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# Older Adult Mobility Assessment Tool Plan:
## Phase 1 Report

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# Phase 1 Report

## Executive Summary

This report encompasses Phase 1 of a three-phase project to develop an older adult safe mobility assessment.  Phase 1 involved collecting actionable research to determine the need and approach for such a tool and to shape subsequent phases. Phases 2 and 3 involve the actual creation and dissemination of the tool.

The conclusion of the first phase of research is this: We do not know nearly enough about the safe mobility experience of older adults in the United States.  While information about falls, driving, social networks, home safety, community walkability and other silos of research are out there, no one has linked all these silos together.  We cannot paint a picture of what adults age 65 and older experience when they try to get where they want to go.  There are anecdotes, compelling data from assessments focused on certain aspects of older adult safe mobility, glimpses provided by national surveys, but when it comes to a holistic nationwide understanding of the trends and patterns in older adult safe mobility, we are driving blind.

Our policies do not reflect what we do know about the needs and wants of older adults, in part because it's hard to find the right data to tell the right story.  There is no single national organization with a mandate to collect these data and tell this story, so at the moment the field is open and broad, and reflects the missions and viewpoints of a myriad of actors in older adult safe mobility. Compounding this opportunity is the need: In the next decade some 17% of Americans will be 65 and older, and that percentage will continue to increase, with 10,000 Americans reaching 65 every day for the next 20 years.

Leaders in the field of older adult safe mobility contend that as it stands today our research does not adequately capture a holistic view of the safe mobility experience of older adults, our policies are shaped in an uncoordinated and often uninformed manner and our best practices, the information that could help older adults make better decisions for themselves, are not reaching the public.

The time is ripe for CDC leadership on this issue, leadership that offers a tangible first step on the road to fully understanding and meeting the safe mobility needs and wants of older adults. An older adult safe mobility assessment makes sense, linking the domains of older adult safe mobility together and empowering the individual with a way to improve their mobility.  This first phase of research strongly supports the creation of just such a tool, led and managed by the CDC, in collaboration with its partners across the country.

# Introduction

## I. BACKGROUND

As part of an overarching effort to (1) Improve injury prevention to make older adults safer; (2) Improve the visibility of motor vehicle injury prevention (MVIP) and the team through a high impact product; and (3) Make the MVIP team's good work more relevant and useful, we were engaged to conduct the first phase of research toward the development of an Older Adult Safe Mobility Assessment Tool.

The U.S. is just experiencing the beginning of a "silver tsunami," with those 65 years and older comprising approximately 17% of the population by 2020.  At present 10,000 Americans reach 65 every day, and this will continue for the next 20 years.  The motivation to better understand the mobility experience of older adults comes from a recognition that public health and other authorities are ill-prepared to service the needs of this demographic.  With most adults aging in place, rather than in retirement or nursing homes, it is absolutely critical to better prepare the field for what is on the horizon.

There is widespread agreement that older adults in the U.S. do not adequately plan for their future mobility needs, nor are most aware of existing mobility resources in their communities.  Thus, when an individual's mobility becomes impaired they are ill prepared to adapt their lifestyle to their changing needs.  Once at this stage, an individual's ability to access resources may be compromised, because their mobility is compromised.  This calls for a tool to help people understand their mobility situation and plan accordingly.

In this paper, "older adult" refers to persons age 65 or older. "Safe mobility" is conceptualized simply as people getting to where they need to go without injury. The risk reduction safety aspect is what ties this project to public health and injury prevention. We conceived of older adult safe mobility within the Social Ecological Model, which recognizes the interconnectedness between the individual, their environment, and other influences on behavior. This holistic view of mobility encompasses an individual's physical and mental health, their social network, the state of their home, their neighborhood, their city, county, state and finally the overall mobility situation of older adults in the nation as a whole.

## II. PURPOSE & GOALS

The purpose of this phase of the project was to 1) establish whether or not there is a need for an older adult safe mobility tool, 2) determine whether the CDC is best placed to lead the creation of this tool, and 3) develop recommendations on how best to move forward with its creation.

Objectives & methodologies included:

1. Conducting an environmental scan to identify best practices and tools and to insure CDC's effort in this arena is complementary and non-duplicative of existing efforts.

2. Conducting internal interviews to tap into existing knowledge and resources at CDC on older adult mobility and driving safety, and to gather input on who should be a part of the expert panel, best practices, and partnership efforts.

3. Creating and convening an expert panel to establish scientific and implementation parameters. Expert panelists were individually interviewed on multiple occasions, followed by two rounds of small group conference calls, and a final debrief call.

4. Identifying and establishing key partnerships necessary to achieving the development of a Tool that will meet the needs of older adults and ensure wide dissemination and use.

5. Determining design, implementation, and evaluation plan.

This foundational scientific work was necessary to move forward with the development of an assessment product that is informed by current science and a wide range of experts and partners.

## III. EXPERT PANEL

*Lynda A. Anderson*
Director, Healthy Aging Program
Division of Adult and Community Health
CDC National Center for Chronic Disease Prevention and Health Promotion

*Chris Kochtitzky*
Associate Director for Policy Planning and Evaluation
CDC Office of the Director Div. of Emergency and Environmental Health Services

*Gloria Krahn*
Division Director, Division of Human Development and Disability
CDC National Center on Birth Defects and Developmental Disabilities

*Dee Merriam*
Community Planner
CDC National Center for Environmental Health

*Katie Sobush*
Transportation Planner
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*Basia Belza*
Lead, Coordinating Center, CDC-Healthy Aging Research Network
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*Doug Farquhar*
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*Elinor Ginzler*
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*Kimberley Hodgson*
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Aging Atlanta
Atlanta Regional Commission

*Mary Leary*
Senior Director
Easter Seals Project ACTION
National Center on Senior Transportation & other Transportation Initiatives

*Barbara McCann*
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National Complete Streets Coalition

*Sandra Rosenbloom*
Professor of Planning
Adjunct Professor of Civil Engineering
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*Jim Rimmer*
Professor, Department of Disability and Human Development
Director, Center on Health Promotion Research for Persons with Disabilities
Director, National Center on Physical Activity and Disability
University of Illinois at Chicago

*Jon Sanford*
Director of the Center for Assistive Technology and Environmental Access
Associate Professor of Architecture
Georgia Tech

*Bill Satariano*
Professor of Epidemiology and Community Health
School of Public Health
UC Berkeley

Note: Additional potential expert panel advisors include Dr. Jim Sallis (SDSU and RWJF), Kathy Sykes (EPA), and David Shotwell (Senior Director of Liveable Communities at AARP) as a replacement for Elinor Ginzler, who moved to a different position within AARP.

# Part 1: Assessing the Need

## I. KNOWLEDGE GAPS IN OLDER ADULT SAFE MOBILITY

### RESEARCH

A holistic picture, taking into account the major areas of research that interact to understand the mobility experience of older adults in the U.S., does not exist.  Though various aspects of mobility among older adults are studied (falls, home safety, physical and mental health, neighborhood walkability, driving), there is little interaction or collaboration by researchers across these research silos.  Nor is there a single tool (assessment, HRA, etc.) that links these research silos together.

There is also little understanding of what could be termed "patterns of mobility."  Where older adults go and do not go, why they go there, how they get there, and how often they go is not well understood either at the national or local level.  In addition, there is little knowledge of best practices when it comes to communicating health messages about safe mobility to older adults.

### POLICY

There have been two main barriers cited as creating gaps in policy regarding older adult mobility. 1) Policy makers do not consider the mobility-related needs and wants of older adults.  Older adult safe mobility topics require foresight, long-term planning and by their nature pertain to multiple policy arenas (building codes, community planning, public transportation, traffic safety, developers, engineers, local and state elected officials, healthcare).  Older adult mobility is therefore a challenging topic to address, which leads to more manageable topics taking precedent.  2) When policy makers seek to address topics of older adult mobility, they do not know where to get the information they need.  The issue is broad and the actors are fragmented.  There are no ready data on patterns or trends on community or national levels.  When data are available, they are usually not presented in a policy friendly format.  Policy makers have indicated that personal stories, or case studies, are helpful in framing these issues, but these too are hard to come by.

The gap between what we do know about the mobility wants and needs of older adults, and the related policies that are actually implemented by authorities, is of universal concern to experts across older adult mobility disciplines.  As a result of this disconnect, there is frustration that the communities being built and maintained across the U.S. do not reflect the mobility realities of an aging population.

Compounding this, there is no single entity in the U.S. that is responsible for advocating on behalf of older adult safe mobility.  This, added to the separate silos of mobility research, has led to a fractured, uneven and predominately reactionary response to the mobility needs of an aging population.

## EDUCATION

Similarly, educational campaigns either do not exist or are propriety and administered by organizations whose coverage does not extend to the entire country, or who focus on a particular aspect of mobility (for example, safe driving) rather than the whole range of the older adult mobility experience.

## DRIVING

There is evidence about the importance of driving, and consequently recommendations by public health, transportation and other authorities, that older adults should continue to drive as long as is safely possible.  With a lack of public transportation options, and a cultural belief that driving is equated with self-worth, self-reliance, and independence, most Americans do drive for as long as they feel able.  Motor vehicle use is therefore a tremendous part of an older adult's mobility experience.

However, there is not a strong understanding of how driving - and not driving - fits into the overall mobility experience.  Where, how often, how comfortable, and how safe people feel when driving, as well as how they evaluate alternatives, needs more attention, particularly within the holistic context of older adult safe mobility.

## FALLS

Just as safe driving is a main factor in an individual's mobility, so to is the issue of falls.  Research shows that most American's homes are ill equipped for the needs of older adults, which contributes to falls inside the home.  Once an individual has fallen, their mobility is often impaired, both within and outside the home.

There is a gap in falls research as to the characterization of falls in the community outside a person's home.  It is assumed that most falls occur in the home, but this is an assumption based on little community-level data.  Additionally, reasons for falls outside the home are little understood, as are the reasons older adults give for feeling comfortable or fearful when navigating through their neighborhood or community at large, either by foot, assistive device (walker, wheelchair) or vehicle.

## SUICIDE

When an older adult's mobility is impaired, so often is their sense of self-worth.  Older adults have reported the loss of their license as one of the most traumatic experiences of their lives, and family members, such as adult children, have echoed this sentiment.  Unaware of community resources, cut off from services and, often, separated from social networks, older adults in the U.S. can quite easily fall into isolation.  The resulting depression has been linked to a loss in quality of life as well as suicide.  Adults age 65 and over have a higher rate of suicide than any other age group.

The social support network of the individual appears critical in lessening suicide risk in this population.  Significantly more work needs to be done in order to understand the effect of social networks on older adult's mobility experience, and vice versa, and thus provide

appropriate interventions/programming. More research is also needed into how mobility alternatives can be more accessible and appealing to decrease suicide risk.

## CONCLUSION

At present there is a fragmented approach to older adult safe mobility in the U.S.  With siloed research and siloed practice, there is poor understanding of trends and patterns in overall older adult safe mobility in this country. The lack of comprehensive, compelling, easily understood data present a challenge to crafting policy that reflects best practice.  Finally, best practices are not effectively shared with older adults or translated into behavior change because there is no single national authority on older adult safe mobility. One highly credible organization needs to adopt a mandate to bring together the disparate research and practice silos under a coherent theme, and then to disseminate that information. Experts felt strongly that CDC, and particularly the MVIP team is the right sponsor of this kind of activity.

# II. SUMMARY OF RELEVANT ASSESSMENTS

Assessments that directly cover mobility issues fall into two categories: Those that measure community and/or environmental indicators, and those focused on safe driving ability. We also reviewed several traditional health risk appraisals (HRAs) and national surveys. While they do not cover older adult safe mobility in any comprehensive way, they were explored as potential models for a creating a new assessment tool or serving as distribution partners. Several examples of each are described below. The list in the Appendix offers a more representative and annotated listing of some of the better-known tools.

Tools that measure community or environmental factors include the Home and Community Environment (HACE) Instrument, which measures home and community mobility, AARP's Livable Communities survey?, which measures a variety of community-wide indicators important to older adults, as well as assessments like the Lubben Social Network Scale (LSNS), which measures social isolation in older adults.  The most well known driving assessments are available from the AAA Foundation, which focus on safe driving and recognition of driving deficiencies, and then AARP.

HRAs can be disease or condition specific, such as the American Diabetes Association's HRA for diabetes, or more inclusive wellness assessments such as the Mayo Clinic's HRA.  The CDC is currently in the process of developing guidelines for a new broad HRA with the Centers for Medicare and Medicaid Services (CMS), in accordance with the Affordable Care Act (ACA).  Many HRAs are developed for employer health and wellness programs. HRAs were included to inform the type of safe mobility assessment tool that should be developed.

Relevant popular national surveys only peripherally related to older adult safe mobility include HealthStyles, managed by Porter Novelli, which collects health attitudes and practices of a sample of the adult U.S. population, and the Medicare Current Beneficiary Survey (MCBS), which collects a wide array of indicators from a rotating panel of Medicare beneficiaries. They were included early on as the most likely surveys to which an older adult safe mobility assessment could possibly be piggybacked.

## THE NEED FOR INTEGRATION

Each existing assessment, survey, HRA and report captures only a part of the whole of older adult safe mobility. Community and environmental assessments such as AARP's Livable Communities does an excellent job capturing aspects of what makes a community attractive to many older adults, but does not capture individual-level enablers and barriers to mobility within that community, the state of a person's home, or indicators of physical/mental health.

Tools such as the Home and Community Environment (HACE) instrument records the physical environment of an older adult, such as the number of stairs in the home, the condition of sidewalks and use of mobility devices, but leaves out the where and why of how people move as well as personal physical/mental health indicators. Assessments such as

the Lubben Social Network Scale (LSNS) captures social networks and thus indicators of mental health, but not the physical environment.

Furthermore, each of these existing tools is managed by a different organization, under its own directive. There is no unifying purpose or overarching directive to collaborate or to combine datasets.

## CONCLUSION

At present there are numerous mobility assessments actively used throughout the U.S. Most are designed to collect information from only one particular mobility silo, such as assessments that focus on falls prevention. None of these existing tools cut across mobility silos while focusing on older adults. None create a national picture of older adult safe mobility that captures an individual's physical and mental health, their social network, the state of their home, their neighborhood, their city, and beyond. And none provide the comprehensive data needed to paint a picture of the overall safe mobility situation of older adults in the nation as a whole.

# Part 2: CDC's Role

CDC's National Center for Injury Prevention & Control (NCIPC) is charged with preventing injuries and reducing their consequences.  Under the Center's purview are motor vehicle injury prevention and response, home safety, and violence prevention, among other topics.

Older adult safe mobility encompasses several aspects of NCIPC's charge, specifically motor vehicle injury prevention (MVIP), falls prevention, and suicide prevention. Safe mobility is therefore a key public health issue ideally fit to CDC's Injury Center.

Motor vehicle safety is particularly important to older adult safe mobility as there are over 31 million licensed drivers age 65 and older (with many more on the horizon) and the risk of motor vehicle-related injury or death increases with age.  Older adults will rely on their automobile as their main source of transportation until such time as they are unfit to drive.  Motor vehicle injury prevention provides a strong starting point from which to address safe mobility more holistically.

CDC is not an advocacy organization, and cannot take on that role.  However, it can provide timely, relevant data that strongly support the advocacy efforts of individuals and other organizations.

NCIPC is seen as well positioned within the CDC to address safe mobility on a national scale. Moreover, of all organizations mentioned by experts as relevant to older adult safe mobility, CDC is the only agency mandated with protecting the welfare of the American public.

# Part 3: Framework for Development

## I. WHAT ARE WE ASSESSING?

We are assessing if, how, and under what conditions older adults safely get to where they need to go. "People getting to where they need to go safely" may be a simple description of safe mobility, but it is a helpful way of conceptualizing such a broad and inclusive theme. Older adults need to move through their home, their neighborhood and their community. There are enablers and barriers to that movement, and that movement has an impact on many areas of health and well-being. An assessment tool should collect data regarding where, how, why and when a person is and is not mobile, and in the process assess the corresponding barriers and enablers.

The assessment will include both factual and evaluative items, which is uncommon, as per the recommendation of our additional advisor, Dr. Jim Sallis. An example of a factual item is "Can you walk to a food store in 10 minutes?" or "Does your neighborhood have sidewalks?" An evaluative item is "Are you confident with the safety of your route to the nearest food store?"

The need to empower individuals through actionable feedback was echoed by many expert panelists. Information can lead to empowerment by enabling older adult users to be aware of deficiencies and strengths in their own mobility situations. It may also engender more successful advocacy on the part of older adults themselves, who are known to be a highly politically active group.

### RECOMMENDED SCOPE

Experts in specific silos of older adult mobility research and practice are inclined toward assessments that mirror their experience (i.e. a researcher of falls can give specific recommendations for a newer and better fall assessment). However, when such experts are asked to consider gaps in knowledge of older adult safe mobility more generally, there is universal agreement that there is great need for a tool that captures "patterns of older adult mobility" on a large scale.

Based on CDC's internal preferences, the first goal is to provide individuals with an understanding of how to improve their own safe mobility, and second to paint a portrait of the current older adult safe mobility experience, in order to make it better.

The data collected by this assessment will be the first step in highlighting the safe mobility realities of older adults in the country, and should pave the way for incorporating such a tool into a large, scientifically robust longitudinal examination of older adults and safe mobility.

### DOMAINS OF MOBILITY & TOPICS

Domains include an individual's physical and mental health, their social network, the state of their home, their transportation options, and their environment (neighborhood, city, county, state). When appropriately aggregated, these domains may provide a snapshot of the overall mobility situation of older adults in the nation as a whole.

Research indicates older adults in the U.S. "age in place" and, though far more mobile than previous generations, adults toward the older end of the spectrum tend to operate within what some experts refer to as the "last mile," or approximately a mile radius from their home. The experience of many users of this assessment will reflect this dynamic, and their engagement with the various domains of older adult mobility will be particularly valuable to examine. Based on expert panel input, we recommend primarily focusing on safe mobility within the home, neighborhood and community, and particularly the "last mile."

Within the domains of mobility listed above there are individual topics. These topics represent the priority topics of organizations whose work is relevant to safe mobility, and to the work of particular researchers and research groups. For example, there are researchers and organizations primarily focused on falls (a topic) that occur within the home (a domain of mobility). While there is not a one-to-one correspondence between domains and topics, the topics discussed most often by the expert panel can be grouped into domains as follows.

**Tier 1 Topic Silos**
- Physical and mental health: Falls, disease states, healthcare utilization, home care, nursing, aging process, suicide, and social networks related to dementia and depression
- Home & environment: Universal design, accessibility, disability, physical environment, walkability, healthier cities/neighborhoods
- Transportation: Driving, licensure, public transport, para-transit, cycling/bicycling, planning
- City planning: Policies, urban and rural studies, codes and standards such as ADA guidelines, engineering, contractors and developers

The particular topics that the safe mobility assessment will address depends on how the assessment tool will be used, as well as the priorities of CDC and key partners. Regardless, it is critical to recognize these spheres of influence if we are to capture an accurate picture of older adult safe mobility. Each domain and topic act upon the others; they are not mutually exclusive. Assessments that do not take this into account fail to acknowledge the complex, interwoven exchange that older adults have with their environment.

## UNIT OF ANALYSIS

The recommended unit of analysis is the individual, as the fundamental purpose of this tool should be to give people the information they need to understand and improve their mobility. The assessment will help people make better-informed decisions about their mobility by raising awareness of personal barriers and enablers to safe mobility. Adults 65 and older will be better able to prepare for and meet their safe mobility needs.

The individual unit of analysis does not preclude gathering valuable information about safe mobility on a community or national level. This information would be valuable to any organization engaged in any of the domains or silos of older adult safe mobility as there currently is no tool that links these domains. The results would also help to fulfill an existing need to understand older adult safe mobility on a more scientific, rather than anecdotal or purely subjective level.

Because there is a strong need for policy makers and advocates to have better information on patterns in older adult safe mobility, individual level data can be aggregated and geographically linked in order to paint a picture of older adult mobility at a more macro level. Policy makers also need a face or story to represent patterns and trends in a manner people can relate to. Even without ideal sampling techniques or assessing specific communities *per se* (at least initially), the findings will add to a more complete picture of the safe mobility experience of older adults in the U.S. We believe a well-designed assessment will produce cost savings and inform policy within three years from initial fielding of the final tool.

## II. SCIENTIFIC ISSUES SPECIFIC TO MOBILITY

### GATHERING VALID DATA ACROSS DOMAINS OF MOBILITY

Current assessments are typically designed to examine either a single aspect of safe mobility, for instance falls, or a single environment, like in-home.  Assessing these domains holistically will require significant conceptual clarity as to the different domains of safe mobility and their interrelationships, as well as attention toward corresponding measurement issues. Attempting to incorporate each of the relevant domains of older adult safe mobility will be challenging in terms of survey length as well. A potential solution would be to employ a computerized adaptive test (CAT). Fully/partially adaptive tests rely on item response theory (IRT) to present questions from a question bank, based on information the user has provided at the outset, such as their age and gender, as well as throughout the assessment. The result is a more tailored assessment experience for the user, and more relevant feedback. This approach however assumes computer-based administration.

### PREDICTIVENESS, PRECISION, AND SCALING

Experts agree that there is not sufficient knowledge in place to create a formal risk appraisal that quantifies risk and predicts the value of risk abatement behaviors with precision.  This speaks to creating an older adult safe mobility assessment that has an ordinal scale and shows what will improve or worsen the situation, but without quantification of effect size.

### MINIMIZING BIAS

Self-report assessments have the advantage of easier administration. They also have the disadvantage of social desirability bias - participants answering questions to paint themselves in the best light possible. Given the emotions often connected with one's mobility, a social desirability response bias should be anticipated.

When participants can choose to take an assessment or not it could introduce a self-selection bias, leading to a biased sample.  However, given the early stage of holistically assessing safe mobility, we feel the convenience and practicality of a self-report assessment  tool and a convenience sample (stratified by age and/or other variables to approximate the older adult population in the U.S.) deserves priority, with attention given to minimizing all forms of potential bias.

# III. IMPLEMENTATION ISSUES

In terms of implementation, we recommend employing an approach similar to what Porter Novelli's HealthStyles uses, given the credibility of HealthStyles within CDC, its longevity, and its widespread use. The key idea is to partner with a broader data collection effort in a way that maintains the independence of the Older Adult Safe Mobility Assessment. For example, HealthStyles originally drew its sample of about 3,000 from DDB Needham's much larger Lifestyle Survey, supplemented with an additional sample of underrepresented populations (they switched from DDB Needham to their in-house ConsumerStyles several years ago). The sample is weighted on selected demographic variables, including age, in order to be representative of the U.S. population. We recommend aiming for an annual sample size of 1,200 and maximum of 5,000, depending on what CDC can support.

The key benefit is being able to link with a much richer dataset in order to better understand safe mobility. There are partner options within the private sector, such as the two mentioned above, Neilson, Maritz, and others; nonprofits such as AARP; universities like University of Michigan's Survey Research Center, and government agencies such as CMS or the U.S. Census Bureau, which conducts the National Health Interview Survey for CDC. Key decision criteria include how easy the partner is to work with, making sure CDC maintains real and perceived leadership, costs, and other management and scientific issues. The partner implementation agency would be selected in Phase 2.

## METHOD OF ADMINISTRATION

Phone surveys, computer-based surveys, in-person surveys and mailed surveys each have their pros and cons and must be evaluated based on the particular population being studied, balanced by the available resources of the implementing organization. Dissemination of this assessment would be easier if it could be delivered through the internet, but this may leave out a significant group of older adults. According to the Pew Internet and American Life Project, 42% of adults 65 and over use the internet and 26% of older Americans have a broadband connection. Of older adults who do not use the internet, 6 in 10 would need assistance getting online. This speaks to a two-pronged approach for the older adult safe mobility assessment.

- The "push" strategy: First start with a mailed or phone assessment in conjunction with a larger consumer survey as described above, which should overcome the potential internet bias and assure a more representative sample. The resultant dataset would be the primary one for validation and extrapolation of findings.

- The "pull" strategy: Supplement the mailed assessment with an online version that could be distributed on the web by your many partners. Each partner could offer solutions for the domain or silo they represent as well. Data could be coded by source, that is where the respondent filled it out. This makes the assessment available to a much broader constituency more quickly.

## MAKING IT MEANINGFUL TO CUSTOMERS

The first objective is helping older adults understand and improve their safe mobility. Achieving this objective requires both objective and subjective questions that get at practical everyday concerns and experiences, perhaps supplemented by individualized feedback with personal stories of challenges overcome and successes.

## GETTING PARTNERS ON BOARD

Bringing together researchers and practitioners from each relevant silo of older adult safe mobility takes time and persistence.  Furthermore, balancing the expectations of each of these actors requires tact and an eye toward creating a tool that is scientifically sound across domains and silos of older adult mobility, though perhaps not as in depth in each particular silo as each partner would prefer.

Incorporating every one of the actors in older adult safe mobility would be challenging, reflecting the challenges inherent in conceptualizing an issue this broad.  The following are organizations that were recommended as partners for this project by expert panelists, though the list does not necessarily include every possible organization that should or could be partnered with.  Partners are divided into categories of activity, from the built environment, to disability, driving, government, healthcare/public health, livable communities, older adult advocacy, research and transportation.

**Built Environment, Professional Organization**
American Institute of Architects
Institute of Transportation Engineers

**Disability Specific**
U.S. Access Board
Easter Seals
National Council on Disability

**Driving**
AAA
AAA Foundation

**Government Officials**
International City/County Management Association (ICMA)
The National Association of County and City Health Officials (NACCHO)
National Association of Regional Councils (NARC)
National Council of State Legislators (NCSL)
National League of Cities (NLC)
The United States Conference of Mayors (USCM)

## Healthcare / Public Health
Administration on Aging (AOA)
American Association for Occupational Therapy (AAOT)
American Diabetes Association
American Medical Association (AMA)
American Public Health Association (APHA) (several sections pertain to older adult health)
Arthritis Foundation
Centers for Medicare & Medicaid Services (CMS)
State Aging and Disability departments (exists for each state)
U.S. EPA

## Liveable Communities
American Planning Association
Atlanta Regional Commission (ARC)
The Center for Community Change
Complete Streets Coalition
Congress for the New Urbanism (CNU)
Funders Network for Smart Growth and Livable Communities
ICLEI (International Council for Local Environmental Initiatives)
The National Center for Bicycling & Walking
The National Neighborhood Coalition
Partners for Liveable Communities
Smart Growth America
The Urban Land Institute
Walkscore

## Older Adult Advocacy
AARP
N4A (National Association of Area Agencies on Aging)
National Council on Aging (NCOA)
NORC (Naturally Occurring Retirement Communities) Aging in Place Initiative

## Research
Gerontological Society of America
Healthy Aging Research Network (HAN)
National Institute on Aging (NIA)
The Robert Wood Johnson Foundation
Transportation Research Board
University Transportation Centers

## Transportation Specific
AASHTO
American Public Transportation Association (APTA)
Association of Pedestrian and Bicycle Professionals (APBP)
Association of Metropolitan Planning Organizations (AMPO)
Coordinating Council on Access and Mobility (CCAM)
Federal Transit Administration (FTA) (liveability initiative)

U.S. Department of Transportation (USDOT)
Transportation Equity Network (TEN)
Transportation for America (T4 America)
National Center on Senior Transportation

Experts in older adult safe mobility, regardless of which research or practice silo their work reflects, understand the need for a holistic tool on older adult safe mobility.  There is strong buy-in for this idea, so strong that expectations for the first tool of this kind run high.  In order to recruit partners, both individual and organizational, it is important to put the project into perspective and manage expectations.  Emphasis should be placed on the reality of limited resources, the commitment to a step-by-step approach, and that this is the first foray into older adult safe mobility assessment, to be hopefully followed by a more rigorous, larger-scale scientific study.

## IV. LOOK AND FEEL OF THE TOOL

The MVIP Brand Identity guidelines will help shape the look and feel of the assessment. Also, experts do have recommendations on the look and feel of an assessment tailored for older adults, typically based more on their own experiences creating tools for this audience than on a significant literature base on the topic.  The following are a few suggestions compiled from the expert panel. It is important to note that these are informed opinions, and may or may not be reflected in the preferences of older adults; that information will need to gathered during the development of the tool itself.

### NARRATIVE FLOW

Most older adults in the U.S. have some experience being assessed by a healthcare professional. As the healthcare system in the country is designed to allow only a few minutes with each patient, many older adults have come to equate assessments with an overly clinical and impersonal approach.  Some experts have recommended that a tool seeking to collect data on an individual's safe mobility experience be organized in a somewhat colloquial manner.  A narrative format, guiding the user through each module in a familiar way, almost in a story-like fashion, could engender more buy-in from older adult users.  This approach will have to be tested in the tool development phase.

### ONLINE GUIDANCE

Because older adults are traditionally more responsive to a peer-to-peer approach with assessments, another possible tactic to increase buy-in would be the creation of a "digital guide" who mirrored the characteristics of the older adult using the tool in an online format.  If a 68 year old Latina logged on, an image of a woman reflecting the same traits could guide the user through the narrative of the assessment.  Each of these potential approaches will have to be tested.

### VISUALS

Photos were suggested to better illustrate environmental factors the assessment will address.  For instance, rather than a paragraph describing a type of traffic intersection,
pictures could depict the intersection in a much clearer and less subjective manner, thus making responses more valid.

## AUDIO

Hearing loss is common among older adults, and any audio used in a tool should take this into account.  Relying on the user to distinguish between subtle sounds, for instance the sound of a busy street vs. a calm street, should be avoided.

If a "digital guide" is employed, having that guide speak to the user, in essence reading out loud the text presented on the user's screen, may further endear the user to the assessment process. Hearing a fellow older adult's voice prompting them throughout the tool may have a positive effect. Again, this should be verified through testing.

# V. EVALUATION PLANS

Formative evaluation activities will be conducted as part of phase 2 to shape the development of the tool. Process, impact and outcome evaluation plans will be developed within Phase 2 piloting and will be completed during Phase 3.

# Next Steps for Assessment Development

## I. PHASE 2

Phase 2 builds upon the actionable results of Phase 1 and involves building an older adult safe mobility assessment and conducting validation research (for example, how feasible is a self-administered tool, and how accepted is such a tool by its users). Phase 3 will involve the ongoing implementation of the assessment via both a mail survey and an online survey. During both of these phases significant attention will be given to testing the feasibility and validity of the tool with the users of the tool themselves.

A key next step that can be greatly informed by this phase one project is gather the respective organizations of the expert panelists into a cooperative network that lays out in broad strokes the goal of the project and the roles of each organization.

### DEVELOPMENT & DISSEMINATION PARTNERS

For development, the Healthy Aging Research Network, or HAN, stands out as a potential partner for the development phase of this tool. HAN members include several top public health research institutions, and its individual members have experience creating mobility assessments for older adults. Additionally, HAN has an existing relationship with the CDC and is familiar with its work process. Attention should also be given to AARP's Livable Communities initiative, with the Complete Streets Coalition, Atlanta Regional Commission, Easter Seals and perhaps others vetting decisions on tool design.

These same organizations will prove essential in the tool's dissemination, in addition to the National Council of State Legislators (NCSL), and N4A (National Association of Area Agencies on Aging) due to its national scope and numerous member organizations. AARP stands out as a potential partner for distribution of this tool, thanks to its large older adult membership base. Because this tool requires many users multiple partners should be included in the dissemination process, including public health departments. Thankfully, each expert panelist involved in this project indicated they would gladly involve their organization as well.

A potential rubric to assist in vetting potential partners follows:

Development Partners
- Good working relationship - prior experience working with CDC preferable
- Willingness to ensure real and perceived CDC leadership
- Expertise in specific mobility domains or topics
- Experience creating assessments - feasibility and validity testing
- Experience administering assessments - preferably with large sample sizes
- Experience analyzing assessment data - quantitative and qualitative
- Resources to commit – expertise, time, money, others

Dissemination Partners
- Good working relationship - prior experience working with CDC preferable
- Willingness to ensure real and perceived CDC leadership
- Nationally focused organization
- Nationwide membership base of older adults
- Resources to commit – expertise, time, money, others
- Trusted, recognized leader in at least one older adult safe mobility topic

## PHASE 2 TASKS

Phase 2 will consist of six main components, as follows, along with the optimal development timeline.

### Development of Primary Tool  *(Months 1-3)*
1. Work with CDC MVIP Team to establish objectives, measures of success, and how CDC will use the assessment.
2. Conduct qualitative consumer research to test concepts and shape the assessment and feedback tool.
3. Get expert input as needed on key content and technical issues.
4. Develop draft of assessment and feedback tool based on consumer input and expert panel feedback and resources already identified.
5. Design process, impact, and outcome evaluation plans.

### Production for Pilot Testing  *(Months 3-5)*
1. Create rough production plan for mail survey, as well as plans for distribution, data collection, and analysis.
2. Formalize cooperative network to execute pilot study with experts and partners.
3. Convene and facilitate workshop with expert panel to guide refinement of assessment and plans.
4. Pretest assessment and feedback tool in IDIs and/or focus groups, and with consumer panel.
5. Get expert panel and partner input via conference calls and refine as needed.
6. Finalize assessment and feedback tool for pilot testing.

### Pilot Testing & Evaluation  *(Months 6-8)*
1. Develop sampling frame and plan for pilot testing.
2. Field the mail survey (n=1200) to establish validation and identify refinements to the tool and research process.
3. Conduct analysis per specifications.
4. Evaluate results and write up key findings to share with partners and for publication.
5. Recommend final content for mail assessment and feedback tool.
6. Finalize content, analytics and protocol.

### Development of Online Tool  *(Months 6-8)*
1. Identify objectives, target audiences, user requirements and use cases, and CDC guidelines.
2. Determine technical specifications and team requirements for online survey and feedback tool for use by CDC and by partners, including integration of data from mail survey and web survey.
3. Create mock-ups and click paths of all pages and database.

4. Create functional prototypes.
5. Conduct usability testing and prioritize modifications.
6. Formalize partnerships for co-hosting and dissemination.
*Note: See "pull" strategy, page 13*

**Usability Testing of Online Tool** *(Months 8-9)*
1. Prepare web-based assessment for online usability testing.
2. Conduct usability testing of online assessment and research process.
3. Conduct analysis per specifications.
4. Evaluate results and write up key findings.
5. Recommend final content and design for online assessment and feedback tool.
6. Finalize content, analytics and protocol.

**Communications** *(Months 10-12)*
1. Design look and feel and branding parameters.
2. Test and refine through qualitative focus group testing.
3. Establish communication guidelines for partners using the tool.
4. Get partner feedback, refine, and finalize guidelines.
5. Write up research and development process for publication.
6. Write up Phase 3 launch plan.


# II. RETURN ON INVESTMENT

## REDUCING COSTS

**Immediate savings**
Older adult safe mobility encompasses many aspects of life for those 65 and older in the United States.  In the coming decade some 17% of Americans will be 65 and older, and that percentage will continue to increase, with 10,000 Americans reaching 65 every day for the next 20 years, according to the Pew Research Center.  The older adult mobility assessment has as its first priority helping older adults understand and improve their mobility situation. The financial costs of preventable injuries that improved mobility could mitigate is staggering and well documented by NCIPC. Even if the assessment only affects three topics - driving, falls and suicide - the cost savings to society and the decrease in pain and suffering among individuals and families is enormous.  Many of the mobility-related protective actions, such as putting railings in the home to prevent falls, can provide immediate impact and cost savings.

**Efficiencies**
In addition, the holistic older adult safe mobility assessment described in this report includes measures that have traditionally been included in separate, individual assessments. These separate assessments, each focused on their particular topic or domain of mobility, have their own associated costs for development and dissemination.  Funding the creation of one tool eliminates redundant costs while delivering a better overall product.

## INFORMING POLICY IN THE SHORT TERM (3 TO 4 YEARS)

**Common ground**
The expert panelists involved in the formation of this report represent several high profile, national organizations with significant influence in policy circles.  AARP stands as an obvious example.  The development and dissemination of this tool will involve close collaboration with these organizations and others yet to be determined, all operating collaboratively under the leadership of CDC.  This older adult safe mobility assessment can be a highly effective rallying point for all players involved in older adult safe mobility, providing common purpose from which to affect policy change.  The potential significance of this cannot be overstated.  Buy-in for this project has been universal thus far, and this is expected to continue to be the case. Leveraging the political and advocacy resources of partnering organizations, and unifying them around the results of the holistic older adult safe mobility assessment tool will be invaluable.

**Fulfilling a need of policymakers**
Policymakers throughout the country have indicated a difficulty in addressing the safe mobility needs and wants of older adults due to a widespread lack of understanding of the patterns of older adult safe mobility.  This is precisely the data the older adult safe mobility assessment seeks to collect.  Once this data is available and disseminated through partner networks, policy makers will finally have their first glimpse at a national, holistic picture of older adult safe mobility. This will serve as a rational basis for policymaking decisions.

# APPENDIX

## I. COMMUNITY/ENVIRONMENTAL ASSESSMENTS

***AARP Livable Communities***
A volunteer-driven assessment of community transportation, walkability, safety and security, shopping, housing, health services, recreation and social support.

*http://assets.aarp.org/rgcenter/il/d18311_communities.pdf*

***CDC – Community Health Assessment and Group Evaluation (CHANGE) Tool***
This is an evaluation and strategy tool to assess communities in five categories. All categories do not directly apply to older adults (e.g., schools), but a useful example of a tool used to examine a community and then build recommendations from the findings.

*http://www.cdc.gov/healthycommunitiesprogram/tools/change.htm*

***COLLAGE Healthy Aging Assessments***
Developed by a consortium of aging organizations and their members, Collage develops and implements assessment tools to improve healthy aging. They also produce a wellness assessment that focuses on 9 areas of wellness. They indicate it should be used in conjunction with the Community Health Assessment.

*http://collageaging.org/Site/Rpts/CommunityHealth.aspx*
*http://collageaging.org/Site/Rpts/Wellness.aspx*

***Craig Hospital Inventory of Environmental Factors (CHIEF)***
The focus of the CHIEF is on the quantification of barriers experienced within five domains of environmental factors (Policies; Physical and Structural; Work and School; Attitudes and Support; Services and Assistance).

*http://www.tbims.org/combi/chief/*

***Geriatric Resources for Assessment and Care of Elders (GRACE)***
A model used by nurse practitioners and social workers to conduct a comprehensive geriatric assessment.

*http://medicine.iupui.edu/IUCAR/research/grace.asp*

### Home and Community Environment (HACE) Instrument
Self-reported assessment evaluating home mobility, community mobility, basic mobility devices, communication devices, transportation factors, and attitudes.

*http://jrm.medicaljournals.se/files/pdf/37/1/37-44.pdf*

### Interpersonal Support Evaluation List (ISEL)
Self-reported indicators of social support.

*http://www.psy.cmu.edu/~scohen/isel.html*

### Lubben Social Network Scale (LSNS)
Instrument designed to gauge social isolation primarily in older adults.

*http://www.lubbensocialnetwork.org/*

### Measure of Quality of the Environment (MQE)
Evaluates the environments influence on a person's ability to perform daily activities.

*http://www.ripph.qc.ca/?rub2=4&rub=18&lang=en*

### Social Support Survey (SSS)
A multidimensional self-report measure of social support.

*http://www.rand.org/pubs/reprints/RP218.html*

### Senior Walking Environmental Assessment, Revised (SWEAT-R)
Instrument for measuring built environmental features associated with physical activity of older adults.

*http://www.ncbi.nlm.nih.gov/pubmed/19136025*

## II. DRIVING

### AAA Foundation; SeniorDrivers.org, AAASeniors.com and AAAfoundation.org
The AAA Foundation houses several self-administered quizzes and assessment tools for senior drivers. Most commonly used is the Roadwise Review (available online or via CD). They also house a 15-question driving safety quiz (Driver 55).

### AAA Foundation / PositScience
The AAA and PositScience partner to sell a "brain training" (Drive Sharp) program to help older adult drivers. They also house a short vision/distraction test online:

*http://www.positscience.com/testlets/cre/CRE_START.php*

***University of Michigan Transportation Research Institute***
Funded by the CDC, a battery of driving assessment instruments that have proven to be well received.

*Eby DW, Molnar LJ, Shope JT, Dellinger, AM. Development and pilot testing of an assessment battery for older drivers. Journal of Safety Research 2007, Vol. 38(5):535-43*

## III. HRAS

***American Diabetes Association HRA*** - Public
Tool that assists in determining risk for pre- or Type 2 diabetes.

*http://www.diabetes.org/diabetes-basics/prevention/diabetes-risk-test/*

***American Heart Association Heart Attack Risk HRA*** – Public
Tool that assists in determining risk of heart attack or coronary heart disease.

*http://www.heart.org/HEARTORG/Conditions/HeartAttack/HeartAttackToolsResources/Heart-Attack-Risk-Assessment_UCM_303944_Article.jsp*

***Anthem Blue Cross HRA*** - Proprietary
Tool that assists in determining health status and health risks.

*http://www.anthem.com/wps/portal/ca/footer?content_path=member/f0/s0/t0/pw_a119538.htm&label=Take%20your%20Health%20Assessment*

***Cigna HRA (partnered with University of Michigan Trend Management System)*** - Proprietary
Tool that assists in determining health status and health risks.

*http://www.cigna.com/customer_care/broker/producer_communications/alerts/807879_CIGNA_HRA_Fact_Sheet.pdf*

***Framingham Heart Study HRA*** - Public
Uses information from the Framingham Heart Study to predict a person's chance of having a heart attack in the next 10 years.

*http://hp2010.nhlbihin.net/atpiii/calculator.asp*

***Mayo Clinic HRA.*** - Proprietary.  Used by many other organizations.
Tool that assists in determining health status and health risks.  Emphasis is on health education and behavior change.

*http://www.mayoclinichealthsolutions.com/products/Health-Assessment.cfm*

**National Cancer Institute (Breast Cancer) HRA** - Public
Designed for health professionals to assist in determining a woman's risk for invasive breast cancer.

*http://www.cancer.gov/bcrisktool/*

**Navy/Marine Corps; Public Health Center HRA** - Proprietary
Large-scale HRA for use by U.S. Navy and Marines.  Not for use in the general population, however common health themes apply.

*http://www-nehc.med.navy.mil/Healthy_Living/General/healthriskassessment.aspx*

# IV. NATIONAL SURVEYS

**HealthStyles (Porter Novelli, licensed by CDC)** - Proprietary
Health attitudes and practices of a nationally representative sample of adults.

*http://www.cdc.gov/healthmarketing/entertainment_education/healthstyles_survey.htm*

**Medicare Current Beneficiary Survey (MCBS)** - Public
The only comprehensive source of information on the health status, health care use and expenditures, health insurance coverage, and socioeconomic and demographic characteristics of the entire spectrum of Medicare beneficiaries.

*http://www.cms.gov/mcbs/*

# V. REPORTS / REPORT CARDS

**Federal Interagency on Aging-Related Statistics - National Aging Statistics**
The AgingStats.gov website has comprehensive statistics and reports about the state of older Americans. They have recently published a report on the "Key Indicators" of well-being for older Americans.

*www.agingstats.gov/agingstatsdotnet/Main_Site/Data/2010_Documents/Docs/OA_2010.pdf*

**CDC – State of Aging and Health in America Report**
National report card on 15 indicators of overall health for Americans 65 and over. The report is from 2007 and based on primarily BRFSS data.

*http://apps.nccd.cdc.gov/SAHA/Default/Default.aspx*

**CDC – State of Mental Health and Aging in America**
Very similar to the above report. The focus is on mental health issues. Data is from 2006.

*http://apps.nccd.cdc.gov/MAHA/MahaHome.aspx*

# VI. ASSESSMENT RESOURCES

***Aging Friendly.org***
A conference series from the CDC Healthy Aging Research Network & Creating Aging-Friendly Communities.  Presentations and publications are available.

*www.agingfriendly.org*

***American Geriatrics Society – Health in Aging - Aging In the Know***
The AGS website has a comprehensive outline of what a health assessment for older adults entails. Very good definitions and explanations for different categories/topics included in assessments

*http://www.healthinaging.org/agingintheknow/chapters_ch_trial.asp?ch=8*

***Geridoc.net***
A comprehensive list of online resources and older adult assessment tools in various categories. Most of the links seem up to date and should provide us a good overview on what is available.

*http://geridoc.net/assessmenttools.html*

***Clinical Toolbox for Geriatric Care***
An online resource containing assessment tools and information. Primarily geared for Hospitalists to quickly locate the best tool for any given clinical situation.

*http://www.hospitalmedicine.org/geriresource/toolbox/howto.htm*

***My Life Stages – Sutter Health***
A website with multiple health "quizzes" that span many health topics, including aging. Most quizzes are more interactive than the normal multiple-choice quiz offered by other organizations.

*https://mylifestages.org/MyLifeStages/community/Interactive+Health+Tools.page*

***University of Illinois at Chicago, Center for Health Promotion Research for Persons with Disabilities***
A collection of assessment tools is available online.

*http://www.uic-chp.org/*