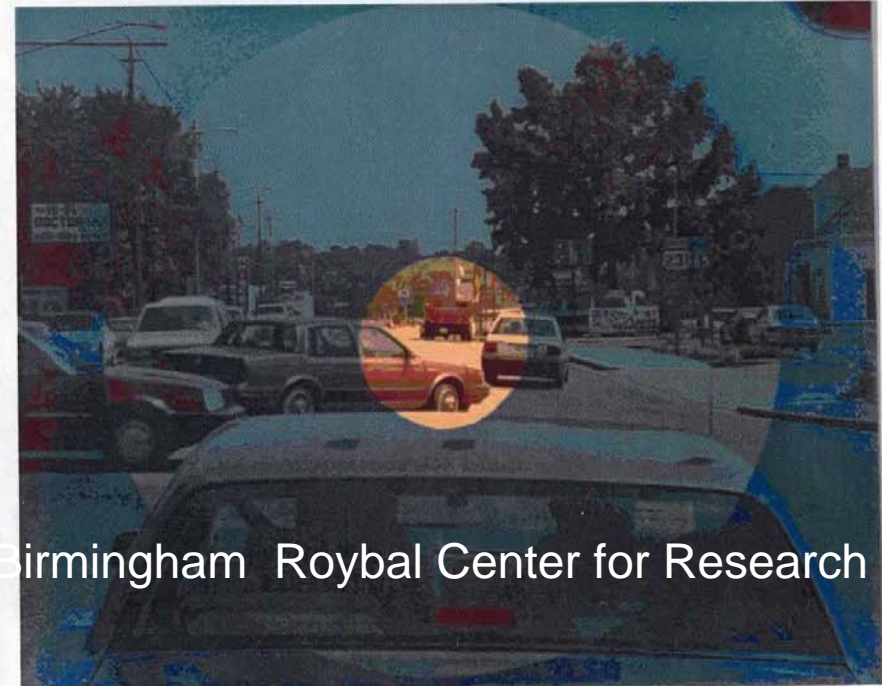
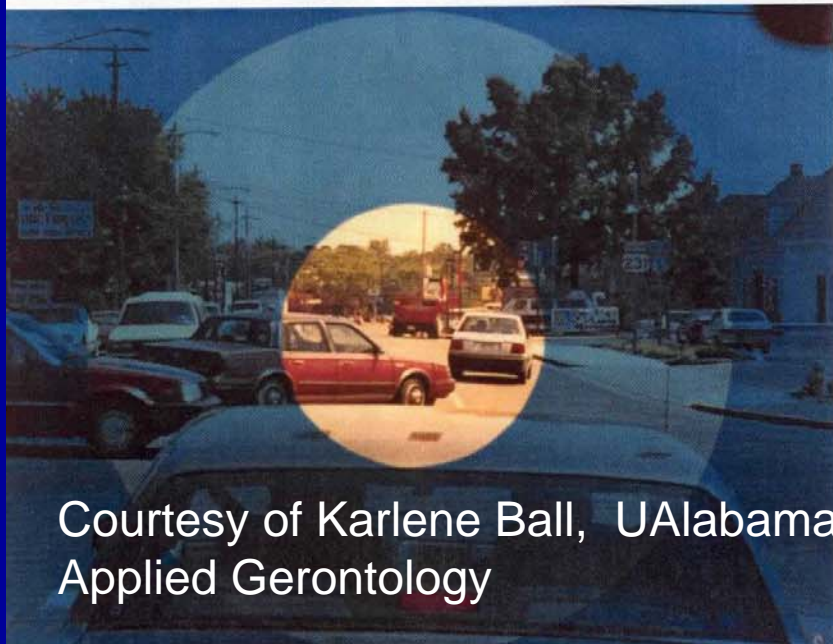
“Driving is an IADL”

Why UFOV[®] is relevant to Dementia & Driving

“Useful field of view” refers to the area that one can see and cognitively process and interpret. With cognitive slowing, the area shrinks to only the area a person sees directly in front of the eyes without the side vision, called peripheral vision.

“Persons with dementia differ dramatically on UFOV[®] once age is controlled for...Most older adults do very well. Most individuals with mild dementia fail, and all with moderate do [fail].”

Karlene Ball, Director, Center for Research on Applied Gerontology, University of Alabama at Birmingham (July, 2004 correspondence)



Courtesy of Karlene Ball, UAlabama Birmingham Roybal Center for Research Applied Gerontology

Existing Policy Statements

Alzheimer's Association Position

- A diagnosis of AD is never itself a sufficient reason for loss of driving privileges.
- If an Alzheimer's patient's driving is impaired, driving privileges must be limited.
- Driving privileges must be withheld when the individual poses a serious risk to self or others.
- The person with dementia, if competent, should participate in the decision-making regarding driving restrictions.

Three Other Opinions

- ***American Psychiatric Association:*** APA guidelines urge physicians to encourage even their mildly impaired dementia patients to stop driving.
- ***American Academy of Neurology:*** Recognizes that people with early Alzheimer's are at an increased risk of car crashes, and has issued guidelines to help doctors determine when patients should stop driving.
- ***American Medical Association:*** AMA ethical guidelines make public safety a priority over patient confidentiality, allowing physicians to notify their state's Department of Motor Vehicles when a patient's diagnosis makes him or her unsafe to drive.

Alzheimer's Australia Driving Policy Statement (March 2004)

- A diagnosis of dementia should be viewed as a warning sign that an individual may not be competent to drive or **will lose that competency at some stage in the future.**
- **...All people with dementia will reach a point where it is unsafe for them to drive**
- **...early planning after diagnosis...**

Safe navigation and use of public transportation is often difficult for individuals with significant cognitive or physical impairments.



Thus, strategies are needed to help public transportation become more “senior-friendly” overall, and specifically, develop more “dementia-friendly” transit programs.

5A's of the Beverly Foundation *Senior-Friendly Transportation*

- Available,
- Acceptable,
- Accessible,
- Affordable
- Adaptable

Leaders in the Assessment of Supplemental Transportation Programs (STPs) in America.

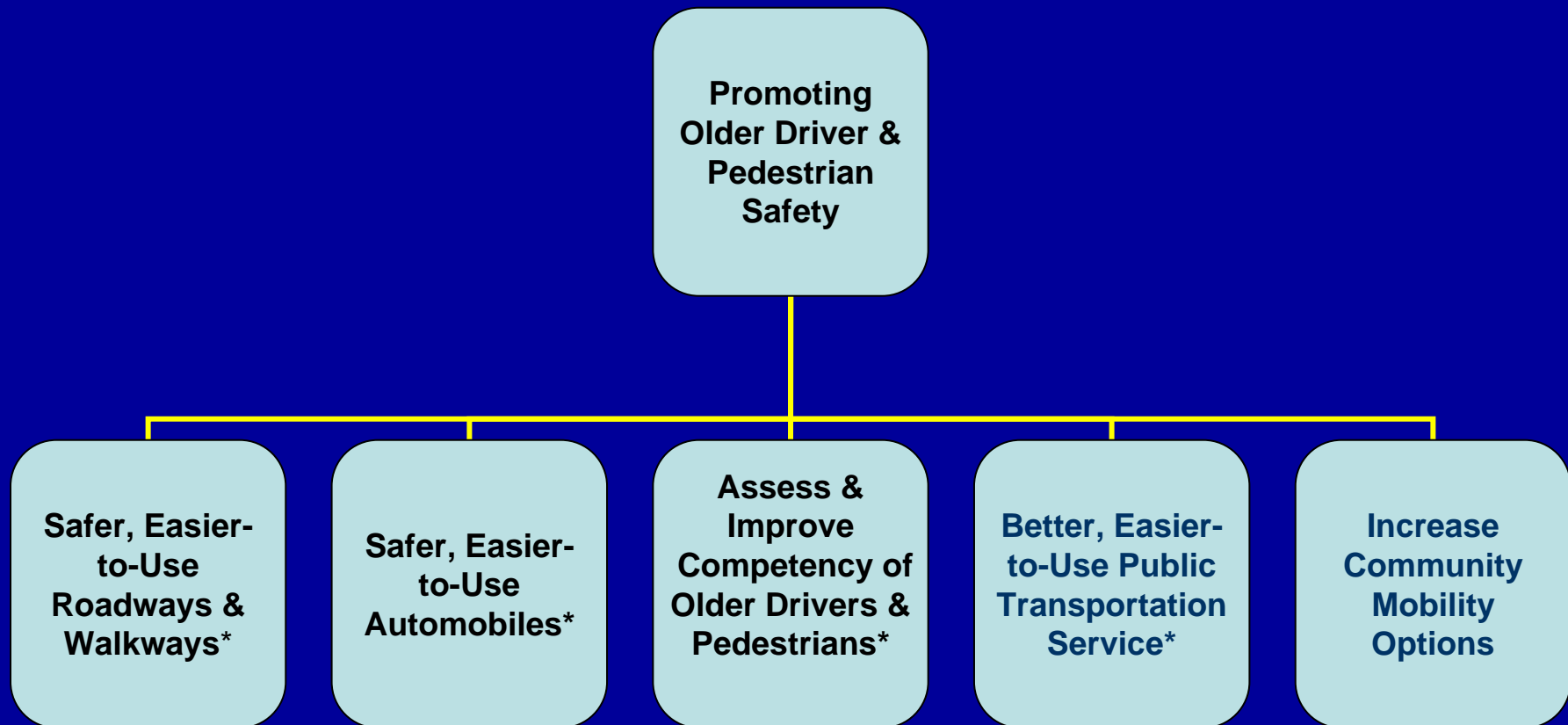
www.beverlyfoundation.org

How do we start thinking about Dementia-Friendly Supportive Transportation?

- Arm through arm
- Arm to arm
- Chair to chair
- Door thru door
- Rethinking advanced scheduling practices
- Driver training and sensitivity
- Vehicle features to promote safety & comfort

What can you do?

Opportunities for Community Intervention

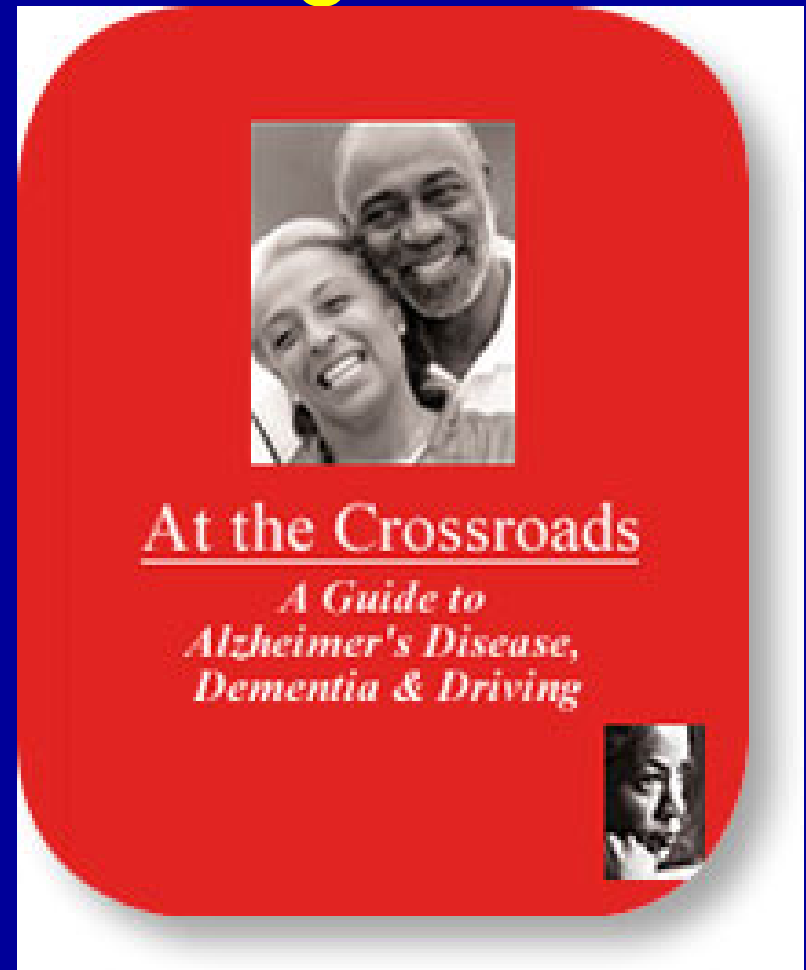


*Source: U.S. Department of Transportation (2003). Safe Mobility for a Maturing Society: Challenges and Opportunities. DOT HS 809 745: Author.

Build Program & Service Capacity

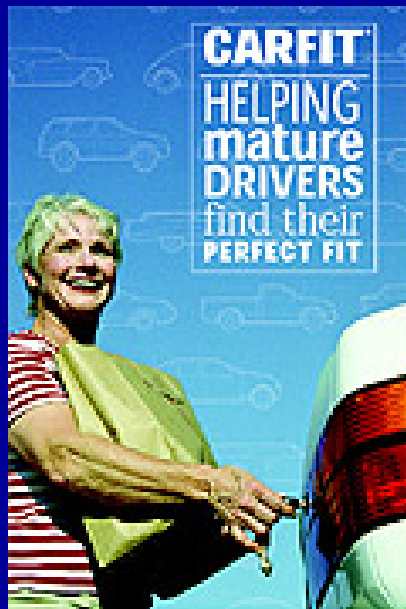
- Stimulate action at local level to ensure availability of services for older drivers who stop driving
- Ensure capacity to provide
 - Driver Screening
 - Remediation
 - Supportive Transportation Options
 - Alternatives to Transportation (e.g. home shopping)

Family Conversations & Dementia and Driving

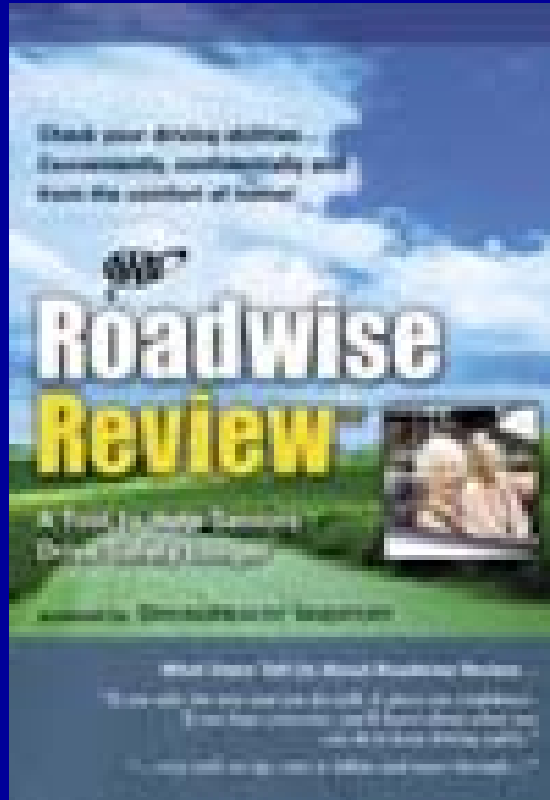


The Hartford/MIT AGELAB partnership

National Initiatives



AAA Foundation Research and Brochures



Found on the AAA web site at:
<http://www.aaaexchange.com/>

Things to Keep in Mind

- This is not easy.
- Begin discussions and planning early and involve the person.
- Base decisions on data that include formal driving assessment & personal driving history.
- Get support when making and implementing decisions about driving.
- Be prepared with alternatives to getting around.

A Few Recommendations for Policy, Research, & Practice

- Strengthen Medical Advisory Boards
- Improve reporting practices
- Develop intervals for reassessment based on evidence-based research
- Explore reimbursement mechanisms for driving assessment
- Provide cessation counseling and I & R on community mobility options
- Promote senior-friendly transportation
- Develop supportive/dementia-friendly transportation options

Don't shy away from this issue—
start *talking* and start *finding*
effective strategies to maintain
dignity for all persons with physical
and/or cognitive impairments while
promoting safe mobility throughout
the lifespan.

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