

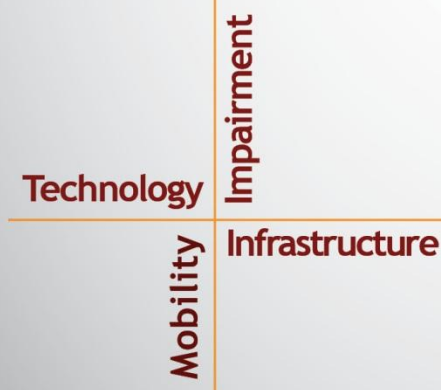
NSTSCCE

National Surface Transportation
Safety Center for Excellence

Senior Mobility Awareness Symposium Brief

Jon Antin, Ph.D., CHFP

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LIST OF ABBREVIATIONS AND SYMBOLS

CVRUS	Center for Vulnerable Road User Safety
DMV	Department of Motor Vehicles
iTNAmerica	Independent Transportation Network® America
M-CASTL	Michigan Center for Advancing Safe Transportation throughout the Lifespan
MIT	Massachusetts Institute of Technology
NHTSA	National Highway Traffic Safety Administration
UMTRI	University of Michigan Transportation Research Institute
VTI	Virginia Tech Transportation Institute

CHAPTER 1. BACKGROUND

In 2010, approximately 12 percent of eight million Virginian residents were aged 65 or older ⁽¹⁾. Among these nearly one million older Virginians, approximately 80 percent hold a driver's license, representing 14.5 percent of Virginia drivers ⁽²⁾. In a survey of older drivers, respondents aged 65 or older indicated that 88 percent of trips were in private vehicles, even higher than the 86 percent reported by those 50 and older ⁽³⁾.

Older drivers cherish their independence in deciding when and where to travel and value the flexibility of driving their cars, especially in areas where transportation alternatives are limited in availability or suitability. Older people recognize that the ability to drive affects their quality of life, and many are reluctant to cede their licenses. When driving privileges are removed, many become socially isolated, experience declines in health, and suffer increased mortality risk ⁽⁴⁾.

However, the majority of older adults do experience some declines in visual, motor, or cognitive processes, which can impede their abilities to drive safely (e.g., react quickly to changes in traffic, travel at posted speeds, adhere to traffic rules, etc.). Impairments to judgment and physical responses to situations can be further compounded by other health-related conditions and the medications used to treat them. When such situations are left unaddressed, older drivers may place themselves and drivers and community members at risk ⁽⁵⁾.

The driving skills of older drivers are not considerably different from middle-aged drivers (e.g., 35 – 50), who are statistically the safest drivers on the road. Both groups tend to comply with seat belt laws and generally do not drive while intoxicated. Moreover, older drivers tend to adapt their driving habits to accommodate challenges they face (e.g., only driving during daylight hours, when traffic is light, or along familiar routes) ⁽⁶⁾. Still, the question remains whether or not older drivers accurately perceive the need to adapt their driving habits and are making any such adjustments in a timely and sufficient manner, as on a per-mile-driven basis, older drivers have a higher crash rate than all but the youngest and most inexperienced drivers ⁽⁷⁾.

In Virginia, several mechanisms are in place to ensure the safety of older drivers. These mechanisms largely rely on physicians, occupational therapists, and the Department of Motor Vehicles (DMV). Physicians work closely with the DMV to determine when impaired drivers need to have their licenses revoked. The GrandDriver program, sponsored by the Department for the Aging and the Virginia DMV, offers educational resources to facilitate safe driving for seniors through print and online materials. Selected occupational therapists across the Commonwealth also provide rehabilitative support and adaptive equipment to drivers through an analysis of vehicle fit and driving skills.

GOALS

The goal of this project was to increase awareness of the mobility challenges faced by seniors as outlined above and offer state-of-the-art solutions to those individuals who are striving to address such challenges on a daily basis. Challenges include driving at night, in complex or high-traffic situations, or at highway speeds, as well as any required walking and handling of packages once the destination is reached. Additionally, as drivers begin to restrict driving to avoid such situations or cease driving altogether, the challenges increase in terms of finding accessible and

affordable living and personal mobility options that will permit them to perform all the necessary and leisure activities important to maintaining healthy and satisfying lives.

To this end, a symposium for researchers, government officials, advocates for seniors, and mobility providers was convened. The symposium provided a venue to connect the expanding network of hands-on service providers to the latest information that can help them with their daily jobs and help improve the mobility of seniors and improve accessibility and independence in their communities.

The goal for this report is to capture key elements of the content of the symposium presentations and discussions, as well as to document the various aspects of the symposium itself (e.g., who the speakers were and their topics, attendees' affiliations, attendees' ratings of the symposium, etc.).

CHAPTER 2. TECHNICAL PROGRAM

The symposium proceeded according to the technical program outlined in Table 1. Speakers represented some of the most important organizations focused on key local, state, and national senior transportation issues, including: the National Highway Traffic Safety Administration (NHTSA), Virginia DMV, AARP, Independent Transportation Network® America (iTNAmerica), Massachusetts Institute of Technology (MIT) AgeLab, the Virginia Tech Transportation Institute (VTTI) Center for Vulnerable Road User Safety (CVRUS), the University of Michigan Transportation Research Institute (UMTRI) Michigan Center for Advancing Safe Transportation throughout the Lifespan (M-CASTL), and the Virginia Tech Center for Gerontology. The event was held at the Skelton Conference Center at Virginia Tech on December 6, 2012, and paid attendees each received eight hours of continuing education credit.

Table 1. Technical program.

Session	Speaker and Affiliation	Presentation Title
Opening Remarks	Jon Antin, Ph.D., CHFP , Human Factors Research Scientist and Light Vehicle Safety Group Leader, VTTI	<i>Senior Mobility Awareness Symposium: Integrating Science, Policy, and Practice</i>
Opening Keynote Address	Esther Wagner , Older Driver Program Analyst, NHTSA	<i>Safe Mobility for Seniors, Making it Happen</i>
Technical Session I: Function Assessment & Training	David W. Eby, Ph.D. , Research Professor and Head of the Behavioral Sciences Group, UMTRI; Director, M-CASTL	<i>Older Driver Self-Screening and Functional Assessment</i>
	Jon Antin, Ph.D., CHFP	<i>Training Approaches to Enhance Senior Mobility Safety</i>
	Jacquelin Branche, MBA, R.N. Healthcare Compliance Officer, Virginia DMV Medical Review Services	<i>Virginia Medical Review of Drivers</i>
Lunch Keynote Address	Katherine Freund , Founder and President, iTNAmerica	<i>Independent Transportation Network: Dignified Transportation for Seniors</i>
Demonstration & Exhibit Highlights	<ul style="list-style-type: none"> ➤ VTTI Instrumented Research Vehicle ➤ CarFit Demonstration ➤ Virginia GrandDriver Program 	
Technical Session 2: Vehicle, Infrastructure, & Education-Based Countermeasures	Bruce Mehler, Ph.D. , Research Scientist, MIT AgeLab	<i>Benefiting from Automation: Trust and Senior Mobility</i>
	Julie Lee , Vice President for the Driver Safety Program, AARP, VA	<i>Vehicle, Infrastructure and Education-Based Countermeasures</i>
	Nancy Brossoie, Ph.D. , Senior Research Associate, Virginia Tech Center for Gerontology	<i>Current Transportation Options for Seniors in the New River Valley</i>
Panel Discussion	All Speakers	<i>Urgent Needs in Senior Mobility -</i>

		<i>Next Steps</i>
Closing Remarks	Jon Antin, Ph.D., CHFP	
Reception	All	

**OPENING REMARKS - SENIOR MOBILITY AWARENESS SYMPOSIUM:
INTEGRATING SCIENCE, POLICY, AND PRACTICE**

Jon Antin, Ph.D., CHFP, Human Factors Research Scientist and Light Vehicle Safety Group Leader, VTTI

Dr. Antin outlined the goal for the symposium, and gave an overview of the senior mobility problem in the U.S. These problems are, fundamentally: increased crash risk for senior drivers (e.g., 75+), a population which will continue to age for several decades, and the relative lack of suitable alternatives to driving one’s personal vehicle. He presented the image shown in Figure 1 to illustrate the senior mobility solutions space.

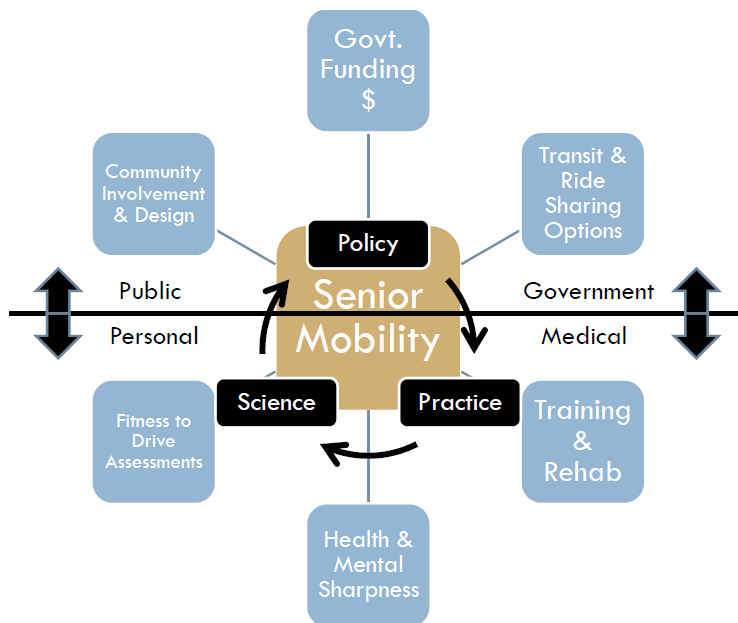


Figure 1. Senior mobility solutions space.

OPENING KEYNOTE - SAFE MOBILITY FOR SENIORS MAKING IT HAPPEN

Esther Wagner, Older Driver Program Analyst, NHTSA

Ms. Wagner outlined NHTSA’s mission regarding seniors: maintain safe mobility for life. Key data noted included the fact that most seniors still rely on the personal automobile for transportation, and that the percent of fatalities for those 65+ exceeded the percent of drivers 65+ every year from 2000 to 2010. She noted that fragility was largely responsible for this disparity (see Figure 2 for an illustration of the typical differences seen in the skeletal structures of younger and older people).

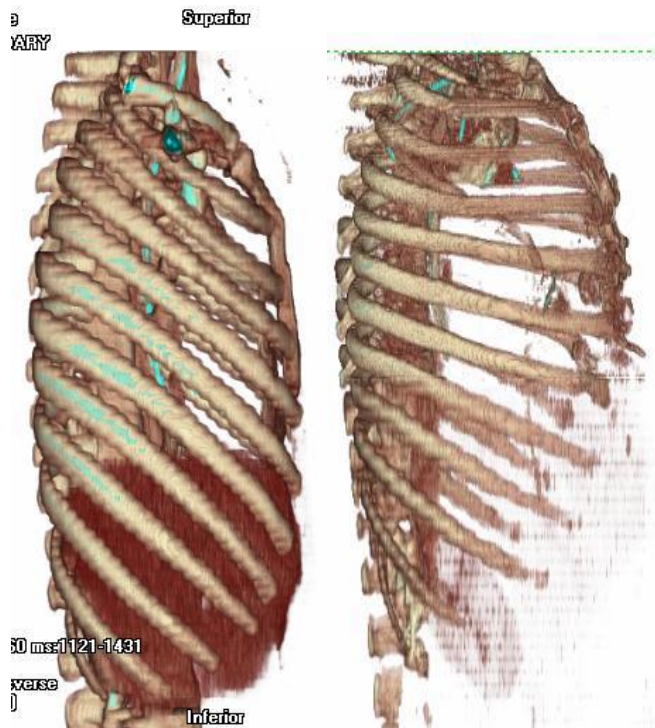


Figure 2. Young female (left); older male (right).

Wagner summarized some of NHTSA's key sources of crash data:

- GES/FARS – Large and general
- NASS – Limited to on road
- CIREN – Limited to injury
- SCI – Array of inclusion criteria
- CODES-Limited linkage between states
- NEMSIS- Growing (25 states)
- NiTS – Limited resources

In addition, Wagner summarized what is currently known about senior drivers: most are actually safe drivers, but they are more likely to be injured or killed in a crash due to increased fragility. Most seniors are aware of their driving-related limitations and alter driving habits accordingly. Finally, it may be the general lack of transportation options which leads to seniors' decisions to keep driving after cessation becomes the best option.

TECHNICAL SESSION I: FUNCTION ASSESSMENT AND TRAINING

Older Driver Self-Screening and Functional Assessment

David Eby, Ph.D., Research Professor, Head of the Behavioral Sciences Group, and Founding Director of the Michigan Center for Advancing Safe Transportation throughout

the Lifespan (M-CASTL) at the University of Michigan Transportation Research Institute (UMTRI).

Dr. Eby discussed senior drivers performing self screenings of their own functional abilities. Eby noted that aging, per se, does not lead to declining abilities; instead, it is particular medical conditions which we tend to acquire as we age and which may have an affect on the cognitive, visual, and physical functional abilities needed for safe driving that may have the most deleterious effects on driving.

Dr Eby discussed a two-stage process: screening and assessment. Screening is the first, high level part of the process which can occur in a variety of community settings: the home, a physician's office, or the DMV. Assessment is a more in-depth process of evaluation whereby the DMV makes and enforces driving restrictions or license forfeiture. He noted that self-screening is an approach which may be less intimidating and used earlier in both the driving life cycle as well as earlier in terms of the stage of disease or disorder progression. However, he also noted that self-screening may be inappropriate for those suffering from dementia.

UMTRI researchers have developed a screening tool called the *Driving Decisions Workbook* (Eby et al., 2003). Eby presented data illustrating how workbook scores correlated significantly with health conditions, functional abilities, on-road driving evaluations, and clinical examinations. Table 2 and Table 3 show correlations between their assessment metrics and on-road driving performance.

Table 2. Driving Decisions Workbook Results A.

Spearman Correlations Between Workbook and Driving	
CATEGORY	Driving
Overall	.30
Health	.15
Conditions	.23
Medications	.08
Abilities	.35
Vision	.16
Cognition	.39
Psychomotor	.35
Experiences	.21

Table 3. Driving Decisions Workbook Results B.

Correlations Between Self-Screening Instrument-Identified Health Concerns, On-Road Driving Performance, and Clinical Evaluation					
	Overall	Men	Women	Ages 65-74	Age 75+
Instrument versus On-Road Driving	-.26	-.34	-.22	-.02	-.44
Instrument versus Clinical Evaluation	.26	.30	.35	-.07	.54

Training Approaches

Jon Antin, Ph.D., CHFP, Human Factors Research Scientist and Light Vehicle Safety Group Leader, VTTI

Dr. Antin discussed the use of training to help to extend the safe driving life of seniors. He explored three high level approaches to senior driver training: driving skills, physical, and brain. Antin provided a schema for how the different forms of training may enhance seniors’ functional abilities which may improve their performance in a generic sense, ultimately leading to reduced risk in the driving environment (see Figure 3 below).

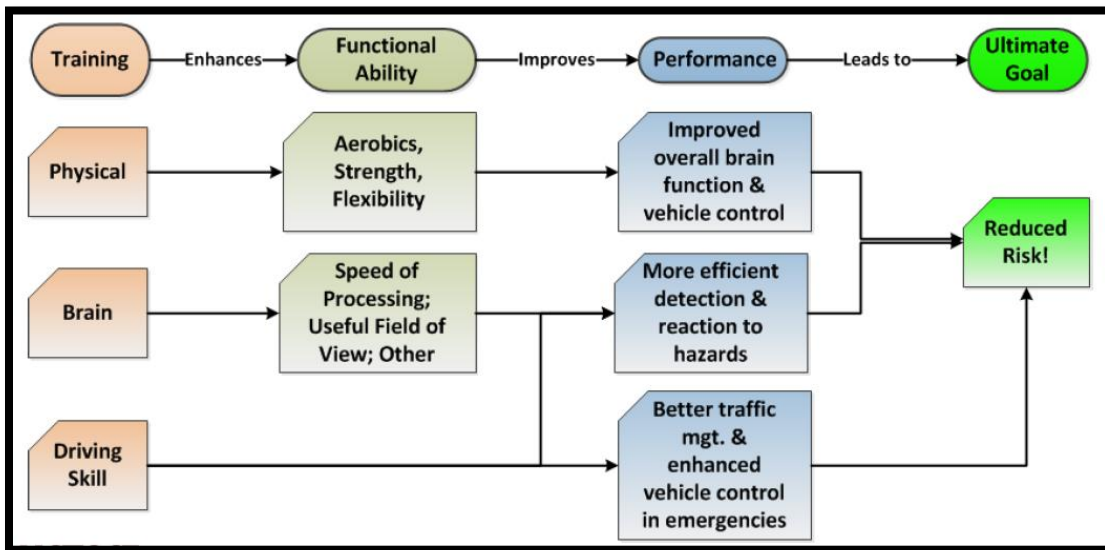


Figure 3. Training conceptual overview.

According to Antin much evidence already exists to show the potential safety-related benefits of these sorts of training. More research is needed to determine which type of individual would most benefit from a specific form of training and how that benefit is realized in real-world driving.

VA Medical Review of Drivers

Jackie Branche, MBA, R.N. and Medical Compliance Officer at the Virginia DMV

Ms. Branche discussed Virginia's Medical Advisory Board – its makeup and processes. The board has seven members who are:

- Appointed by the Governor
- Licensed physicians
- Currently practicing in Virginia

She emphasized that the DMV's Goals are to allow people to drive for as long as they can drive safely while ensuring that drivers and pedestrians are safe. Drivers are referred for review based on relevant functional impairment, not age. Medical issues which can bring about a referral include:

- Vision conditions
- Physical and/or mental condition that requires medication
- Seizure, blackout, or loss of consciousness
- Condition that requires the use of special equipment to drive

Branche noted that reports of impaired drivers come from a wide variety of sources including:

- Law enforcement
- Physicians
- Courts
- DMV representatives
- Relatives
- Concerned citizens
- The Driver him/herself

LUNCH KEYNOTE - INDEPENDENT TRANSPORTATION NETWORK: DIGNIFIED TRANSPORTATION FOR SENIORS

Katherine Freund, Founder and President, iTNAmerica

During the Lunch Keynote address, Katherine Freund articulated her vision for a non-driving based enhancement to senior's mobility, independence, and dignity. As founder and President of iTNAmerica, she described seniors' mobility needs and how her organization was rising to meet those challenges. iTNAmerica is the first and only national non-profit transportation network for seniors, utilizing information technology and the strength of local, grassroots support to create an efficient and financially sustainable solution to the transportation needs of seniors and their families. She pointed to the graph in Figure 4 showing how the relative proportion of consumer spending on transportation has grown substantially during that timeframe. Even when seniors stop driving, many still have funds in their overall budgets to pay for their post-driving transportation needs.

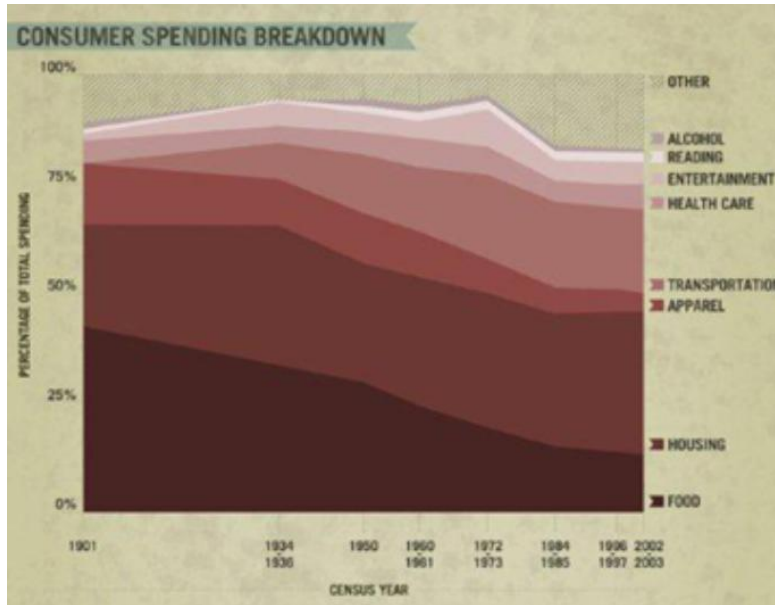


Figure 4. Consumer spending category percentages over the past century.

The basic idea of the program is that an iTNAmerica site exists within a community which desires and supports its contributions to senior mobility in that area. Rides are provided to seniors who sign up for the service and pay a reasonable per trip fare. Rides are for any purpose, without constraint. Costs are subsidized by the local community in one way or another, without the use of taxpayer dollars. Volunteer drivers who use their own cars earn credits which can be applied in a variety of ways, including holding them to “spend” when it is time for them to give up their own keys. Available drivers are matched to those in need of a ride via an IT management system.

The map in Figure 5 shows the locations of current almost 30 iTNAmerica sites.

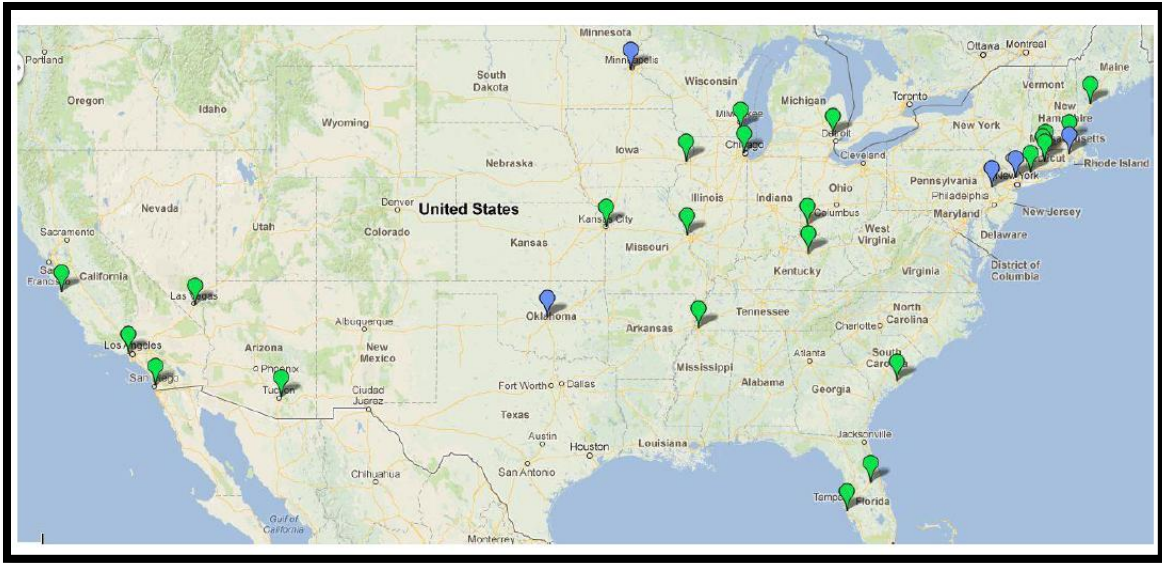


Figure 5. Current iTNAmerica site locations.

After lunch, attendees were provided access to a variety of sponsor and other exhibits including CarFit (car-fit.org), the Virginia GrandDriver Program (granddriver.net), and a VTTI research vehicle equipped with a naturalistic data acquisition system (DAS).

TECHNICAL SESSION 2: VEHICLE, INFRASTRUCTURE, AND EDUCATION-BASED COUNTERMEASURES

Benefiting from Automation: Trust and Senior Mobility

Bruce Mehler, Research Scientist, MIT AgeLab

Mehler discussed the application novel in-vehicle technologies to enhance mobility for seniors. He and his colleagues showed that, after proper training, heart rate (HR) was 12 beats per minute lower on average for a group which parallel parked using an automated park assist program than HR measured while parallel parking without assistance⁽⁸⁾. This represents not only the evaluation of a novel in-vehicle technology, but also a novel way to measure its effectiveness – in terms of driver state variables which show how the correct application of technology with training can perhaps make the driver feel more at ease and drive more safely.

Vehicle, Infrastructure, and Education-Based Countermeasures

Julie Lee, Vice President and National Director of Driver Safety at AARP

Lee pointed out that we are a suburban society and that the vast majority of trips taken by seniors are taken by car. She noted a number of initiatives which may help seniors stay mobile and independent, either by enhancing driving capabilities or providing meaningful alternatives. A program which enhances driving safety is CarFit, a free in-person education program helping seniors to better take advantage of all of the safety features and adjustments their vehicles have to offer. Examples include making sure the driver has a clear line of sight over the steering wheel, sufficient distance between the driver's chest and the driver-side airbag, properly

adjusting the head restraints, easy access to all pedals, and properly positioned side and rearview mirrors.

Another initiative described by Lee was Complete Streets, intended to enhance safety and comfort for all road users, regardless of age or ability. Its key tenets are: slow down, make it easy, and enjoy the view.

The AARP Driver Safety Course is another way AARP is helping to make seniors better, safer, and more confident drivers. The course lasts 4-8 hours, depending on state requirements, and successful completion can result in lower automobile insurance premiums, in addition to the benefits of the refreshed knowledge imparted.

Lee also noted that when all other options have been exhausted, there is “We Need to Talk”, a free one hour educational program offered online or in person to help caregivers or other close family members of a senior driver to assess whether it might be time to give up the keys.

Current Transportation Options for Seniors in the New River Valley

Nancy Brossoie, PhD, Senior Research Associate, Center for Gerontology at Virginia Tech

Dr. Brossoie gave the last technical talk of the symposium on the current transportation options for local area seniors. Despite some factors designed specifically for seniors, such as reduced fares, deviated fixed routes, and special lines connecting to the primary retirement community, many seniors still avoid using public transit. Reasons given include: Takes too much time/ doesn't coincide with my daily schedule, does not take me where I need to go, does not connect to other transportation services, and costs too much money (sometimes even with the reduced fares!). Despite these concerns, Brossoie did point out some local successes in enhancing local seniors' mobility due to community partnerships, increased transportation options, increased ridership, and reduced fares.

Panel Discussion: Urgent Needs in Senior Mobility - Next Steps

All speakers

The technical program concluded with a lively panel discussion featuring all speakers and involving all attendees discussing a variety of topics inspired by the day's presentations and activities.

Reception

All attendees

Following the technical program, all symposium-goers were invited to attend a networking reception of which many took advantage.

CHAPTER 3. SYMPOSIUM OVERVIEW

CONFERENCE ATTENDEES

Paid attendees included 42 individuals from Virginia, North Carolina, Michigan, and California. They represented a variety of perspectives as illustrated below:

- Aging Resource Coordinator/Provider
- Automobile Manufacturer
- Hospital
- Consultancy
- Advocacy Group
- Government Agency
- Product Development/Research
- Rehabilitation
- Certified Driving Rehabilitation Specialist
- Ride Coordinators/Providers

A list of the attendees' organizations can be found in Appendix A; a similar listing of their job titles can be found in Appendix B. The single biggest group represented at the symposium was occupational therapy.

PRE-SYMPOSIUM SURVEY

An opportunity to participate in a pre-symposium survey was offered to all speakers and attendees; 21 chose to respond. The complete survey is shown in Appendix C.

Top Mobility Challenges Facing Seniors (Pre-Symposium)

Those who took the pre-symposium survey were asked to indicate what they felt were the top three mobility challenges facing seniors. Top results are integrated and summarized below; all results are listed in Appendix D.

- **Loss of safe driving ability** related to declining functional abilities (e.g., vision, cognition, flexibility, etc.) or age-related illness (e.g., stroke, Parkinson's, dementia, etc.).
- **Need for better fitness-to-drive evaluations** (e.g., lower stress, easier to administer, self-administration, more well-informed physicians, etc.)
 - Resistance by some to self-restriction.
- **Availability and accessibility of public and alternative transportation** options and resources
 - Especially in rural areas.
- **Loss of independence** leads to loss of pride/sense of self when having to rely on others for mobility; feelings of isolation.
- **Poor community design**
 - Pedestrian accessibility and safety.
- **Novel vehicle technologies (e.g., crash avoidance, infotainment, etc.)**

- Availability of adaptive tools and technologies to make vehicles more senior-friendly.

POST-SYMPOSIUM SURVEYS

An opportunity to participate in a post-symposium survey was offered to all speakers and attendees; 26 chose to respond.

Symposium Evaluation Scores

Table 4 and Table 5 show participants' ratings of the various elements of the symposium and their overall impressions, respectively.

Table 4. Attendee ratings of symposium sessions.

		<u>Mean Response</u>	<u>SD Response</u>	Scoring Key				
				1	2	3	4	5
Part 1:								
Opening Keynote	Usefulness	4.31	0.68	Not		Somewhat		Very
	Pres Qual	4.27	0.72	Low		Medium		High
Session 1	Usefulness	4.35	0.69	Not		Somewhat		Very
	Pres Qual	4.38	0.75	Low		Medium		High
Lunch Keynote	Usefulness	4.42	0.70	Not		Somewhat		Very
	Pres Qual	4.42	0.70	Low		Medium		High
Session 2	Usefulness	4.35	0.65	Not		Somewhat		Very
	Pres Qual	4.35	0.71	Low		Medium		High
Panel Discussion	Usefulness	4.50	0.75	Not		Somewhat		Very
	Pres Qual	4.53	0.74	Low		Medium		High

Table 5. Attendee ratings of symposium in general.

	<u>Mean Response</u>	<u>SD Response</u>	Scoring Key				
			1	2	3	4	5
Part 2:							
General Value	4.25	0.74	Not		Somewhat		Very
Expectations Met	3.88	0.95	Below		Met		Exceeded
Likely to Recommend Future Symposia	4.35	0.88	Not		Somewhat		Very

Top Mobility Challenges Facing Seniors (Post-Symposium)

After the symposium, participants were once again given the opportunity to indicate what they felt were the top three mobility challenges facing seniors. Top results are integrated and summarized below; all results are listed in Appendix E.

- **Transition from driver to non-driver**
 - Standardized assessments;
 - Care-giver/family member support; and
 - Community-based options.
- **Technology and automation**
- **Health issues**
 - Research about conditions/illnesses that affect driving; and
 - Methods to help seniors stay cognitively fit.

Although these are largely similar to the top issues listed by those who took the pre-symposium survey, they do seem to reflect some of the topics and emphases discussed during the symposium (e.g., methods to help seniors stay cognitively fit). These results indicate the impact of the symposium on attendee opinions and attitudes towards senior mobility challenges.

CHAPTER 4. SUMMARY AND CONCLUSIONS

Forty-two paid attendees and almost 60 individuals overall gathered for an entire day on December 6, 2012, in Blacksburg, VA, to discuss senior mobility issues and solutions at the national, state, and local levels. Speakers represented leading research, advocacy, and governmental organizations focused on this field at the local, state, and national levels. Attendees represented a variety of hands-on providers of services for seniors across four states (Virginia, North Carolina, Michigan, and California).

Presentations focused on the current state of the senior mobility problem as well as a breadth of solutions involving assessment, training, vehicle-based technologies, and alternative approaches to community design and ride provisioning/sharing. Several presenters discussed the personal financial aspects of senior mobility, staking out differing perspectives: (1) for some seniors, even modest transportation costs may be too high, leading to specific transportation choices; and (2) many seniors, even if they can no longer drive, still have money in their personal budgets to pay for other, more novel transportation service alternatives.

Each attendee received eight hours of continuing education credit. All aspects of the symposium were well received and highly rated by attendees. Current efforts are focused on how to expand this forum to a broader range of audiences around the country in the future.

APPENDIX A. ATTENDEES' ORGANIZATIONS

(Number of duplicates indicated in parentheses.)

- A Metropolitan Driving School
- AARP (2)
- Agency on the Aging
- Alpine Electronics Research
- Boundless Mobility
- Carilion Clinic New River Valley (3)
- CCR, Inc.
- Center for Gerontology at Virginia Tech
- Dept for Aging & Rehabilitative Services
- Dept. of Motor Vehicles (2)
- District Three Public Transit
- Forsyth-Stephens Consulting, LLC
- Friendship Outpatient and Wellness Services
- HCALewis-Gale Medical Center
- HealthSouth Rehab hospital of Virginia
- iTN America
- JAUNT
- MIT - Agelab
- New River Valley Agency on Aging
- New River Valley Planning District Commission
- Pagels Driver Rehabilitation Service
- Pulaski County Department of Social Services
- Radford Health and Rehab Center
- Rappahannock Area Agency on Aging
- Salem VA Medical Center
- Senior Connections
- Southern Area on Aging
- Stay at Home Personal Care
- SVLAS, GOLR (2)
- The Riverside Center for Excellence in Aging and L
- The Therapy Center at Ghent-Sentara
- Town of Blacksburg (2)
- Toyota Technical Center
- U.S. Department of Transportation
- UMTRI
- University of North Carolina at Chapel Hill
- Valley Health Outpatient Rehab Services
- VTTI (5)
- Warm Hearth Village
- Winston Salem State University
- Woodrow Wilson Rehabilitation Center

APPENDIX B. ATTENDEES' JOB TITLES

(Number of duplicates indicated in parentheses.)

- Associate Professor
- Associate State Director
- Certified Driver Rehabilitation Spec.
- Chief Quality Cultural Excellence Offc
- Clinical Associate Professor
- Communications Assistant
- Comprehensive Planner
- Deputy Director, Transportation Safety
- Development Consultant
- Director of Driver Rehabilitation Servic
- Director, Emergency Department
- Director, GOLR
- Director, Rehab Services
- Executive Director
- Executive Engineer
- Founder and President
- GOLR Assistant
- Granddriver Program Coordinator
- Group Leader and Research Scientist
- Healthcare Compliance Officer
- Housing Neighborhood Services Manager
- Human Factors Research Scientist
- Mobility Coordinator
- Mobility Manager (3)
- Occupational Therapist (3)
- Occupational Therapy Manager
- Older Driver Program Analyst
- Operations Manager
- OTR/L, CDI
- OTRL, CDRS (3)
- Project Associate
- Regional Mobility Manager
- Research Associate
- Research Professor
- Research Scientist
- retired
- Ride Solutions Coordinator
- RN BSN
- Senior Research Associate
- Social Worker II
- Specialist
- Staff Coordinator
- Staff Occupational Therapist

- VHSO District Program Manager
- VP and National Director

APPENDIX C. PRE-SYMPOSIUM SURVEY

Survey for **Senior Mobility Awareness Symposium**

Tell us what you would like to share and learn.



Thank you for taking the time to complete the following questionnaire developed by the National Surface Transportation Safety Center for Excellence in conjunction with the Virginia Tech Transportation Institute and the Center for Gerontology at Virginia Tech.

We are requesting your input in order to get a better understanding of the issues you face while working with older adults. Your responses will also be used to help further develop the Senior Mobility Awareness Symposium to be held December 6, 2012 at The Inn at Virginia Tech in Blacksburg, VA. The results may be used for publication.

If you should have any questions about the protection of human research participants regarding our studies, you may contact Dr. David Moore, Chair, Virginia Tech Institutional Review Board for the Protection of Human Subjects by telephone (540-505-6650), e-mail (moored@vt.edu), or mail (Office of Research Compliance, 2000 Kraft Drive, Suite 2000 (0497), Blacksburg, VA 24060).

Participation in this survey is voluntary. You may refuse to answer any question and you may withdraw at any time without penalty. By answering the following questions, you are providing your voluntary consent to participate.

If you have any questions about this survey or the upcoming Senior Mobility Awareness Symposium, please contact Jon Antin at 540-231-1579 or jantin@vti.vt.edu.

Please tell us about your current employment

Job Title

Affiliation/Company/ Agency

County

State

Please select your area of expertise from the list below (more than one answer may apply):

- In-Home Care Provider**
- Health Professional**
- Local Law Enforcement**
- Social Worker**
- Case Manager**
- Leader in the Faith Community**
- Not Applicable**

Other :

How many years have you worked with seniors?

Based on your experiences, what do you see as the top three mobility challenges facing seniors?

Challenge 1:

Challenge 2:

Challenge 3:

Submit

APPENDIX D. TOP MOBILITY ISSUES FACING SENIORS: VERBATIM RESPONSES (PRE-SYMPOSIUM)

CHALLENGE 1

- A lack of planning by “active adults” who deny they are growing older and nothing will happen to them that will impact their mobility. It will happen to somebody else, but not me.
- Access to reliable transportation to scheduled appointments. IE> Doctors, pharmacy, grocery
- declining visual, physical, and cognitive skills affecting ability to drive with an increasing demanding driving environment,
- Dementia
- Ensuring safety and competence in our senior drivers in a non-threatening manner.
- Financial—the need to pay for assistive devices, driver evaluation, training.
- Inability to access public transportation whether due to living in a rural area or resistance to using.
- Inability to safely drive after a catastrophic medical event
- Isolation in rural communities which makes older adults unable to access needed services that come with aging.
- Isolation of seniors due to the lack ability to remain active in the community.
- Knowing when to stop driving and giving up driving
- Lack of alternative mobility options once driving is no longer an option. It is particularly a problem in SW VA.
- Lack of public transportation
- Lack of transportation options for seniors
- Lack of transportation options to medical appointments.
- loss of safe driving ability related to age-related illness e.g. stroke, Parkinson's, dementia
- Multitasking during driving
- Options for alternative transportation
- Variation in services among the jurisdictions comprising the metropolitan area
- Vehicle, as a driver
- Vision impairment

CHALLENGE 2

- A lack of housing options with universal design in locations where seniors can age in a place and can access the services they need via public transportation. This is especially true in communities outside major metropolitan statistical areas.
- Driving on bad condition such as night, bad weather, etc.
- Finding a more user friendly, less stressful means of evaluating driving skill
- Increased incidence of CVA and other illnesses which affect ability to safely operate a motor vehicle.
- judging vehicle speeds
- Lack of affordable non-emergency medical transportation
- lack of alternate transportation options, community programs, public transportation
- lack of alternative transportation options, worse in rural areas
- Lack of available friends and family members to provide transportation if needed.

- Lack of knowledge about senior mobility issues by health care providers. Knowing the laws and available options. Physician not addressing driving during changes in medical status when hospitalized/ lack of knowledge.
- Lack of resources to address all transportation needs
- Limited access to public transportation that is user -friendly for seniors
- Limited public transportation alternatives
- Maintaining independence when no longer driving
- Many of our seniors live in remote rural areas with little or no public transportation options.
- Older adults who are resistant to self-restricting driving.
- Pedestrian
- Poorly designed communities
- Providing cost-effective and easy alternatives to driving.
- Qualified Providers for those with disabilities—Some providers only complete certain sections of driver evaluation and then the customers must have another assessment.
- Time management issues, immediate need based transportation. IE> Senior is sick and needs to visit physician.

CHALLENGE 3

- A lack of fixed-route/para-transit resources in small urban/rural/exurban communities.
- Generational lifestyle differences and expectations. Seniors today grew up in the age of the automobile and the suburbs, and they are not used to talking public transportation.
- Lack of available sites for driving assessment
- Lack of funding for AE for driving and driving screening/ evaluation. Qualified professionals to aide in this process. Knowledge of Occupational Therapy to medical professionals and our role in addressing the IADL of driving, even as a generalist in occupational therapy. Not all older drivers need an on the road evaluation.
- Limited funding available for further testing of driving skills or adaptations to car required to safely drive adaptati
- limited funds to be able to get assist with driving, driving evaluations, needed equipment
- Limited instructional technology for use with public transportation
- loss of pride/independence/sense of self when having to rely on others for community mobility
- Maintaining a Driver's Permit
- Need alternatives for delivery of products such as medications and food. FYI: Varies depending upon “well elderly” vs. those with disabilities. As the issues with mobility (community or functional ambulation) decreases, so does the socialization of the elderly.
- pedal confusion
- Poor health of seniors (prohibiting mobility)
- The coming age wave and its implications in terms of the need for additional services and programs; increasing sense of entitlement among clients; persons with chronic health problems, i.e. kidney failure which requires dialysis and cancer requiring ongoing treatments
- Unwillingness to give up driving or change driving habits due to normal age-related decline in cognition, vision, physical abilities
- Vehicle passenger
- Vehicles equipped to handle all aspects of senior care. Walkers, Wheel-Chairs, and easy entry/exit vehicles.

APPENDIX E. TOP MOBILITY ISSUES FACING SENIORS: VERBATIM RESPONSES (POST-SYMPOSIUM)

CHALLENGE 1

- alternative transportation for seniors
- assessment for cognitive decline and correlations for driving limits
- caregiver/family members- issue on dealing with senior mobility
- examples of programs/initiatives to improve senior mobility (testimonies)
- funding for driving assessments
- Further studies on the adjustments from independent driver and nonindependent drivers
- having the conversation of driving transition
- introduction to world wide approach
- isolation in rural areas
- might be interesting to have a gerontologist speak to get his/her opinion
- more community mobility issues beyond driving
- Standardized assessments
- transition from driving to alternatives
- travel training
- updates on NHTSA's projects- grants available for those working with senior mobility

CHALLENGE 2

- educational tips for agencies to seniors on alternatives
- funding awareness for supporting driving
- Funding for testing: Modifications
- Further information regarding impact of care giver/family decision making for caring driving
- how to initiate a community based program emphasizing independent mobility
- ITN-type program in NRV
- ongoing updates on new vehicle technologies
- update on automation challenges with driving
- ways that communities can support non-drivers

CHALLENGE 3

- Further tools/programs available for neuroplasticity, cognitive retention
- legislative updates
- research on senior drivers with known health issues and its effect on driving.
- Resources outside of New River Valley
- the driving cessation transition
- various senior mobility options
- working c medical conditions that affect driving

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