ASSESSING THE “LIVABILITY” OF CITIES & TOWNS IN CENTRAL NORTH CAROLINA FOR OLDER ADULTS: IMPLEMENTING THE “TJCOG LIVABILITY SELF-ASSESSMENT” PILOT STUDY

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A dissertation submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Public Health in the Department of Health Policy and Management in the Gillings School of Global Public Health.

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ABSTRACT

Heather K. Altman: Assessing the "Livability" of Cities & Towns in Central North Carolina for Older Adults: Implementing the "TJCOG Livability Self-Assessment" Pilot Study
(Under the direction of Sandra Greene)

The demographic changes in aging are occurring both nationally and globally. The dramatic increase in the older adult population raises a critical issue demanding immediate attention: how will we support and care for this growing population of older adults? In 2014, the Triangle J Council of Governments (TJCOG), located in Durham, North Carolina, developed the electronic "TJCOG Livability Self-Assessment for Municipalities" and an accompanying Toolkit as a way to help the cities and town in their region prepare for the long-term needs of their aging community members. It was based on the Stanford Center for Longevity's report: "Livable Community Indicators for Sustainable Aging in Place." The report presented a framework for how livable community characteristics influence aging in place, including measurable indicators on housing, transportation, safety, health care, supportive services, retail, social integration, and community participation.

In order to provide information on the usability and effectiveness of the Livability Self-Assessment and Toolkit, and to prepare for broader implementation of these resources, a pilot-study was conducted with five cities and towns from the Triangle J Region. Key informants were self-selected by each of the municipalities, including city or town planners or other government representatives. Participants were interviewed following completion of the electronic Assessment and six months later. The analysis of the interviews and Assessment results provided specific recommendations for enhancing the Livability Self-Assessment and accompanying Toolkit and

insights into the facilitators and challenges for using the findings of the Assessment to promote community dialogue and collective planning for the rising older adult population.

The results of the study conclude the TJCOG Livability Self-Assessment for Municipaities is a useable and potentially effective electronic tool to assist communities in examining their livability, identifying areas of strength and improvement. An eight step plan for change is offered on how to approach sustainable and long-lasting change. While the Assessment was developed for the cities and towns within the Triangle J Region, the possibilities for broad-based pubic health impact extend beyond the region, with state, national and international opportunities.

To my husband, James Shortridge
My daughters, Leah & Sydney Shortridge
My parents, Diane & Stuart Altman

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CHAPTER 1: INTRODUCTION

The demographic changes in aging are occurring both nationally and globally. In the United States, 41.4 million or one out of every eight persons is age 65 or older. By 2050, this proportion will increase to one in five [1]. The dramatic increase in the American elderly population primarily reflects the aging of the 80 million baby boomers born between 1946 and 1965 [2]. Globally, according to the United Nations, "the world is in the midst of a unique and irreversible process of demographic transition that will result in older populations everywhere"[3]. As fertility rates decline and life expectancies rise, the proportion of persons aged 60 and over is expected to double between 2007 and 2050, and their actual number will more than triple, from 810 million in 2012, reaching two billion by 2050 [3]. This dramatic increase in the older adult population raises a critical issue demanding immediate attention: how will we support and care for this growing population of older adults?

In addition to increasing numbers of older adults, older adults are living longer and with more chronic conditions. The U.S. Census reports in 2014 the average life expectancy had increased to 78.8 years of age up from 70.8 in 1970 [4] and it is predicted to increase to 79.5 by 2020 [5]. One of the results of expanded longevity is the increasing diagnosis of chronic medical conditions, as well as dementia-related disorders. According to the National Institutes of Health, more than 80% of people in the U.S. over the age of 65 have one chronic medical condition and more than 60% have two [6]. In addition, the Department of Health and Human Services estimates by 2020, one in six Americans over the age of 65 will become limited by chronic conditions such as diabetes, coronary artery disease, cancer, or cognitive impairment [7].

Given the growing number of seniors with complex chronic conditions, including the increase in individuals with cognitive impairments, there is a critical need to be very thoughtful in both the planning and provision of services for today, as well as those we will need to be providing to older adults in the future. The rise in the number of older adults brings with it new challenges of how and where to care for this growing population. There has been a realization and an acknowledgement, traditional long term care options, primarily facility-based services, are no longer acceptable options for many older adults. According to a 2010 national survey by AARP, nearly 75% of adults ages forty-five and older strongly agree remaining in one's home and one's community as one ages continues to be paramount [8]. Moreover, there are not enough of needed long term care services to adequately and appropriately meet the growing needs and demands. "Most communities are not prepared to handle the long-term care needs of an aging population" [9].

In response, over the past twenty years, there has been a growing "Aging in Place" movement, created by community members and health and social services professionals, to support older adults who are aging in their own homes and in their own communities. This movement is gaining more momentum. "The majority of older Americans aged 65 and older as well as the aging baby boomers prefer to live as long as possible in their familiar surroundings" [10]. U.S. housing data suggest the majority of older adults are indeed achieving their goal, with 80% of older adults living independently in their own homes [11].

According to a report by AARP, "older adults 65+ value their health and independence as well as their family, friends, and freedom. The vast majority say that if they need help caring for themselves, they would prefer to have help given to them in their home…this raises the question: how do we, as individuals, families and as a society find ways to support an older person's desire to live independently and safely in their own homes and communities when they face health challenges which limit their independence?" [12].

Aging in place is defined as the ability to remain in one's own home or community in spite of potential changes in health and functioning in later life. "Older people want choices about where and how they age in place. Aging in place provides advantages in terms of a sense of attachment or connection and feelings of security and familiarity in relation to both homes and communities, aging- in-place is related to a sense of identity both through independence and autonomy and through caring relationships and roles in the places people live" [13].

Interrelated with the ability to age in place, the concept of livability or livable communities calls attention to the ways the physical, social, and economic infrastructure of cities and towns can promote or hinder older resident's ability to age in place. Aging in place has the potential to benefit not only older adults, but also their families, their communities, and their governments [14].

As described by Fausset et. al. in their article on the challenges of aging in place, "aging in place is a process that involves both the person and the environment; it is a continuous dynamic interaction as both the person and the environment change. The idea of a dynamic and impactful relationship between persons and their environment is not new: Lawton and Nahemow (1973) developed a framework called the ecological model of aging to describe the interaction of a person and the environment. According to their model, when a person has the capabilities to meet the demands of the environment or the demands of the environment are reduced to match the person's capabilities, a successful interaction occurs. However, once the demands of the environment exceed the person's capabilities or the person's capabilities exceed the environment demands, a maladaptive situation occurs" [15].

Given the multiple levels of critical factors associated with the ability of an individual to age in place, as well as the multiple levels of possible supportive interventions, the Social Ecological Model provides a helpful conceptual model to illustrate these multiple domains. "Social ecological models that describe the interactive characteristics of individuals and environments that underlie

health outcomes have long been recommended to guide public health practice" [16]. The Social Ecological Model developed by Kenneth McLeroy and partners offers five levels of influence: intrapersonal factors, interpersonal processes, organizational or institutional factors, community factors, and public policy [17]. "In addition to articulating level-specific influences on health behavior, the authors described possible intervention strategies at each level of influence. For example, the authors suggest that intrapersonal level interventions aim to change the knowledge, beliefs, and skills of individuals. Interpersonal-level and institutional-level interventions, by contrast, are designed to create change in social relationships and organizational environments. The authors propose that changes in communities derive from partnerships with agencies, churches, neighborhoods, and other mediating structures; the objective of community-focused interventions is usually to increase health services or empower disadvantaged groups. Finally, implementing public policies with health behavior implications or facilitating citizen advocacy are frequent targets of interventions at the public policy level." [16] (See Social Ecological Model, Figure 1).

Figure 1. Social Ecological Model

The recognition of the interplay of these multiple levels provides the foundation for understanding "when the demands from social and physical environments overwhelm an individual's resources – because of changes within the environment or the individual – the individual

is less likely to age in place"[18]. "Because individuals present a diversity of needs, it takes interdisciplinary and multifaceted approaches with options to keep older adults in their communities" [19]. "According to ecological frameworks, aging in place initiatives can be conceptualized broadly as organized efforts to strengthen facilitators and minimize impediments to optimal transactions among persons and environments for the purposes of aging in place" [18].

While all levels of the Social Ecological Model are worthy of exploration and understanding related to aging in place, the primary focus for this dissertation will be the community-level, specifically efforts at the city or town level. This level is of particular relevance and interest given a growing focus on how consumers and providers can collaborate to develop structures supporting individuals who wish to remain in their own homes. "Despite emerging bodies of research that have described singular initiatives in their own right, there has been very little scholarship that forges conceptual linkages across this increasingly vast domain of research, practice, and policy" [18].

In 2013, The Stanford Center for Longevity and MetLife Mature Market Institute published "Livable Community Indicators for Sustainable Aging in Place." The report presented a comprehensive range of key community factors related to successful aging in place, including indicators on housing, transportation, safety, health Care, supportive services, retail, social integration, and participation. The report included an extensive review of existing literature and interviews with aging in place experts, culminating in a "list of indicators that can be measured using information that is readily available and adaptable to local governments, providing a low-cost way for local governments to begin to examine the specific needs of their aging population. The indicators reflect a framework for how livable community characteristics influence aging in place." [14].

In 2014, the Triangle J Council of Governments (TJCOG), located in Durham, North Carolina, developed the electronic "TJCOG Livability Self-Assessment for Municipalities" based on the

Stanford indicators. The Assessment was created with the permission of the Stanford report author, who was pleased a region - the first she had heard of - identified a way to directly operationalize the indicators. The Assessment, developed in Microsoft Excel, includes thirty questions divided into sections matching the Stanford indicators: demographics, housing, transportation, safety, health care, supportive services, general retail and services and social integration and community engagement. Each section includes two to six questions with answers based on a three-point scoring system, reflecting initial, significant or substantial investment in each area. Additionally, a companion "Toolkit" was created with a glossary of aging and planning terms, a goal for each indicator and rationale for importance, stakeholder recommendations for the planning process, potential next steps with linked resources for information, supplemental activities, and overarching themes related to accessibility, livability for all, effective use of technology to support efforts, and workforce training and development [20, 21].

The Assessment and Toolkit were developed at the request of the Triangle J Board of Delegates, a consortium of more than thirty public officials, representing the municipalities of seven central North Carolina counties (Orange, Durham, Chatham, Wake, Lee, Moore and Johnston). Similar to the goals of the Stanford report, the assessment was created to provide local cities and towns with a way to measure how they are addressing livability for older adults, to offer information to guide improvement efforts and to help city planners and other public representative open the door to broader conversations with others in their community about services and supports for older adults.

The TJCOG Livability Self-Assessment for Municipalities was ready to be piloted in preparation for broader implementation to the thirty cities and towns in the Triangle J region. The Assessment needed to be tested for usability, to evaluate the experience of participating municipalities in completing the assessment, as well as the effectiveness of this assessment in

helping these local municipalities study their community's livability for older adult community members and moving to action. It is very important to the creators of the Assessment the instrument not be used – now or in the future – to compare cities and towns in a way identifying one community as better or worse than others, rather the goal of this instrument is to help cities and town do a self-analysis to guide their own community action.

As a critical component of the pilot study, this dissertation will answer the central research question: *How can the TJCOG Livability Self-Assessment be effectively applied in cities and towns to study a region's ability to support aging in community?*

Related sub-questions include:

1. *How does the experience of local cities and towns compare in terms of completing the assessment?*
2. *What recommendations can be made to strengthen the Livability Self-Assessment and Toolkit for increased usability?*
3. *What outcomes occurred as a result of participating in the Livability Self-Assessment pilot study?*
4. *What processes used in applying the Livability Self-Assessment findings proved successful or unsuccessful? Why?*
5. *What are the facilitators and obstacles to applying the Livability Self-Assessment findings in local cities and towns?*
6. *What recommendations can be made for effective application of the Livability Self-Assessment in promoting community dialogue and planning on aging-in-community supports and service*

CHAPTER 2: LITERATURE REVIEW: IDENTIFYING COMMUNITY-LEVEL FACTORS ASSOCIATED WITH AGING IN PLACE

Before applying a specific community approach, it is important to understand community-level issues identified as relevant to aging in place. Therefore, this literature review focuses on the question: What community-level factors are associated with aging in place? A greater understanding of these factors will inform development of community-based initiatives assisting individuals to maintain health and retain independence, social connections, and capacity to age in communities of choice.

Methods

To study what research exists on community-level factors associated with aging in place I used CINAHL's AgeLine database. The search strategy included the two key constructs for this review: Aging in Place (dependent variable) and Community-Level Factors (independent variable), as well as a +number of terms related to these two constructs including livable and livability, social network and social capital, defined as "the network of social connections that exist between people, and their shared values and norms of behavior, which enable and encourage mutually advantageous social cooperation" [22]. The identified terms were searched using a single, complete search strategy: ("aging in place" or "aging-in-place" or "age in place" or "age-in-place" or "ageing in place" or "ageing-in-place" or "aging friendly" or "aging-friendly) AND ("community development" or "community interventions" or "community-based" or "social capital" or "social network" or "community" or "livable" or "livability") (see Table 1).

Table 1. Search Strategy Constructs

Constructs		
Aging in place Terms		**Community-Level Terms**
Age in Place Age-in-Place Aging in Place Aging-in-Place Ageing in Place Ageing-in-Place Aging friendly Aging-friendly	AND	Community Community Development Community Interventions Community-Based Social Capital Social Network Livable Livability

Inclusion/Exclusion Criteria

The inclusion criteria included sources:

- available in English;
- published within the recent six-year timeframe of 2008-2014; and
- discussed the effect of community-level factors on aging in place, including public and/or private organizational, social or environmental support systems, structures, programs.

A total of 224 titles met the inclusion criteria. In saving to the citation manager, EndNote, duplicates were removed, leaving a total of 180 titles and abstracts. In reviewing the 180 titles and abstracts, the following additional inclusion criteria were used:

- a focus on individuals living in their own homes, rather than in institutions;
- involvement of community-level factors or interventions, rather than individual-level or policy-level factors or interventions;
- a study based in (or primarily relevant to) the United States;
- a study presenting original data (quantitative or qualitative).
- Lastly, state-specific studies conducted by AARP were excluded given the national study with aggregate data and findings was included.

The additional inclusion criteria resulted in 130 articles being excluded; leaving fifty for full review. Not all of the fifty articles included for review were published in peer-reviewed journals. Rather a few studies were identified through CINAHL's AgeLine and published in reports by well-respected research and advocacy associations (ex. AARP) and/or academic institutions (ex. Stanford Center for Longevity) studying aging-related issues and provided in-depth descriptions of community factors. Given this review is designed to be a descriptive study of the range of community-level factors, including additional sources from non-peer-reviewed publications was considered relevant and worthy of inclusion. Lastly, two additional independent reports were included even though they were not identified through CINAHL's Database. These studies, one by the Milken Institute and the other by AARP, both addressed livability indicators and were highly recommended through planning discussions with aging services experts.

Criteria for Reviewing Sources

In reviewing the fifty full articles, the following information was identified and recorded in an Excel spreadsheet: independent and dependent variables, study design, population, data sources, analytic methods, findings, limitations and recommendations. The quality of studies was assessed by considering internal and external validity, including whether the research design support the research goals and outcomes and whether the data analysis was strong enough to support the findings. The ultimate goal was to identify sources with a high level of external validity, providing proven insight into community-level interventions to generalize to other communities of older adults. Upon further screening, twenty-four studies were excluded, because they did not meet the inclusion criteria (ex. based in the U.S. and/or based in homes versus institutions or a combination of these issues) or because they were commentaries or other reports, not research studies with original data. As a result, twenty-eight articles were included in the study (see Figure 2).

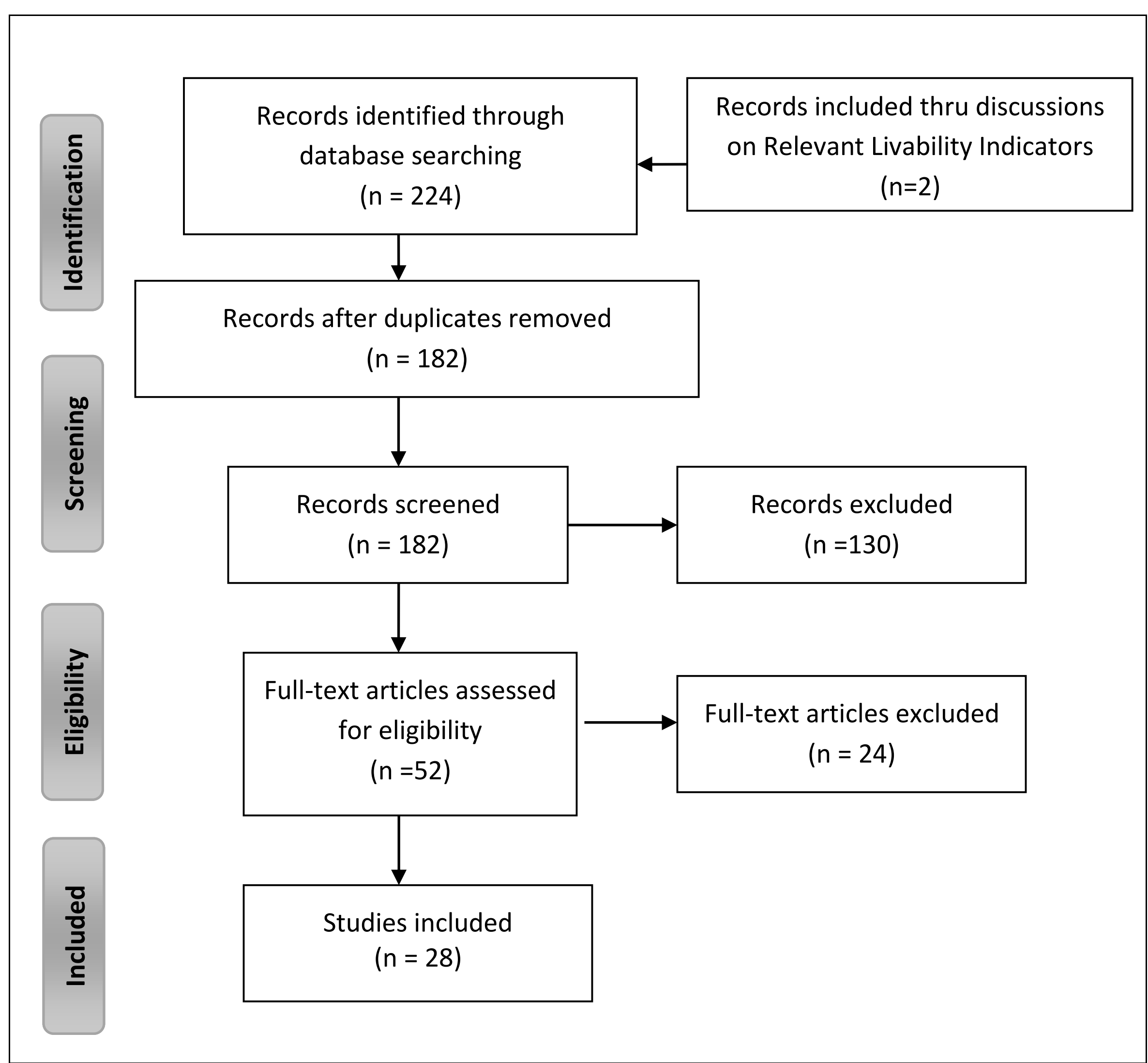


Figure 2. Literature Review Flowchart

Findings

Twenty-eight studies were ultimately included in the analysis to address the question: what research exists on community-level factors associated with aging in place. Within the twenty-eight studies, four studies examined national data related to general aging in place community factors and eleven studies explored specific concepts or components of aging in place, ranging from anticipation of need, knowledge of community services, supportive community design, and impact of the social environment on efforts to age in place. Additionally, thirteen studies focused on specific community

aging in place initiatives (six were overview studies of programs and seven were individual program evaluations).

This literature review provides a description of the overarching community-level factors highlighted through the reviewed articles, as well as the individual constructs and community-based aging in place programs identified. The Appendix provides a chart of the twenty-eight articles, with specific information highlighted, including: author, year, study design & analysis, sample, community-level factors, aging in place measures, and findings.

Overarching Community-Level Factors

A number of themes emerged from the articles addressing community-level factors to promote aging in place. Four studies in particular provided overarching frameworks for these themes. One of the studies, the previously described "Livable Community Indicators for Sustainable Aging in Place" conducted by the Stanford Center for Longevity, presented a comprehensive range of livable community factors influencing the ability to age in place. It was developed through a mixed-method study design with three key sources of data: a review of existing literature, a review of existing checklists and indicators, and interviews with nineteen aging in place experts. It is important to note this study was included in this analysis given it incorporated original data, as other studies, solely literature reviews, were excluded from this report. This study is highlighted first, as it provides a helpful framework to review the range of community-level factors presented in some way in all of the studies. The community indicators in this study focus on the importance of a variety of accessible and affordable housing options, access to the community, neighborhood safety, and community supports and services [14] (Table 2).

Table 2. Livable Community Indicators for Sustainable Aging in Place [14]

Theme	Community Characteristic
Accessible & Affordable Housing Options	• Accessible/Visitable Housing • Housing Options • Affordable Housing
Access to the Community	• Transportation Options • Walkable Neighborhoods • Safe Driving Conditions
Neighborhood Safety	• Safety • Emergency Preparedness
Community Supports & Services	• Health Care • Supportive Services • General Retail and Services • Healthy Food • Social Integration • Participation in Community Life

Similar to the Stanford indicators, a study conducted by Scharlach et. al. (2014) presented an equally comprehensive listing of community factors developed through the World Health Organization (WHO) Global Network of Age-Friendly Cities and Communities Program, and compared them to a specific type of community program within the United States to test for element inclusion [23]. According to the WHO program there are eight domains related to social, supportive services, and physical infrastructure components contributing to health, civic participation and security as people age (Table 3). In the Scharlach study, these domains were cross-referenced with program offerings in sixty-nine "Villages" nationally, and unlike traditional aging service providers who typically provide only one or two types of services, 85% of Villages provided assistance with at least six of the eight WHO domains [23].

Table 3. WHO Global Network of Age-Friendly Cities and Communities Domains

Theme	Domains
Social	○ Social participation (engagement in recreation, socialization, cultural, educational and spiritual activities) ○ Civic Participation and Employment (opportunities for civic engagement, unpaid work, and paid work) ○ Respect and Social Inclusion (attitudes of the community as a whole toward older people).
Supportive Services	○ Community Support and Health Services (access to social services as well as a range of health services) ○ Communication and Information (access to information and technologies enabling elders to stay connected and obtain needed information).
Physical Infrastructure	○ Transportation (ability to get to places when needed) ○ Housing (ability to age comfortably and safely within one's chosen community); ○ Outdoor spaces and buildings (environments promoting safety and accessibility).

The Milken Institute published the "Best Cities for Successful Aging" index in 2012. It "measures, compares, and ranks the performance of 359 U.S. Metropolitan areas in promoting and enabling successful aging" [24]. Similar to the WHO report, the Milken index focuses on eight topic areas (general indicators, health care, wellness, living arrangements, transportation/convenience, financial well-being, employment/education, and community engagement). Each topic area is based on multiple individual indicators, totaling seventy-eight indicators in all. The Milken Institute report describes the objectives of creating the index, "we want to generate virtuous competition among cities and galvanize improvement in the social structures that serve aging Americans. We want to encourage and promote best practices and innovation"[24].

AARP Policy Institute released two reports in 2014 based on the same research involving individuals aged 50 and older to study preferences for livability. The research design included focus groups, a nation-wide survey of 4,500+ participants, and follow-up qualitative interviews with eighty participants of the survey. The reports "What is Livable? Community Preferences of Older Adults"

and "Is This a Good Place to Live? Measuring Community Quality of Life of All Ages" explore the meaning of livability, examine previous efforts to evaluate the livability of communities, and describe the Public Policy Institute's current work to quantify and compare livability, with a special focus on the preferences of the older population and the needs of individuals as they age. In terms of measuring livability, AARP's reports outline four categories of Livability Community Principles: General Principles (create livable communities, improve health, foster safety and personal security, engage residents in community planning, provide equal access to the decision-making process, coordinate planning processes, invest in existing communities); Land Use Principles (enhance access, create communities with a strong sense of place, promote mixed-used development, foster lifelong learning opportunities); Housing Principles (improve home design, promote affordable housing options, foster home and community based service delivery); and Transportation and Mobility Principles (create options, promote affordability and accessibility, promote sustainable transportation infrastructure, foster coordinated services and assets) [25, 26].

The Stanford, WHO, Milken and AARP models outline community factors supporting aging in place, including the physical or built environmental factors, health and supportive services, and the social connectedness and engagement factors the authors argue are critical for successful aging in place. All of the frameworks are presented in a way to maximize use by communities, with the inclusion of checklists and specific indicators advocates and planners can use to assess their community's ability to support older residents' desire to age in place.

Specific Constructs for Aging in Place

While the national studies provided insight into the general community-based factors necessary to support aging in place, eleven studies focused on specific aspects of the community promoting an individual's ability to remain in their own home. The themes included: proximity to services, social connectedness and social environment, awareness and utilization of home and

community-based services, community settings and cognitive function, city planning and community design, rural considerations, and cost-implications. The following is a brief review of the studies.

Proximity to services. The issue of proximity to key features and services within the community was the focus of a study sponsored by AARP and reported on by Keenan (2010) [8]. In a nation-wide, cross-sectional, telephone survey of 1,616 adults aged 45 and older, participants were asked about preferences related to their home and community. The study found aspects of one's community continue to be the primary motivation for aging in place as one ages. Two-thirds of respondents agreed they want to stay in their home because they like what their community has to offer. In contrast, roughly one-quarter of respondents noted they would stay in their community because they cannot afford to move. When asked about seven different community aspects and the level of importance respondents have for them, two-thirds of respondents said being near friends and/or family and being near where one wants to go (ex. grocery stores, doctors' offices, library, etc.) is extremely or very important to them. Roughly half noted proximity to church or social organizations or somewhere where it's easy to walk are extremely or very important to them. Only about one-fifth of respondents reported being near transit (bus or rail) was extremely or very important to them [8].

Social connectedness and social environment. A study by Emlet et. al. (2012) described results from a community forum using the World Café Format in a suburban community of Western Washington with twenty-three community members ranging in age from mid-forties to late-eighties [27]. Participants were asked to explore the questions: What does it mean to you to be socially connected? How can our city help with life transitions that would keep you in this community? What do I have to offer my community? Qualitative analysis of forum notes resulted in three themes: the importance of Social Reciprocity (giving and receiving to/from one's community); Meaningful Interactions (meaningful to them and important to the community); and Structural Needs/Barriers

(organized opportunities and communication about volunteering). The results of the study reinforce the importance of social connectedness in creating and maintaining age-friendly communities [27].

The role of the social environment on the physical and mental health of older adults was explored by Norstrand et. al. (2012) [28]. The authors conducted a cross-sectional survey, analyzing 3,219 adults over age 60 in a five-county region of Southeastern Pennsylvania. They found participation in groups, sense of belonging and neighbors willing to help were associated with an increase in self-rated physical health, whereas trust in neighbors, sense of belonging and neighbors willing to help were associated with a decrease in depressive symptoms. This study furthers an understanding of how social capital, a key community aspect related to aging in place, may relate to the physical and mental health of the elderly [28].

Awareness and utilization of home and community-based services. Three articles by Tang et. al. (2008, 2010, 2011) analyzed secondary data from a cross-sectional study of older adults: the Community Partnership of Older Adults telephone survey conducted in 2002 involving adults aged 50 and older in thirteen areas across ten states [29]. Two of the studies analyzed data from 4,611 adults living independently and one of the studies analyzed a smaller sample of 2,001 vulnerable older adults, identified as those at significant risk of needing long-term care services in the near future (age 75+ or needing help bathing; used a cane, walker, or wheelchair; or rated their health as fair or poor) [30].

The first study examined associations between awareness of community-based long-term care and supportive services and the anticipation of aging in place and relocation. Perceived availability and unavailability of a series of community services was positively associated with the likelihood of anticipating aging in place and relocation, and awareness of the lack of certain services was related to respondents reporting a younger age at which they anticipated needing help to age in place or anticipating a need to relocate. The findings demonstrated a substantial margin of older

adults were not aware of long term care and services available in the community. The author concluded, “a greater number of older adults will be able to realize the goal of aging in place through improved public awareness of the availability of long-term care and supportive services for older adults and an increase in the actual availability of in-home services” [31].

The second study documented a relatively low level of Home and Community-Based Services (HCBS) utilization. Similar to the previous article, older adults were not always aware of their needs and unaware of the HCBS available in the community [30]. Lastly in the third study, knowledge of HCBS availability was associated with respondents reporting an older age at which they expected regular help and moving. These studies demonstrate public awareness of HCBS programs plays a critical role in the use of aging in place supports, beyond simply the presence of a program. Moreover, social support networks provide opportunities for social activity, as well as strengthening information networks for older adults and their caregivers [29].

Community settings and cognitive function. In addition to the importance of community supports for knowledge of services and resources, a study by Clarke et. al. (2011) examined how community settings and socioeconomic structure is related to cognitive function. A cross-sectional, representative telephone survey of 949 adults aged 50 and older in Chicago found residence in an affluent neighborhood had a net positive effect on cognitive function after adjusting for individual risk factors. For white respondents, the effects of neighborhood affluence operated in part through a greater density of institutional resources (e.g. community centers) promoting cognitively beneficial activities such as physical activity. For African American and Hispanic respondents, however, a greater density of neighborhood institutions was negatively associated with cognitive function. This suggests resources to promote cognitive function might have less benefit among racial and ethnic minority groups if language or cultural barriers prevent full access to opportunities offered within these institutions. These finding emphasize the importance of considering urban design for the

cognitive health of older adults who are aging in place, particularly since the majority of older adults with dementia live in the community versus in residential care [32].

City planning and community design. A mixed-methods study by Lehning (2012) of sixty-two city planners in 101 cities located in the San Francisco Bay area examined the characteristics associated with city government adoption of community design, housing, and transportation innovations benefiting older adults' ability to age in place. The results indicated advocacy is an effective strategy to encourage city government adoption of these innovations and the need to facilitate the involvement of older adults in targeting key decision makers within government, the important of emphasizing the financial benefits to the city, and to focus on cities whose aging residents are vulnerable to disease and disability [33]. This speaks to the importance of civic engagement highlighted in the Stanford Indicators and WHO model.

Another study involving city planners focused on the impact of urban design on the ability of older adults to live in supportive communities. The study by Keyes et. al (2011) described a learning "charrette" sponsored by the Atlanta Regional Commission's Lifelong Communities Initiative in 2009 [34]. The charrette, an intensive design workshop, brought together over 1,500 people from a broad range of backgrounds and disciplines for concurrent workshops and discussions. The goal was to design physical environments allowing all people to remain in their home and communities as long as they desire. Specific design elements included: Promoting Housing and Transportation Options, Encouraging Healthy Lifestyles, and Expanding Access to Services. As a result, six conceptual master plans were developed for sites around the Atlanta region incorporating strategies demonstrating how new development and retrofitted suburban communities can support people of all ages through their lifetimes. The intent of the planning process was to foster a multidisciplinary approach to community design and development, and increase the regional interest, awareness, and momentum around these issues [34].

Rural considerations. A small qualitative study by Dye et al. (2011) reported on focus groups conducted with thirty-nine older adults in rural South Carolina to gather their advice on what it takes to age in place. The findings were consistent with those from larger studies in terms of overarching themes: the need for self-reliance, health care, health maintenance and chronic disease management, social support, information and instrumental support, transportation, caregiver support, and additional assistance. The author discussed the specific challenges experienced in rural areas, given a lack of services, providers, and expansive geographic areas, and suggested the need for trained community health workers to assist seniors in receiving the care they need to age in place [35].

Cost-implications. While most of the studies on aging in place speak to meeting individuals' desire to age in their own homes, a growing issue surrounds the cost implications of community-based aging in place programs. One study sought to demonstrate the cost-effective benefits of a specific program. Marek et al. (2012) conducted a quasi-experimental, retrospective cohort design including thirty-nine matched pairs of older adults in Central Missouri [36]. The study included one group of older adults in nursing homes matched with participants in the "Aging in Place" (AIP) program. The AIP program consisted of a combination of Medicare home health, Medicaid HCBS, and intensive nurse care coordination. The results indicated the total Medicare and Medicaid costs were $1,591.61 lower per month in the AIP group ($p<0.01$) when compared with the nursing home group over a 12-month period. These findings suggest community-based programs have financial impacts to explore further in larger demonstrations [36].

Community-development models: NORCs and Villages. A consistent finding of this literature review was the examination of certain types of community development programs, specifically programs called Naturally Occurring Retirement Communities (NORCs) and Villages, offering extensive services to promote aging in place. Thirteen of the studies included in this review

involved analysis of NORCs, Villages or related types of community development programs. These studies either looked at individual programs or a combination of similar types of programs to identify aggregate data of demographic characteristics, program design features, program impact, and/or participant feedback and satisfaction. The following is a brief description of these models, and then a review of the findings, based on whether the studies were looking at overarching themes related generally to NORCs and Villages or whether they were evaluating specific programs.

Naturally Occurring Retirement Communities (NORCs) are neighborhoods or buildings in which a significant portion of the population is composed of older persons. Unlike traditional retirement communities, NORCs were not designed specifically for the needs of older persons; they simply evolved, often as a result of older people aging in places where they have lived for many years. To maintain individuals as they age in place in NORCs, formal programs, generally coordinated by social service agencies, were developed [37]. Key to promoting aging in place, NORCs provide access to services and activities as needed and desired, as well as social networks, important features for promoting physical and mental health [38]. NORCs emerged in the mid-1980s. The focus was largely on urban apartment buildings, however it became a suburban and rural phenomenon due to aging in place and the outmigration of young adults and families in certain areas [39]. To date, approximately 100 NORC programs have been developed nationally, with approximately half in New York [40].

Villages are membership associations developed and operated by older community members for the primary purpose of enhancing their quality of life and ability to age in place. In exchange for membership dues, participants gain access to an array of social, educational, and recreational activities: assistance with transportation, housekeeping, and other support services; a dedicated source of information and assistance; and referrals to community service providers, often at a reduced rate [23]. Villages are relatively new community programs. The model was first

developed in 2001 with the founding of Beacon Hill Village by a group of seniors in Boston, MA who wanted to remain as long as possible in their Beacon Hill neighborhood. To date, at least eighty Villages have been initiative with more than 120 others in development [41].

Overview studies of NORCs & Villages. Six of the articles, stemming from five studies, provide an overview of different aspects of NORCs and Villages. Two articles from the same study, conducted by Lehning and Scharlach (2012) examine 124 community aging initiatives, involving NORCs, Villages, as well as other types of community aging initiatives. The authors propose five typologies for categorizing the programs: community-wide planning efforts, consumer driven support networks, cross sector systems change, residence-based support services and single sector services. The primary focus for achieving goals within each type of organization includes: data collection, planning, inter-organizational collaboration, peer support networks, service provision, advocacy, and community education. The study sought to create an emerging typology of community aging initiatives to serve as an organizing framework to develop future evaluation and sustainability of these initiatives [2, 42].

A study conducted by Greenfield et al. examined the similarities and differences in the national implementation of NORC programs and villages. They found "Village members were reportedly more likely than NORC program participants to be younger, to be less functionally impaired, to be more economically secure, and to reside in higher socioeconomic communities. Reflecting these differences in populations served, NORC programs reported offering more traditional health and social services, had more paid staff, and relied more on government funding than Villages" [41]. Villages and NORCs aim to promote aging in place by offering a diverse range of supports and services to older adults within a locally defined geographic area. There are differences, however, in the means through which they seek to achieve these aims, as well as the populations likely to benefit from their efforts. These differences raise questions regarding the models'

inclusivity, sustainability, expansion, and effectiveness and have implications for community aging in place initiatives more broadly" [41].

Another overview study of NORCs, conducted by Greenfield (2014) focused on the issue of transforming social relationships to promote aging in place. The goal of the study was to understand how communities can support optimal functioning in later life. Results indicated NORC program staff focus on three overarching themes of social relationships: developing long-term relationships among lead agency staff and older adults, building partnerships among professionals, and fostering older adults' relationships with each other. These different relationships potentially enhance the amount of community-based services and supports within a residential area, as well as their accessibility, appropriateness, responsiveness, and coherence. A fourth theme revealed efforts to influence these relationships took place in the context of the lead agencies gaining and utilizing specialized knowledge of the community [43].

Specific program evaluations. The remaining seven studies looked at evaluations of specific programs. The findings were relatively consistent, with programs offering a range of similar activities and resources, most falling within the domains of social and supportive services. Another similarity, participants generally expressed satisfaction and self-reported positive outcomes related to program participation. For example, in the study by Anetzberg (2013) of 191 participants of a NORC in Cleveland, Ohio, 82% of respondents reported confidence in their ability to continue living in their current apartments due to the program [38]. In a study conducted by Elbert et. al. (2010) of 384 participants of a NORC in St. Louis, MO, 78% of respondents indicated they were more aware of community resources and 52% felt program involvement helped them remain in their homes [44]. The study by Gonyea et. al. (2013) of thirty-three seniors in the Aging Well at Home program in Brookline, MA, revealed a significant decline in participants perceived stress with 76% reporting they feel more secure and can manage living in their own home [39]. The study by Sassen (2011)

found improvement of customer's health, enhancement of their lives, making new friends, and becoming more self-reliant due to attending the "Without Walls" aging in place program, all correlated with participants likeliness to recommend the program to others, a sign the authors credit with satisfaction and effectiveness of the program [45].

While the results of the various studies demonstrated a number of similarities, specifically in regard to program services and satisfaction, there were also some key differences in the focus of program evaluations, in terms of evaluation of participants served, participant needs, services provided to members within a given program, program characteristics, and perceived success and sustainability of program efforts. A study by Black (2008) of 114 residents of a NORC in Southwest Florida, found there were greater health needs among the oldest compared to younger counterparts based on physical, psychological and social measure of well-being. Older respondents had more chronic conditions, used more adaptive equipment and were more dependent in Instrumental Activities of Daily Living, needing help shopping, meal preparation and transportation which are essential components of independent living [46].

The study by Enguidano et. al (2010) of two different NORCs in the Los Angeles area discussed difference between NORCs, even those in similar regions, due to different trajectories of program development and implementation, different levels of unmet needs among participant populations and differences in community partnerships and building senior empowerment. However, even with key differences, there was still the perception the availability of NORCs within a community contributed to the creation of social networks, a sense of community and supported residents to age in place [37].

The community-based programs highlighted the contribution Naturally Occurring Retirement Communities and Villages play in establishing innovative provider- and consumer-led initiatives seeking to help older adults remain independent and maintain health, well-being and the

ability to stay in their own homes as long as possible. The various studies of community-based programs, regardless of whether they were overview studies or specific program evaluations, all addressed in some way the importance of community-level services, amenities and networks to support older adults aging in their communities.

Study Design and Quality of Research

The included studies were almost evenly divided between quantitative and qualitative study designs with a few studies having mixed methods with both quantitative and qualitative components. The studies ranged from a descriptive focus: explaining either a specific community-based program or a number of programs, to an evaluation or association focus, with cross-sectional or retrospective cohort designs, to provide evidence of program effectiveness. While the quality of the research methods was generally strong among the articles with clear study designs and data samples, a consistent limitation discussed by the authors was the need for more rigorous research methodology. A number of the studies employed validated measures for certain components and applied appropriate analytical methods, but they included either very small sample sizes or focused on specific populations. The authors consistently cautioned against generalizing findings to other populations. This was the most common limitation mentioned with more than a third of the articles explicitly stating this lack of generalizability. Additionally, there was no consensus on methods for measuring the key constructs related to aging in place, specifically an individual's ability to actually age in place in their own home. The majority of studies used self-reported data related to preferences, expectations, confidence and perception of increased ability. Given the information collected was primarily expert opinion or participant perceptions rather than direct evidence of individuals' ability to age in place, the state of the evidence on the impact of community factors on aging in place is still quite weak.

Only one study employed measures to try to directly demonstrate a causal relationship between the intervention and an objective measure of the long-term outcome of aging in place in one's own home. The study conducted by Elbert (2010) included traditional measures of self-reported satisfaction and experiences, but also included analyses of the nursing home placement rates, average age of moving to other independent living accommodations, and average age of death at home, as objective measures of program effectiveness. The author compared participant rates with national and state benchmarks. The accuracy of the findings is questionable in some instances due to small sample sizes or high numbers of missing data. However, the measures used in the study create a starting point for a potential composite measure of indicators to demonstrate a program's impact on an individual's ability to remain in their home. This is an important contribution given the lack of a gold standard for evaluating the effectiveness of community programs in supporting aging in place [44].

Discussion

Summary of Results

A number of overarching themes emerged in the current aging in place literature, including the importance of the:

- built environment (accessible housing, transportation, sidewalks, and proximity to services)
- social environment (social support, social capital, community engagement)
- health and social services; and
- presence of specialized community-based programs.

The literature review answered the question about the type, extent and quality of the existing research, and posits a number of community-level factors promoting aging in place. The lack of consistent, objective, measures for aging in place effectiveness, however, was an unexpected

finding in this literature review. As previously described, the majority of the studies employed either subjective evaluation methods (focusing on preferences, perceptions, satisfaction, expectations, experience, anticipation, confidence, empowerment, security, and self-efficacy) or descriptive studies of program components and characteristics (demographics of participants, participation rates, program components, or relationship types). Authors overwhelmingly acknowledged the lack of effectiveness measures on individuals' success with aging in place in their own homes.

In one study, Greenfield et. al. (2012) provides a conceptual framework describing the processes through which NORCs and Villages *potentially* influence aging in place (Figure 3).

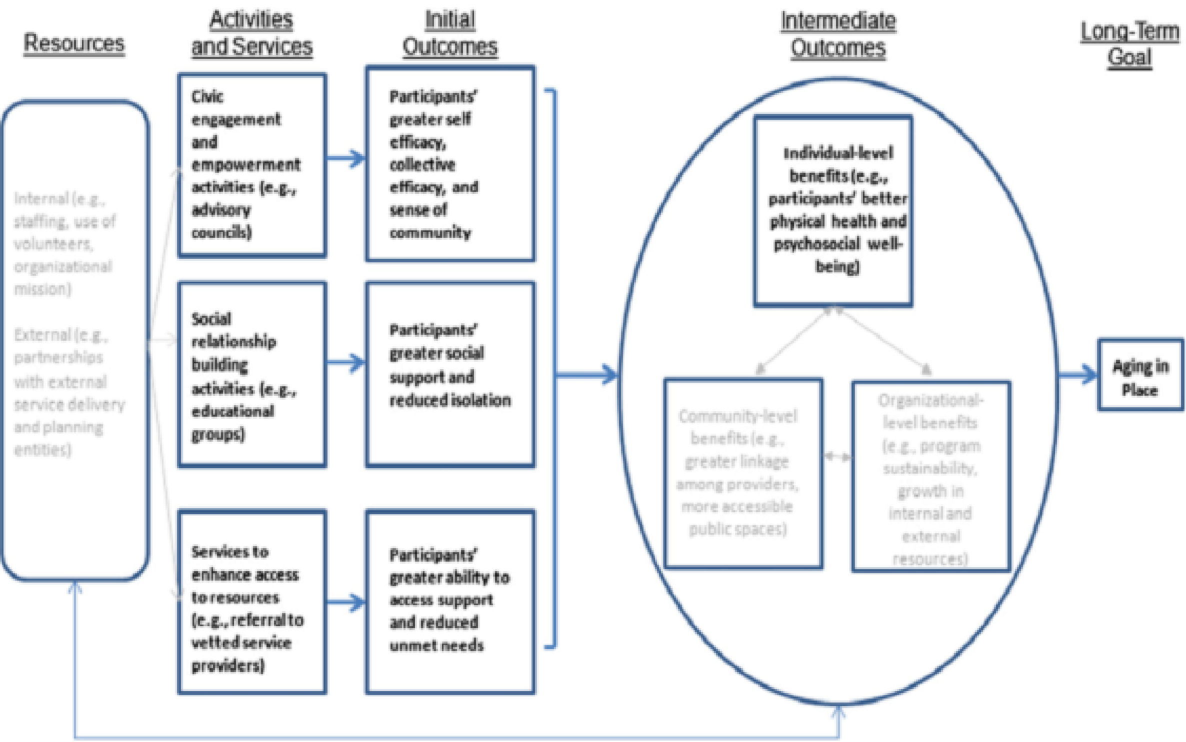


Figure 3. Conceptual Framework of Processes through with The NORC Program and Village Models Potentially Influence Aging in Place [41]

Figure 3 highlights the resources, activities and services, initial outcomes, and intermediate outcomes, it is proposed, will lead to successful aging in place. This model is included, because it is illustrative of the focus of a number of the studies, to evaluate the effectiveness of key intermediate elements demonstrating promise for developing conditions conducive to successful aging in place, in

the absence of long-term, direct measures. Additionally, these elements and conditions are consistent with the assumptions underlying the content domains in the age-friendly and livability studies, positing their presence will lead to effective aging in place.

A related conceptual framework is provided in the Stanford report, "Livable Community Indicators for Sustainable Aging in Place" outlining the way livable community characteristic can influence aging in place. As described by the author, Amanda Lehning "while research is limited in terms of documenting the direct relationship between these community characteristics and aging in place, there is evidence that these characteristics can promote the physical, mental, social, and economic health and well-being of older adults, which in turn could help them age in place" [14].

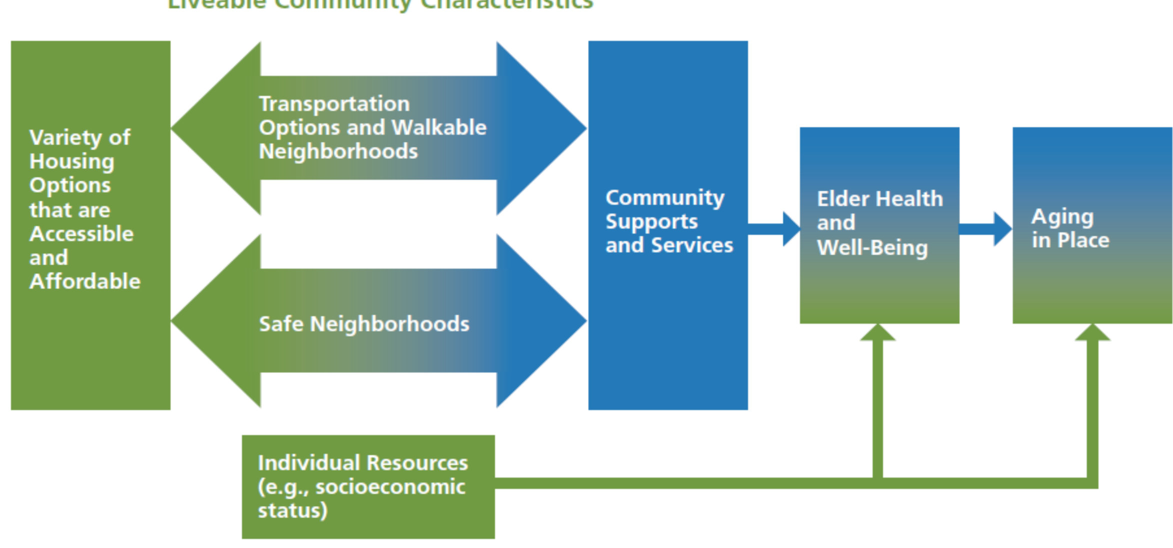


Figure 4. Conceptual Framework of Livable Communities Characteristics Influence on Aging in Place [14]

Limitations

As previously described the lack of direct effectiveness measures and the reliance on primarily self-reported data and process measures was a major limitation of the studies analyzed. Clarifying the discussion and description of what success looks like in relation to aging in place will be a critical next step in identifying and implementing long-term measures. Once measures are

established, more rigorous evaluation techniques are needed including longitudinal studies, multivariate analyses, participant and non-participant comparison, and an examination of the experiences of individuals unable to age in place, those who had to, or chose to, move to long-term residential care.

Another limitation of the studies analyzed, as overwhelmingly reported by study authors, involved findings not generalizable to other populations, due to either small study sizes, specific geographic regions included, or the demographics of the study participants, who were in many studies primarily white, single, middle-income women. As described in one study, “the underrepresentation of African-Americans, Hispanic, and Asian-Pacific individuals also raises questions about the generalizability of the Village model, especially given increasing racial and ethnic diversity among elders in the US. It may not be culturally consistent for some population groups and that a more family-centered approach developed collaboratively with existing faith based entities and culture organizations may be more appropriate” [47].

Lastly, a noteworthy limitation of the studies was the lack of consistency in the age of participants involved. While a number of the studies did use an expected age range for studying aging issues: 60 to 65+, it was also common to see studies involving individuals aged 40+, 45+ and 50+ to explore trends and expectations related to aging-related services and issues. It should be expected perspectives would change over time, based on different ages and life events, but the studies analyzed did not seem to take this into account in their designs.

While the studies themselves had limitations, it is also important to address the limitations of the review. Due to time constraints, it was only feasible to include studies involving original data, based in the United States, and published within the past six years (2008-2014). It is possible the inclusion of more studies, as well as other systematic reviews, could allow a broader analysis of the existing research and additional insight into the measures of effectiveness, as well as additional

community-based programs and interventions. By focusing only on published, primarily peer-reviewed data, available through only one database, there is the possibility of publication bias in this review, missing lessons learned of community practice providers who chose to publish their efforts only in non-peer-reviewed "gray" literature or who have chosen not to publish at all. Finally, the presence of only one reviewer to classify studies as either community or individual-level opens up the possibility of exclusion errors, as in some instances it was challenging to determine which category a study belonged to.

Considerations for Future Research

As an increasingly evolving field, more evaluation of all kinds, including both individual program evaluation, as well as aggregate evaluation data from multiple programs is needed. As previously described, the need for more rigorous evaluation methods, including consistent definitions and the identification and inclusion of specific measures of long-term effectiveness is a primary focus area for future research. Additionally, separating out and analyzing the most effective community factor or combination of factors promoting successful aging in place, perhaps comparing the impact of environmental versus social support factors, are important areas of future research.

Greater inclusion of racial, ethnic and economic diversity in studying the community factors integral to supporting individuals in their home is another critical area for research consideration. According to AARP "the older population is racially and ethnically diverse and is projected to become even more diverse as our multicultural society ages. In 2010, one out of every five people age 65+ was nonwhite or Hispanic, this percentage is increasing and will continue to do so in the future. By 2060, it is projected that 46 percent of the age 65+ population will be people of color." In terms of economics, "many older Americans live below 250 percent of the poverty line, and are likely to qualify for need-based long-term services

and supports and other publicly funded services…this will have significant ramifications in the future because of the increasing projected growth of the 85+ population" [48].

Another economic issue to explore in future research involves the cost-effectiveness and cost-savings of community-based aging in place programs, and the ability of these proven savings to potentially motivate the decisions of both private funders of services, as well as federal funders, including the Centers for Medicare and Medicaid Services and Administration of Community Living. As described in the study by Marek, "if programs such as AIP were to reach only 10% of the 4.5 million in need of long-term care, nearly $9 billion could be saved" [36]. Currently, Medicaid is the primary payer of formal long-term services and supports (LTSS) in the United States. Under Medicaid, nursing facility care is a mandatory entitlement, but surprisingly, home and community-based services are optional, with different states choosing to offer different benefits. Even though most people prefer to remain at home, almost two-thirds of Medicaid LTSS dollars go to nursing facility care, and on average, Medicaid dollars can support roughly three people with home and community-based services for every person in an institution [48]. Therefore, demonstrating cost-effectiveness and high quality community-based care may help to encourage policymakers to reduce the institutional bias of Medicaid benefits, and redirect resources to support community-based aging in place programs.

Moving beyond economics, while the focus of this review has been on the community characteristics associated with aging in place, an important area of future research involves the exploration of the potential downsides of aging in place, including the issues Stephen Golant shared in his 2008 article: "Commentary: Irrational Exuberance for the Aging in Place of Vulnerable Low-Income Older Homeowners." He argues "one-size-fits-all aging in place solutions will often not be in the best interests of low-income and frail older homeowners in

the United States" [49]. Suggesting instead "these vulnerable homeowners would be better served if they relocated to more affordable, easier to maintain, and better designed smaller owned units or rental properties…such residential moves are often not feasible, however, because of the shortage of these housing arrangements" [49].

Moreover, in acknowledging the pros and cons of aging in place, future research needs to explore the emergence of new visions of healthy aging, moving away from a primary focus on "Aging in place" to "Aging in Community." As discussed in their 2009 commentary, Thomas and Blanchard offer "people fear nursing homes…this brew of fear and loathing inspires millions of older Americans to dream of growing old in their longtime homes…a powerful idealized counter-narrative, the opposite of a dreadful old age cursed with indignity, a loss of autonomy, and the looming terror of institutionalization" [50]. They challenge readers to see beyond this false dichotomy and instead support alternative community-based efforts focusing on community connectedness and engagement. They argue "aging in place, with its dwelling-centric approach, relies heavily on dollar-denominated professional and paraprofessional services while offering older people little or no opportunity to create or deploy reserves of social capital. Aging in community presents a viable and appealing alternative to both approaches" [50].

Implications for Future Practice

Documenting and analyzing efforts to support aging in place (as well as aging in community) is an emerging topic with growing interest in published literature. Between 1980 to 2010 there was an increase in the number and proportion of manuscripts dedicated to aging in place with marked growth in the 2000s and the highest number in the year 2010 [51]. The growth in the literature is reflective of the growth of efforts in practice. According to Andrew researcher Scharlach, "for the most part, these initiatives have developed in the absence of federal funding or guidance. Most

represent local community interventions, hampered by limited political authority or economic resources. Private sector solutions (e.g. housing modifications, transit-oriented mixed-use community planning, concierge-model membership associations, elder-friendly fitness facilities) appear to be on the rise" [2].

This topic area will continue to intensify with an increase in importance and relevance as older adults, particularly baby boomers, demand new options and resources. For this reason, it is critical we have an understanding of what research is available and what research demonstrates about effective practice to inform future efforts. In conducting this literature review and seeing similar studies and researchers cited over and over, it is clear there is a growing group of dedicated academics and practitioners, associations and institutions, committed to studying this issue with the goal of implementing and evaluating successful programs, and allocating resources to initiatives showing promise in supporting older adults to age in their homes and communities of their choice. There seems to be a growing call for action for a research agenda that matches the practical needs and desires of the increasing aging population.

In planning for future practice based on current evidence there is helpful guidance in the evidence–based decision making framework provided by Ross Brownson and others (2013). In "Evidence-based Decision Making to Improve Public Health" Brownson offers an approach including: making decisions based on the best available peer-reviewed evidence, applying program planning frameworks, engaging the community in assessment and decision-making, conducting sound evaluation, disseminating what is learned to key stakeholders and decision makers, and synthesizing scientific skills, effective communication, common sense, and political acumen in making decisions [52]. This approach is relevant as community-based options are explored to support the aging population.

Conclusion

The literature review identified and examined the different community factors associated with aging in place, including those involving the physical and built environment, social networks, health and social services. This is an exciting time in the field with a convergence of demographics and desires creating opportunities for innovation. Future practice will build off the work of existing programs such as the NORCs and Villages as well as create new types of supportive environments based on the Livable Communities and Age-Friendly Cities indicators. While the state of the evidence is still growing, there is strong engagement and determination of researchers, program planners, advocates and older adults themselves to move forward with exploring options for creating livable and age-friendly communities.

As aging in place initiatives continue to expand and escalate, all of the stakeholders need to come together to collectively plan, implement and evaluate. It is critical they have the tools and resources to assist with this planning effort. This literature review has provided insight into the existing research, key overarching themes and frameworks, and pathways for future research, practice, and policy efforts related to strengthening community-level supports for older adults as they age.

CHAPTER 3: METHODOLOGY

My Philosophical Worldview

In describing the research methodology of the Livability Self-Assessment pilot study, it is important to first share the philosophical foundation of this research. My desire is for this research to inform positive changes at the community level, to ensure greater livability for all community members, regardless of age or ability. This study can be considered an expression of my Transformative Worldview. It is designed to advocate for an action agenda to help marginalized people, in this case, livability, as it relates to older adults and their caregivers, with implications for all community members. According to John Creswell, the Transformative Worldview posits research is "intertwined with politics and a political change agenda…that may change lives of the participants, the institutions in which individuals work or live, and the researcher's life. Transformative research provides a voice for these participants, raising their consciousness…it becomes a unified voice for reform and change" [53].

In addition to my role as researcher, I live, work and volunteer in the communities included in this study. I, as well as my family and friends, have a vested interest in ensuring these communities provide quality services and supports for older adults. I am aging here. My loved ones are aging here. My professional roles include publicly-appointed positions, including serving as the Chair of the Orange County Advisory Board on Aging, as well as on other local non-profits boards dedicated to older adults and caregivers. I work at Carol Woods, a local continuing care retirement community, as the Director of Community Connections. We work to make a difference in the lives of all older adults, not only those who reside on our campus. It is this dedication to improving services driving me to this research. I am sensitive to these personal and professional connections, and it is

because of these relationships I am committed to sharing information in as complete and objective a manner as possible. My goal is to provide the Triangle J Council of Governments with the information necessary to thoughtfully move forward with the Livability Self-Assessment in ways most beneficial to all involved and to promote continued community dialogue and planning for older adults.

Research Design

In order to provide information on the usability and effectiveness of the Livability Self-Assessment, we conducted a pilot-study with a qualitative research approach, utilizing a case study design, with each participating municipality representing a unique case, involving open-ended interviewing of key informants in each municipality. The goal of the research design was to answer the central research question: *How can the TJCOG Livability Self-Assessment be effectively applied in cities and towns to study a region's ability to support aging in community?* As well as the related sub-questions:

1. *How does the experience of local cities and towns compare in terms of completing the assessment?*
2. *What recommendations can be made to strengthen the Livability Self-Assessment and Toolkit for increased usability?*
3. *What outcomes occurred as a result of participating in the Livability Self-Assessment pilot study?*
4. *What processes used in applying the Livability Self-Assessment findings proved successful or unsuccessful? Why?*
5. *What are the facilitators and obstacles to applying the Livability Self-Assessment findings in local cities and towns?*

6. *What recommendations can be made for effective application of the Livability Self-Assessment in promoting community dialogue and planning on aging-in-community supports and services?*

Given this research is both exploratory and descriptive a qualitative approach provides rich data, with the depth and detail needed for this pilot phase of the project. Furthermore, as an evaluation of a new assessment process, implemented by specific municipalities, within a defined time frame, this research lends itself well to the case study approach. According to Robert Yin in his book, Case Study Research: Design and Methods, Case Study research is a helpful strategy for "policy, political science, and public administration research, community psychology and sociology, organizational and management studies, city and regional planning research, such as studies of plans, neighborhoods, or public agencies, and the conduct of dissertations and theses in the social sciences" [54]. All of these issues are applicable in this research.

Study Subjects

Five municipalities (cities and towns) from the seven-county Central North Carolina Triangle J Region, including Chatham, Durham, Orange, Johnston, Lee, Moore and Wake counties were selected to participate in the study. Key informants were self-selected by each of the municipalities. They included either city or town planners or other government representatives selected by the municipalities themselves to complete the Livability Self-Assessment.

Inclusion/Exclusion Criteria

All thirty municipalities, including cities, towns and villages, in the Triangle J region were invited to participate through presentations to the Triangle J Board of Delegates, email recruitment announcements (Appendix A), two open on-line information sessions (Appendix B), and targeted requests to rural municipalities. Municipalities in the region were designated as urban or rural based on The U.S. Census bureau's urban-rural classification [55]. Municipalities from outside the region

were not invited to participate. The goal was to recruit four to six municipalities from the Triangle J Region, with ideally two rural municipalities participating, to study the Assessment's usability and effectiveness for both urban and rural communities. In the end, five municipalities applied, one classified as rural and one recently re-classified from rural to urban.

Municipalities applied to participate by submitting a short application (Appendix C) highlighting who would fill out the assessment, describing who the "users" of the information would be, if known, and whether the municipality had participated in other livability assessment processes. Applicants were provided with a timeline for the project and asked to commit to the timeline in order to participate. The participating municipalities agreed to complete the electronic Livability Self-Assessment within two weeks of its receipt. Following completion, initial in-person interviews were conducted with participants to discuss the Livability Self-Assessment and the accompanying Toolkit. Six months later, a second in-person interview was conducted to explore the effectiveness of the assessment on community planning.

Following the pilot study application process, municipalities were selected by the Triangle J Council of Government staff. Criteria for acceptance included: willingness to participate and following the timeline, geographic location, and classification as either urban or rural. The Triangle J Council of Governments staff wanted to have as geographically diverse a group of municipalities as possible, representing different areas of the seven-county region, including urban and rural communities. Final decisions were based on these geographic criteria. If too few municipalities had applied or if there was a lack of either urban or rural municipalities, additional requests would have been sent out to the full Triangle J regional listserv and/or the rural municipalities' listserv. If too many or similar applicants applied from the same county, preference would have been given to municipalities who applied first. None of these concerns materialized, as five municipalities from different areas with different urban/rural classifications applied and were accepted.

Data Collection Procedures

Two weeks following notification of acceptance into the pilot study, key contacts for each municipality were emailed copies of the Livability Self-Assessment (Appendix D), the Toolkit (Appendix E) and an Instructions Sheet (Appendix F). Municipalities were asked to complete the Assessment within two weeks. Following the two weeks, each municipality was contacted by phone and/or email to set up an in-person interview. One of the interviews was conducted via phone. Six months following the initial discussion, I contacted the key informants again, to set up a second, in-person or phone interview. Key informants were town planning staff and/or town managers or their staff as determined by each municipality.

The interviews were designed to be no more than one hour in length. An Interview Guide with open–ended questions was used with each participant (Appendix G). Interview questions were designed to elicit feedback on the usability and effectiveness of the Livability Self-Assessment. The questions were designed in consultation with the Triangle J staff to ensure all areas of interest were covered and cross-referenced with the dissertation research questions. Additionally, questions were included based on Everett Rogers "Diffusion of Innovations" theory, to examine participants' experiences in five key stages related to the Assessment: dissemination, adoption, implementation, evaluation, and institutionalization [56]. Each interview was audio recorded. Following the interviews, each recording was transcribed and reviewed, creating a complete transcript with observations for each interview.

Initial interview questions addressed the usability of the instrument in term of ease of completing the Assessment, ease of obtaining information, value of information obtained, accuracy of findings, and suggestions for improvement for both the Assessment and the Toolkit, and initial thoughts on how the Assessment findings will be applied over the next six months in their communities. Specific questions included:

- Background questions (ex. Why were you interested in participating in this pilot study? What motivated you to pursue the question of livability of your community? Have you ever completed a livability assessment before?)
- Questions on completing the assessment (ex. How long did it take to complete the Livability Self-Assessment? How many people were involved in completing the Assessment? What are your overall impressions of the Assessment in terms of its ease or difficulty to complete? Were there any questions you were unable to answer? Was the secondary data easy to obtain and understand? Were the dashboards and visuals helpful?)
- Questions on recommendations for enhancements (ex. Did you feel there were any topic areas or questions missing from the Assessment? What suggestions do you have for making the Assessment easier to complete? Did the results appear accurate? Were you surprised by the results? In what ways did you use the accompanying Toolkit? What suggestions do you have for possible revisions to the Toolkit? In what ways did the Assessment meet or not meet your expectations?)
- Questions on the potential usefulness of the Assessment & Toolkit (ex. What are your overall impressions of the Assessment in terms of its usefulness for helping municipalities understand their strengths and opportunities related to Livability for seniors specifically, and for all citizens in general? How would you describe the usefulness of the Assessment to other municipalities? In what ways will the Assessment & Toolkit be helpful for planning for livability? In what ways do you plan to use the Assessment over the next six months?)

The six-month follow-up Interview questions addressed what happened, if anything, as a result of taking the Assessment, specifically the effectiveness of the Assessment and Toolkit in

motivating or not motivating action, and what processes for implementing the findings were successful or unsuccessful, as well as additional recommendations for strengthening the Assessment, the Toolkit, and efforts to apply the findings in communities to support broader implementation in other municipalities in the Triangle J region. Specific questions included:

- Questions on the impact of taking the Assessment (ex. What specific activities took place as a result of completing the Assessment? How is it similar or different than what you expected would happen when we met six months ago? Who was involved in these activities? If no activities occurred, why? What factors contributed to the lack of action? What outcomes or impact occurred as a result of completing the Assessment?)
- Questions on the application of the Assessment and/or findings (ex. What processes or actions did you use in applying the findings of the Assessment? Which processes or actions would you consider successful? Unsuccessful? Please describe any factors that were obstacles or challenges to the use of the Assessment findings in your community?)
- Questions on considerations of past and future actions (ex. In looking back over the past six months, would you do anything differently related to applying the findings of the Assessment or using the toolkit? Please describe any plans you may have for further / future use and application of the Assessment and toolkit? Would you consider taking the Assessment again on a periodic basis?
- Questions on recommendations for other communities (ex. would you recommend other communities complete the Livability Self-Assessment? Why or why not? Would you recommend other communities use the Toolkit? Why or why not? What recommendations do you have for other communities on the effective application

of the Livability Self-Assessment in promoting community dialogue and planning on aging-in-community supports and services?).

In addition to collecting qualitative information through the interviews, I also collected the electronic Livability Self-Assessment results from each of the participating municipalities. The Livability Self-Assessment includes thirty questions primarily based on existing and universally available secondary data sources. Each question includes a suggested data source either from an on-line resource or through a municipal office. Each question also provides a rationale for its relation to livability (ex. “Housing that is not accessible places older adults and adults with disabilities at greater risk for injury and isolation.”). Lastly, each question provides an open text box area for participants to write comments about their response.

The demographics section includes seventeen questions (ex. total number of residents, number of residents age 65+, number of residents 65+ with a disability, median home sale prices, percent of residents below the poverty level 65+, etc.). The information is displayed in a chart comparing a specific municipality’s numbers to North Carolina and U.S. statistics.

The seven topic area sections include two-six questions in each section. The housing and transportation sections have six questions each. The health care and social integration sections have three questions each. The safety, supportive services, and general retail and services have two questions each. All questions have three possible responses with a corresponding score of one to three. Participants can skip a question. Examples of questions include:

- Housing: Guidelines and/or policies regarding the development of housing that is accessible and/or visitable. Responses:
    - There are no or few guidelines/policies that encourage the development of accessible and/or visitable housing (score 1)

    - Guidelines/policies are in place to encourage the development of accessible and/or visitable housing but builders are not taking advantage of them (score 2)
    - Guidelines/policies have been utilized to increase the supply of accessible and/or visitable housing (score 3)
- Transportation: Presence of fixed route public transportation. Responses:
    - The is little or no fixed route public transportation (score 1)
    - Fixed route public transportation is concentrated in the central business district and along central corridor (score 2)
    - Fixed route public transportation is available in most areas (score 3)

The scores from the questions are totaled and presented in a bar chart for each topic section, representing three tiers of progress, with the first tier (primarily scores of one) representing meaningful investment, the second tier (primarily scores of two) representing significant investment and the third tier (primarily scores of three) representing substantial investment. Additionally, there is a visual display of the average scores for each of the sections presented together. These average scores are between one and three. A score of two means the municipality has met the "progress goal" for the topic area.

The rationale for this data collection method and timeline was two-fold. First, the initial interview provided timely feedback to the TJCOG staff about areas of needed refinement for the Assessment and Toolkit. Second, it created a baseline of expectations and ideas for each municipality to be compared at the six month mark, to evaluate how the Assessment information was or was not applied in each municipality, as well as a description of the facilitating or hindering factors for application, and recommendations for other communities interested in participating in future applications.

Data Analysis

Given representatives from each municipality were interviewed two times over a six month timeframe, the data analysis was completed in two phases, following a similar time frame and process each time. The specific data analysis steps were based on those outlined in Research Design by John Creswell [46]. The steps Included: the creation of raw data (transcripts and interviews notes), organizing the data, reading through all the data, coding the data (by hand) based on themes emerging as a result of the interviews, using the themes to create descriptions of the settings, individuals, and events involved with completing the Assessments, as well as the categories or broader themes of the major findings, then interrelating the themes and descriptions, and finally interpreting the meaning of the themes and descriptions to evaluate the lessons learned about the usability and effectiveness of both the Livability Self-Assessment and the Toolkit. The findings from the analysis are represented primarily thru narrative description. Charts were used when possible to graphically display the results.

In consultation with Triangle J staff, all responses were reported regardless of whether they were mentioned once or by multiple participants. Responses receiving multiple comments are noted. It is important to the staff, municipalities not be judged or presented as either more or less effective than others in application. Therefore the findings are presented in descriptive form identifying recommendations for enhancements of the Assessment and Toolkit, as well as recommendations for planning and implementation based on the different experiences of the municipalities in the pilot study.

To assess the trustworthiness, credibility and authenticity of the findings, specific qualitative validity strategies were incorporated into the research design, including triangulation, member-checking and peer debriefing and examination. In terms of triangulation, the findings from the interviews were matched and analyzed with the electronic results from each municipality's Self-

Assessment, to see if there were areas of similarities or differences. While the number of participating municipalities is too small to generalize findings, electronic scores between different municipalities were also analyzed. Member-checking was used by sharing major themes and descriptions identified with key informants to check for accuracy. Lastly, peer debriefing and examination was used by reviewing findings with one of the planners employed by the TJCOG to enhance accuracy. It is important to note this individual was not a part of the creation of the Livability Self-Assessment.

IRB & Confidentiality Issues

The pilot study was submitted to the IRB at the University of North Carolina at Chapel Hill (#14-1985) and approved on August 22, 2014.

The risks to study subjects should confidentiality be breached are minimal. These are government representatives discussing the ease of gathering publicly reported data and the potential use of these data for future city planning. The data are not of any personal nature and in no other way contain specially protected information. Government representatives provided feedback about what it was like to complete the electronic Assessment and, six months following the initial Assessment, identified the ways the information was used in their municipalities. Neither the names of the key informants nor the names of the participating cities and towns are listed in this final report. Findings are in aggregate form only, without specific comments or feedback attributed to locations or individuals.

As described in the IRB proposal, the information obtained was recorded in a manner participants cannot be identified, directly or indirectly. Any disclosure of the participants' responses outside the research would not reasonably place the participants at risk of criminal or civil liability or be damaging to the participants' financial standing, employability, or reputation. All data was separated from the key informants' names and locations, reported in aggregate, and participating

municipalities will not be listed. Key informants were reminded of the confidentiality and data reporting plan in the introduction of each of the interviews and asked if they have any questions and want to continue. It is important to note, given these are all public employees who participated who are subject to open records requirements, there was not an expectation of complete anonymity on their part, even though we planned to keep the information confidential.

TJCOG conducted the recruitment and accepted applications. They housed application data in their location. I conducted the interviews, collected the data and analyzed it independently of TJCOG. TJCOG received the final analysis without information being attributed to a specific location or individual. I separated any identifying features (names, contact information) from the interview data results.

Limitations

While the research approach was designed to maximize the usefulness and validity of the data, limitations need to be acknowledged and addressed. First, in terms of the qualitative study design utilizing key informant interviews, according to Creswell, there are three limitations of in-person interviews. First, the "researcher's presence may bias the responses." This could have been a factor if participants did not want to truthfully share their feedback for fear of saying anything negative about the work of the TJCOG or their own municipalities. It is hoped the presence of a neutral, external evaluator and the anonymity of participants counteracted this. I repeatedly reminded participants I was not the designer of the Assessment or a TJCOG staff member so their honest, anonymous comments were welcomed [46].

Second, "not all people are equally articulate and perceptive." They may not have been able to adequately express their feedback on completing the Assessment or may not have fully considered or been able to conceptualize the potential uses for the Assessment and Toolkit in their communities. To address this concern, I used different probes and clarifying statements for each

question to ensure there were adequate opportunities for key informants to provide their feedback [46].

Third, interviews “provide indirect information filtered through the views of the interviewees.” Since we were not actually monitoring individuals as they completed the Assessment, we had to trust their self-reported feedback on the time it took to complete the Assessments, the steps needed to obtain information, and/or the number of individuals involved with this process [46].

Additional limitations existed due to the voluntary way municipalities self-selected to participate with the study. All municipalities (cities, towns, and villages) in the Triangle J region received multiple electronic and in-person invitations to participate, but in the end only five were chosen based on those who ultimately applied and were accepted. The generalizability of findings to other municipalities in the region, as well as broader generalization is affected by this. Non-participating municipalities may not have the level of motivation as the municipalities who volunteered to be in the pilot study. Due to this selection bias, there needs to be caution in applying findings to other municipalities and regions. Moreover, the participating municipalities may have differed in other key ways limiting the generalizability of findings.

Lastly, as discussed in the opening of this Methodology chapter, this research is part of my transformative worldview. Since I am both a researcher and an advocate, there could be concern bias was introduced in interpreting the results. This is where the strategies for assessing validity were critical, specifically triangulation, member-checking, and peer debriefing and evaluation, to ensure the data were identified and presented in ways to maximize the authenticity of the information.

CHAPTER 4: RESULTS

Introduction

Five cities and town in the Triangle J region applied and were accepted into the Livability Self-Assessment Pilot Study. The data gathered from the interviews of these five municipalities created the foundation for answering the central research question: *How can the TJCOG Livability Self-Assessment be effectively applied in cities and towns to study a region's ability to support aging in community?*

As described in the Methodology section, interviews were conducted with representatives of each participating city and town immediately following completion of the electronic Livability Self-Assessment and then six months following completion to understand both the usability and effectiveness of the Assessment. Interview questions were designed to answer the central research question, as well as the following research sub-questions:

1. *How does the experience of local cities and towns compare in terms of completing the Assessment?*
2. *What recommendations can be made to strengthen the Livability Self-Assessment and Toolkit for increased usability?*
3. *What outcomes occurred as a result of participating in the Livability Self-Assessment pilot study?*
4. *What processes used in applying the Livability Self-Assessment findings proved successful or unsuccessful? Why?*
5. *What are the facilitators and obstacles to applying the Livability Self-Assessment findings in local cities and towns?*

6. *What recommendations can be made for effective application of the Livability Self-Assessment in promoting community dialogue and planning on aging-in-community supports and services?*

Usability and effective application were assessed based on the feedback of participants, including their perceptions and experiences about completing the Assessment and their descriptions of activities resulting from taking the Assessment; whether and how they applied the findings to guide activities to address the livability of their municipalities for older adults. Appendix I displays a cross-reference of the research questions with the corresponding interview questions.

Member-checking and peer debriefing processes were used to validate findings and recommendations. After the data was analyzed, major themes and descriptions were shared with participants and a planner from TJCOG who reviewed the findings to ensure accuracy. They provided suggestions to clarify results and inform recommendations.

Description of Participating Cities and Towns

The five municipalities were from three different counties within the seven-county Triangle J Council of Governments region. Four of the five municipalities were classified by the U.S. Census Bureau as urban and one is rural, though one municipality had recently changed classifications within the past Census cycle from rural to urban.

According to demographic information provided by each participating municipality, total populations ranged from approximately 1,300 to 25,000 citizens with the percent of population 65-plus in each city and town ranged from approximately 3% to 16%.

Participating cities and towns decided who in their communities would complete the Assessment and whether it would be an individual or group activity, TJCOG did not specify requirements. Lead participants were from either the town manager's office (two cities and towns)

or from the planning department (three cities and towns). Participants worked in their positions ranging from six months to twenty-three years.

Table 4. Summary of Respondent Variables on Completing the Livability Self-Assessment

Variable	Range of Responses
Position	Town Manager, Assistant to Town Manager, Planner, Planning Director
Time to complete (hours)	30 minutes to 4 hours over 1 day to 2 weeks
Motivation	Request from Public Official (4 participants), Interest in Livability measurement (3 participants)
Completed Prior Assessment?	No (4 participants) Yes (1 participant)
# of primary people involved in completing Assessment	1 person (4 participants), 3 people (1 participant)
# of people consulted to answer questions	0-7
Departments / Orgs. Consulted	Ranged from 1-8 departments/organizations. Mix of town & county representatives were consulted, including public works, planning (4 participants), police (3 participants), fire (2 participants), parks and rec (2 participants), county senior services (2 participants), county housing director, Council of Government, county health department, town clerk, engineering, transportation.
Impressions of ease or difficulty to complete	Generally easy (all participants)
Were there questions you were unable or difficult to answer	Yes (all participants)
Difficulties running Macros on the Excel Worksheet	No (all participants)
Secondary data easy to obtain and understand	Generally yes (all participants)
Dashboards and visuals helpful and easy to understand	Yes
Use of the Toolkit?	Yes (2 participants) No (3 participants)

Findings from the Completed Electronic Livability Self-Assessments

In addition to qualitative analysis of the initial and six month follow-up interviews with participants of the five cities and towns in the pilot study, a brief analysis of their electronic responses of the Assessments was conducted.

Table 5 displays the findings from the five participants over the seven categories in the Assessment, including the listing of the section topic, the five average scores for each section, the

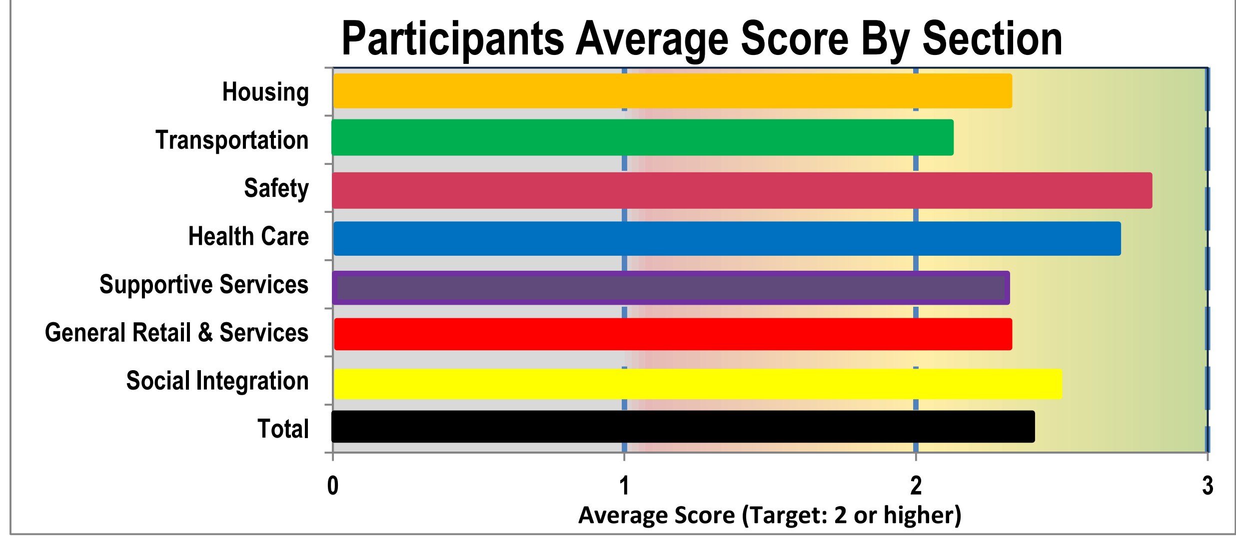
range of the scores, the average score overall and whether each municipality met the progress goal, scoring at least a two on the section. As displayed in the totals section, out of the seven sections, two participants met the progress goal on all seven sections, one participant missed the goal on one section, one participant missed two sections and the third participant missed three sections – this participant was the only rural municipality.

The specific sections with missed progress goals were varied: one participant missed the goal in housing, one missed in transportation, one missed in general retail and services and one missed social integration. Two participants missed in supportive services. Figure 5 displays a graphic presentation of the averages of the five participants' scores for each section. When averages are used, all scores are in the range of 2.11 – 2.70, thus meeting progress goals.

Table 5. Aggregate Data from the Completed Electronic Livability Self-Assessments

Section	Section Scores	Range of Scores	Average Score	Municipality Meets Progress Goal?
Housing	3.00		2.23	Yes
	2.33			Yes
	2.17			Yes
	2.00			Yes
	1.67	1.67 – 3.00		No
Transportation	2.67		2.11	Yes
	2.20			Yes
	2.00			Yes
	2.00			Yes
	1.67	1.67 – 2.67		No
Safety	3.00		2.70	Yes
	3.00			Yes
	3.00			Yes
	2.50			Yes
	2.00	2.00 – 3.00		Yes
Health Care	3.00		2.60	Yes
	3.00			Yes
	2.67			Yes
	2.33			Yes
	2.00	2.00 – 3.00		Yes

Supportive Services	3.00			Yes
	3.00			Yes
	3.00			Yes
	1.00			No
	1.00	1.00 – 3.00	2.20	No
General Retail & Services	2.50		2.20	Yes
	2.50			Yes
	2.50			Yes
	2.00			Yes
	1.50	1.50 – 2.50		No
Social Integration	3.00		2.33	Yes
	2.67			Yes
	2.33			Yes
	2.00			Yes
	1.67	1.67 – 3.00		No
Average Total	**2.71 (65 pts)**		**2.29**	**Yes: all sections**
	2.35 (54 pts)			**Yes: all sections**
	2.41 (53 pts)	**1.83 – 2.71**		**No: 1 section**
	2.13 (51 pts)			**No: 2 sections**
	1.83 (42 pts)			**No: 3 sections**



0 = None 1 = Initial Investment 2 = Significant Investment 3 = Substantial Investment

Figure 5. Average Score by Section

Summary of Overarching Findings

The analysis of the initial and six-month interview data produced seven overarching findings. First, participants found the Assessment to be generally easy to complete. Second, participants appreciated having a mechanism to measure the livability of their communities, specifically for older adults. Third, public officials were the primary motivation around using this instrument. Fourth, participants suggested needed enhancements to increase the usability, accuracy and relevance of the Assessment. Fifth, participants were surprised by the scoring, expressing both pleasure and concern the results may be skewed towards the positive. Sixth, participants described few actions and outcomes as a result of completing the Assessment. Lastly, participants offered recommendations for improving individual and collective, community action.

The following is an in-depth look at the participants feedback, organized around these seven overarching findings. The overarching findings correlate with research sub-questions, as indicated with the headings.

Finding One: Ease of Completion (Research Sub-Question: Comparisons of Experiences in Completing the Assessment)

While participants found the Assessment overall easy to complete, there were sections they found difficult or were unable to complete. Only one community had completed a comprehensive strategic plan prior to the Assessment they felt constituted previous experience with completing a livability assessment.

All five of the participants discussed how the Assessment met their expectations, primarily in terms of ease of use and clarity of results.

> *It met my expectations in that it was as billed, as far as ease of use. It was very easy to understand. It was very easy, for the most part, to find the answers. And I think it's very easy to understand your scores. The way it lays out the dashboards I guess helped a lot.*
>
> *It's relatively easy to generate benchmark. We don't have to have a lot of specialized knowledge in aging or social services to give you a snapshot of where your community is so*

that you can determine whether you have an issue that maybe needs attention or you have some areas that need work. I think it is useful especially since it only took a couple of hours.

The time to complete the Assessment ranged from thirty minutes to four hours. Some participants completed the Assessment in one day while others worked for small amounts of time over a few days. One participant reported a wait of over a week to receive information back from a colleague to complete the Assessment.

In four municipalities, there was one primary person involved in completing the Assessment and in one municipality there were three primary respondents. Each participating municipality consulted with different numbers of other departments/colleagues to answer the Assessment questions. Total participants required to complete the Assessment ranged from one to eight participants. A range of town and county representatives were consulted, four participants included planning department colleagues, three participants involved the police department, two participants involved the fire, parks and recreation, and county senior services departments. Lastly, the department of public works, county housing director, council of government, county health department, town clerk, and engineering and transportation departments were included by one participant each.

The reasons for the difficulty in answering some of the questions ranged from problems with obtaining the secondary data online to difficulty because they involved contacting county agencies for their programs. One municipality was concerned about providing consistent data with what other communities were providing.

In addition to providing feedback about the Livability Self-Assessment, participants also shared their overall impressions of the usefulness of the accompanying Toolkit. Participants had mixed responses from did not use it at all, to used it a lot to help clarify questions and definitions. However, all participants, even those referring to it quite a bit, either did not realize the Toolkit offered ways to explore categories in greater depth or did not use the additional links.

I used it quite a bit…on a lot of the questions…it had a definition of what they were asking about. So it was very important to have that…it was well done.

I don't think I did because all I did was go through the spreadsheet…I kind of flipped through the instructions. It seemed pretty forthright when I opened the spreadsheet so I guess I didn't open the Toolkit.

Finding Two: Measuring Livability (Research Sub-Question: Comparisons of Experiences in Completing the Assessment)

The Assessment was seen as a useful vehicle to address and measure the livability of their municipality by raising awareness, posing key questions related to specific areas of livability, and identifying areas of strength and needed improvement, as well as new partners to engage. Participants described the Assessment in similar ways: as a relatively easy tool to complete without specific knowledge, resources or dedicated staff; cities and towns can use the Assessment to give a snapshot of their community and identify issues related to livability.

It gives us a point where we can see where we're at and gives us opportunities for how to improve that. It identifies areas that we're not doing as well in and that we could focus some more of our efforts on and areas that maybe we don't need to focus our efforts on so much anymore. So I definitely think it's useful for us as a planning tool and for our town council to be aware of where we stand in this.

We really didn't have any measurements to judge it by besides what we felt we were doing in our community. Rapid growth town like we are experiencing here…we know that not only are we a young town with young families but we do know that these families are aging in town, growing up and multi-generationals are starting to come to town and live in town, grandparents and are moving here to be closer to their grandkids.

I think it actually helped us confirm that what we're doing is good for the community, and it showed us some ways that we can make some improvements if we wanted to improve our scores. It clearly met our expectations.

While participants were generally pleased to have a mechanism to measure the livability of their municipalities, participants also expressed concerns with the Assessment. Two participants discussed ways it did not meet expectations, including wanting additional specific action steps for improvement and wanting more questions related to older adults and disability.

It wasn't thorough as we would have expected. And we certainly would have thought it would take longer to do…I don't know that it being longer would be a bad thing. I think it

would be a really valuable exercise. I think the longer it is, the more you can really flush out issues that you do have. Because it was so short, I did kind of question its value.

I was expecting to kind of more easily understand how to improve next. I was kind of thinking like after you filled out everything on this page, you would have suggestions for improvement. It has the indicator. It has the investment. I was thinking there's going to be another column of next steps, that kind of thing.

One participant expressed an interest in having the ability to tailor the Assessment to their own community, another wondered if results could potentially be used negatively, and a few participants questioned if communities may have different abilities to complete the Assessment based on the size of their municipality. Related, a concern was raised about how to address identified needs without the necessary resources, especially for smaller municipalities.

[If TJCOG puts in the changes] I think it would make it a little bit more usable for us. I think it would allow you to take out the questions that didn't apply to you …You get a more accurate score and you'd be able to take that to your Boards, to your council and actually have a frank conversation about what changes could be made.

I think some of these categories are things that we are aware of but really don't have the budget to address in a large scale.

It depends on what kind of jurisdiction they are; what kind of relationships they have with their county, their other departments… having to gather all those people together to take it might be a difficult thing for other municipalities. Going back to the data, smaller communities might not have access to the same data that we had access to.

Lastly, one of the participants talked about the usefulness of the Assessment being impacted since many of the items studied in the Assessment are managed at the county, not the city or town level, thus limiting the role their staff can play in addressing livability issues.

I think it is useful but again I think the primary players in livability for seniors are not necessarily in the control of your municipality… But it does kind of help you see if there's a weak area and then you know whether or not it's in your control or whether you need to build a partnership.

During discussions with participants it became apparent there was not a clear sense the TJCOG Livability Self-Assessment was designed with particular attention to the needs of older adults. Therefore an additional question was asked of the participants, whether they felt the Livability Self-

Assessment was designed for all populations or specifically focusing on older adults. The results were mixed, with three participants knowing there was an emphasis on older adults and two participants reporting it was about general livability, but noticed some of the questions were more senior-focused than other populations. There was universal acknowledgement livability for older adults impacts populations of all ages.

> *I certainly went into it assuming it was for older adults, but I'm not sure that it was that narrowly focused.*

> *I thought it was in general. Not sure I had followed it being just specifically for older… A lot of the questions, some of them were definitely targeted toward older adults, but I don't think that the majority of the questions were specifically targeted towards them, so I think it gives you a broader…spectrum for all age groups. I think if it was the intent to be for older adults, clearly, it hadn't met that intent, but it also met the community-wide perspective.*

Finding Three: Motivation for Participation (Research Sub-Question: Comparisons of Experiences in Completing the Assessment)

The primary motivation for participating in the Livability Self-Assessment study was because of a request by a public official in the municipality (ex. town council/board member). Three communities discussed an additional interest in understanding how a community can measure livability.

> *It was actually suggested to me by one of the board members. The town has over the last ten years had a differing level of interest in the aging population and trying to be responsive to the aging population and so it seemed like a good way to kind of bring that issue back to the forefront that have kind of fallen by the wayside.*

> *I would think that speaking on behalf of our council member that we took ourselves as the premier community for active families. I'm assuming that part of that was we should do this livability survey and see if we are standing up to what we preach.*

Finding Four: Recommended Enhancements (Research Sub-Question: Recommendations to Strengthen the Assessment & Toolkit)

Participants provided extensive recommendations to strengthen the Livability Self-Assessment and Toolkit. The following is an overview of their feedback and suggestions organized

according to each section of the Assessment. A complete list of recommendations is located in Appendix J.

Introduction chapter. Participants recommended greater clarity about the availability of website links to help answer the questions, more instructions on how to go back to previous answers and explicitly providing the option to refrain from answering a question as sometimes, questions are not applicable to a jurisdiction, specifically smaller communities.

> *Maybe I just didn't read all of the instructions…the potential resources that you could click on to help you find the answers…I was about halfway through with this thing that I realized that there were some potential links.*

***Demographics*.** Consistently, all five of the participating municipalities commented on the difficulty in answering the demographic section and suggested specific areas of improvement to facilitate easier identification of information.

> *I wasn't sure if I should use the census from 2010 or the American Community Survey for 2012. I eventually went with the American Community Survey because it was the most recent. Advice for future folks taking this… for the TJCOG folks to go ahead and put in: "feel free to use either this or this" or just some things that you don't have to take extra cognitive time to decide which one? That would have saved me time because I think I filled out at least one or two sections with the census and then I went back and changed it…that would have helped with the confusion.*

> *There's instructions with each question on how to get to the data that we're supposed to be looking at. It doesn't flow correctly. So it tells you to go to the American Community Survey and type in your town and then all these charts will pop up, which doesn't happen…So somebody who doesn't have knowledge on how to work the American Community Survey data is going to have a little bit of a difficult time trying to find it.*

***Housing*.** Participants consistently discussed challenges with identifying the right information for this section. They reported concerns about who to ask in their public offices and responding to zoning code issues and other constructs not regulated at the town/city municipal level. Lastly, the rating intervals used with some of the questions was repeatedly mentioned as problematic, with respondents thinking the intervals were too large. A few recommended different intervals for the different questions.

I could not find occupancy in structure or housing value and cost utilities. I wasn't able to find information on medium home sale price and medium rental price.

Some of these questions I could get answers from a department director that was not the department listed under the questions, so like on housing #1: guidelines or policies, it says ask a municipal planning department, but…some places housing department would probably be able to answer that better than planning.

We adopt the state building code rules. If they're not in the state rules, the town is not going to require a home to be built that way…planning does not regulate the internal workings of the home…If you can't do it, you get a one, so you're automatically deducted for something that you have no control over.

The 0% to 25% of your housing is multifamily for example, that's a huge spread. A quarter of all your housing versus zero percent of your housing is multifamily are two very, very different things and represents two very, very different communities but they're lumped together in one category that can affect your overall score…That was an example of a question where I felt like it was a little unfair to feel like we were penalizing our housing score, we're not that type of community. I don't think that's a negative thing.

***Transportation*.** Participants noted a number of challenges with this section. Multiple participants mentioned issues related to the walkability score, specifically concerns with both the website and the score, including the complication in identifying an overall walkability score, to the different scores within one city/town, to how the information was calculated and how to use it. Other issues with this section involved the requirement for written policies when the city/town is meeting the intent of the indicator, but it's not in a written policy, and how the questions were worded with too many options or too subjectively. Lastly, there were concerns about requiring fixed route transportation systems, as this is not possible for smaller communities and ensures smaller, rural communities receive lower scores.

We talked a lot about that walk score in the transportation section. What does that mean? We went to the website. We looked at how it was calculated. But one of the problems we had with that section was we have neighborhoods in town that scored very high and we have neighborhoods in town that scored very low, more low than high. So it brings our average down.

We do have guidelines on sidewalks and connecting. When a development is proposed, we certainly have policy on connecting that development to other developments or housing to

commercial areas when possible. I could see that one being broken down into a couple of questions: whether there is a written policy and then what you require.

We're getting penalized for not having the presence of a fixed route, public transportation system and you can't just have public transportation unless you're a community of a size greater than x because they're just not supportable. You're not going to have a bus route with a population [this small].

***Safety*.** There were three issues mentioned in this topic area: with only two questions in this section, each question was weighted more in terms of its impact on the overall topic score therefore adding more questions was requested. An additional question could involve travel time and/or distance for emergency responders as this is information required by insurance companies in determining rates, thus a potential proxy question for safety. Lastly, the absence of numbers or specifics in the answers makes it more difficult and subjective to answer the questions.

Weighted more in terms of safety, because it was smaller [section].

When I have conversations with our Fire Department frequently, we're talking about travel times, travel distances and the insurance rates based on those travel distances and there's nothing in here that talks about response times. I think that you got to expand some of the categories especially Safety. I mean there are other things that are more indicative of safety than an Emergency Preparedness Plan.

***Healthcare*.** Multiple participants discussed the need to clarify how to determine the answers for health care shortage area and presence of specialist physicians. The links connected to the American Medical Association, but it was challenging to get a clear answer from it as there was a lot of information to sort through. Participants asked TJCOG to determine what information is needed and who should respond, as municipalities by and large do not provide a lot of these services.

There was one question that was difficult to answer because I didn't feel like I had the expertise: presence of specialist physicians and the link with the American Medical Association. It was kind of a tough site to get a clear answer from. There was just a lot of information I had to sift through to try to get any sort of accurate answer. And I still don't feel like perhaps I answered that one well.

The presence of preventative health programs for older adults and adults with disability, I mean we do have a senior citizens program here in the town, but its county operated -- it's

not a city thing. These are county responsibilities.

***General retail and services*.** As mentioned with the Safety section, with only two questions in this section, each score had a major impact on the whole section's score. Two participants commented on the difficulty understanding the food desert question and the corresponding information provided on the website.

> *I had trouble with food desert. I went to the website and I was really confused by it…I don't believe the website because we have too many opportunities. And part of it might be that our Census tracks are really large?*

***Formatting & information finding*.** There were no formatting recommendations and none of the participants had difficulties running the macros on the Excel worksheet. Participants overwhelmingly discussed the ease in obtaining the secondary data when the website, path and terminology were correct. Dashboard and visuals were helpful and easy to understand.

***Missing information & final suggestions for improvement*.** Participants did not have a lot of feedback about missing topic areas or additional suggestions. Two respondent asked for there to be more questions, so there could be consistency in the number of questions asked for each session and equal weighting for questions. Another respondent suggested including questions about services for individuals with disabilities.

> *There's no questions in here at all that talk about disabilities, other disabled populations which might need the same services but aren't elderly.*

> *To make it applicable to the maximum number of communities, I don't think you could have asked too much more because as a small organization I struggled on some of the things of finding the right resource.*

> *There might be other areas that could be included in this, but I think this kind of filled in some blanks for our town with respect to senior citizens and their livability in our town.*

> *A lot of these questions came across as very, very broad and almost difficult to answer because I wanted to be more specific.*

Finding Five: Accuracy of Scores (Research Sub-Question: Recommendations to Strengthen the Assessment & Toolkit)

There is a problem with the scoring process. Participants perceived their scores as inflated and in some cases, this reduced their sense of urgency for exploring changes. All five participants expressed how the Assessment's scores as a whole or specific parts seemed accurate, however, almost all discussed how they were surprised at how well they scored, thus calling into question in some areas whether the results were in fact accurate or if the scoring skewed too heavily to the positive. One participant expressed fears their high scores would not be received well by the community, given concerns and perceived need around specific topic areas. One participant felt the scoring unfairly penalized smaller communities.

> *On the housing…we got a three which says our housing is excellent, but our affordable housing we don't think is excellent… and this Assessment is telling us that's the best score you can get? So I don't think that's an accurate reflection at least from our interpretation…I am nervous to present to our board because they're going to be like, "Wait, housing is a huge issue. Why are we getting all these great scores?"… I wouldn't want this to be presented to the public the way it is right now because I wouldn't want to send that message.*

> *I was a little surprised that they were as positive as they were given that from my perspective as a municipal employee in the planning department, the town has not attached any specific importance to addressing the truly elderly population...so we have something here that appeals to an older population and I knew that but we haven't done anything as a municipality to really address those who might have limitations and need care and need assistance.*

Because of the concern about the scoring, both in terms of accuracy and impact, a repeated suggestion by three participants: change the scoring. They recommended making it a four or five point scoring system. One participant also noted the scores assume each question is an equal component of livability and all questions are equal in importance.

> *I think having a scale to just three is a little limiting. I almost feel like at a five point scale, there's that middle range. There's no middle range on the three. It just seems like it's a tight scale, you're one or two or three. If you're already a two, you're already meeting your target. What if it was a zero to five-point scale and the target was a 3.5 and a two and half isn't meeting that. I also think that going to a five-point scale would help with some of the questions…you could break it down into fifths which should be easier.*

Change the scoring: Make it on a score from one to four would allow kind of more variety in the scores and your answers and allow you to have the best answer. I don't think the highest score you can get is the best of municipality can do but if they're putting in the highest score and they are showing it as the highest score you can do, it seems like, okay, well, that's the best we can do so let's try to do something else. And really there's a lot more room for improvement in some of these.

Finding Six: Resulting Actions/Outcomes (Research Sub-Question: Outcomes Resulting from Participation)

Limited initial plans of action. During the initial interview following completion of the Assessment, participants were asked about their plans for using the findings of the Assessment over the next six months. The responses ranged from little planned action to organizing meetings with public service colleagues to reviewing specific zoning ordinances impacting their housing scores. Two participants discussed reaching out to the public based on the findings: one participant planned to ask some of the Assessment questions in public forums to validate their answers and another one planned to invite older adult community members to organized planning discussions. One participant discussed the lack of planned action due to receiving high scores and thus no action seemed necessary.

We are in the process of thinking about writing a new zoning district for downtown housing. When I was taking the housing section, there were things in there that we could have improved upon, that kind of got me thinking about how can we incorporate this.
I'm going to share this exercise with the town council…I think this kind of a tool would help us stimulate the thought process on how to address it and begin to budget it and begin to include things we can do in a ten-year capital project plan to address these things... I fully intend on using it.

Over the next six months I don't know that I will. Over the next year or so I can certainly envision that I'll refer back to it a number of times.

I think maybe if our scores have comeback very low, I would have taken it as a call to action to do something, but I was really pleased with our outcome given that we hadn't put any particular focus on livability for seniors that I don't really feel compelled in the grand scheme of all my other work to suddenly make it a rallying cry..

The participants were aware the Assessment was in a pilot stage. This impacted some of their decisions whether to do anything with the Assessment at the time, knowing TJCOG would be

implementing refinements to the Assessment, potentially changing how they scored on specific sections. Therefore, they expressed concern with doing too much with the initial findings, expecting to do more after re-taking the updated Assessment.

> *Well, my plan was to present this to the board and to the manager and probably go over it with staff and see what the low-hanging fruit is and if there is anything we can really start working on …Now that I've done this, I'm not sure because I am worried about how people are going to react to some of these scores.*

> *Knowing this is the pilot program and they will do a final product that is improved, we may wait to kind of bring this out to the community until then. But once there is, that would be our plan to definitely integrate this into the community knowledge and probably use it as a guide for planning where we go in the future.*

Limited actions/outcomes at six-month follow-up. The participants from the five municipalities were interviewed six months after completing the Livability Self-Assessment. The interviews were designed to gather information about the activities resulting from completing the Assessment and insights into the successes and challenges faced in using the findings of the Assessment to address livability issues in their municipalities. Four participating cities and towns accomplished one main activity as a result of completing the Assessment six months prior: one conducted a meeting with relevant departments who assisted with completing the Assessment; one addressed housing issues, including zoning for more options; one considered information informally to help prioritize issues during a planning process; and one presented findings at a town council budget meeting. One municipality did not accomplish any activities.

> *The main thing that we did was have a meeting with all the department heads that participated in filling out and completing the Assessment to go over the results and kind of discuss what it means.*

> *The only that we've really probably been working on is our housing stuff and our updating of the zoning to allow for more housing options, smaller houses, and accessory houses in certain locations. That was probably one of the lower scores for us was our housing category that we actually had some control over.*

> *I don't think any specific activities took place because of the Livability Assessment. We were in the process of developing [a planning process] update anyway. So we'd already kind of gotten to the point of some of the livability stuff to begin with.*

Participants discussed a range of reasons for not accomplishing more activities as a result of completing the Assessment, even those activities six months earlier they had planned to do. Reasons linked back to the findings themselves, including: concern over the accuracy of the scoring, not having clear direction on next steps, scoring high enough on topics thus no actions seemed necessary, and indicators out of the control of the municipalities.

> *I think our scores were high enough that I don't think we saw any areas that needed immediate action from us. There wasn't really a consensus from our counts or anything like that that told us to move one way or the other on this.*

> *We scored pretty low in supportive services, but that's not really something that we as a municipality have a lot of control over. When we talked about that, it was more of a county function or regional function that we don't control.*

Additional reasons were administrative or logistical challenges, including key staff and community members leaving, not available or choosing not to participate, difficulty in scheduling meetings, competing time, planning and funding priorities, and simply forgetting to do something they intended to over the past six months.

> *Maybe it was just the timing of the year, too. It was towards the end of the year. We got extremely busy towards the end of the year, more so than normal. I think that got put to the back burner a little bit.*

> *We internally thought about making a presentation to council, because one of our council members encouraged us to participate in the survey, and we had intentions of doing this. For whatever reason, we didn't.*

> *We invited [specific community members]. They didn't choose to participate.*

> *Some of it has to do with funding: either the lack of funding or the need for items that have been identified by the council as a higher need.*

Beyond activities, participants were asked about outcomes based on the Assessment. The responses ranged from no outcomes to increased awareness of community needs and resources to addressing housing issues to validating actions and direction already planned. As expressed six months earlier, some of the participants did not plan any outcomes due to the pilot nature of the Assessment and concern over the accuracy of the initial findings.

I think one of the things that was brought up in the meeting was it helped us put pieces together…we're all deep into what we do...we aren't always aware of the other things out there that impact it and so I think it helped bring some awareness of other things in the community.

I think taking this kind of gave us a little bit more strength behind that effort. It validated our thoughts.

I don't know of any outcomes because we purposely decided not to do it or not to do anything until we got the final Assessment.

Successful processes/strategies (Research Sub-Question: Processes Used in Applying the Findings). Participants discussed key strategies for successfully using the findings, including: incorporating as many colleagues as possible in initially completing the Assessment to create buy-in and engagement and then planning follow-up meeting with those individuals to discuss the findings and implications, having support from the public officials (ex. town council, board of alderman), and utilizing both the questions asked and the results to encourage action on specific issues, such as writing new housing ordinances or conducting deeper analysis into specific community issues.

I think having so many different department heads or departments contribute to the Assessment probably helped build buy-in to have the meeting and discuss the results because people are interested.

The successful part of it was introducing them to some of these issues. Some of these have never been talked about, you see. I would say it raised the awareness of some of these issues to the council. They generally may have thought about things, but not as specific as some of these questions and issues, or as they were presented in the Assessment.

Facilitating Factors (Research Sub-Question: Facilitators to Applying the Findings). Participants discussed different facilitating factors for using the Assessment findings, including factors related to the Assessment itself, such as the quantitative nature of the findings for each question in each section, as well as factors unique to each municipality, including: supportive staff, administration and public officials on livability issues, the increasing attention of businesses and the public on specific issues such as development and housing.

Going back and looking through some of these questions, having those quantified for us definitely helped us understand certain things that we're going to impact.

Definitely we had supportive staff and supportive administration to continue down this path…I think ultimately, we probably will have support of our planning board and our council. That was definitely important.

I think the uptick of [housing] development activity and the fact that it's all in one sector of the economy is bringing livability forward as an issue that just doing the Self-Assessment wouldn't have. It's the development pressure that makes the study now relevant.

Unsuccessful processes/strategies (Research Sub-Question: Processes Used in Applying the Findings). Participants also discussed failed or unsuccessful strategies for using the findings, including: choosing not to use the Assessment based on the perceived inaccuracy of the scoring, the use of only city planners in the Assessment completion process who are already aware of issues, not having broader community involvement to encourage collective action, not allocating the time to address livability issues based on other competing issues and time priorities, and discussing the findings at an inopportune time, such as a budget meeting, rather than scheduling a dedicated meeting to discuss the findings. Two participants discussed possible future failures by not sharing the results and information gained.

Well, I guess the concerns over how well the scores represented reality was really the main concern and why we decided not to do anything right now.

I was going to say I've not really applied any of them yet. I do still believe I will use them…there just really hasn't been time to focus on that.

A budget retreat really isn't the best scenario to try to discuss and address some of these things. I think it needs a separate workshop to just talk about the Assessment and the issues that are included in it.

I would not say that anything was unsuccessful. It's just a matter of deciding what are the next steps? I would say it would be unsuccessful if we don't try to look at some of the areas where we feel like we might be insufficient and begin to try to address them.

Obstacles/challenges (Research Sub-Question: Obstacles to Applying the Findings). Similarly, participants discussed the obstacles or challenges of using the Assessment findings in terms of factors related to the Assessment itself, including the concern over the accuracy of the scores, as well as factors external to the Assessment, including the short six-month timing of the

pilot study which went through the winter months and the logistics of bringing colleagues together over the holidays and weather issues as well as staff changes in the involved public services, competing time, attention and funding priorities and the longer length of time it takes to implement changes and see results. Lastly, one participant discussed the challenging factors related to the new livability issues presented and the small size of the town, with limited resources to address issues.

> *The degree of buy-in, whether when I report the results or share the results, are folks just going to accept those metrics as valid and acceptable, or are they going to tear apart the tool? I have no idea.*

> *We got overworked and burdened with our daily planning world. I think just during that part of the year, people have time off. But a lot of these things too are things that take a lot of time and/or other agencies and departments and aren't quickly changed. In six months, you can definitely start something. In six months, it's very hard to finish something.*

> *That's a challenge for me to come up with how to do that…In a small town like this, you may have town councils that quite frankly are not used to doing things like this…with limited resources.*

Participants perceptions of their actions. Participants unanimously responded they would not have done anything differently over the past six months since taking the Assessment. However, one participant suggested a potentially helpful action: exploring the questions at a public meeting, and one participant suggested a potentially unhelpful action: sharing the results in a way that would stop public discussion of growth opportunities. Another participant considered the action taken, introducing the findings at a town council budget meeting and then, as shared previously, wondered if it was the best timing and venue for the livability discussion.

> *I don't know if we would have done anything that different. I think we probably had it in the forefront of our thinking…we did have a planning information day this winter that we could have done more during that time to gauge community opinions on some of these factors. We finished the Assessment, we moved on. We didn't look back.*

> *I did what I'd set out to do, and that was to introduce it to the council in a setting that would be most helpful, because there were so many other things that we had to talk about at the budget workshop.*

If I had reported the findings sooner or the results sooner, could have changed how the board responded to some of the applications and shortcut the public discussion on growth and livability. I think that might have been shortsighted.

***Plans for future use*.** Participants expressed an interest in continuing to use the Livability Self-Assessment now and once improvements from the pilot study are incorporated. Uses include planning with other public officials and as an organizing tool with community members. Participants discussed an interest in re-assessing on a recurring basis, ranging from annually to a minimum of every two years to re-assessing every five years.

> *I think I will now share it with the board so they can see the results and see if they may have different opinions on some of the scores that I gave, obviously, and just see if it causes them to ask new questions or request additional information from any of the applications that are coming forward.*

> *I think we should maybe make a note on our calendars for at least once a year…I think we definitely need to get this more involved with other departments.*

> *In a community like this, things don't happen very fast. I wouldn't wait five years, but certainly probably a year is too quick. At a minimum, I would say at least two years.*

> *I would say we could consider taking it on a periodic basis…I'd say five years is probably right because that's probably the timeframe between [planning] related issues.*

Finding Seven: Recommendations and Encouraging Community Action (Research Sub-Question: Recommendations to Promote Community Dialogue & Planning)

***Recommendations for other communities*.** Four out of the five participants would recommend the Assessment to other communities and the fifth participant would not discourage a community from using it. All discussed how the Assessment is helpful.

> *It pulls together a broad spectrum of services…It gives you a point in time. It gives you a data set. You can either do something with it or ignore it…You don't know what you don't know. From that standpoint, I think it is useful. It doesn't take a lot of time to fill out. I think it is a little bit kind. It might not be the harsh view of reality, but it is at least a data point that gives you some idea of where you're at.*

> *I think any community could at least entertain the process. To address some of the things that are discussed in this Livability Assessment is more of a challenge for a small community. One, because of dollars, and two, for the lack of planning professionals…In larger communities…they have planning staff. They would have individuals work on this. This would*

be all that they would do, and come up with recommendations that would be ultimately presented through the planning and zoning boards to the town councils.

I probably wouldn't recommend it, but I wouldn't discourage them from doing it at the beginning of a major planning initiative so that they can at least start to evaluate what they're doing as they move forward with it..

The three participants who used the Toolkit would recommend it to other communities. The two participants who did not use it either suggested it only for community groups unfamiliar with planning terms or declined to answer due to lack of familiarity.

I think the Toolkit helped me with some ideas on things to do and how to go about moving forward with it.

I wouldn't have been able to do it without the Toolkit.

We didn't use the Toolkit very much. We felt like we could answer the questions....maybe for a community group, that Toolkit would have been very helpful.

Participants were asked what recommendations they have for other communities in terms of implementation. Overall, participants grappled with making recommendations to other communities, most expressing concern they had not experienced enough in their own communities first to share with others. However, three participants conceptually recommended bringing in other stakeholders and community members to take the Assessment to help identify issues and set direction.

I don't know that I can make a recommendation to another community at this point, because I've got to figure it out for us.

I think you definitely need to get buy-in from really everybody -- not only staff, but then management and then your elected official, because if you don't have the buy-in support, you're never going to get anywhere with it.

I love the idea of the community conversation to ask the community…but I don't know that I'm going to hazard a recommendation, because each community is going to be very different on what works with its population.

I wondered during the time we were taking the test or the Assessment that if there were others outside of planning taking the test, would a senior citizen answer the same way that we thought?

> *I could see it being used at the beginning of a process with the community to not only inform the community about what their opinions are, but to get everybody kind of going in the same direction on what we need to work on as a community …if you give them an Assessment and you make them go through that process, you might be able to focus that energy into real change.*

Conclusion

The analysis of the initial and six-month interviews, as well as the electronic Assessment scores, provided specific recommendations for enhancing the Livability Self-Assessment and accompanying Toolkit and insights into the facilitators and challenges for successfully implementing the Assessment in cities and towns. One quote exemplifies the overall impressions gleaned from the interviews.

> *I would recommend it given that our concerns are addressed and remedied in the final product. Certainly, I think it's a pretty easy tool. The way it's designed can easily bring about collaborative approach and build buy-in.*

CHAPTER 5: DISCUSSION

Overview of Study and Research Goals

The pilot study was designed to help the Triangle J Council of Government understand how to effectively apply the Livability Self-Assessment in cities and towns to study a region's ability to support older adults in their communities. Representatives from five local municipalities were interviewed after initially completing the Assessment and again six-months later to gather their feedback to help improve the Assessment before wider distribution.

The results chapter provided an in-depth analysis of the findings. This chapter discusses the implications of the findings both for TJCOG's efforts as well as broader considerations for advocating community-level interventions supporting livability for older adults.

The Triangle J Council of Governments created the Livability Self-Assessment as a way to help the municipalities in their region prepare for the long-term needs of a growing aging population. Local elected officials requested a mechanism for easily measuring the physical, social and economic infrastructure related to livability for their older citizens and identifying areas of strength, opportunity and challenges to prioritize improvement efforts. What TJCOG created, however, has implications far beyond the seven-county Triangle J region. By operationalizing the evidence-based Stanford report: "Livable Community Indicators for Sustainable Aging in Place" they developed a resource with the potential for national and international influence.

Creating livable and age-friendly cities and towns is extremely timely and relevant. There are local, state, national and international movements dedicated to this topic. Fueled by disruptive demographics and increasing focus and alignment of advocacy and planning groups there is a realization livability issues must be addressed. Older adults and their caregivers are demanding

services and supports allowing them to more easily age in their communities, therefore communities need to be prepared to examine critical issues identified as integral components. Housing, transportation, health care, safety, retail, social engagement and the community environment need to be evaluated and addressed. As described by the Stanford authors, “these indicators are a first step towards understanding how community characteristics can help current and future generations of older adults stay in their homes and communities as long as possible” [14].

The evidence is growing, but not there yet, for specific activities that definitively promote or prevent older adults’ ability to age in place. However, the TJCOG Livability Self-Assessment provides an easy to use measurement tool to assist communities in creating community dialogue to respond to growing expectations and requirements. The following chapter will describe specific actions for implementing the Livability Self-Assessment but it is important to note here the relevance of the assessment in terms of a new innovation for measuring a community’s livability.

As discussed in the Literature Review, other checklists and frameworks address livability, but none are *electronic self-assessments*, offering communities the ability to actively control their own evaluation process, as well as rate their changes over time. Assessments controlled by an external source limit active participation. Additionally, since they have unknown timetable for updates, if ever, a community could implement substantial changes it would not be reflected in their score. Alternatively, the TJCOG Livability Self-Assessment includes sections for multiple assessments, providing the opportunity for communities to re-evaluate, as all participants expressed an interest in doing on a periodic basis. In terms of Diffusion of Innovation Theory, the sustainability aspect is a critical component of this new innovation.

National and International Implications

The growing interest in livable and age-friendly communities is supported by the nationwide effort led by AARP to create a "Network of Age-Friendly Communities." The network was launched in April 2012 and includes over seventy communities across the U.S. [57] . In North Carolina the state chapter of AARP is starting to actively invite more communities to join. The network includes access to resources and support, including web-based information and invitations to planning conferences.

AARP's Network of Age-Friendly Communities operates under the auspices of the World Health Organization's Global Network of Age-Friendly Cities and Communities Program, an international effort launched in 2006 "to help cities prepare for rapid population aging and the parallel trend of urbanization" [57]. The program has participating communities in more than twenty nations, as well as ten affiliates representing more than a thousand communities world-wide [57]. In practical terms, an age-friendly city "adapts its structures and services to be accessible to and inclusive of older people with varying needs and capacities" [58]. The World Health Organization developed this initiative by working with approximately 1500 older people and 750 caregivers and service providers in thirty-three cities across all WHO regions. The results from the focus groups led to the development of a set of age-friendly city checklists, as described in the Literature Review chapter [58].

WHO's description of an age-friendly city, provides helpful language TJCOG should consider using when articulating the vision of the Livability Self-Assessment and interest in community engagement, especially among older adults themselves: "the policies, services, settings and structures support and enable people to age actively by: recognizing the wide range of capacities and resources among older people; anticipating and responding flexibly to ageing-related needs and

preferences; respecting their decisions and lifestyle choices; protecting those who are most vulnerable; and promoting their inclusion in and contribution to all areas of community life" [58].

The WHO Global Network's mission is "to support the creation of a more age-friendly world: a global ambition with a focus on local action by hundreds of cities and communities around the world" [59]. To support this work, both AARP and WHO created on-line repositories of resources, including guides and toolkits, age-friendly assessments and action plans, population profiles and age-friendly practices. They are looking to expand these resources. TJCOG has created an assessment unlike others listed, providing an opportunity for outreach on a global scale.

Recommendations

Input Specific Changes

The Assessment was found to be generally easy to use and complete. Participants appreciated having a mechanism to measure the livability of their communities. The analysis of the interviews resulted in a list of specific recommendations for strengthening the Assessment. Many of the responses provide detailed instructions for TJCOG, for example: clarify directions, fix web links, identify additional resources etc. Therefore, a primary critical step is to input the suggested changes. Additionally, given the changing nature of websites linking to secondary data referenced in the Assessment, TJCOG should consider developing mechanisms and/or a timeline for checking and revising information sources, as well as communicating these changes to participating municipalities.

Recalibrate the Scoring

A more challenging effort will be for TJCOG to address the repeated comments about the scoring. Participants expressed concerns about the three-point scale, both in terms of limiting the possible responses and resulting in scores skewed to the positive. The negative impact of positive scores was the lack of motivation to address issues. Therefore it is critical TJCOG change the scoring,

ideally incorporating a five-point system, reflecting a more accurate appraisal of a municipalities efforts. Additionally, the scoring graph should be elongated to visually represent communities can do more in specific topic areas.

Highlight the Toolkit

TJCOG created a comprehensive companion Toolkit, providing a wealth of resources for municipalities, including definitions of key terms, justifications for why topics are important to livability and additional resources to help communities further evaluate specific areas of interest and action steps to implement changes. Given a few participants did not refer to the Toolkit at all, and those who did, didn't realize the extent of the resources in the Toolkit, there is an imperative for TJCOG to identify ways to highlight the Toolkit. Possibilities include electronically linking the two resources, perhaps through a series of hyperlinks, so the information in the Toolkit is immediately accessible to those taking the Assessment or continually referring to the Toolkit's resources in the narrative of the Assessment, perhaps in different colors to bring greater attention to the Toolkit.

Integrate AARP's Livability Index

It is important to mention the introduction of another assessment tool during the course of the pilot study. A few weeks before beginning the six-month follow-up interviews, AARP released the "Livability Index" a new online tool for checking the livability score of any location in the U.S. The Livability Index is part of AARP's interactive website. It allows users to compare communities, adjust scores based on personal preferences and learn how to take action to make their own communities move livable [60].

Similar to the Livability Self-Assessment, the Livability Index includes seven topic sections, including similar sections on housing, transportation, health services and social engagement. The other three sections are: environment (clean air and water), neighborhood (access to life, work and play) and opportunity (economic and education). The Index includes forty topic area questions as

opposed to the twenty-four topic area questions in the Assessment. The Index scores each section on a 100-point scale and then provides an overall average score. An important difference, while the Livability Assessment is a self-assessment to be answered by participant at the municipal level with current information, the Livability Index provides the scores on the AARP website immediately upon typing in an address. The scores are often based on data aggregated at the county versus municipal level with unclear timetables for updates [60].

Given the topic alignment between the AARP Livability Index and the TJCOG Livability Self-Assessment, additional questions were asked of the participants to see if they were aware of the Livability Index, whether/how they would integrate the Index, if at all, into their planning and activities, and how they saw the two tools as either similar or different.

Three participants heard about the Livability Index though they had not looked into it. Two participants had not heard about it. Overall, participants saw the two Assessment tools as different, both in terms of different information sources and different experiences receiving scores, with the Index providing an external rating and the Assessment a self-reported tool where participants are engaged in generating the scores. One participant was especially interested in pairing the two Assessments, considering the perception the AARP Livability Index may be skewed more towards private industry and the TJCOG Livability Self-Assessment skewed more towards government services and supports. One participant was critical of the Livability Index given the targeted audience and focus of AARP, questioning their expertise in city planning.

> *I saw a tweet about it but I haven't looked at it and seen how its different…All we know is that somethings out there that I will look into.*

> *I'm curious how they have calculated their sort of livability scores…That's based on somebody else's data. I would want to continue. I'd like to have both, because you really need that on-the-ground experience. Having a score in front of us, what does that mean? What does that tell us? How do we increase the score?*

> *Yes. I saw the ad in a Planning magazine... I found it interesting…Since I don't know exactly which aspects of livability the AARP thing takes into account, I would want to see how*

> *different they are and whether I'd consider them synonymous, or whether they're markedly different…They might be great to put in a pairing.*

Given the introduction of the AARP Livability Index and the national presence of AARP as an advocate in issues related to older adults, it is recommended municipalities also review the Livability Index in order to triangulate findings and provide more richness and depth into their planning. A comprehensive comparison of the two assessments offers an additional area of future research to explore.

Encourage Community Engagement

While participants mentioned the importance of community input and the instructions from TJCOG discuss the involvement of community members in the Assessment process, none of the participants chose to do so, which some participants acknowledged led to a lack of call to action and follow-up. Given the importance of community members input, as offered by both participants and the designers of the Assessment, to ensure accuracy of information collected, motivation for next steps and assistance with implementation, TJCOG should strongly encourage the involvement of community engagement in completing the Assessment. Additionally, TJCOG should identify strategies and examples of how consumers, providers, public and private organizations can work together.

The significance of fostering citizen commitment and engagement is highlighted in a recent national report by Grantmakers in Aging: “Guiding Principles for the Sustainability of Age-Friendly Community Efforts.” The report, a culmination of expert interviews and a review of national and international best practices, asserts “building public will for age-friendly work is at the very heart of sustainability. Without a groundswell of interest, commitment and passion, it is unlikely that any age-friendly effort will advance, much less continue over time…sustainable age-friendly efforts are predicated upon connecting with people in the community, identifying and developing champions, then helping to focus and amplify those voices for the greater good” [61].

Locally, TJCOG has two community engagement examples to work from. The Town of Cary used a draft written form of the Livability Self-Assessment while TJCOG was developing the electronic version. They organized a workgroup and a series of community meetings to complete the evaluation and share the findings. Cary documented their community engagement process in a written report TJCOG can integrate into the recommendations [62]. Additionally, Orange County has a long tradition of creating Master Aging Plans (MAP) for the county, these five-year action plans are developed using an intensive community engagement process. The process has been documented and is available as a resource for other counties [63].Orange County is about to begin developing its 4th MAP for the 2017-2022 timeframe. Given Orange County and the Town of Cary are both part of the Triangle J Region, there is an exciting opportunity to integrate their community engagement lessons with this new electronic Livability Self-Assessment instrument.

Integrate an Action Plan Area

The Assessment includes open text box comment areas after each question, allowing participants to include notes related to specific issues. It does not, however, currently include an open comment area at the end of the Assessment for final thoughts and initial action plan steps. A suggestion by the TJCOG planner who reviewed the findings was to add an action plan section at the end of the Assessment to encourage participants to begin to outline next steps related to the findings.

There were a number of reasons participants offered for the lack of action following completion of the Assessment, including simply forgetting what they intended to do. Including an action plan area may address this issue, as well as provide a starting point for livability planning. It encourages participants to consider initial action steps in a similar way as this pilot study incorporated, without having a researcher present to interview participants about future activities.

Additionally, it may provide an opportunity to address responsibility and accountability for implementing livability-related interventions.

Identify Actions for Policy Makers

Given the motivation of elected officials who both encouraged the creation of the Self-Assessment and then the participation of the municipalities in the pilot-study, the enhanced Self-Assessment should include specific ways for policy makers to be directly involved in increasing opportunities and/or minimizing challenges to livability efforts. Supporting changes such as zoning laws, universal design requirements, walkable communities and complete streets policies are just a few examples of actions elected officials can take to increase livability.

Participants correctly noted some of the questions referred to policies regulated at the state or county level rather than local level. Therefore, the political action steps need to differentiate the target policies as well as the target legislators. For some, it may be an issue for the town council, others the county commissioners and still others the state General Assembly. Additionally, the key aging-related advocacy groups in North Carolina, such as the Senior Tar Heel Legislature, AARP North Carolina and the North Carolina Coalition on Aging need to be kept well informed of the issues and the involved legislators in order to keep up the pressure and the motivation to enact laws supporting livable communities and alter or remove laws posing challenges.

Limitations

The Methodology Chapter addressed the limitations in the data collection and analysis process. Two additional limitations became apparent during the course of the research: the impact of this being a pilot study on follow-up actions and the timing of the study. The pilot study was designed to identify needed refinements to the Livability Self-Assessment and Toolkit, as well as initial impacts on community planning due to completing the Assessment. If needed refinements were extensive, I was concerned it would impact the ability or interest of the municipality to

implement efforts. This concern was in fact realized as evidenced by the comments from participants, describing their lack of action as due to their questioning the results and wanting to wait for the revised Assessment. As a consequence, future studies will have to dive deeper into the effectiveness of the Self-Assessment in creating community dialogue, implementing changes, and ultimately increasing livability.

Similarly, the timing of the research design, with the two-week completion requirement, meant participating municipalities decided to only include city planners or other government representatives in completing the assessment rather than taking the time to incorporate broader community participation. Therefore, the feedback from participants was helpful for studying the usability of the Self-Assessment as a measurement tool, recognizing the future importance of community engagement, but it but it did not include specific feedback based on direct experience. As a result, future studies will also have the opportunity to study community engagement efforts in completing the assessment and utilizing the findings.

CHAPTER 6: PLAN FOR CHANGE

"Guiding change may be the ultimate test of a leader."

- Editor, Harvard Business Review, January 2007

Introduction

This dissertation has focused on answering the research question: *How can the TJCOG Livability Self-Assessment be effectively applied in cities and towns to study a region's ability to support aging in community* The Results and Discussion chapters described the experience of participating cities and towns in terms of completing the assessment, the recommendations to strengthen the Livability Self-Assessment and Toolkit for increased usability and application, the outcomes resulting from participating in the Livability Self-Assessment pilot study, the successful and unsuccessful processes used in applying the Livability Self-Assessment findings and the facilitators and obstacles in applying the Livability Self-Assessment findings.

The results of the study conclude the Livability Self-Assessment is a usable and potentially effective tool to assist communities in assessing their livability for older adults, identifying areas of strength and opportunity. It integrates the critical community-level components identified in the Literature Review, offering an innovative, electronic approach to measure livability. Municipalities can conduct the Assessment on their own, evaluating efforts at one point in time as well as changes over time. No other resource is available has all of these attributes. However, for all its strengths, the Assessment has serious weaknesses requiring refinement before it can be disseminated broadly.

Collecting and analyzing the information from the cities and towns participating in the Livability Self-Assessment pilot study was a critical first step in what will become an on-going process of evaluation and dissemination of the Livability Self-Assessment. The Triangle J Council of

Governments, including the Triangle J Area Agency on Aging is dedicated to sharing this resource with all the municipalities in the Triangle J region, and distributing it to regions throughout the state. Therefore, the results of the pilot study inform two key deliverables, the first is the list of recommendations for strengthening and refining the assessment and the second is this plan for change for broader awareness, dissemination and implementation of the Livability Self-Assessment and accompanying Toolkit to bring about greater policy and practice change.

The recommendations to strengthen the Assessment will be presented to the leadership of the Triangle J Council of Governments and the Triangle J Area Agency on Aging. The staff will be provided with the comprehensive report outlining the de-identified findings along with the list of recommendations to implement before broader dissemination to the full thirty-municipality Triangle J region. Funds have been obtained to assist the developers of the Livability Self-Assessment with the personnel and computer support necessary to integrate the suggested refinements.

The broader plan for change will be, as the opening quote describes, the ultimate test of a leader. Once the Self-Assessment and Toolkit are in final forms, "The Eight-Step Process of Creating Major Change" developed by John Kotter is a helpful guide in planning next steps and how to approach effective, sustainable and long-lasting change, specifically related to encouraging the use of the Livability Self-Assessment in promoting community dialogue and planning for the rising older adult population, as well as acting on the Assessment results to improve livability. In Kotter's book Leading Change he describes how "useful change tends to be associated with a multi-step process that creates power and motivation sufficient to overwhelm all the sources of inertia…needed change can still stall because of inwardly focused cultures, paralyzing bureaucracy, parochial politics, a low level of trust, lack of teamwork, arrogant attitudes, a lack of leadership in middle management, and the general human fear of the unknown. To be effective, a method designed to

alter strategies, reengineer processes, or improve quality must address these barriers and address them well" [64].

Kotter's Eight Steps for Leading Change

Step 1 - Establish a Sense of Urgency

Once the Livability Self-Assessment and Toolkit are refined and ready for broader dissemination, a key first step will be to hold discussions with local, regional and state leaders, including the Triangle J Board of Delegates and Regional Advisory Board on Aging, about the demographic shifts currently happening globally, nationally, in the state, and most critically, in the local municipalities. These discussions must stress the imperative for action changing demographics and desires are causing, in terms of economics, health care, community-building, and infrastructure and the opportunities and resources available to create livable and aging-friendly communities. It is critically important to move this discussion from the future and from the abstract to what is occurring right now – in their communities. My role as the recent Chair of the Orange County Advisory Board on Aging, as well as my work in local aging services, affords both the opportunity and the credibility to bring together key leaders to have these discussions, create a call for action and establish a sense of urgency around addressing livability issues.

Step 2 - Form a Powerful Guiding Coalition

The development of the Livability Self-Assessment was a mandate of the Triangle J Council of Government's Board of Delegates, therefore, this group, consisting of thirty elected representatives of local municipalities, offers the primary target area for members of a guiding coalition to advance this work. Presentations to the state-wide association of Area Agency on Aging Directors, as well as other regional aging advocates, have already created the opening to invite interested and motivated individuals to participate.

It is important to note, this guiding coalition will be focused on disseminating and implementing the Assessment broadly and supporting livability efforts throughout different cities and towns. Within each municipality, creating separate community coalitions will be necessary for local implementation. I am helping to lead a steering committee formed in Orange County for this community assessment purpose. Coalitions focusing on aging-friendly initiatives also exist in Durham and Wake Counties, providing additional local groups with which to connect efforts.

Step 3 - Creating a Vision & Strategy

It is critical the members of the guiding coalition create powerful vision statements and a strategic plan articulating the need for each community to assess their livability and develop community-based action plans for implementation. Vision statements indicating a commitment to ensuring supportive environments for citizens of all ages and all abilities will help establish buy-in, collective action and directed movement.

Step 4 - Communicating the Vision

Key stakeholders, including myself, will present at local, regional, state and national planning meetings and conferences about the vision, including the benefits of applying the Livability Self-Assessment and Toolkit and next steps. As previously described, local efforts are already planned through the Orange County Master Aging Plan development process, as well as initiatives in Durham and Wake counties; regionally TJCOG has planned meetings with consumer advocates, staff and policy makers from the seven-county region; state-wide opportunities exist through my work with UNC and AARP North Carolina, as well as TJCOG's membership with the North Carolina associations of Council of Governments and Area Agencies on Aging ; nationally my efforts with AARP and internationally my work with the Global Aging & Technology Collaborative offer opportunities for communication on a much larger scale than TJCOG initially envisioned. Planning activities have already occurred at each of these levels in anticipation of the completed Assessment.

Beyond in-person meetings and presentations, newspapers articles and op-eds about the livability and age-friendly movements are already being planned. Key contacts in TV and radio, other on-air outreach options are available. Lastly, given the Livability Self-Assessment is based on a report developed at the Stanford Center of Longevity they may be helpful in communicating this new resource.

It will be important in these outreach activities to highlight the benefits to both the public and private sector for participating in the Assessment and post-Assessment intervention activities. The sheer numbers involved with the current and future aging populations demand communities are attractive and responsive to the needs and desires of older adults. The Livability Assessment's focus on identifying areas of strength and opportunity demonstrates a commitment to creating environments conducive to this growing population. Even those items reflecting poorly on a community's current status may be framed as an opportunity for growth and investment. Different stakeholders will have different agendas related to livability and those must be identified, acknowledged and addressed.

Step 5 - Empowering Others to Act on the Vision

In the group and individual presentations it will be important to share the results of the pilot study, specifically how different communities completed and applied the Assessment in order to inform potential participants and address perceived obstacles by demonstrating the ease of use and application. From the responsiveness and enthusiasm displayed by some of the pilot study participants, it is assumed at least two or three of the participants, from urban and rural communities, will agree to present their experiences. Over the course of the pilot study, additional municipalities expressed an interest in using the Self-Assessment, both from municipalities within and outside of the Triangle J region, therefore identifying the next phase of communities to use and further evaluate the Livability Self-Assessment in North Carolina is already in place.

Globally, opportunities exist with partners in the United Kingdom at Newcastle University and Cambridge University leading community-based livability initiatives, as well as with partners with the Chinese and Japanese governments exploring options for their rapidly rising aging populations. While the Livability Self-Assessment may need different changes in different countries, options exist to empower others to act globally.

Step 6 - Plan for & Create Short Term Wins

Initial ideas for creating and sustaining momentum through early successes include creating a recognition program through the Triangle J Council of Governments at the regional level and the North Carolina Association of Area Agency for Aging Directors and North Carolina Council of Governments at the state-level. The recognition program will be purely for participation in the beginning, and at later stages potentially include how a community changes from one point in time to another. It will not include comparing one community's results against another. The developers at TJCOG do not want the Assessment to turn into a rankings system, pitting communities against each other. It is not the intent of TJCOG for the Livability Self-Assessment to be a "shaming" process.

There will be multiple opportunities for meaningful recognition of those communities participating in livability and age-friendly work throughout the state through additional contacts in the Senior Tar Heel Legislature (advocacy and advisory group of North Carolina older adults), the North Carolina Coalition on Aging (network of public and private aging services), the work with UNC, and the involvement of local governing boards.

Another short term win involves having the updated Livability Self-Assessment listed on state resource websites, including the North Carolina Division of Aging and Adults Services. Nationally, AARP's website includes resources for the network of age-friendly cities. Globally the World Health Organization maintains a website of resources as well. There is no other instrument like the Livability Self-Assessment on any of these websites. It is envisioned this would be a welcome

addition. Seeing the recognition of the Assessment nationally and internationally may be an additional motivating factor for municipalities, excited to be a part of a world-wide innovative effort.

Step 7 - Consolidate Improvements & Produce More Change

To remain relevant and applicable as more cities and towns participate, it will be important to occasionally refine the Assessment based on the experience of the "early adopters" to support the smooth uptake by others. There are ample opportunities for continued analysis, monitoring, evaluation and enhancement of programmatic aspects.

There are also opportunities to explore policy changes. There are potential legislative mechanisms to encourage regions to study the livability of their municipalities and preparedness to meet the needs of a rising aging population. Additionally, there are options within specific topic areas, for example with housing, to explore local or statewide policy changes regarding zoning ordinances, use of accessory dwelling units, mandating universal design principles; and with transportation, to pass complete streets policies, increase public transit subsidies, and implement walkability initiatives. The previous and future engagement of elected officials opens up the possibilities for legislative changes to be incorporated into the planning of the guiding coalition and this is an area I personally plan to pursue through efforts with the local Triangle J Council of Governments and the state-wide North Carolina Coalition on Aging.

Step 8 - Institutionalize Change

Enacting legislative changes either at the local or state level for community-wide livability assessments, as well as topic specific changes, is a key step in institutionalizing changes. As the pilot study demonstrated, the government representatives interviewed were open to re-assessing their municipalities on an on-going basis, therefore support for institutionalizing change is there, but it will be a question of how to formally support, whether through local or state requirements. Early municipalities incorporating the Assessment into their on-going efforts, including the Master Aging

Plan process in my local county, Orange County, may serve as a model for others throughout the state. My involvement in these efforts provides an opportunity for education and advocacy.

Additional Considerations

In addition to outlining the eight stages for leading change, John Kotter also provides guidance on ways to prepare for change. In his article "Choosing Strategies for Change," Kotter describes the importance of anticipating the need for "information and commitment from others to help design and implement the change." He provides two key recommendations. Recommendation 1: "Diagnosing the types of resistance you'll encounter – and tailoring your countermeasures accordingly." Recommendation 2: "Adapting the change strategy to the situation." Kotter provides an overview and examples of key measures to mitigate resistance, including: education, participation, facilitation, negotiation and coercion. [65]

From the results of the pilot study, we can anticipate potential challenges in engaging interest in aging and livability; coalescing key stakeholders, including public service representatives, private providers and community member constituents; addressing logistical challenges with scheduling meetings, competing time and resource priorities, changing leadership, and determining the best timing and venue for assessment meetings and presentation of findings; and lastly challenges following the Assessment, being motivated by both positive and negative results, identify action steps, inspiring others and keeping up the momentum. From Kotter's recommendations: education, participation and facilitation will be the key steps I personally will employ in my organizing efforts.

In addition to the steps involved with the change and implementation process, it is important to highlight the critical resources, players and parameters involved in ensuring the successful uptake the Livability Self-Assessment and Toolkit in local cities and towns.

Resources

In addition to the stakeholders from participating municipalities, the commitment of management from the Triangle J Council of Governments and the Triangle J Area Agency on Aging will be critical, as well as the leadership from the state counterparts for both organizations. The North Carolina Divisions of Aging & Adult Services issues policies, guidelines and information through a variety of mechanism including their website and state meetings. Integrating these resources, as well as other information-sharing mechanisms available through the formal infrastructure of state, regional, county and town municipal planning boards, will be useful. Information, advocacy and assistance are also available at the national and international levels through organizations such as AARP and the World Health Organization.

From a funding perspective, charitable organizations, such as AARP North Carolina and my employer Carol Woods offer opportunities for financial resources. AARP North Carolina is currently funding UNC students to work on livability initiatives and Carol Woods recently provided TJCOG with a $5,000 charitable gift to support the cost of revising the Assessment. There are additional funding opportunities through grants with regional charitable organizations, including Kate B. Reynolds Charitable Trust and The Duke Endowment and national charitable organizations, including The John A. Hartford Foundation. All of these foundations have a demonstrated commitment to funding initiatives to improve the lives of older adults.

Players

Similar to resources, the involvement of public officials and city planners from local municipalities, as well as the staff from Triangle J Council of Governments and the Triangle J Area Agency on Aging, is critical. Moreover, the support of advocates throughout North Carolina, and the inclusion of national and international players, ideally intensifies the urgency and imperative for action. UNC faculty and students can also play a key role in assisting with monitoring and evaluation.

Parameters

The involvement of the public agencies including the Triangle J Council of Governments and the Area Agency on Aging, provide the organizational authority needed for instituting change. Public and political feasibility is increased through the involvement of public officials and city planners. Lastly, social acceptability will be addressed through the encouragement of a community engagement and community-building process of addressing livability.

Conclusion

The demographic changes and the rising number of older adults requiring community-based supports offers an unparalled opportunity for innovation in the planning and provision of aging services. Communities are unprepared and uninformed on issues of livability, especially for older adults. The Triangle J Council of Governments Livability Self-Assessment provides a proven way municipalities can evaluate themselves, measuring their livability efforts using an evidence-based, electronic tool to identify areas of strength and opportunity. The pilot study resulted in specific recommendations for strengthening the Assessment and applying it in local cities and towns to motivate collective action and community dialogue. While the Assessment was created for local use, the possibilities for broad-based pubic health impact extend far beyond the region, with state, national and international opportunities. As a public health researcher and advocate I am committed to continuing the process, to help communities be as strong as possible for the older adults of today and tomorrow. I am aging, we are aging and it is imperative we create a livable community for all.

APPENDIX A: RECRUITMENT EMAIL

Subject Line: Help TJCOG Test Livability Self-Assessment Tool

Triangle J Council of Governments News

Seeking cities, towns and villages to test the
TJCOG Livability Self-Assessment for Municipalities

In a project initiated by the Board of Delegates, **the Area Agency on Aging at TJCOG is developing a self-assessment tool and toolkit for municipalities to measure and improve the livability of their community, especially for older adults and persons with disabilities.** The board received an update on this program at the June meeting and several member expressed interest in participating in the pilot program.

The assessment tool, in Excel spreadsheet format, is now ready for pilot testing. The pilot is scheduled to take place during October 2014. We are looking to our members to help troubleshoot by participating in a research project to test the usability of the assessment tool. The findings from this research will help identify needed refinements and ways the assessment may be used in your communities.

Smaller, rural municipalities are especially needed, to provide a balanced test. Please note: Only a limited number of communities are needed to participate in the pilot at this time. Our member local governments will all have the opportunity to use the assessment tool and toolkit, when they are finalized.

To help potential participants better understand what the pilot program involves, we are hosting two online information sessions. The same information will be offered at both sessions. If you believe your municipality may be interested in participating in the pilot, share the information below with the appropriate staff person, so they can arrange to attend. Everything they need to access the meeting is here:

(Dates / Times & Call-In Information)

Questions about the information sessions or the pilot program can be directed to Mary Warren, mwarren@tjcog.org or 919.558.2707. Thank you.

APPENDIX B: PRESENTATION FOR RECRUITMENT INFORMATION SESSIONS

What is the TJCOG Livability Self-Assessment for Municipalities?

It is a "livable and senior friendly" self-assessment and framework for informing elected officials, planners, advocates and others about the overall livability status of their respective communities.

The self-assessment consists of digital assessment worksheets and accompanying guidebook.

Designed to:

* **Utilize existing and universally available data sources (secondary data) to determine livability.**
* **Be easy to implement without requiring a lot of special expertise to interpret results and determine potential use.**
* **Require a minimum amount of time, money or other resources in order to implement.**
* **Present results in a visual or "dashboard" format.**
* **Serve as a start point for community discussion and planning.**

Why is Assessing Livability So Important?

* Our cities, towns and villages are growing older, with many projected to have more older adults than younger adults in the near future.
* Institutional care is very expensive and most people want to live out their lives in their own community, with choices.
* Needs are great and resources are limited. Government has to be sure resources are used efficiently and effectively.
* In order to do that, elected officials, planners, advocates and others need information about livability to support present and future decision-making.

Who Developed this Livability Self-Assessment?

A multi-disciplinary team developed the Livability Self-Assessment, based on *Livable Community Indicators for Sustainable Aging in Place* , a "best practice" report from Stanford Center for Longevity and MetLife Mature Market Foundation.

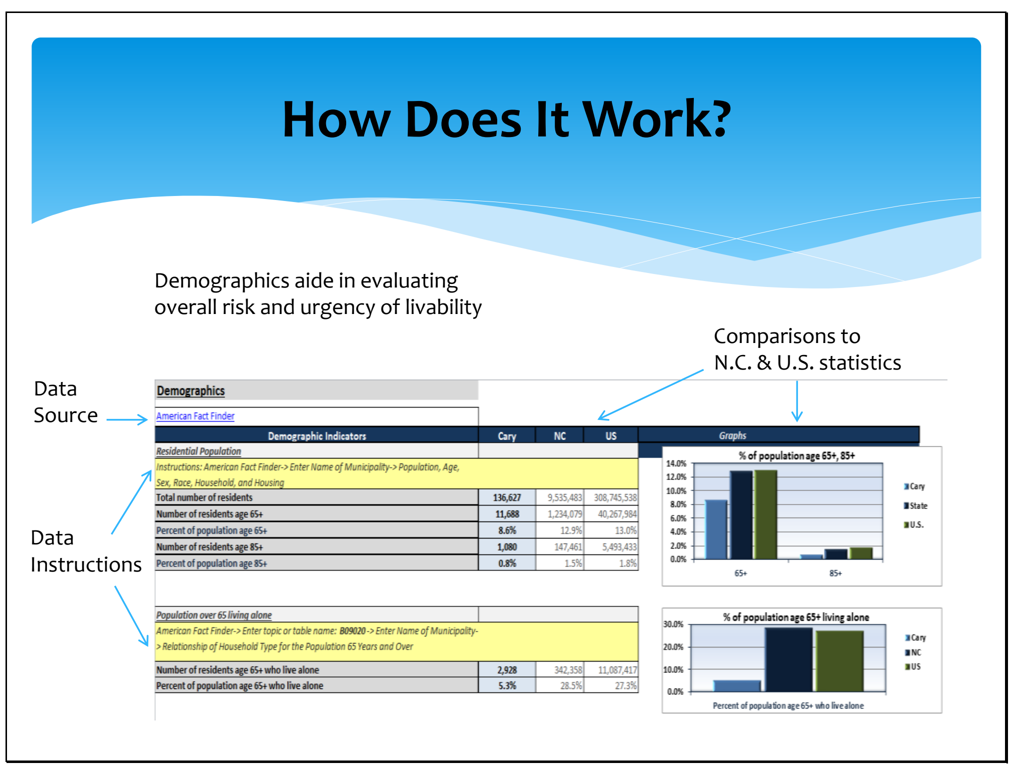
The team included:

* TJCOG Area Agency on Aging Staff
* Planning Staff from TJCOG
* Member Services staff from TJCOG
* Interns-MPA, MSW, DrPH candidate
* Planning Staff from Town of Cary

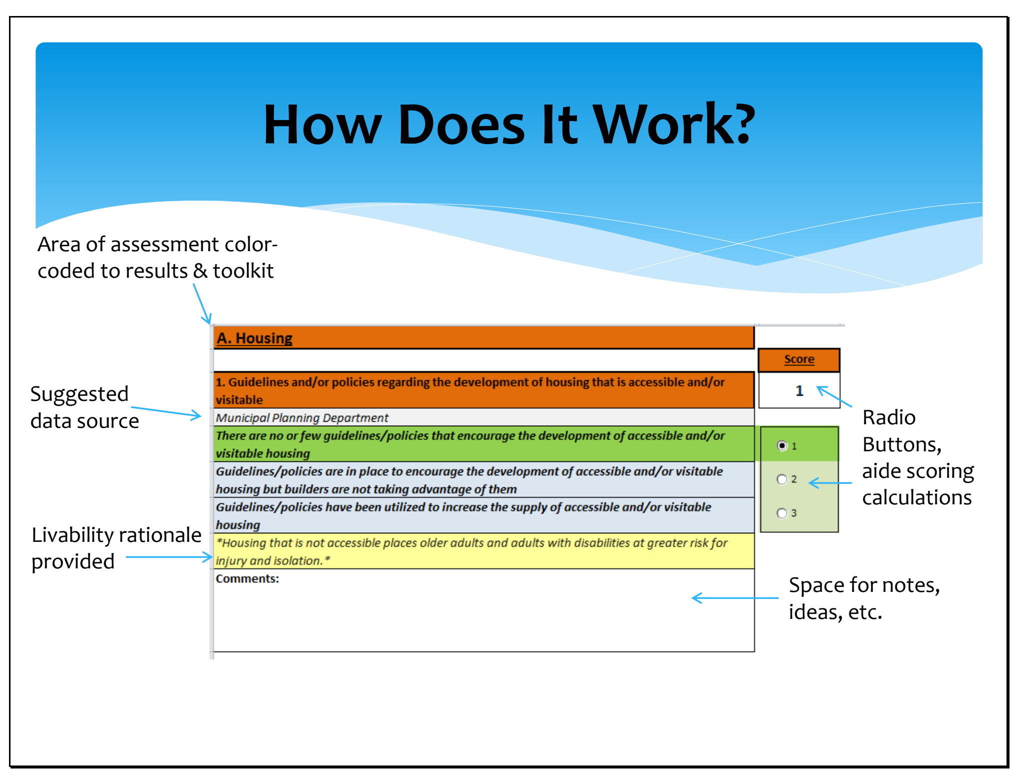
What's in the Livability Self-Assessment?

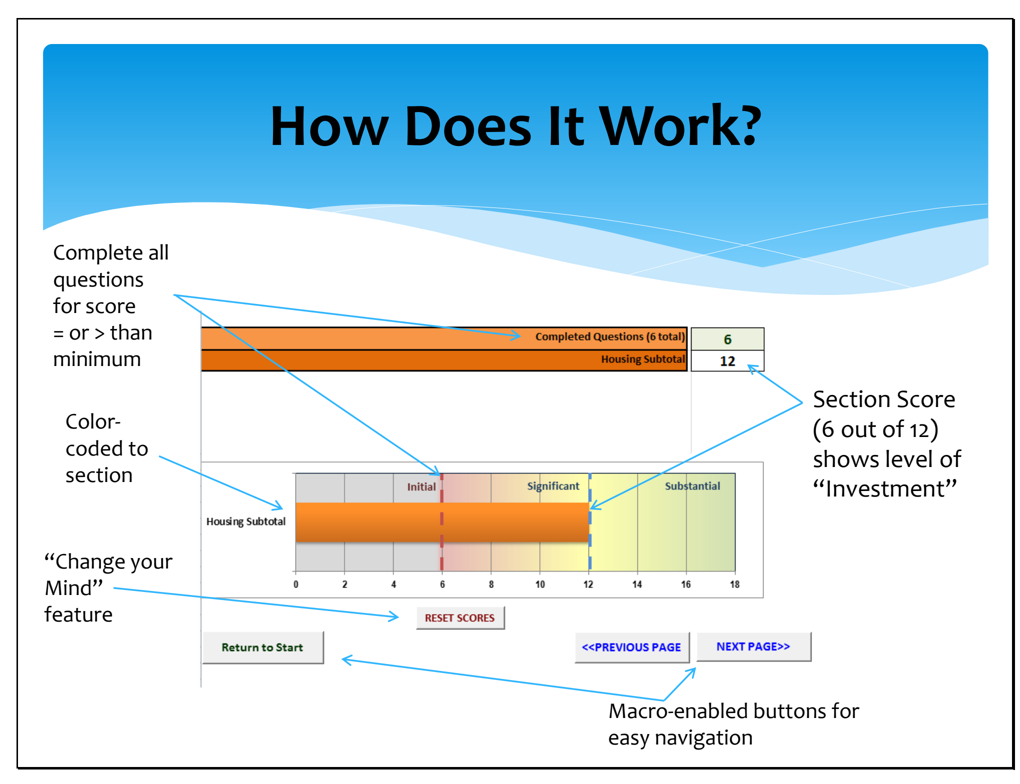
The self-assessment is a Microsoft Excel Macro-Enabled Workbook (.xlsm)

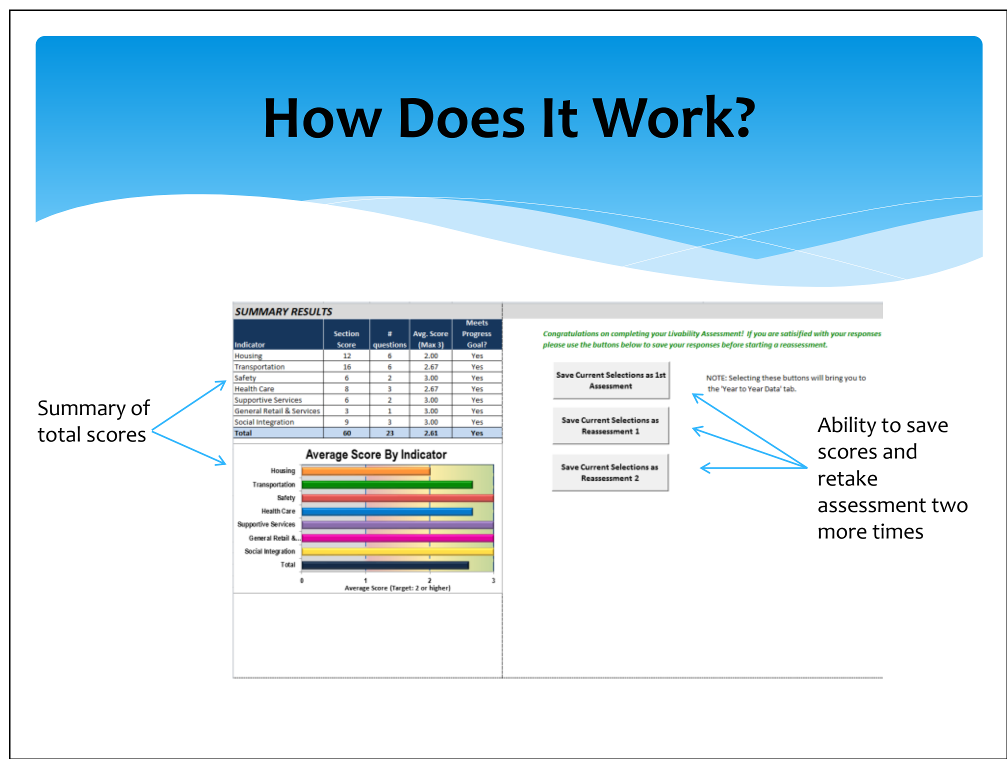
- **8 Sections-Demographics, Housing, Transportation, Safety, Health Care, Supportive Services, Retail Services and Social Integration, with approximately 30 questions total.**
- **Instructions, suggested data sources and links to online databases.**
- **Scores reported using 3 progressive levels of achievement, "Meaningful Investment", "Significant Investment" or "Substantial Investment".**
- **Visual displays of section scores and totals.**



Demographic Indicators	Cary	NC	US
Residential Population			
Instructions: American Fact Finder-> Enter Name of Municipality-> Population, Age, Sex, Race, Household, and Housing			
Total number of residents	136,627	9,535,483	308,745,538
Number of residents age 65+	11,688	1,234,079	40,267,984
Percent of population age 65+	8.6%	12.9%	13.0%
Number of residents age 85+	1,080	147,461	5,493,433
Percent of population age 85+	0.8%	1.5%	1.8%
Population over 65 living alone			
*American Fact Finder-> Enter topic or table name: **B09020** -> Enter Name of Municipality-> Relationship of Household Type for the Population 65 Years and Over*			
Number of residents age 65+ who live alone	2,928	342,358	11,087,417
Percent of population age 65+ who live alone	5.3%	28.5%	27.3%


How Does It Work?
Area of assessment color-coded to results & toolkit
A. Housing
Score
1
1. Guidelines and/or policies regarding the development of housing that is accessible and/or visitable
Municipal Planning Department
There are no or few guidelines/policies that encourage the development of accessible and/or visitable housing
Guidelines/policies are in place to encourage the development of accessible and/or visitable housing but builders are not taking advantage of them
Guidelines/policies have been utilized to increase the supply of accessible and/or visitable housing
Housing that is not accessible places older adults and adults with disabilities at greater risk for injury and isolation.
Comments:
Suggested data source
Livability rationale provided
Radio Buttons, aide scoring calculations
Space for notes, ideas, etc.


How Does It Work?
Complete all questions for score = or > than minimum
Completed Questions (6 total)
6
Housing Subtotal
12
Section Score (6 out of 12) shows level of "Investment"
Color-coded to section
Initial
Significant
Substantial
Housing Subtotal
0
2
4
6
8
10
12
14
16
18
"Change your Mind" feature
RESET SCORES
Return to Start
<<PREVIOUS PAGE
NEXT PAGE>>
Macro-enabled buttons for easy navigation



Indicator	Section Score	# questions	Avg. Score (Max 3)	Meets Progress Goal?
Housing	12	6	2.00	Yes
Transportation	16	6	2.67	Yes
Safety	6	2	3.00	Yes
Health Care	8	3	2.67	Yes
Supportive Services	6	2	3.00	Yes
General Retail & Services	3	1	3.00	Yes
Social Integration	9	3	3.00	Yes
Total	60	23	2.61	Yes

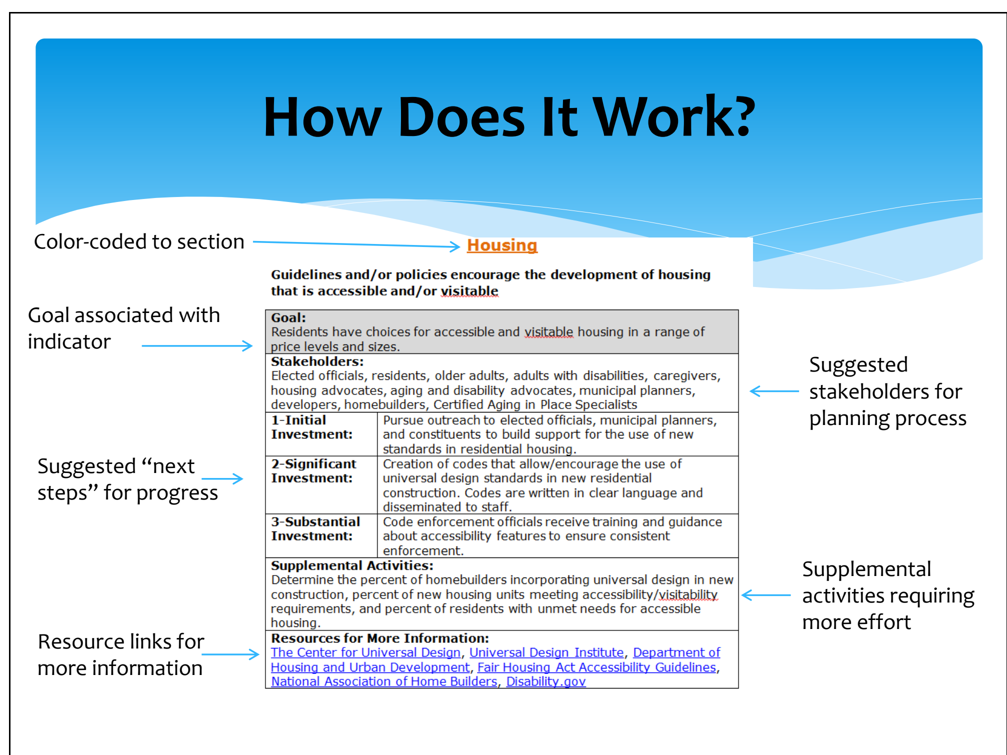
What's in the Livability Toolkit?

Accompanying guidebook is a 35 page Adobe Acrobat document (.pdf).

Over-arching themes include "livability for all", accessible choices, use of technology and workforce training and development.

Includes:

- **Glossary of terms in aging , planning, etc.**
- **Goal (rationale) for each question on the self-assessment**
- **Suggested stakeholders for further discussion or planning process for each question**
- **Suggested next steps/further steps for each level of achievement**
- **Supplemental, more in-depth activities**
- **Links to suggested resources for each question**



Why is TJCOG Piloting the Self-Assessment?

TJCOG plans to make the Livability Self-Assessment for Municipalities broadly available for use by cities, towns and villages in Region J, and maybe beyond.

But first, we want to know if the assessment and toolkit are usable and feasible… in other words, "Does it work and is it helpful?"

Why is TJCOG Piloting the Self-Assessment?

Careful pilot-testing will enable us to make improvements to the self-assessment, and better understand how it is or could be used. Heather Altman, a graduate student at the University of North Carolina Gillings School of Global Public Health will conduct the pilot and evaluate the results, which will be incorporated into departmental and research reports.

We are recruiting volunteers to implement the first phase of testing and research, focusing on usability of the documents and initial thoughts about use.

We want to know- how long does it take to complete, is it easy or difficult, do the links work, are the instructions understandable, etc.?

And, by helping us, you can begin your work on understanding and improving your city or town's senior-friendliness and livability right now!

What Will Be Expected of Volunteers?

* **Complete an application, indicating willingness to participate and provide contact information for the primary tester(s), as well as for the receiver(s) of the assessment results (if known).**
* **Complete the self-assessment tool and conduct a preliminary review of the accompanying guidebook, noting the time and effort required, as well as any usability issues.**
* **Participate in an interview of about one hour to answer questions about the experience.**
* **Be willing to provide feedback on how the self-assessment results are distributed or used.**

Projected Time-Line for the Initial Pilot Testing

* Volunteer applications to TJCOG by COB, Thursday, September 18th.

  Return applications to Mary Warren, mwarren@tjcog.org .
  Application forms will be posted on TJCOG.org website or may be requested by email.

* Pilot begins Wednesday, October 1st. Documents will be emailed to the primary testing contact.

* Two weeks to complete the self-assessment.

* Interviews scheduled with testers between Oct. 15 and the end of the month.

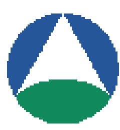
Questions?

Thanks for your interest!

Mary Warren
Assistant Director, Triangle J Area Agency on Aging
mwarrren@tjcog.org or 919-558-2702

Heather Altman
Director, Community Connections, Carol Woods Retirement Community
haltman@carolwoods.org or 919-918-2609

APPENDIX C: PILOT STUDY PARTICIPANT APPLICATION FORM



TRIANGLE J COUNCIL OF GOVERNMENTS

Pilot Participation Application

Please complete this application for participation in the pilot testing for the usability of *TJCOG's Livability Self-Assessment for Municipalities*. Submitting an application indicates your willingness to adhere to the objectives and timeline outlined in the informational sessions, and to provide feedback on the user experience. If you do not yet know how the livability information from the self-assessment will be used, please indicate that in the Recipient section, below. **Return completed applications to Mary Warren at** mwarren@tjcog.org no later than 5:00 p.m., Thursday, September 18, 2014. If you have questions, call (919) 558-2707.

The assessment package will be emailed on October 1, 2014 to the primary tester(s), listed below. Interviews on the user experience will begin on or after October 15, 2014, and will be scheduled and conducted by Heather Altman.

City, Town or Village: ______________________________

Application Submitted By: ____________________

Primary Tester ***(this person will be contacted to provide feedback)***

Name: Position:
Address:
Phone: Email:

Additional Tester (*if applicable*)

Name: Position:
Address:
Phone: Email:

Recipient ***(individual expected to receive the results from the self-assessment, if known)***

Name: Position:
Address:
Phone: Email:

How do you expect the results of the self-assessment to be utilized? (*please describe*)

Has your city or town undertaken any senior-friendly or livable communities' planning initiatives or projects in the past? Yes ☐ No ☐ Do Not Know ☐

If yes, briefly describe:

Is planning for a livable community for older adults and persons with disabilities a current priority for your city or town? Yes ☐ No ☐ Do Not Know ☐

APPENDIX D: LIVABILITY SELF-ASSESSMENT

TJCOG Livability Self-Assessment for Municipalities

Adapted from Stanford Center on Longevity and MetLife Mature Market Institute's *Livable Community Indicators for Sustainable Aging in Place* by Triangle J Council of Governments. No endorsement is implied.

Municipality	
Completed By	
Contact Email	
Date Completed	
First Reassessment Date	
Second Reassessment Date	

NOTE: This workbook requires macros to be enabled.

It is recommended that this assessment be completed by an interdisciplinary team with members from administration, planning, parks and recreation, police, and other pertinent town departments. Gathering input from multiple departments can enrich the quality of the results and reduce the chances of information being omitted.

A glossary has been provided in the TJCOG Livability Self-Assessment for Municipalities Toolkit to clarify the terminology used in the indicators. Recommendations for possible next steps are also included in the Toolkit. A brief description of how the indicator impacts livability is provided in the yellow box below each indicator. Potential sources for data have been provided for each indicator but some may vary by county and region.

On the demographics tab, type answer into the light blue box under municipality name. On the rest of the tabs, record results by clicking the radio button next the answer that most closely reflects your municipality. The selected answer will light up in green. The Score, Subtotal, and Total fields will automatically be populated. After completing each section, click the next page button.

When the last assessment section, "Social Integration", has been completed go to the Year to Year Data tab, and click the appropriate button to save the results as either the 1st Assessment, Reassessment 1, or Reassessment 2.

START ASSESSMENT

RESET CURRENT ANSWERS AND START REASSESSMENT

Demographics

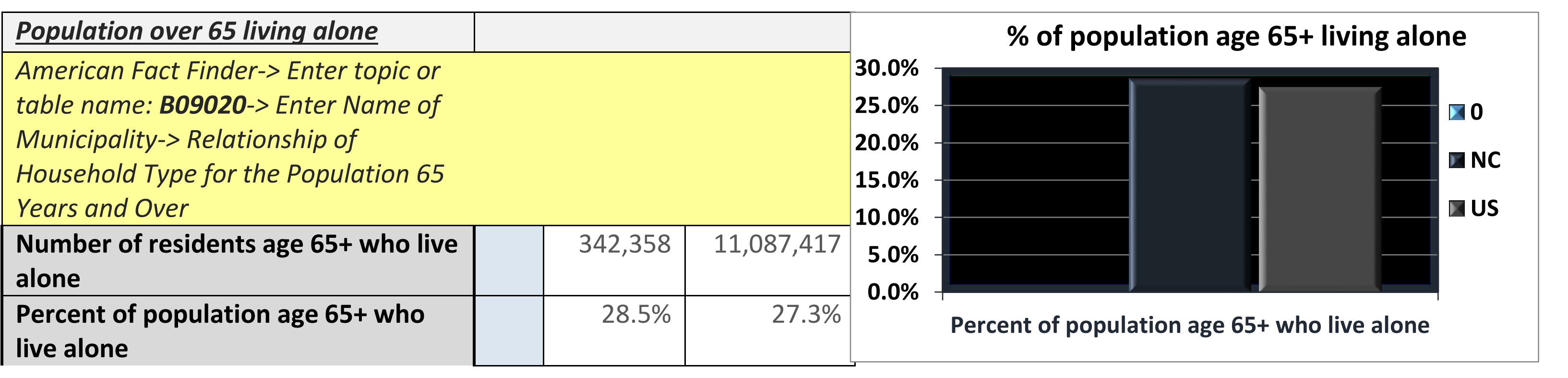
[American Fact Finder]

Demographic Indicators	0	NC	US
Residential Population			
Instructions: American Fact Finder-> Enter Name of Municipality-> Population, Age, Sex, Race, Household, and Housing			
Total number of residents		9,535,483	308,745,538
Number of residents age 65+		1,234,079	40,267,984
Percent of population age 65+		12.9%	13.0%
Number of residents age 85+		147,461	5,493,433
Percent of population age 85+		1.5%	1.8%

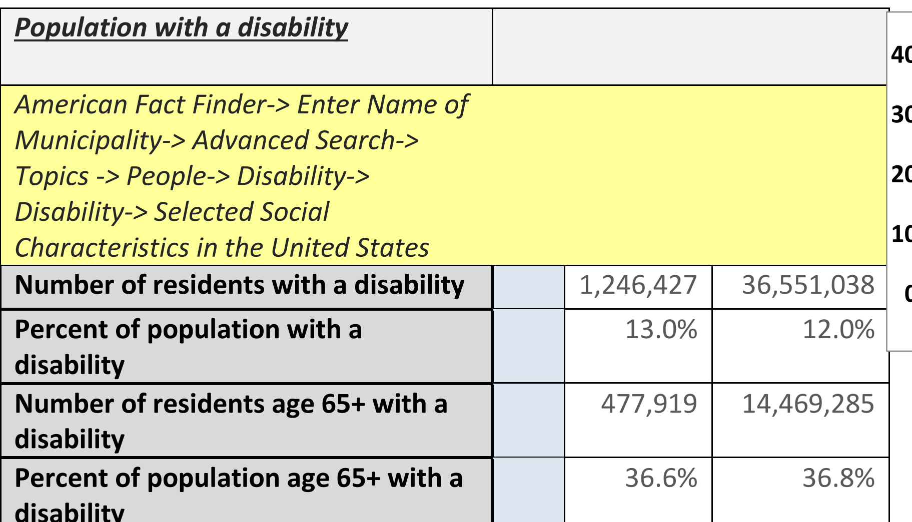
Graphs

% of population age 65+, 85+

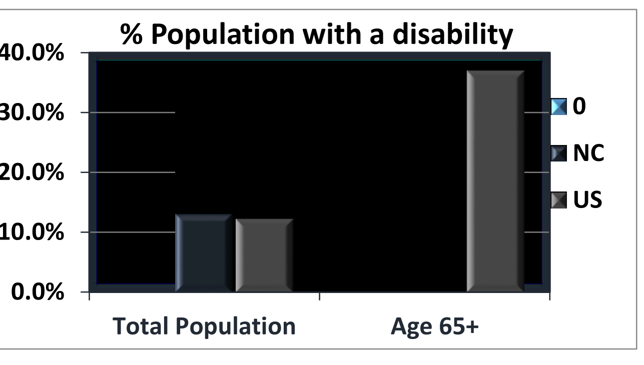
15.0%
10.0%
5.0%
0.0%
65+
85+
0
State
U.S.



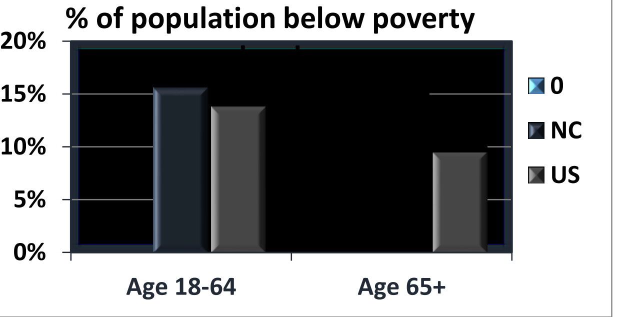
Population over 65 living alone			
*American Fact Finder-> Enter topic or table name: **B09020**-> Enter Name of Municipality-> Relationship of Household Type for the Population 65 Years and Over*			
Number of residents age 65+ who live alone		342,358	11,087,417
Percent of population age 65+ who live alone		28.5%	27.3%



Population with a disability			
American Fact Finder-> Enter Name of Municipality-> Advanced Search-> Topics -> People-> Disability-> Disability-> Selected Social Characteristics in the United States			
Number of residents with a disability		1,246,427	36,551,038
Percent of population with a disability		13.0%	12.0%
Number of residents age 65+ with a disability		477,919	14,469,285
Percent of population age 65+ with a disability		36.6%	36.8%



Population below poverty level			
American Fact Finder-> Enter Name of Municipality-> Income-> Income, Employment, Occupation, Commuting to Work			
Percent of residents whose income in the past 12 months was below the poverty level, age 18-64		15.5%	13.7%
Percent of residents whose income in the past 12 months was below the poverty level, age 65+		10.2%	9.4%



Tax Rate and Home Sale and Rental Price	
North Carolina Department of Revenue *County and Municipal Property Tax Rates and Year of Most Recent Revaluation*	
County Property Tax Rate	
Municipal Property Tax Rate	
Median Home Sale Price	
Median Rental Price	

These demographics are intended to help you evaluate your municipality's level of risk.

- -

NEXT PAGE>>

A. Housing

1. Guidelines and/or policies regarding the development of housing that is accessible and/or visitable	Score: 0
Municipal Planning Department	
There are no or few guidelines/policies that encourage the development of accessible and/or visitable housing	○ 1
Guidelines/policies are in place to encourage the development of accessible and/or visitable housing but builders are not taking advantage of them	○ 2
Guidelines/policies have been utilized to increase the supply of accessible and/or visitable housing	○ 3
Housing that is not accessible places older adults and adults with disabilities at greater risk for injury and isolation.	
Comments:	

2. Presence of home modification services	0
Senior Service Organizations or Area Agency on Aging	
There are no or few home modification services regularly available	○ 1
Home modification services are only available at market cost	○ 2
Home modification services are available to residents at all income levels by for-profit and nonprofit organizations	○ 3
** Housing that is in poor condition or that does not meet the resident's needs places the resident at greater risk of injury.**	
Comments:	

3. Zoning code regarding flexible housing arrangements

0

Municipal Planning Department

Zoning code prohibits flexible housing arrangements

Residents can apply for waivers for flexible housing arrangements

Zoning code allows or encourages flexible housing arrangements

○ 1
○ 2
○ 3

Flexible housing arrangements allow older adults and adults with disabilities to receive assistance from caregivers while still maintaining their independence. Flexible housing arrangements also foster greater age diversity within neighborhoods.

Comments:

4. Zoning code regarding assisted living/housing for older adults and adults with disabilities

0

Municipal Planning Department

Zoning code prohibits assisted living/ housing for older adults and adults with disabilities

Zoning code allows assisted living/housing for older adults and adults with disabilities in only very restricted areas

Zoning code allows or encourages assisted living/housing for older adults and adults with disabilities throughout the municipality

○ 1
○ 2
○ 3

** Older adults and adults with disabilities that need supportive or subsidized housing can become isolated if housing options are located in areas that do not provide easy access to activities, goods, and services.**

Comments:

5. Percent of housing that is multi-family housing | 0

Municipal Planning Department

0-25% of housing is multi-family	◯ 1
26-50% of housing is multi-family	◯ 2
More than 50% of housing is multi-family	◯ 3

Comments:

Zoning codes that favor large-lot, single-family homes limits the housing choices available to low income residents and those needing assistance.

Comments:

6. Proportion of households that pay more than or equal to 30% of annual income on housing | 0

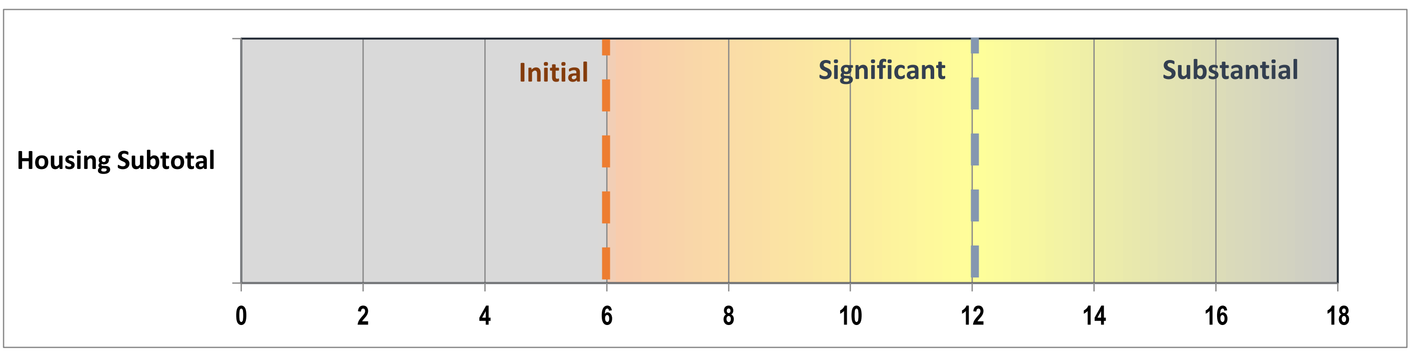
American Fact Finder-> Enter Name of Municipality-> Occupancy and Structure, Housing Value and Cost, Utilities-> Selected monthly owner costs as a percent of household income and Gross rent as a percentage of household income

More than 75% of households spend more than or equal to 30% of annual income on housing	◯ 1
51-75% of households spend more than or equal to 30% of annual income on housing	◯ 2
0-50% of households spend more than or equal to 30% of annual income on housing	◯ 3

Housing costing more than 30% of household annual income is considered a burden.

Comments:

Completed Questions (6 total)	*0*	*There are questions left to complete.*
Housing Subtotal	0	



RESET SCORES

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B. Transportation

Score

1. Presence of fixed route public transportation

0

Public Transportation Department

The is little or no fixed route public transportation	1
Fixed route public transportation is concentrated in the central business district and along central corridor	2
Fixed route public transportation is available in most areas	3

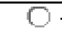
A lack of public transportation limits the options available to those residents who are unable to drive.

Comments:

2. Presence of curb to curb transportation options for older adults and adults with disabilities

0

Public Transportation Department, Senior Service Organization, or Area Agency on Aging

Few or no transit options for older adults and individuals with disabilities is available	 1
Transit options for older adults and individuals are available only at market cost	2
Transit options for older adults and individuals are available to residents at all income levels by both for profit and nonprofit organizations	3

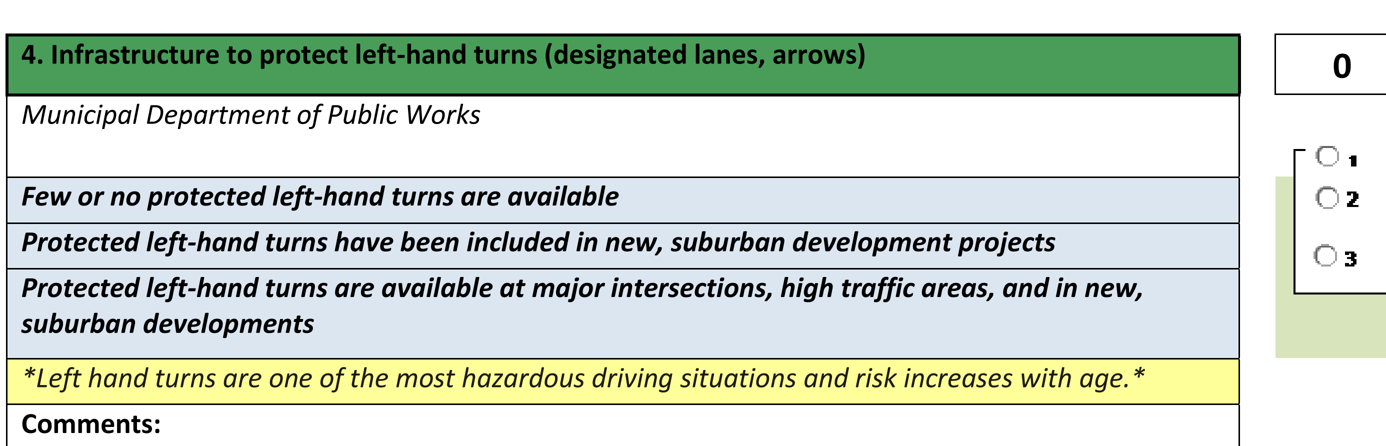
A lack of curb to curb transportation limits the options available to those residents who are unable to drive or to access fixed route stops.

Comments:

3. Complete Streets policies
Municipal Department of Public Works and/or Planning Department
Complete Streets policies do not exist
Complete Streets policies have been created but have not yet been implemented
Complete Streets policies have been created and implemented
Complete Streets allow for residents to have greater transportation choice.
Comments:

0

○ 1
○ 2
○ 3



4. Infrastructure to protect left-hand turns (designated lanes, arrows)
Municipal Department of Public Works
Few or no protected left-hand turns are available
Protected left-hand turns have been included in new, suburban development projects
Protected left-hand turns are available at major intersections, high traffic areas, and in new, suburban developments
Left hand turns are one of the most hazardous driving situations and risk increases with age.
Comments:

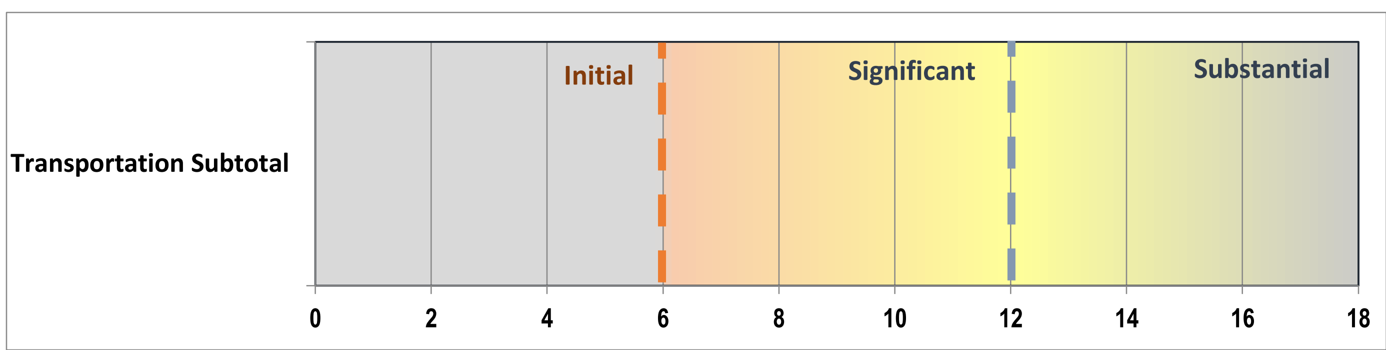
0

○ 1
○ 2
○ 3

5. Infrastructure to improve visibility (road signs that are clear, visible, and readable)	**0**
Municipal Department of Public Works	
Little or no infrastructure exists to improve visibility	○ 1
Infrastructure to improve visibility exists on main roadways	○ 2
Infrastructure to improve visibility exists on the majority of streets	○ 3
Comments:	

6. Walk Score	**0**
Walk Score	
Walk Score of 0-49	○ 1
Walk Score of 50-89	○ 2
Walk Score of 90-100	○ 3
Walking provides a free means of transportation and exercise to residents of all ages and abilities.	
Comments:	

Completed Questions (out of 6)	***0***
Transportation Subtotal	**0**



RESET SCORES

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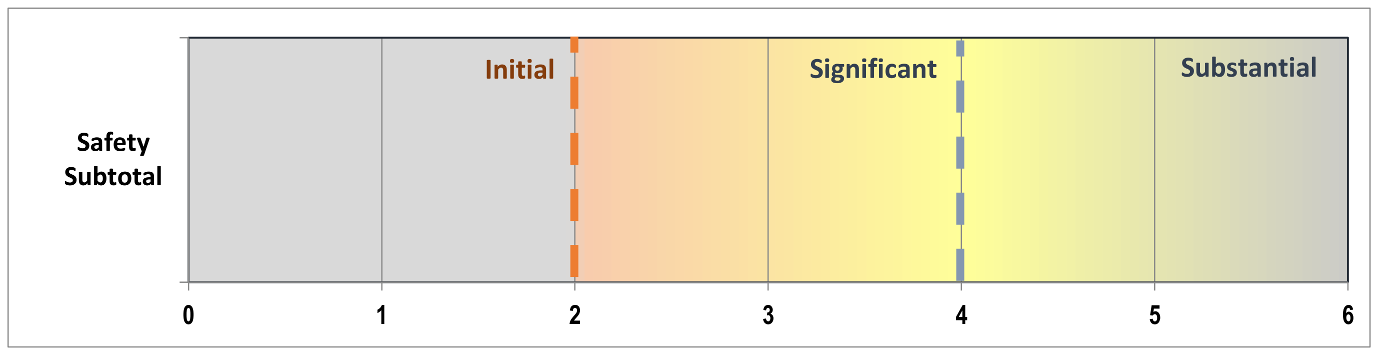
C. Safety

1. Crime rate (property and violent)	Score
Municipal Police Department	0
There are few "safe" neighborhoods with low crime rates	○ 1
There are some "safe" neighborhoods with low crime rates	○ 2
Most neighborhoods are considered "safe" based on low crime rates	○ 3
High crime rates can discourage older adults and adults with disabilities from engaging in activities and accessing services in their communities.	
Comments: Holly Springs was ranked #2 safest in NC	

2. Emergency preparedness plans addressing the needs of residents with special needs (older adults, individuals with disabilities, individuals with chronic illnesses)	0
County Emergency Management Department or Municipal Fire Department	
Emergency preparedness plans do not include provisions for residents with special needs	○ 1
Emergency preparedness plans include some provisions for residents with special needs	○ 2
Emergency preparedness plans thoroughly address the needs of residents with special needs	○ 3
Older adults and adults with disabilities are more vulnerable during disasters.	
Comments: per PD and FD	

Completed Questions (out of 2)	***0***
Safety Subtotal	**0**



RESET SCORES

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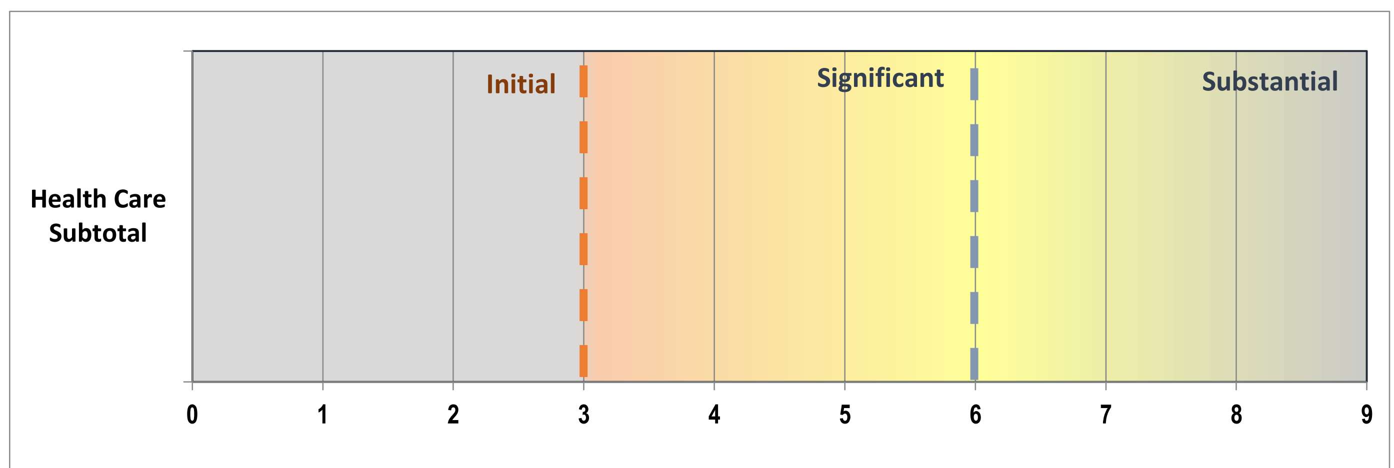
D. Health Care

1. Health Professional Shortage Area or Medically Underserved Area (HPSA/MUA) designation	Score
Health Resources and Services Administration	0
Designated as a HPSA/MUA with a score of 9 or higher	○ 1
Designated as a HPSA/MUA with a score of 8 or less	○ 2
Not designated as a HPSA/MUA or designated with a score of zero	○ 3
A high HPSA/MUA score indicates that there is insufficient medical care available in the community.	
Comments:	

2. Presence of specialist physicians	
American Medical Association	0
There are few medical facilities/physicians' offices located within the municipality	○ 1
The medical facilities/physicians' offices are concentrated in one location	○ 2
Medical facilities/physicians' offices are located throughout the municipality	○ 3
Indicates how well the medical needs of the community are being met.	
Comments:	

3. Presence of preventive health programs for older adults and adults with disabilities	0
County Department of Public Health, Senior Service Organizations, Area Aging on Aging	○ 1 ○ 2 ○ 3
Few preventive health programs are offered	
Preventive health programs are available but access is limited	
Most or all residents have access to preventive health programs	
Preventing illness and injury reduces the burden on medical providers.	
Comments:	

Completed Questions (out of 3)	***0***
Health Care Subtotal	**0**



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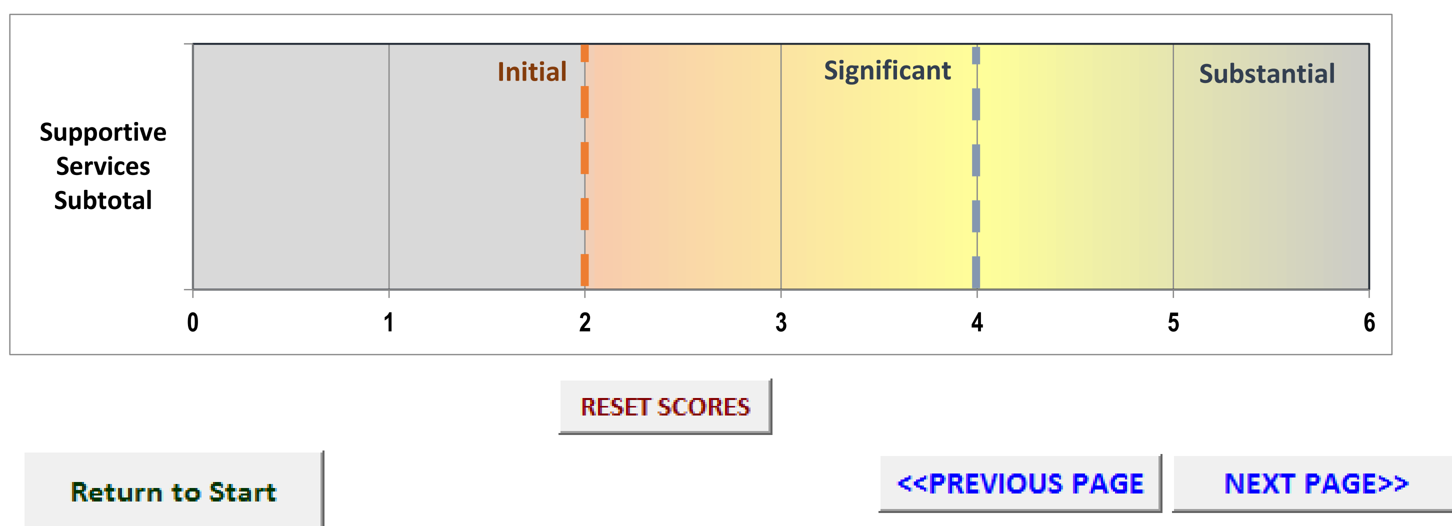
E. Supportive Services

1. Presence of home and community based services for older adults and adults with disabilities	**Score** 0
Senior Service Organization or Area Agency on Aging	
Few or no home and community based services are available	○ 1
Home and community based services are available at market cost only	○ 2
Home and community based services are available to residents at all income levels by both for-profit and nonprofit organizations	○ 3
Home and community based services provide an alternative to institutional care for older adults and adults with disabilities.	
Comments:	

2. Presence of caregiver support services	0
Senior Service Organization or Area Agency on Aging	
Few or no caregiver support services are available	○ 1
Access to caregiver support services are available at market cost only	○ 2
Caregiver support services are available throughout the municipality to caregivers at all income levels	○ 3
Family caregivers provide most of the care needed by older adults and adults with disabilities.	
Comments:	

Completed Questions (out of 2)	***0***
Supportive Services Subtotal	**0**

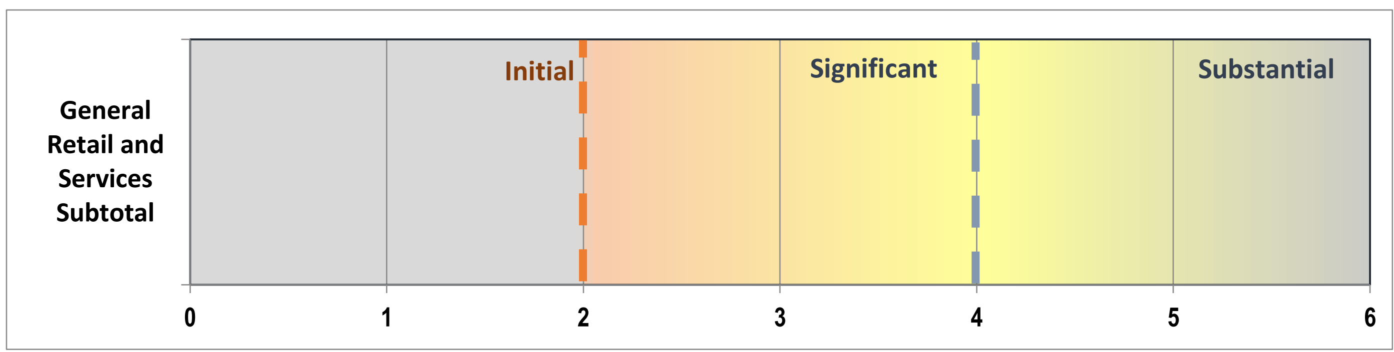

Supportive Services Subtotal
Initial
Significant
Substantial
0
1
2
3
4
5
6
RESET SCORES
Return to Start
<<PREVIOUS PAGE
NEXT PAGE>>

F. General Retail and Services

1. Land area zoned for mixed use/retail	Score: 0
Municipal Planning Department	○ 1 ○ 2 ○ 3
Mixed use districts do not exist in municipality	
There are limited mixed use districts in municipality	
Mixed use districts are common in municipality	
Mixed use districts allow older adults and adults with disabilities easy access to a variety of goods and services.	
Comments:	

2. Food Desert designation	0
Food Access Research Atlas	○ 1 ○ 2 ○ 3
Many areas in the municipality are designated as a Food Desert	
Few areas in the municipality are designated as a Food Desert	
There are no areas designated as a Food Desert within the municipality	
Food Deserts indicate that residents in a given area lack access to healthier fresh foods.	
Comments:	

Completed Questions (out of 2)	*0*
General Retail and Services Subtotal	0



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G. Social Integration and Community Life

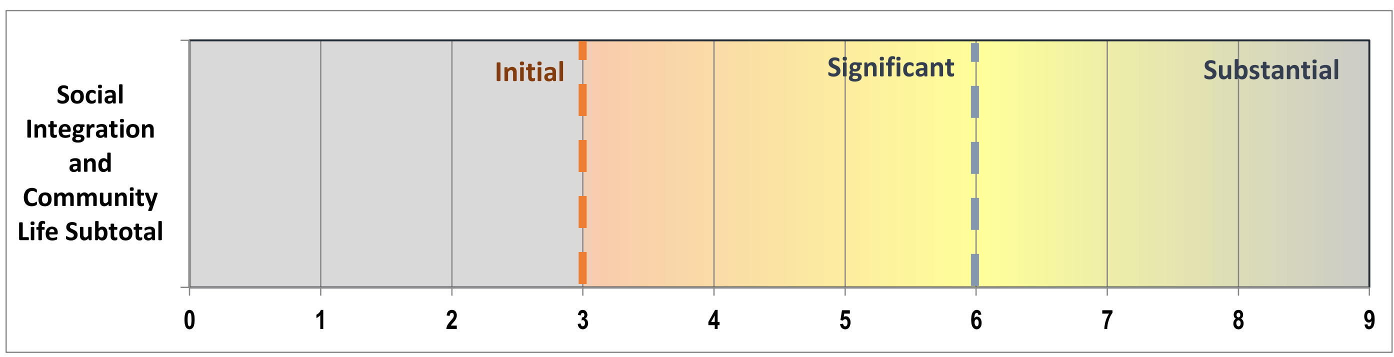
-

1. Presence of activities that promote intergenerational contact	Score
Municipal Department of Parks and Recreation	0
Activities are targeted to residents of one age group or ability level	○ 1
Activities are open to residents of all ages and abilities but at limited locations and times	○ 2
Activities are open to residents of all ages and abilities at a variety of locations and times	○ 3
Socially isolated older adults and adults with disabilities are at an increased risk for a number of negative physical and mental health outcomes.	
Comments:	

2. Presence of places for older adults and adults with disabilities to gather	Score
Municipal Planning Department	0
There are few places for residents to gather	○ 1
Places where residents can gather are not physically or financially accessible to older adults or adults with disabilities	○ 2
There are a variety of places where residents can gather that are accessible to residents of all ages and abilities	○ 3
Socially isolated older adults and adults with disabilities are at an increased risk for a number of negative physical and mental health outcomes.	
Comments:	

3. Presence of individuals or organizations to facilitate volunteer activity	**0**
Senior Service Organizations	
Volunteer opportunities are communicated informally by word of mouth or through national websites	○ 1
Volunteer opportunities are centrally listed	○ 2
There is a central volunteer center that promotes volunteer opportunities within the municipality	○ 3
Volunteering has been found to reduce physical and mental health risks.	
Comments:	

Completed Questions (out of 3)	***0***
Social Integration and Community Life Subtotal	**0**



RESET SCORES

Return to Start

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FINISH AND SEE RESULTS

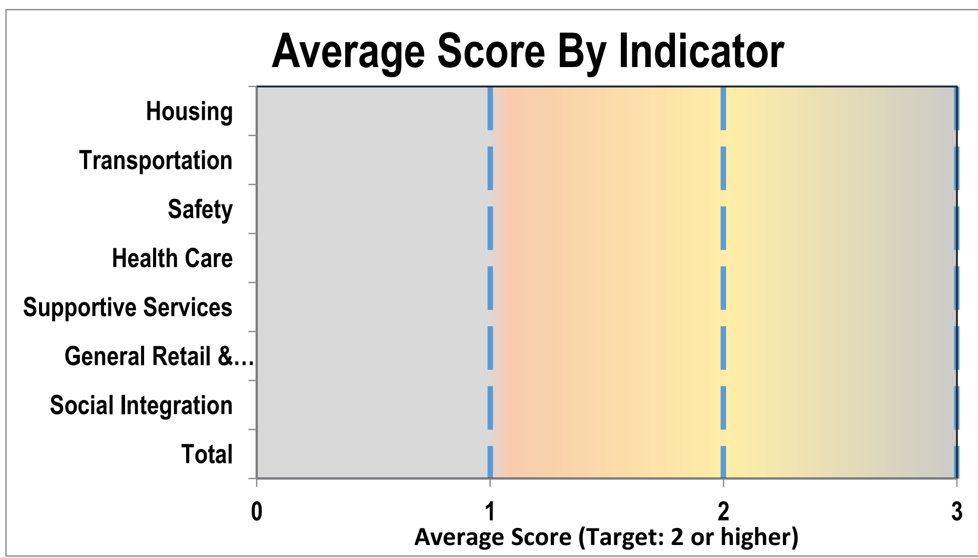
SUMMARY RESULTS

Indicator	Section Score	# questions	Avg. Score (Max 3)	Meets Progress Goal?
Housing	0	0	#DIV/0!	#DIV/0!
Transportation	0	0	#DIV/0!	#DIV/0!
Safety	0	0	#DIV/0!	#DIV/0!
Health Care	0	0	#DIV/0!	#DIV/0!
Supportive Services	0	0	#DIV/0!	#DIV/0!
General Retail & Services	0	0	#DIV/0!	#DIV/0!
Social Integration	0	0	#DIV/0!	#DIV/0!
Total	**0**	**0**	**#DIV/0!**	**#DIV/0!**

Save Current Selections as 1st Assessment

Save Current Selections as Reassessment 1

Save Current Selections as Reassessment 2



NOTE: Selecting these buttons will bring you to the 'Year to Year Data' tab.

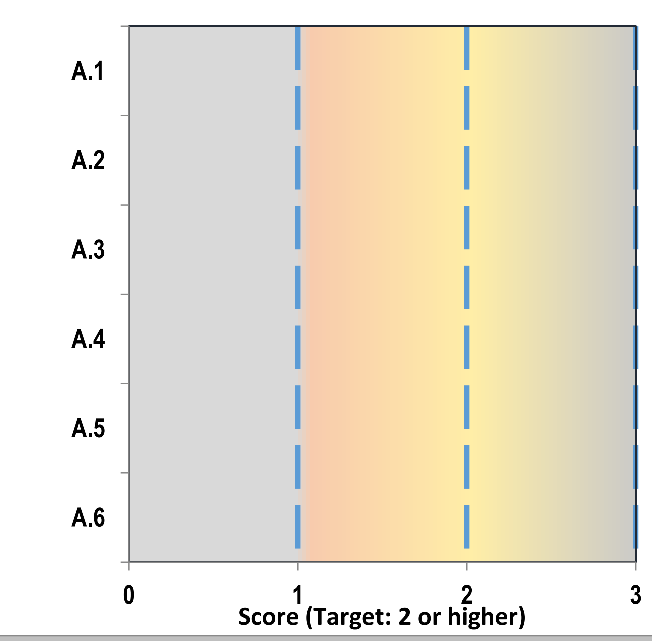
Results by Indicator /

Section

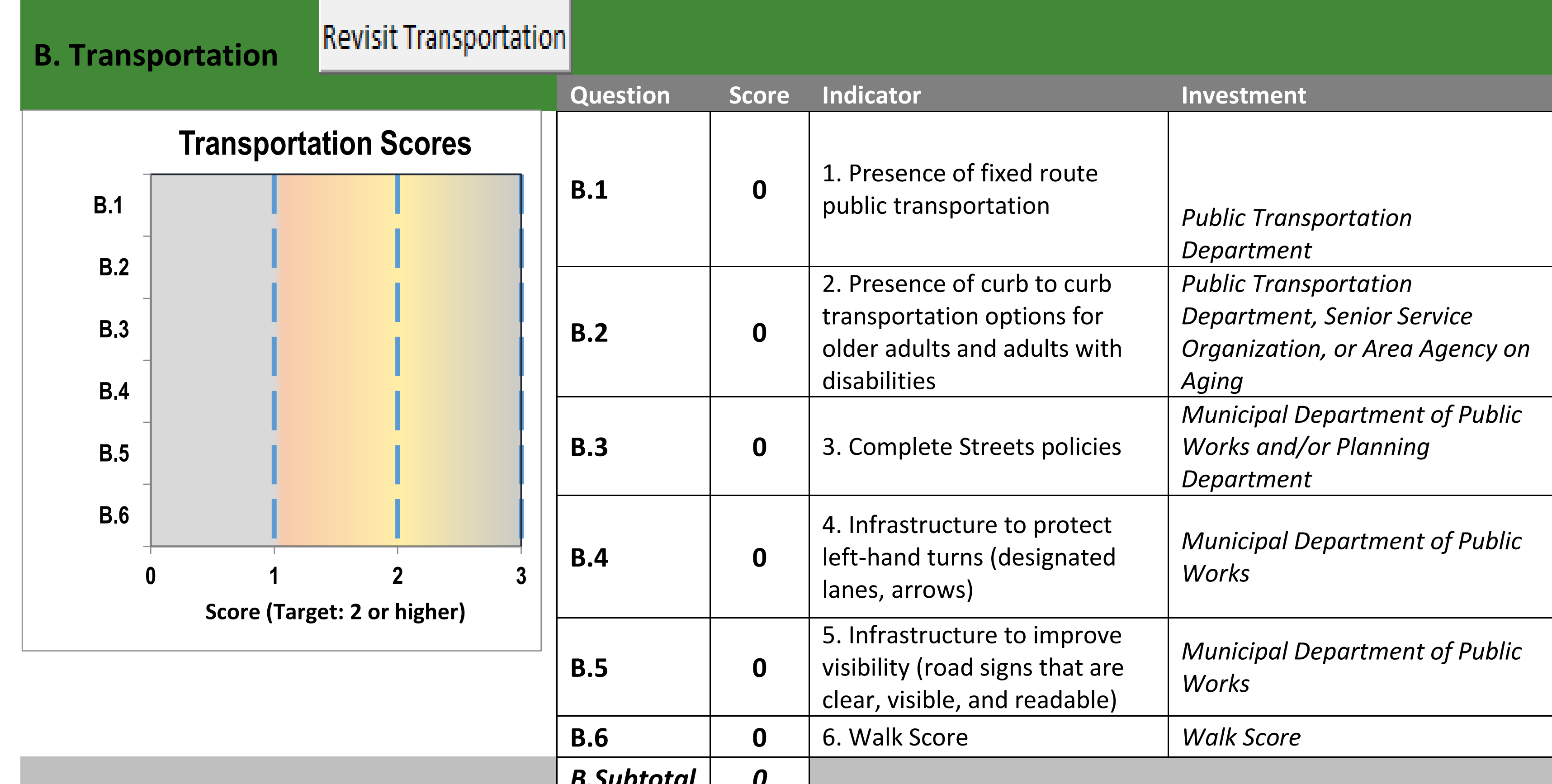
Demographics

Demographic Category	Question	Response	Demographic Indicator
Residential Population	**1**	**0**	Total number of residents
Residential Population	**2**	**0**	Number of residents age 65+
Residential Population	**3**	**0.00%**	Percent of population age 65+
Residential Population	**4**	**0**	Number of residents age 85+
Residential Population	**5**	**0.00%**	Percent of population age 85+
Population over 65 living alone	**6**	**0**	Number of residents age 65+ who live alone
Population over 65 living alone	**7**	**0.00%**	Percent of population age 65+ who live alone
Population with a disability	**8**	**0**	Number of residents with a disability
Population with a disability	**9**	**0.00%**	Percent of population with a disability
Population with a disability	**10**	**0**	Number of residents age 65+ with a disability
Population with a disability	**11**	**0.00%**	Percent of population age 65+ with a disability
Population below poverty level	**12**	**0.00%**	Percent of residents whose income in the past 12 months was below the poverty level, age 18-64
Population below poverty level	**13**	**0.00%**	Percent of residents whose income in the past 12 months was below the poverty level, age 65+
Tax Rate and Home Sale and Rental Price	**14**	**0.00%**	County Property Tax Rate
Tax Rate and Home Sale and Rental Price	**15**	**0.00%**	Municipal Property Tax Rate
Tax Rate and Home Sale and Rental Price	**16**	**$0.00**	Median Home Sale Price
Tax Rate and Home Sale and Rental Price	**17**	**$0.00**	Median Rental Price

A. Housing



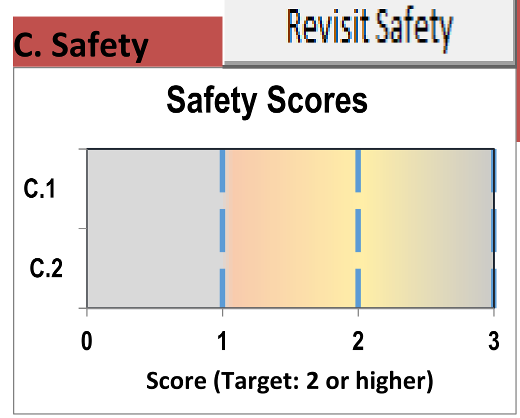
Question	Score	Indicator	Investment
A.1	**0**	1. Guidelines and/or policies regarding the development of housing that is accessible and/or visitable	*Municipal Planning Department*
A.2	**0**	2. Presence of home modification services	*Senior Service Organizations or Area Agency on Aging*
A.3	**0**	3. Zoning code regarding flexible housing arrangements	*Municipal Planning Department*
A.4	**0**	4. Zoning code regarding assisted living/housing for older adults and adults with disabilities	*Municipal Planning Department*
A.5	**0**	5. Percent of housing that is multi-family housing	*Municipal Planning Department*
A.6	**0**	6. Proportion of households that pay more than or equal to 30% of annual income on housing	*American Fact Finder-> Enter Name of Municipality-> Occupancy and Structure, Housing Value and Cost, Utilities-> Selected monthly owner costs as a percent of household income and Gross rent as a percentage of household income*
A.Subtotal	***0***		



Question	Score	Indicator	Investment
B.1	**0**	1. Presence of fixed route public transportation	*Public Transportation Department*
B.2	**0**	2. Presence of curb to curb transportation options for older adults and adults with disabilities	*Public Transportation Department, Senior Service Organization, or Area Agency on Aging*
B.3	**0**	3. Complete Streets policies	*Municipal Department of Public Works and/or Planning Department*
B.4	**0**	4. Infrastructure to protect left-hand turns (designated lanes, arrows)	*Municipal Department of Public Works*
B.5	**0**	5. Infrastructure to improve visibility (road signs that are clear, visible, and readable)	*Municipal Department of Public Works*
B.6	**0**	6. Walk Score	*Walk Score*
B.Subtotal	***0***		

C. Safety

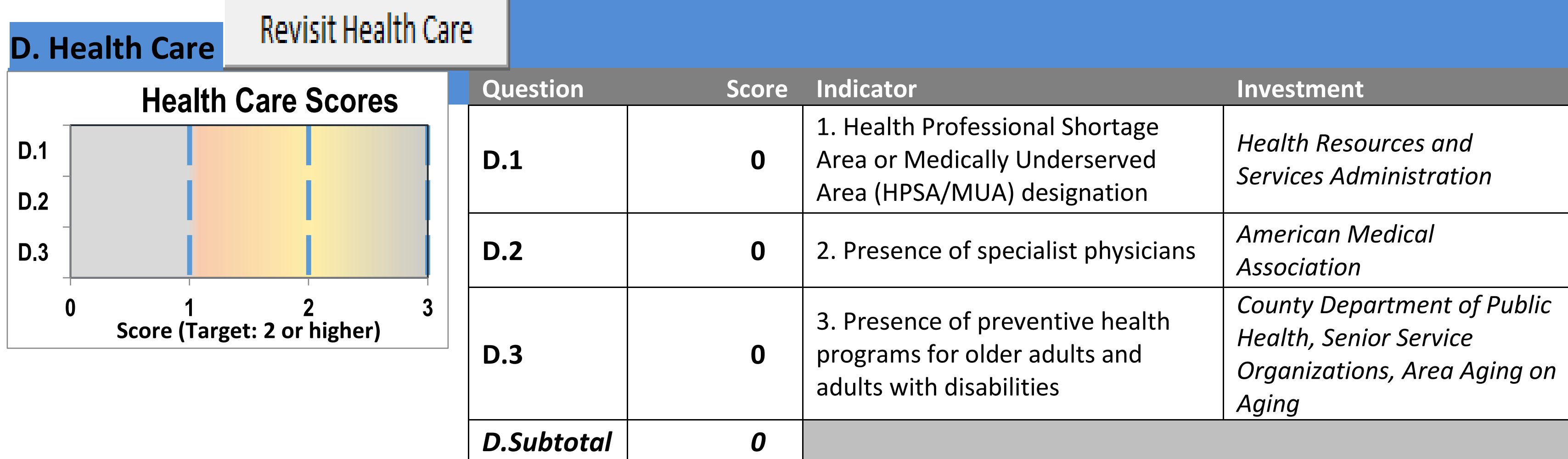
Revisit Safety



Question	Score	Indicator	Investment
C.1	**0**	1. Crime rate (property and violent)	*Municipal Police Department*
C.2	**0**	2. Emergency preparedness plans addressing the needs of residents with special needs (older adults, individuals with disabilities, individuals with chronic illnesses)	*County Emergency Management Department or Municipal Fire Department*
C.Subtotal	***0***		

D. Health Care

Revisit Health Care



Question	Score	Indicator	Investment
D.1	**0**	1. Health Professional Shortage Area or Medically Underserved Area (HPSA/MUA) designation	*Health Resources and Services Administration*
D.2	**0**	2. Presence of specialist physicians	*American Medical Association*
D.3	**0**	3. Presence of preventive health programs for older adults and adults with disabilities	*County Department of Public Health, Senior Service Organizations, Area Aging on Aging*
D.Subtotal	***0***		

E. Supportive Services

Revisit Supportive Services

Supportive Services Scores

E.1
E.2
0 1 2 3
Score (Target: 2 or higher)

Question	Score	Indicator	Investment
E.1	**0**	1. Presence of home and community based services for older adults and adults with disabilities	*Senior Service Organization or Area Agency on Aging*
E.2	**0**	2. Presence of caregiver support services	*Senior Service Organization or Area Agency on Aging*
E.Subtotal	***0***		

F. General Retail and Services

Revisit Gen. Retail & Services

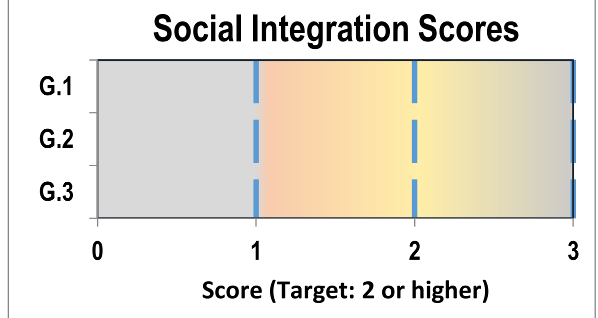
General Retail & Services Scores

F.1
F.2
0 1 2 3
Score (Target: 2 or higher)

Question	Score	Indicator	Investment
F.1	**0**	1. Land area zoned for mixed use/retail	*Municipal Planning Department*
F.2	**0**	2. Food Desert designation	*Food Access Research Atlas*
F.Subtotal	***0***		

G. Social Integration

Revisit Social



Question	Score	Indicator	Investment
G.1	**0**	1. Presence of activities that promote intergenerational contact	*Municipal Department of Parks and Recreation*
G.2	**0**	2. Presence of places for older adults and adults with disabilities to gather	*Municipal Planning Department*
G.3	**0**	3. Presence of individuals or organizations to facilitate volunteer activity	*Senior Service Organizations*
G.Subtotal	***0***		

Section	Question	Indicator	Current Selections	1st Assessment	Reassessment 1	Reassessment 2
Demographics	1	Total number of residents	*0*	0		
Demographics	2	Number of residents age 65+	*0*	0		
Demographics	3	Percent of population age 65+	*0.00%*	0.00%		
Demographics	4	Number of residents age 85+	*0*	0		
Demographics	5	Percent of population age 85+	*0.00%*	0.00%		
Demographics	6	Number of residents age 65+ who live alone	*0*	0		
Demographics	7	Percent of population age 65+ who live alone	*0.00%*	0.00%		
Demographics	8	Number of residents with a disability	*0*	0		
Demographics	9	Percent of population with a disability	*0.00%*	0.00%		
Demographics	10	Number of residents age 65+ with a disability	*0*	0		

Save Current Selections as Reassessment 1

Save Current Selections as 1st Assessment

Save Current Selections as Reassessment 2

Demographics	11	Percent of population age 65+ with a disability	*0.00%*	0.00%		
Demographics	12	Percent of residents whose income in the past 12 months was below the poverty level, age 18-64	*0.00%*	0.00%		
Demographics	13	Percent of residents whose income in the past 12 months was below the poverty level, age 65+	*0.00%*	0.00%		
Demographics	14	County Property Tax Rate	*0.00%*	0.00%		
Demographics	15	Municipal Property Tax Rate	*0.00%*	0.00%		
Demographics	16	Median Home Sale Price	*$0.00*	$0.00		
Demographics	17	Median Rental Price	*$0.00*	$0.00		
A. Housing	A.1	1. Guidelines and/or policies regarding the development of housing that is accessible and/or	*0*	0		

		visitable				
A. Housing	A.2	2. Presence of home modification services	*0*	0		
A. Housing	A.3	3. Zoning code regarding flexible housing arrangements	*0*	0		
A. Housing	A.4	4. Zoning code regarding assisted living/housing for older adults and adults with disabilities	*0*	0		
A. Housing	A.5	5. Percent of housing that is multi-family housing	*0*	0		
A. Housing	A.6	6. Proportion of households that pay more than or equal to 30% of annual income on housing	*0*	0		
A. Housing	A.Subtotal	A. Housing Subtotal	*0*	0		
B.	B.1	1. Presence of	*0*	0		

Transportation		fixed route public transportation				
B. Transportation	B.2	2. Presence of curb to curb transportation options for older adults and adults with disabilities	*0*	0		
B. Transportation	B.3	3. Complete Streets policies	*0*	0		
B. Transportation	B.4	4. Infrastructure to protect left-hand turns (designated lanes, arrows)	*0*	0		
B. Transportation	B.5	5. Infrastructure to improve visibility (road signs that are clear, visible, and readable)	*0*	0		
B. Transportation	B.6	6. Walk Score	*0*	0		
B. Transportation	B.Subtotal	B. Transportation Subtotal	*0*	0		
C. Safety	C.1	1. Crime rate (property and violent)	*0*	0		

C. Safety	C.2	2. Emergency preparedness plans addressing the needs of residents with special needs (older adults, individuals with disabilities, individuals with chronic illnesses)	*0*	0		
C. Safety	C.Subtotal		*0*	0		
D. Health Care	D.1	1. Health Professional Shortage Area or Medically Underserved Area (HPSA/MUA) designation	*0*	0		
D. Health Care	D.2	2. Presence of specialist physicians	*0*	0		
D. Health Care	D.3	3. Presence of preventive health programs for older adults and adults with disabilities	*0*	0		
D. Health Care	D.Subtotal	D. Health Care Subtotal	*0*	0		

E. Supportive Services	E.1	1. Presence of home and community based services for older adults and adults with disabilities	*0*	0		
E. Supportive Services	E.2	2. Presence of caregiver support services	*0*	0		
E. Supportive Services	E.Subtotal	E. Supportive Services Subtotal	*0*	0		
F. General Retail and Services	F.1	1. Land area zoned for mixed use/retail	*0*	0		
F. General Retail and Services	F.2	2. Food Desert designation	*0*	0		
F. General Retail and Services	F.Subtotal	F. General Retail and Services Subtotal	*0*	0		
G. Social Integration	G.1	1. Presence of activities that promote intergenerational contact	*0*	0		
G. Social Integration	G.2	2. Presence of places for older adults and adults with disabilities to gather	*0*	0		

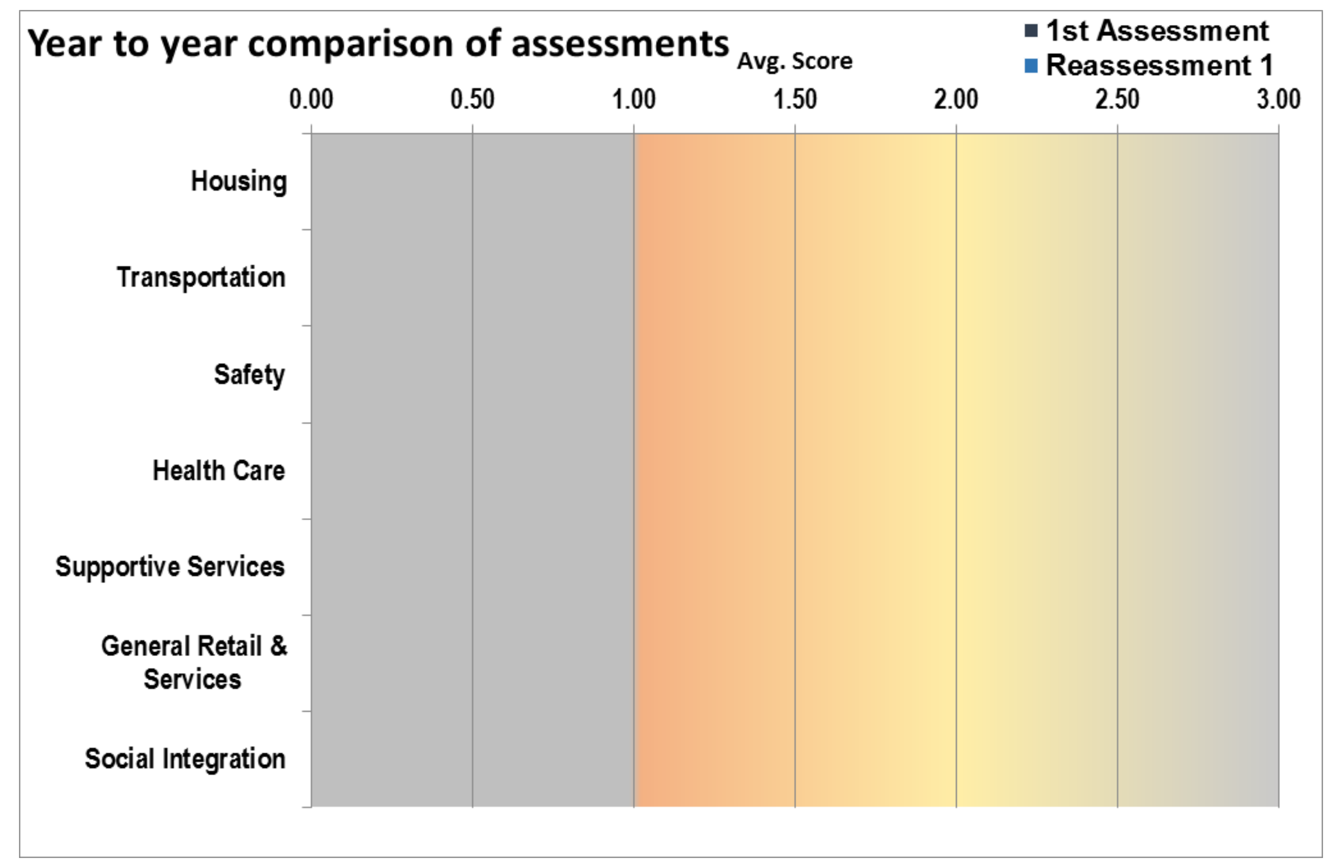
G. Social Integration	G.3	3. Presence of individuals or organizations to facilitate volunteer activity	*0*	0		
G. Social Integration	G.Subtotal	G. Social Integration Subtotal	*0*	0		
GRAND TOTAL	TOTAL		*0*	0		

Year to Year Comparison of Results

Average Scores by Category, Year to Year

Category	1st Assessment	Reassessment 1	Reassessment 2
Housing	0.00	0.00	0.00
Transportation	0.00	0.00	0.00
Safety	0.00	0.00	0.00
Health Care	0.00	0.00	0.00
Supportive Services	0.00	0.00	0.00
General Retail & Services	0.00	0.00	0.00
Social Integration	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**

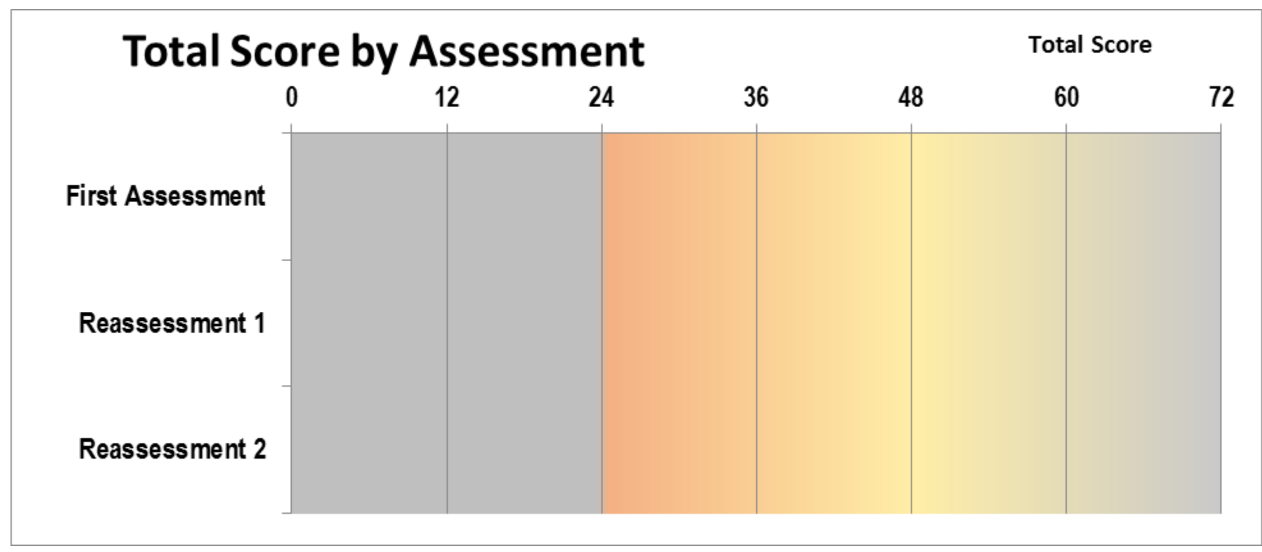
(See graphs below)



Year to year comparison of assessments
Avg. Score
1st Assessment
Reassessment 1
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Housing
Transportation
Safety
Health Care
Supportive Services
General Retail & Services
Social Integration

Total Score

Assessment	Total Score	Year
First Assessment	0	
Reassessment 1	0	
Reassessment 2	0	



Target score: 48 or higher

TJCOG Livability Self-Assessment for Municipalities Toolkit

TRIANGLE J COUNCIL OF GOVERNMENTS

April 2014

The TJCOG Livability Self-Assessment for Municipalities and Toolkit are intended to be used together to start a conversation about livability in your community. The tool introduces the concept of livable communities and can help evaluate the livability of your community. The toolkit can help identify areas for further evaluation, and can be used to start a conversation about planning for further action.

Improving livability requires evidence, resources, and stakeholder buy-in. The Livability Self-Assessment for Municipalities will provide evidence of areas that need to be addressed and where progress has been made. The toolkit will provide recommendations for programs and services that have evidence of effectiveness in other communities.

Supplemental Activities

The TJCOG Livability Self-Assessment for Municipalities provides a high level overview of livability in your community. It is recommended that you gather additional information about the areas of concern identified in your community. This can be done through surveys, focus groups, public forums, and/or asset mapping.

Community Buy-In

Suggestions for stakeholders are provided to help identify who should be involved in the planning process for each of the indicators. Elected officials and residents should be considered stakeholders for all indicators. Stakeholder advisory committees are recommended to help shape practical and effective policies and programs. Residents of all ages and abilities should be encouraged to participate in these advisory committees, especially those most impacted by the issue or policy. Stakeholders should be included in the decision making process from the beginning, if possible.

Feasibility

The recommendations provided are based on what other communities have done to improve livability and may not be appropriate or feasible for your community. Livability is a growing field and new programs continue to develop. The Resources for More Information section can be used to learn about the latest recommendations.

When choosing which areas to address first, start with projects that are achievable and sustainable. Choose projects that can be incorporated into existing projects, such as improving the safety of streets during the course of routine roadwork. As you progress, you will be able to build upon your early successes.

Partnerships

Do not try to go it alone. Your community probably has many existing resources that can be leveraged to improve livability. In addition to the resources already available, other resources may be available through partnering with neighboring municipalities or the county government.

Building partnerships with for-profits, nonprofits, county or regional government, or neighboring municipalities can benefit from shared expenses, lowered cost, and reduced duplication. Some aspects of livability may require advocating for broader or statewide changes.

Working With Your Community

More information about how to engage your community in improving livability is available online. The University of Kansas has created Community Tool Box a guide to help community members work together, with accompanying toolkits for skill building. Community Problem Solving was developed by a MIT faculty member to provide easyto-use, up-to-date "strategy tools". Partners for Livable Communities has published a second edition of their Community Empowerment Manual a workbook to help communities "maximize assets". The North Carolina Division of Aging and Adult Services has developed a series of planning tools to assist communities with the development of an aging plan and tools to assess service availability and readiness. Orange County Government has posted documents from their current plan, as an example. Additional online resources are provided by colleges/universities, government, and nonprofit agencies. Local colleges and universities may also have resources available.

Evaluating Progress

When planning a livability initiative it is important to establish outcomes from the beginning to provide focus and direction. Evaluation of the programs and services you choose to implement should take place throughout the process, rather than waiting until the end. Ongoing evaluation to identify strengths and weaknesses can improve the quality of the current project as well as future projects.

Important Themes

There are 4 major themes that appear throughout the TJCOG Livability Self-Assessment for Municipalities and Toolkit. These are accessibility, livability for all, technology, and workforce development.

Accessibility

Accessibility is an important consideration in planning the physical environment, services, and events. Physical spaces should take into account the needs of individuals with mobility, visual, and hearing impairments in their design. Accessibility features should be fully incorporated so that they are easily located and utilized by those requiring them. Information should be communicated through multiple mediums in order to reach residents with hearing and visual impairments. Communications should be accessible to individuals with low-literacy or limited-English-proficiency.

The population of North Carolina and the United States is growing more diverse. There is no one set of characteristics that can describe all older adults and adults with disabilities. Municipalities must take into consideration a variety of factors when planning services; such as race, ethnicity,

gender, sexual orientation, education, income, language, age, ability, and culture to ensure that programs and services are accessible to all residents.

Livability for All

Partners for Livable Communities define livability as, "the sum of the factors that add up to a community's quality of life—including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities."

Improvements in a community benefit residents of all ages and abilities. Improvements to sidewalks and crosswalks to accommodate wheelchairs also benefit parents with strollers. Improving access to affordable, nutritious foods helps improve the health outcomes of children as well as adults.

Technology

Technology can be a great resource to improving livability. Websites and mobile applications can make services and information available to homebound adults, long distance caregivers, and others who are not able to visit municipal offices during regular business hours. Websites should be optimized to work with adaptive software, such as screen magnifiers and readers. Expanding access to technology to all areas of a municipality benefits businesses as well as individuals. Technology must be used alongside of, rather than in place of, other forms of communication for disseminating information or gathering input. Individuals who do not use technology are more likely to be older, have a disability, live in a rural community, have a lower household income, and fewer years of education.[1] Overreliance on technology can bypass the very individuals that livability seeks to involve in community life.

Workforce Development

The workforce in a livable community should be sufficient to meet the demands of the community. Communities need to attract a mix of professional, skilled, and unskilled labor. Municipal staff should receive appropriate training in how to better serve older adults and adults with disabilities as a part of customer service education. Opportunities should also be available for the private sector to receive training to improve services to older adults and adults with disabilities.

There are many paths that municipalities can take to become a more livable community for residents of all ages and abilities. Each municipality will need to determine which path is most appropriate for its community.

[1] http://www.pewinternet.org/2013/09/25/whos-not-online-and-why/

GLOSSARY TERMS

Accessible Housing: "dwellings that meet the needs of the physically disabled; interpretations of how those needs can be met vary somewhat across localities, but generally require barrier-free, adaptable design in both common areas and individual units."

Source: City of Fort Worth, Texas. 2008.

http://fortworthtexas.gov/uploadedFiles/Planning_and_Development/Comprehensive_Plan/Homelessness/Definition%20of%20Terms%20Ver%2002.pdf

Accessory Dwelling Units: secondary dwelling located on the same lot but separate from the primary dwelling, may include elder cottages, guest houses, and detached garage apartments.

Source: http://www.huduser.org/portal/publications/adu.pdf

Adult Protective Services: housed within county departments of social services staff are responsible for, "receiving reports and evaluating the need for protective services, planning and counseling with the disabled adult, the family or caregiver to identify, remedy, and prevent problems which result in abuse, neglect, or exploitation, reporting evidence of mistreatment to the District Attorney and various regulatory agencies when appropriate, initiating court action as necessary to protect the adult, and mobilizing essential services on behalf of the disabled adult" Source: NCDAAS Adult Protective Services

http://www.ncdhhs.gov/aging/adultsvcs/afs_aps.htm

Affordable Care Act Navigators: "An individual or organization that's trained and able to help consumers, small businesses, and their employees as they look for health coverage options through the Health Insurance Marketplace, including completing eligibility and enrollment forms. These individuals and organizations are required to be unbiased. Their services are free to consumers." Source: Health Insurance Marketplace Glossary

https://www.healthcare.gov/glossary/navigator/

Aging and Disability Advocates: includes advocacy organizations, caregivers, and older adults and adults with disabilities who advocate for the rights and needs of older adults and adults with disabilities. Advocacy organizations may include Aging and Disability Resource Centers (Community Resource Connections), Statewide Independent Living Councils, county council on aging.

Area Agency on Aging (AAA): regional agency that plans, coordinates, and advocates for the development of a comprehensive service delivery system to meet the needs of older adults,

persons with disabilities, caregivers, and their families in a specific geographic area. They administer state and federal funds for community based services. The AAA's provide training and technical support to county agencies that offer services to older adults.

Source: North Carolina Department of Health and Human Services
http://www.ncdhhs.gov/aging/aaa.htm

Americans with Disabilities Act: "prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, State and local government services, public accommodations, commercial facilities, and transportation." The Americans with Disabilities Act provides laws, regulations, and design standards to ensure equal opportunity for persons with disabilities.

Source: Information and Technical Assistance on the Americans with Disabilities Act
http://www.ada.gov/2010_regs.htm

Assisted Living: "a senior living option for those who are in need of some assistance with daily living yet aim to live as independently as possible. There are many defined types of senior living, and assisted living would fall between an independent living community and a nursing home. A typical assisted living home might offer 24-hour monitoring of its residents and various support services such as medication administration or bathing, while providing the resident with more freedom and privacy than a nursing home."

Source: Assisted Living Facilities.org

http://www.assistedlivingfacilities.org/blog/what-is-an-assisted-living-facility/

Caregiver Support Services: services that offer support to family members who care for senior relatives (60+) at home. Direct assistance to caregivers can include the following: information about available community services; assistance in accessing services; support groups, caregiver training and individual counseling, respite care, adult day services, and supplemental services of various kinds.

Source: Triangle J Council of Governments, Family Caregiver Support Program
http://www.tjcog.org/family-caregiver-support-program.aspx

CarFit: an educational program, "designed to help older drivers find out how well they currently fit their personal vehicle, to highlight actions they can take to improve their fit, and to promote conversations about driver safety and community mobility." Source: CarFit

http://www.car-fit.org/carfit/FAQ

Certified Aging in Place Specialists (CAPS): a professional home builder or remodeler who has been trained on the unique needs of seniors, modifying homes so someone can live there longer as they age and addressing the most common barriers in a home.
Source: http://ageinplace.com/aging-in-place-professionals/certified-aging-in-placespecialists-caps/

Co-housing Communities: neighborhoods of attached or single-family homes that build a sense of community through shared spaces, responsibilities, and decision making. Co-housing communities have a common house as the social center of the community where group meals take places. Co-housing communities may be multigenerational or limited to individuals over the age of 55. Source: Cohousing

http://www.cohousing.org/what_is_cohousing

Community Gardens: "are collaborative projects on shared open spaces where participants share in the maintenance and products of the garden, including healthful and affordable fresh fruits and vegetables." Source: Centers for Disease Control and Prevention

http://www.cdc.gov/healthyplaces/healthtopics/healthyfood/community.htm

Community Resource Connections for Aging and Disabilities: "are a network of organizations which together provide a coordinated system of information and access for all people seeking long-term supports and services, minimizes confusion, enhances individual choices, and supports informed decision making." These networks are known as Aging and Disability Resource Centers outside of North Carolina. Source: North Carolina Division of Aging and Adult Services http://www.ncdhhs.gov/aging/crc/crc.htm

Complete Streets: designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and capabilities. These streets generally include sidewalks, bicycle lanes, transit stops, appropriate street widths and speeds, and are well-integrated with surrounding land uses. Complete Street design elements that emphasize safety, mobility and accessibility for multiple modes may include crosswalks, bus lanes, landscaping, lighting, signaling systems, and adequate separation between sidewalks and streets. Source: North Carolina DOT Complete Streets

http://www.completestreetsnc.org/about/

Congregate and Home Delivered Meal Programs: authorized by Older Americans Act these sites provide older adults with a nutritious meal and the opportunity for social engagement. These sites also function as a distribution site for home-delivered meals for homebound older adults. Source: Administration on Aging

http://www.aoa.gov/AoARoot/AoA_Programs/HCLTC/Nutrition_Services/index.aspx#con gregate

Crime Prevention Through Environmental Design: "is based on the principle that proper design and effective use of buildings and public spaces in neighborhoods can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life." This theory brings together law enforcement officers, architects, city planners, landscape designers, interior designers, and resident volunteers to, "create a climate of safety."

Source: National Crime Prevention Council

http://www.ncpc.org/training/training-topics/crime-prevention-through-environmentaldesign-cpted-

Curb-to-curb transportation: the passenger is picked up at the curb by their location of origin and dropped off at the curb by their destination. The driver may help passengers with boarding and exiting but does not provide assistance in getting from the door of a building to the curb or vice versa. This is one form of a paratransit demand-response service. This service can be provided by nonprofit organizations and for-profit companies as well as public transportation providers. Source: Mass.gov Community Transportation Terminology

http://www.mass.gov/eohhs/gov/commissions-and-initiatives/hst/terminology.html

Educational and Cultural Organizations: these organizations may include community colleges, colleges, universities, libraries, museums, historic sites, arts centers, and other organizations that promote arts, culture, and education in the community.

Emergency Preparedness Plans: include all aspects of disaster preparation including planning for evacuation routes and shelters, establishing a notification system, and educating residents about emergency preparedness. Source: RAND Corporation

http://www.rand.org/pubs/technical_reports/TR681.html

Fixed Route Public Transportation: transit services where vehicles run on regular, scheduled routes with fixed stops. For example, a city bus that always travels the same route is part of the fixed route system.

Source: Mass.gov Community Transportation Terminology

http://www.mass.gov/eohhs/gov/commissions-and-initiatives/hst/terminology.html

Flexible Housing Arrangements: allows greater flexibility in housing arrangements than the standard of one family per housing unit and one housing unit per lot. Flexible housing arrangements can take a variety of forms including accessory dwelling units, shared housing, and co-housing. Flexible housing arrangements are often limited by zoning restrictions that define what constitutes a family and how many individuals can reside in the same dwelling.

Source: Livable Community Indicators for Sustainable Aging in Place

Food Deserts: "defined as urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options. The lack of access contributes to a poor diet and can lead to higher levels of obesity and other dietrelated diseases, such as diabetes and heart disease." Source: USDA Agricultural Marketing Service

http://apps.ams.usda.gov/fooddeserts/foodDeserts.aspx

HandsOn Action Center: part of the Points of Light volunteer network these centers facilitate volunteer engagement by working with volunteers, nonprofits, and businesses within communities.

Source: HandsOn Action Center

http://www.handsonnetwork.org/actioncenters/newmembers#tabset-tab-3

Health Professional Shortage Area/Medically Underserved Area

(HPSA/MUA): area designated as having a shortage of primary medical care, dental or mental health providers. They may be urban or rural areas, population groups or medical or other public facilities.

Source: US DHHS, Health Resources and Services Administration http://www.hrsa.gov/shortage/

Home and Community Based Services (HCBS): refers to assistance with daily activities that generally helps older adults and people with disabilities to remain in their homes. These include services such as Options Counseling, home health care, personal care, chore assistance, transportation, home delivered and congregate meals, independent living training, support groups, or adult day services. This may also include the providers of the products individuals may need to remain in their homes including medical supplies, durable medical equipment, and assistive technology. Many people with functional limitations or cognitive impairments need assistance with activities of daily living (ADLs) such as bathing, dressing, and using the toilet, or instrumental activities of daily living (IADLs) such as shopping, managing money or medications, and doing laundry.

Source: AARP Public Policy Institute, Home and Community-Based Long-Term Services and Supports for Older People

http://assets.aarp.org/rgcenter/ppi/ltc/fs222-health.pdf

Home Modification Services: changes made to adapt living spaces to meet the needs of people with physical limitations so that they can continue to live independently and safely. These modifications may include adding assistive technology or making structural changes to a home. Modifications can range from something as simple as replacing cabinet doorknobs with pull handles to full-scale construction projects that require installing wheelchair ramps and widening doorways.

Source: A Blueprint for Action: Developing a Livable Community for All Ages
http://www.n4a.org/pdf/07-116-N4A-Blueprint4ActionWCovers.pdf

Home Sharing: "is a living arrangement in which two or more unrelated people share a home or apartment. Each has his/her private room and shares the common living areas." One or more home sharing individuals may own the property or all may be rent from a third-party landlord. Home sharing arrangements may also include live-in care providers, such as nannies and caregivers for older adults and adults with disabilities. Source: HIP Housing

http://www.hiphousing.org/programs/sharing.html

Housing for Older Adults And Adults with Disabilities: Housing may offer physical features, on-site services, or reduced cost to accommodate the needs of older adults and adults with disabilities. Housing options may be offered by for-profit companies, nonprofit organizations, or government funded. Options with physical accommodations and/or services may include continuing care retirement communities, active adult lifestyle communities, assisted living, or board and care homes. Housing options for low-income older adults and adults with disabilities includes privately owned units, HUD units and vouchers, USDA loan and grant program, and USDA rental assistance.

Source: http://www.gao.gov/new.items/d05174.pdf
http://www.rurdev.usda.gov/rd/pubs/pa1662.htm

HUD Housing Programs: HUD provides subsidized housing options to older adults and adults with disabilities through public housing, Section 8: Housing Choice Voucher Program, Section 202: Supportive Housing for the Elderly Program, Section 811: Supportive Housing for Persons with Disabilities, and HOME Investment Partnerships Program. Source: HUD

http://www.gao.gov/new.items/d05174.pdf

Kinship Care: relatives, such as grandparents, who care for children when they have been removed from their parents' custody. Kinship care arrangements provide children with stability and a connection with family. Care arrangements may be formal or informal.

Source: Child Welfare Information Gateway

https://www.childwelfare.gov/outofhome/kinship/

Medical Facilities: a location where medical care is regularly provided. This may include individual physician's offices, physician group practices, clinics, and urgent care centers, a well as hospitals. The facility may be freestanding or located within another larger facility such as a retail store. Facility may be staffed by a Medical Doctors, Doctors of Osteopathy, Nurse Practitioner, or Physician Assistant.

Source: http://en.wikipedia.org/wiki/Medical_facility

Mixed Use Zoning: "sets standards for the blending of residential, commercial, cultural, institutional, and where appropriate, industrial uses. Mixed use zoning is generally closely linked to increased density, which allows for more compact development. Higher densities increase land-use efficiency and housing variety while reducing energy consumption and transportation costs. The mixed use buildings that result can help strengthen or establish neighborhood character and encourage walking and bicycling."

Source: American Planning Association, PAS QuickNotes No. 6 http://www.planning.org

Mobility Management: an approach to transportation, "service development and management that focuses on individualized customer markets and involves establishing a variety of services tailored to meet the needs of those markets." Mobility management addresses the structure of the transportation system. Source: United We Ride

http://www.unitedweride.gov/1_8_ENG_HTML.htm

Multi-family Housing: a single residential lot containing more than one single family residence. A building containing at least two housing units which are adjacent vertically or horizontally, such as apartments, condominiums, cooperatives, townhouses, du/tri/quadplexes. Source: Business Dictionary

http://www.businessdictionary.com/definition/multifamily-housing.html

Naturally Occurring Retirement Communities: occur as neighbors age in place creating a large segment of older adults in a neighborhood or apartment building that was not intended to meet the needs of older adults. Initiatives exist within the Administration on Aging to identify and provide supportive services to these communities.

Source: NORCs An Aging In Place Initiative http://www.norcs.org/

Neighborhood Circulator Service: fixed-route public transportation option that uses small transit vehicles to help residents access popular destinations in their community. These serve neighborhoods that are not well-served by larger transit systems such as suburban and rural municipalities with lower population densities.

Source: Subregional Planning

http://subregional.h-gac.com/toolbox/Transportation_and_Mobility/Public_Transportation/4.%20Neighborhood%20Circulators-final.html

No Wrong Door Policy: "Consumers encounter seamless access to relevant, needed information about services regardless of how or where they encounter the system." Source: NC DAAS

http://www.ncdhhs.gov/aging/crc/crc.htm

Options Counselors: "involves building relationships with individuals and helping them to identify their goals and preferences and weigh the pros and cons of their options. This occurs through in-person meetings, possible conversations with family members, and follow-up. Options counselors help individuals consider a range of possibilities when making a decision about long-term services and supports and encourage planning for future needs. Options Counseling can also help younger individuals plan ahead for their future long-term service and support needs."

Source: NCDAAS

http://www.ncdhhs.gov/aging/options.htm

Paraprofessional Health Care Workers: make up the direct-care workforce in medical facilities, home health care, and long-term care facilities. Workers include certified nurse aides, home health aides, and personal care attendants. Source: Paraprofessional Healthcare Institute http://www.phinational.org/about

Paratransit: "includes any means of shared ride transportation other than fixed route mass transit services" but is usually used to refer to a demand-response system, "where individual passengers can request transportation from a specific location (their origin) to another specific location (their destination) at a certain time." Advanced notice of 24-48 hours is usually required to schedule a ride. Source: Mass.gov Community Transportation Terminology

http://www.mass.gov/eohhs/gov/commissions-and-initiatives/hst/terminology.html

Parish Nurses: also known as faith community nurses, registered nurses who provide health education and advocacy as part of a faith community. Source: International Parish Nurse Resource Center

http://www.queenscare.org/files/qc/pdfs/ParishNursingFactSheet0311.pdf>

Places to Gather: any place within the municipality where residents can congregate. These places help to build community. They can be public or private spaces and may be indoors or

outdoors. Locations may include places of worship, social organizations, community centers, congregate meal sites, libraries, parks, trails and greenways, colleges/universities, museums, and shopping centers.

Source: Livable Community Indicators for Sustainable Aging in Place https://www.metlife.com/assets/cao/mmi/publications/studies/2013/mmi-livablecommunities-study.pdf

Preventive Health Programs: "a pattern of nursing and medical care that focuses on disease prevention and health maintenance. It includes early diagnosis of disease, discovery and identification of people at risk of development of specific problems, counseling, and other necessary intervention to avert a health problem. Screening tests, health education, and immunization programs are common examples of preventive care."

Source: The Free Dictionary http://medical-dictionary.thefreedictionary.com/preventive+care

Property Crime: includes the offenses of burglary, larceny-theft, motor vehicle theft, and arson. The object of the theft-type offenses is the taking of money or property, but there is no force or threat of force against the victims. Source: FBI

http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.2011/property-crime/property-crime

Protected Left Hand Turns: intersections with designated lane(s) for left hand turns and traffic signals with arrows indicating when it is safe to make a left turn. Intersections without signal arrows may have delayed green lights to allow left hand turns.

Source: USDOT, Federal Highway Administration

http://safety.fhwa.dot.gov/intersection/resources/casestudies/fhwasa09015/

Residents with Special Needs: for the purposes of emergency preparedness planning, residents with special needs are those individuals who may require assistance in the event of a disaster. This may include older adults, as well as residents of any age, with one or more physical, mental health, developmental disability or chronic illness. These individuals may be homebound. These residents may rely on the use of durable medical equipment that requires electricity, such as oxygen concentrators. These residents may need assistance that cannot be provided by a public shelter such as assistance with activities of daily living and monitoring of medications or vital signs. Source: Source: RAND Corporation

http://www.rand.org/pubs/technical_reports/TR681.html

Road Diet: a roadway reconfiguration that, "involves converting an undivided four lane roadway into three lanes made up of two through lanes and a center two-way left turn lane. The reduction of lanes allows the roadway to be reallocated for other uses such as bike lanes, pedestrian crossing islands, and/or parking." Restriping roads can provide a low cost way to improve pedestrian and bicyclist safety. Source: USDOT, Federal Highway Administration

http://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_013.htm

Senior Service Organization: nonprofit, local or regional government organization that provides information and services to older adults. These organizations may include county councils on aging, department of human/social services, and senior centers.

Senior Health Insurance Information Program (SHIIP): "counsels Medicare beneficiaries and caregivers about Medicare, Medicare supplements, Medicare Advantage, Medicare Part D, and long-term care insurance." Counselors provide free and unbiased information about Medicare products and help address billing errors.
Source: NC Department of Insurance

http://www.ncdoi.com/shiip/

SNAP (Supplemental Nutrition Assistance Program): formerly known as Food Stamps. Provides nutritional assistance to eligible low-income individuals and families through a Electronic Benefits Transfer (EBT) card that can be used to purchase food at retail markets and some Farmers' Markets. Source: USDA Food and Nutrition Service

http://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap

Special Needs Registry: counties or municipalities maintain, "a database containing information about individuals special needs who may require assistance in the event of a disaster. If there is a disaster, those on the registry will be called and given information about how to prepare for or respond to the disaster, given information regarding facilities or shelters, and to check on their well-being. The information may also be used to assist emergency personnel and volunteers in providing assistance." Source: Orange County, NC Special Needs Registry

http://www.co.orange.nc.us/socsvcs/special_needs_registry.asp

Transportation Options Counseling: "is the practice of working with individuals to identify travel needs and preferences, review options available in the community, and find resources and assistance to get individuals where they need to go." Source: National Center on Senior Transportation

http://www.seniortransportation.net/ResourcesPublications/MobilityManagement.aspx

Travel Training: provides training to help older adults and adults with disabilities learn to safely and independently navigate public transportation systems. Source: Endependence Center of Northern Virginia http://www.ecnv.org/programs/traveltraining.html

Triad and SALT: County Triad groups work to reduce crimes against older adults and reduce the fear of crime for older adults. Groups bring together public safety, criminal justice, and older adult communities. Municipalities under the county Triad form SALT (Seniors and Law Enforcement Together) Councils of 10-20 volunteers who engage in programs and activities to promote older adult safety. Source: National Associations of Triad http://www.nationaltriad.org/NATI_FAQ.htm#L1

Universal Design: "The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." The seven principles of universal design are: equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, size and space for approach and use. Source: Universal Design Institute http://udinstitute.org/principles.php

Village Model Communities: neighbors come together to form a nonprofit to which they pay an annual membership fee in exchange for services that help them remain in their homes. "Memberships include basic transportation for shopping and excursions, and regular social events. Network operators screen service providers, using their leveraged group-buying power to get quality service with member discounts." Source: Villages Network

http://www.agingincommunity.com/models/village_networks/

Violent Crime: offenses which involve force or the threat of force including murder, non-negligent manslaughter, forcible rape, robbery, and aggravated assault. Source: FBI

http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.2011/violent-crime/violent-crime

Visitable Housing: a home construction and design approach that incorporates basic accessibility into all newly-built homes and housing, so that anyone, especially those with disability, can visit the home. A visitable home has: an entrance without steps, wider Interior doorways and hallways on the main level and a bathroom on the main level with space for a wheelchair to maneuver.

Source: Indiana Institute on Disability and Community, Center for Planning and Policy Studies

http://www.iidc.indiana.edu/?pageId=3230

Volunteer Center: connect individuals and businesses with nonprofits in need of volunteers.

Source: Volunteer Center of Durham

http://thevolunteercenter.org/tp42/page.asp?ID=139711

Walk Score: a publicly available website that estimates access to nearby walkable amenities. Points are awarded based on the distance with points decreasing as the length of the walk to amenities. Walk Scores range from 0 Car-Dependent to 100 Walker's Paradise.

Source: Walk Score Methodology

http://www.walkscore.com/methodology.shtml

Housing

Guidelines and/or policies encourage the development of housing that is accessible and/or visitable

Goal: Residents have choices for accessible and visitable housing in a range of price levels and sizes.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, housing advocates, aging and disability advocates, municipal planners, developers, homebuilders, Certified Aging in Place Specialists	
1-Meaningful Investment:	Pursue outreach to elected officials, municipal planners, and constituents to build support for the use of new standards in residential housing.
2-Significant Investment:	Creation of codes that allow/encourage the use of universal design standards in new residential construction. Codes are written in clear language and disseminated to staff.
3-Substantial Investment:	Code enforcement officials receive training and guidance about accessibility features to ensure consistent enforcement.
Supplemental Activities: Determine the percent of homebuilders incorporating universal design in new construction, percent of new housing units meeting accessibility/visitability requirements, and percent of residents with unmet needs for accessible housing. Complete the Housing and Home Improvement assessment tool.	
Resources for More Information: The Center for Universal Design, Universal Design Institute, Department of Housing and Urban Development, Fair Housing Act Accessibility Guidelines, National Association of Home Builders, Disability.gov	

Presence of home modification services

<table>
<tr><td colspan="2">Goal:

Affordable home modifications are available and residents are aware of how to access them.</td></tr>
<tr><td colspan="2">Stakeholders:

Elected officials, residents, older adults, adults with disabilities, caregivers, housing advocates, aging and disability advocates, inspections and permit department, contractors, nonprofits providing home modification services, Certified Aging in Place Specialists, economic/workforce development representatives</td></tr>
<tr><td>1- Meaningful Investment:</td><td>Expedite permitting process so that residents can easily install necessary home modifications (e.g. wheelchair ramps). New guidelines regarding permitting or codes are clearly written and disseminated to staff.</td></tr>
<tr><td>2- Significant Investment:</td><td>Work with nonprofit programs providing home repair and modification services to simplify the permitting process for projects.</td></tr>
<tr><td>3- Substantial Investment:</td><td>Simplify the procedures for applying for permits. Code enforcement officials receive training and guidance about accessibility features to ensure consistent enforcement. Encourage programs providing home safety assessments, home modification/repair, and weatherization services. Educate residents about the National Association of Home Builders' directory of Certified Aging in Place Specialists.</td></tr>
<tr><td colspan="2">Supplemental Activities:

Identify potential barriers to home modifications, such as number of organizations providing home modifications, length of time to process permits, cost of permits and inspections. Complete the Housing and Home Improvement assessment tool.</td></tr>
<tr><td colspan="2">Resources for More Information:

The National Resource Center on Supportive Housing and Home

Modifications, NeighborWorks, Rebuilding Together, Habitat for Humanity, Disability.gov</td></tr>
</table>

Zoning code regarding flexible housing arrangements

Goal: Residents are aware of a variety of flexible housing arrangements and how to access them.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, housing advocates, aging and disability advocates, municipal planners, developers, home builders, homeowner associations	
1- Meaningful Investment:	Pursue outreach to elected officials, municipal planners, and constituents to build support for new codes (e.g. accessory dwelling units, home sharing).Research options and implications for changes in zoning code.
2- Significant Investment:	Incorporate accessory dwelling units in the zoning code. Consider alternatives to codes and ordinances that discourage flexible housing arrangements, such as limits on the number of unrelated individuals who can live in a dwelling or on a lot. Develop clear written building and health codes for accessory dwelling units. Information
	about flexible housing options and applicable codes is available to interested residents. Educate residents about the availability and benefits of flexible housing arrangements.
3- Substantial Investment:	Simplify the procedures for applying for permits for accessory dwelling units. Code enforcement officials receive training and guidance about accessibility features to ensure consistent enforcement.
Supplemental Activities: Survey residents regarding knowledge of and unmet need for flexible housing arrangements.	
Resources for More Information: [Department of Housing and Urban Development]	

Zoning code regarding assisted living/housing for older adults and adults with disabilities

Goal: Supply of supportive housing units for older adults and adults with disabilities of all income levels is adequate to meet the demand.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, housing advocates, aging and disability advocates, municipal planners, supportive housing providers	
1- Meaningful Investment:	Pursue outreach to elected officials, municipal planners, and constituents to build support for codes and ordinances to allow housing for older adults and adults with disabilities. Research options and implications for changes in zoning code.
2- Significant Investment:	Encourage construction of new housing options for older adults and adults with disabilities that are centrally located near transportation. Zoning codes are clearly written and disseminated.
3- Substantial Investment:	Advocate for the construction of additional units of housing for older adults and adults with disabilities to meet the demand.
Supplemental Activities: Determine occupancy rates for assisted living/senior housing/HUD housing, number of residents on waiting lists for these housing units.	
Resources for More Information: Department of Housing and Urban Development, Disability.gov	

Percent of housing that is multi-family housing

Goal: Residents have access to multi-family housing arrangements in a range of price levels and sizes.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, housing advocates, aging and disability advocates, municipal planners, developers, homeowner associations	
1- Meaningful Investment:	Pursue outreach to elected officials, municipal planners, and constituents to build support for new codes and ordinances to allow multi-family housing. Develop policies that allow for multi-family and shared housing options.
2- Significant Investment:	Educate residents about available multi-family housing options and their benefits.
3- Substantial Investment:	Pursue outreach to elected officials, municipal planners, and constituents to build support for new codes to allow new forms of multi-family housing (e.g. co-housing communities).
Supplemental Activities: Survey residents regarding knowledge of and unmet need for multi-family housing. Assess tax benefits of multi-family housing and increased population density.	
Resources for More Information: Department of Housing and Urban Development, National Multifamily Housing Council	

Proportion of households that pay more than or equal to 30% of annual income on housing

<table>
<tr><td colspan="2">Goal:

Affordable housing supply meets the demand.</td></tr>
<tr><td colspan="2">Stakeholders:

Elected officials, residents, older adults, adults with disabilities, caregivers, housing advocates, aging and disability advocates, municipal planners</td></tr>
<tr><td rowspan="2">1- Meaningful Investment:</td><td>Pursue outreach to elected officials, municipal planners, and constituents to build support for new standards. Set municipality wide goals for increasing affordability.</td></tr>
<tr><td>Research options and implications for increasing the supply of affordable housing.</td></tr>
<tr><td>2- Significant Investment:</td><td>Modify zoning codes to encourage the development of additional affordable housing units. Work with Department of Housing and Urban Development or Department of Agriculture to offer more affordable housing options (e.g. HOME Investment Partnership) Educate residents about affordable housing options. Educate residents about property tax relief and energy assistance programs.</td></tr>
<tr><td>3- Substantial Investment:</td><td>Form a committee to explore establishing a community land trust. Advocate for property tax abatement for Naturally Occurring Retirement Communities.</td></tr>
<tr><td colspan="2">Supplemental Activities:

Determine percent of residents who are severely burdened by housing costs (spending 50% or more of annual income spent on housing). Assess the benefits of increasing the supply of affordable housing.</td></tr>
<tr><td colspan="2">Resources for More Information:

Community Development Corporation, Department of Housing and Urban Development, Department of Agriculture</td></tr>
</table>

Transportation

Presence of fixed route public transportation

<table>
<tr><td colspan="2">Goal:

Transportation is available, accessible, acceptable, affordable, and adaptable to diverse needs.</td></tr>
<tr><td colspan="2">Stakeholders:

Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, transportation providers (municipal, county, regional, public, and private)</td></tr>
<tr><td>1- Meaningful Investment:</td><td>Convene a committee to develop a transportation plan for the municipality and/or between communities. Participate in the development of a county and/or regional transportation plan. Explore options including establishing or expanding fixed route public transportation system or partnering with county/regional public transportation provider. If fixed route public transportation is not feasible explore other options including paratransit and volunteer transportation programs. See “Presence of curb to curb senior and disabled transportation options”, in section below, for more information.</td></tr>
<tr><td>2- Significant Investment:</td><td>Engage in mobility management and transportation options counseling to expand access to transportation options. Provide transportation options counseling to address individuals’ transportation needs. Provide neighborhood circulator services (e.g. smaller shuttle buses serving senior centers). If public transportation is available ensure that service is provided to locations that are relevant to residents. Work with transportation provider to adjust routes for easier access to health care services and other relevant destinations. Provide training to public transportation drivers on working with older adults and adults with disabilities. Make travel training available to help older adults and adults with disabilities learn how to use public transportation. Enforce priority seating for older adults and adults with disabilities. Fare cards and passes can be purchased in multiple convenient and accessible locations throughout the municipality.</td></tr>
</table>

3- Substantial Investment:	Extend services hours for transportation providers to include evenings and weekends. Reduce wait times for transportation. Offer discounted fares or other incentives for older adults and adults with disabilities. Ensure safety and accessibility of stops and vehicles (e.g. kneeling buses, low floors, wheelchair accessible).
Supplemental Activities: Conduct a needs assessment regarding transportation within municipality, using the Transportation Services assessment tool. Analyze ridership for public transportation to identify underserved populations.	
Resources for More Information: The Community Transportation Association of America, Department of Transportation, Partnership for Sustainable Communities, Transit Planning 4 All, National Center on Senior Transportation, Federal Transit Administration, Transportation Research Board, Easter Seals Project ACTION, Disability.gov, United We Ride	

Presence of curb to curb senior and disabled transportation options

Goal: There are affordable and efficient on-demand transportation options for older adults and adults with disabilities.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, transportation providers (municipal, county, regional, public, and private)	
1- Meaningful Investment:	Encourage car service and taxi companies to offer vouchers or discounted fares for older adults and adults with disabilities. Provide training opportunities for car service and taxi drivers on working with older adults and adults with disabilities. Promote volunteer transportation programs.
2- Significant Investment:	Develop or subscribe to a computerized scheduling and dispatching system to allow timely scheduling for paratransit patrons.

3- Substantial Investment:	Engage in mobility management and transportation options counseling to expand access to transportation options. Provide transportation options counseling to address individuals' transportation needs. Advocate for the creation of or participation in a system for connecting consumers with the most appropriate available transportation services, while reducing duplication and gaps in service. Explore options for shared mile or shared vehicle programs. Explore additional sources for reimbursement. Extend services hours for paratransit providers to include evenings and weekends. Reduce wait times for transportation. Paratransit vehicles are wellmaintained and accessible to residents with diverse needs.
Supplemental Activities: Conduct a needs assessment regarding transportation within municipality using the Transportation Services assessment tool. Determine the percent of residents currently using curb to curb transportation options. Review consumer wait times. Review reimbursement sources.	
Resources for More Information: Beverly Foundation, United We Ride, Independent Transportation Network America, Community Transportation Association of America, Transit Planning 4 All, Transportation Research Board, Easter Seals Project ACTION, Disability.gov	

Complete Streets policies

Goal: The municipality considers and incorporates all modes of transportation in new and reconstruction projects in keeping with Complete Streets policy.
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, municipal planners, department of public works

1- Meaningful Investment:	Utilize Smart Growth America's Complete Streets planning resources.
2- Significant Investment:	Adopt Complete Streets policy that meets needs of all road users. Change existing or create new policies and procedures to be consistent with Complete Streets policy. Provide education about new standards to appropriate municipal staff.
3- Substantial Investment:	Include Complete Streets improvements with road maintenance and all new street construction projects. Dedicate a planning/engineering/public works employee to ensure compliance.
Supplemental Activities: Analyze crash and injury data to identify trouble spots. Survey residents about problem areas.	
Resources for More Information: National Complete Streets Coalition, North Carolina Department of Transportation Complete Streets, Bicycle Friendly Communities, Transportation Research Board, Walk Friendly Communities	

Infrastructure to protect left-hand turns

Goal: Reduce risk to drivers making left-hand turns.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, municipal planners, department of public works, driver safety instructors	
1- Meaningful Investment:	Develop a pilot plan to improve safety at intersections.

2- Significant Investment:	Implement the pilot plan. Determine the need for changes in road design.
3- Substantial Investment:	Incorporate improvements when designing new construction in suburban and rural areas (e.g. shopping centers and housing developments). Consider a Road Diet to reconfigure streets. Sponsor events to promote older driver safety.
Supplemental Activities: Analyze crash and injury data to identify problem intersections.	
Resources for More Information: Institute of Transportation Engineers, Transportation Research Board, American Association of State Highway and Transportation Officials, Federal Highway Administration- Road Diet	

Infrastructure to improve visibility

Goal: Improve safety for motorists and pedestrians.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, municipal planners, department of public works, driver safety instructors	
1- Meaningful Investment:	Conduct training of traffic and highway engineers. Develop pilot projects to build evidence for broader community-wide changes in road design.
2- Significant Investment:	Improve roadway design and signage, including brighter stop lights and pavement markings, larger lettering on street-name and directional signs, field of view kept free of obstruction, and appropriate roadside lighting.
3- Substantial Investment:	Encourage residents to participate in driver safety programs. Sponsor events to promote older driver safety (e.g. CarFit).

Supplemental Activities: Analyze crash and injury data to identify problem areas.
Resources for More Information: Federal Highway Administration, National Highway Traffic Safety Administration, The Insurance Institute for Highway Safety, The N4A Older Driver Safety Project, AAA-Carolinas, CarFit

Walk Score

Goal: The physical environment encourages residents to walk or bicycle.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, municipal planners, department of public works	
1- Meaningful Investment:	Education of pedestrians, motorists, and others to build safety skills and raise awareness of pedestrian and bicyclist issues. Enforcement of pedestrian and bicyclist laws.
2- Significant Investment:	Complete Streets policies are implemented. Sidewalks are well maintained and compliant with standards set by the Americans with Disabilities Act.
3- Substantial Investment:	Include curb extensions, lighting, signs, and road markings to improve pedestrian safety in Public Works projects. Providing multiple ways that residents can report issues (e.g. uneven sidewalks or malfunctioning crossing signals) including telephone, municipal website, and/or mobile app.
Supplemental Activities: Conduct a walkability audit to identify and prioritize pedestrian improvements. Survey residents about walking habits and the walkability of their neighborhood.	

Resources for More Information:
[Walkable Communities], [Watch For Me NC, Walk Friendly Communities, Bicycle Friendly Communities, Partnership for a Walkable America]

Safety

Crime rate

Goal: Residents of all ages and abilities feel safe within their community.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, law enforcement officers, Adult Protective Services	
1- Meaningful Investment:	Engage in outreach around crime prevention and personal safety. Advocate for the development of a Triad and SALT council. Encourage residents to form neighborhood associations (e.g. Neighborhood Watch or Civic Leagues) to facilitate communication and cooperation among neighbors. Provide training for law enforcement, EMS, and other municipal service providers on how to detect and report the abuse, neglect, and/or exploitation of older adults and adults with disabilities.
2- Significant Investment:	Establish programs to address the safety needs of older adults and adults with disabilities. Programs may address additional safety issues such as fire prevention, fraud prevention, and locating individuals with cognitive impairments who have wandered. Encourage law enforcement officers and planners to attend Crime Prevention Through Environmental Design training. Familiarize law enforcement officials with Adult Protective Services procedures to more easily coordinate resources. Provide training on effective reporting procedures for
	Adult Protective Services cases so that perpetrators can be effectively prosecuted.

3- Substantial Investment:	Encourage residents to report crime in their neighborhoods including quality of life crimes. Use municipal website or mobile app to allow reporting of graffiti, vandalism, or other nonemergency issues. Clarify the laws governing abuse, exploitation, and neglect of older adults and adults with disabilities. Partner with nonprofit human service providers to provide trainings regarding detecting and reporting abuse, exploitation, and neglect of older adults and adults with disabilities.
Supplemental Activities: Survey residents about perceptions of safety in their neighborhood. Examine Adult Protective Services case substantiation rates.	
Resources for More Information: The National Crime Prevention Council, National Association of Triads, The National Center on Elder Abuse, Community Oriented Policing Services, Crime Solutions, Project Lifesaver	

Emergency preparedness plans addressing the needs of residents with special needs

Goal: Residents with special needs have access to emergency response services equivalent to those residents without special needs.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, county emergency planners, municipal emergency services providers	
1- Meaningful Investment:	Providing public information on emergency preparedness in appropriate formats for residents with special needs.

2- Significant Investment:	Develop confidential identification and tracking methods for residents with special needs and their health information (e.g. self-identified special needs registry). Include frail older adults, individuals with cognitive disorders/dementia, and individuals with mental illnesses in planning for special needs populations as well as those with physical disabilities and medical needs. Foster resident self-sufficiency by encouraging residents to prepare for emergencies.
3- Substantial Investment:	Ensure that all emergency shelters are accessible to residents of different abilities. Ensure that there is an
	emergency shelter that can accommodate residents with advanced medical needs and any equipment they may require. Develop an evacuation plan that addresses the transportation needs of residents with special needs (e.g. using EMS to provide transportation to shelters). Address barriers that prevent residents from utilizing emergency shelters (e.g. separation from caregivers and concern about pets).

Supplemental Activities:

Use mapping systems to identify areas with high concentrations of residents with special needs. Survey residents about knowledge about emergency preparedness and barriers to preparing.

Resources for More Information:

Federal Emergency Management Agency, Centers for Disease Control,

National Organization on Disability-Partners in Preparedness, Disability.gov, American Red Cross

Health Care

Health Professional Shortage Area or Medically Underserved Area (HPSA/MUA) designation

Goal: There are an adequate number of primary care physicians, dentists, and mental health professionals accepting multiple forms of insurance, including Medicare and Medicaid, within the municipality.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, county health department, local medical, dental, and mental health professionals, economic/workforce development representatives	
1- Meaningful Investment:	Set recruitment goals regarding the number of primary care physicians, dentists, and mental health professionals needed. Provide transportation to medical facilities across county and municipal boundaries.
2- Significant Investment:	Work with business leaders to provide incentives to attract new physicians (e.g. affordable rent for medical space). Encourage the use of nurse practitioners and physician's assistants to provide primary care.
3- Substantial Investment:	Educate residents about the presence of medical providers within municipality (e.g. a guide to physicians available in print or on website). Utilize volunteers, parish nurses, and mobile clinics that provide health screenings, medical, or dental care to reach underserved populations such as the uninsured. Encourage local providers to receive training on work with older adults and adults with disabilities.
Supplemental Activities: Look up designation as a HPSA/MUA for dental and mental health services. Survey residents about use of a primary care physician, knowledge of how to access health care services, ability to pay for medical care including dental and mental health services. Survey physicians about insurance plans accepted. Complete the Dental Services assessment tool.	
Resources for More Information: State Primary Care Office, North Carolina Office of Rural Health and Community Care, Disability.gov	

Presence of specialist physicians

<table>
<tr><td colspan="2">Goal:

There are an adequate number of physicians for most specialties with offices within the municipality that accept multiple types of health insurance, including Medicare and Medicaid.</td></tr>
<tr><td colspan="2">Stakeholders:

Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, county health department, local medical professionals, economic/workforce development representatives</td></tr>
<tr><td>1- Meaningful Investment:</td><td>Set recruitment goals regarding the number and types of physicians needed. Provide transportation to medical facilities across county and municipal boundaries.</td></tr>
<tr><td>2- Significant Investment:</td><td>Work with business leaders to provide incentives to attract new physicians (e.g. affordable rent for medical space).</td></tr>
<tr><td>3- Substantial Investment:</td><td>Educate residents about the presence of physicians within municipality (e.g. a guide to physicians available in print or on website). Encourage local providers to receive training on work with older adults and adults with disabilities.</td></tr>
<tr><td colspan="2">Supplemental Activities:

Determine the percent of residents with unmet needs for specialist physician(s), percent of physicians accepting Medicare and/or Medicaid. Survey residents about knowledge of how to access health care services, ability to pay for medical care, and distance to nearest specialty physicians.

Survey physicians about insurance plans accepted.</td></tr>
<tr><td colspan="2">Resources for More Information:

North Carolina Office of Rural Health and Community Care, Disability.gov</td></tr>
</table>

Presence of preventive health programs for older adults and adults with disabilities

<table>
<tr><td colspan="2">Goal:

Residents are encouraged to make healthy lifestyle choices, including physical activity, nutrition, preventive health services and health insurance.</td></tr>
<tr><td colspan="2">Stakeholders:

Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, county health department, local medical providers, parks and recreation, senior center</td></tr>
<tr><td>1- Meaningful Investment:</td><td>Educate residents about preventive health services offered through the county health department and other low cost providers.</td></tr>
<tr><td>2- Significant Investment:</td><td>Develop exercise, nutrition, and active living programs tailored to preferences of older adults and adults with disabilities through recreation facilities. Provide space where residents can meet with Senior Health Insurance Information Program (SHIIP) counselors or Affordable Care Act navigators.</td></tr>
<tr><td>3- Substantial Investment:</td><td>Encourage Evidence Based Health Promotion classes on topics such as disease management, fire and falls prevention, and weight loss at municipal facilities. Utilize volunteers, parish nurses, and mobile clinics that provide health screenings, medical, or dental care to reach underserved populations such as the uninsured. Provide incentives to municipal employees and/or residents to encourage participation in activities to prevent or manage chronic illnesses.</td></tr>
<tr><td colspan="2">Supplemental Activities:

Analyze resident usage of health department services including Immunizations and routine screenings. Survey residents about preventative services utilized, level of physical activity, and insurance status. Compare the cost of preventive programs with the costs associated with chronic illness.</td></tr>
</table>

Resources for More Information:

Department of Health and Human Services, Centers for Disease Control,

The Active Living Program, The International Council on Active Aging,

Administration on Aging- Health, Prevention, and Wellness Program,

North Carolina Department of Health and Human Services, Health Care,

North Carolina Department of Insurance, The Guide to Community Preventive Services, Disability.gov

Supportive Services

Presence of home and community based services for older adults and adults with disabilities

Goal: Appropriate supportive services are accessible to residents of different ages, abilities, and income levels.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, business and nonprofit leaders, Area Agency on Aging, Community Resource Connections, Center for Independent Living, county council on aging, economic/workforce development representatives	
1- Meaningful Investment:	Reach out to service providers in the community to foster collaboration.
2- Significant Investment:	Offer additional assistance through existing services (e.g. backyard trash collection). Offer in-kind support to nonprofit service providers (e.g. providing space on the premises of the public schools for kinship care support services).
3- Substantial Investment:	Encourage support services for residents of all income levels (e.g. Naturally Occurring Retirement Communities or Village model communities). Encourage the development of programs that recruit and train paraprofessional health care workers. Establish a No Wrong Door policy to help residents connect with needed services.
Supplemental Activities: Conduct a needs assessment regarding support services including knowledge of how to access services and unmet needs, using in-depth evaluation tools. Use Geographic Information Systems (GIS) to map providers and areas of service. Survey residents about access to and use of the internet to locate services.	

Resources for More Information:
Community Partnerships for Older Adults, North Carolina Division of Aging and Adult Services, Medicaid Home and Community Based Services, National Council on Independent Living, Naturally Occurring Retirement Communities, Village Model, North Carolina Statewide Independent Living Council, NC 2-1-1, Disability.gov

Presence of caregiver support services

Goal: Caregivers for older adults and adults with disabilities know how to access supportive programs and services.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, for-profit and nonprofit services providers, Area Agency on Aging, Community Resource Connections, county council on aging, disease specific support organizations	
1- Meaningful Investment:	Reach out to service providers in the community to foster collaboration.
2- Significant Investment:	Educate residents about Community Resource Connections (Aging and Disability Resource Center) and Options Counselors.
3- Substantial Investment:	Provide in-kind support to nonprofit service providers (e.g. providing space in municipal buildings where caregiver support groups and trainings can be held). Encourage the development of programs that recruit and train paraprofessional health care workers. Establish a No Wrong Door policy to help caregivers connect with needed services.
Supplemental Activities: Conduct a needs assessment of caregivers, including knowledge of how to access services and unmet needs. Survey residents about access to and use of the internet to locate services.	

Resources for More Information:

North Carolina Division of Aging and Adult Services, NC 2-1-1, Disability.gov,

Family Caregiver Alliance, Well Spouse Association, Alzheimer's AssociationWestern North Carolina, AlzNC

General Retail and Services

Land area zoned for mixed use/retail

Goal: Mixed use developments are common throughout the municipality, providing easy access to goods and services to residents of all ages and abilities.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, municipal planners, local business leaders, economic/workforce development representatives	
1- Meaningful Investment:	Examine the tax revenue benefits of mixed use development. Educate stakeholders about the benefits of mixed use development, including tax revenue and quality of life.
2- Significant Investment:	Examine areas where mixed use developments may be feasible. Address zoning issues to allow mixed use development in selected areas.
3- Substantial Investment:	Creation of mixed use developments in town/city center providing housing opportunities for older adults and adults with disabilities near retail/commercial spaces. Provide a portion of housing units in mixed use development that are affordable for older adults and adults with disabilities.
Supplemental Activities: Market studies of feasible locations for mixed use development. Survey residents regarding unmet needs for goods and/or services. Survey residents about ease of access of goods and/or services.	
Resources for More Information: American Planning Association-North Carolina Chapter, Smart Growth America	

Food Desert designation

Goal: Residents of all ages, abilities, and income levels have access to fresh foods.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, municipal planners, local grocery retailers, famers' market vendors, economic/workforce development representatives	
1- Meaningful Investment:	Encourage the development of programs to make local Farmers' Markets more accessible to SNAP (Food Stamps) recipients. Provide in-kind support to farmers' markets through advertising and/or land use. Include Farmers' Markets in routes for fixed-route public transportation or neighborhood circulator service.
2- Significant Investment:	Promote the development of alternative sources for fresh foods (e.g. community gardens, healthy convenience store initiatives). Provide in-kind support to nonprofits addressing food access issues (e.g. providing space for community gardens or congregate and home delivered meal programs).
3- Substantial Investment:	Policies encourage the development of grocery stores in areas of greatest need through zoning and/or tax incentives.
Supplemental Activities: Survey residents regarding grocery store accessibility and usage. Determine the percent of residents with inadequate food access. Survey businesses about access to fresh foods.	
Resources for More Information: The International City/County Management Association, Feeding America, The Food Trust, Department of Agriculture Supplemental Nutrition Assistance Program, American Community Gardening Association, North Carolina State University Community Gardens, National Foundation to End Senior Hunger, Senior Farmers' Market Nutrition Program, USDA Community Food Project, CDC-Community Gardens	

Social Integration and Community Life

Presence of activities that promote intergenerational contact

Goal: Older adults and adults with disabilities are encouraged to take part in all aspects of municipal life both as advisors and/or participants through input and participation.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, parks and recreation, senior center representatives	
1- Meaningful Investment:	Engage older adults and adults with disabilities in planning for municipal activities, events, and services through the creation of citizens' advisory committees.
2- Significant Investment:	The planning process for municipal events takes into account the needs of residents of all ages and abilities.
3- Substantial Investment:	Support intergenerational learning and service projects throughout municipal activities.
Supplemental Activities: Survey residents about interest in intergenerational activities. Survey residents about accessibility of and participation in intergenerational activities.	
Resources for More Information: Generations United	

Presence of places for older adults and adults with disabilities to gather

<table>
<tr><td colspan="2">Goal:

Residents of all ages and abilities have a variety of accessible spaces to gather with others both formally and informally.</td></tr>
<tr><td colspan="2">Stakeholders:

Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, parks and recreation, senior center, local business and nonprofit leaders, service organizations, municipal planners</td></tr>
<tr><td>1- Meaningful Investment:</td><td>Develop and/or promote accessible outdoor gathering spaces (e.g. parks and trails).Develop and promote shared spaces for older adults (e.g. senior center without walls concept). Schedule recreation events so that residents of all ages and abilities can access facilities such as pools and fitness equipment. Policies allow municipal spaces to be used for multiple purposes (e.g. allowing younger residents to use the senior center after hours).</td></tr>
<tr><td>2- Significant Investment:</td><td>Encourage educational and cultural organizations to make their facilities accessible to older adults and adults with disabilities through discount programs. Make new or existing indoor and outdoor recreation facilities as accessible as possible. Encourage residents of all ages and abilities to gather by providing Wi-Fi in common spaces.</td></tr>
<tr><td>3- Substantial Investment:</td><td>Develop policies to encourage the use of universal design principles in public spaces.</td></tr>
<tr><td colspan="2">Supplemental Activities:

Survey residents about desire for places to gather. Survey residents regarding attendance of social, educational, or religious gatherings. Survey residents about preferences for places to gather and types of gatherings. Survey residents about knowledge of places to gather. Survey residents about ability to access places to gather. Complete the Social/Leisure/Recreational assessment tool.</td></tr>
</table>

Resources for More Information:
The Asset-Based Community Development Institute, The National Center on Creative Aging, Partners for Livable Communities, SeniorNet, Community Partnership for Older Adults, International Council on Active Aging

Presence of individuals or organizations to facilitate volunteer activity

Goal: Residents of all ages and abilities are able to access meaningful volunteer opportunities.	
Stakeholders: Elected officials, residents, older adults, adults with disabilities, caregivers, aging and disability advocates, nonprofit volunteer coordinators, service organizations	
1- Meaningful Investment:	Provide space within local publications to announce volunteer opportunities. Provide space within public buildings where information about volunteer opportunities can be posted.
2- Significant Investment:	Develop central clearinghouse for local volunteer opportunities (e.g. a Volunteer Center or HandsOn Action Center). Provide in-kind support to organizations that support older adults volunteers (e.g. RSVP).
3- Substantial Investment:	Host a volunteer "job fair" where residents can learn about volunteer opportunities in the community.
Supplemental Activities: Survey residents regarding knowledge of and participation in volunteer opportunities. Survey residents regarding barriers to volunteering. Determine the number of available volunteer opportunities that are tailored to older adults and adults with disabilities.	
Resources for More Information: Corporation for National and Community Service-SeniorCorps, United Way, HandsOn Network	

The TJCOG Livability Self-Assessment for Municipalities was adapted from Livable Communities Indicators for Sustainable Aging in Place by Stanford Center on Longevity and MetLife Mature Market Institute.

Recommendations included in the toolkit were adapted from A Blueprint for Action: Developing a Livable Community for All Ages by National Association of Area Agencies on Aging, Partners for Livable Communities, and MetLife Foundation.

Special thanks to the Town of Cary, NC for advising the TJCOG Livability Self-Assessment for Municipalities and to Dr. Amanda Lehning, Assistant Professor, University of Maryland School of Social Work, for her gracious support.

The TJCOG Livability Self-Assessment for Municipalities was a joint project of the Area Agency on Aging, Regional Planning Department, and Member Services at:

Triangle J Council of Governments
4307 Emperor Boulevard Suite 110
Durham, NC 27703

Special thanks to the following individuals for their work developing the TJCOG Livability Self-Assessment for Municipalities and TJCOG Livability Self-Assessment for Municipalities Toolkit

Katie McCarthy, MSW Candidate, University of North Carolina-Chapel Hill
Mary Warren, Assistant Director, Area Agency on Aging
Marla Dorrel, Public Relations/Member Services Specialist Joan
Pellettier, Director, Area Agency on Aging
Bergen Watterson, Planner II, Regional Planning Department
Lars Hanson, Planner, Regional Planning Department
Nate Broman-Fulks, MPA Candidate, North Carolina State University
Amina Shah, MPA Candidate, North Carolina State University

Photos by Eldercare Locator.

TJCOG would like to hear how the TJCOG Livability Self-Assessment for Municipalities was used by your municipality. Please email us at aging@tjcog.org and use the subject line Livability Self-Assessment.

APPENDIX F: INSTRUCTION SHEET FOR PILOT STUDY

TRIANGLE J COUNCIL OF GOVERNMENTS

TJCOG Livability Self-Assessment for Municipalities
Pilot Research Project

The TJCOG Livability Self-Assessment for Municipalities and accompanying Toolkit are intended as a framework for informing yourself, elected officials, advocates and other interested parties about the overall livability of your city or town, especially livability for those who are older, frailer or have disabilities.

Together, these documents can be used to evaluate livability in key areas, such as Housing, Transportation, Safety, Health Care, Supportive Services, Retail Services and Social Integration, and to help facilitate local conversations about further improvements. How you choose to use the information generated in the self-assessment process is up to you, but we are very interested in knowing more about the usability and usefulness of the self-assessment and toolkit, and whether or not this self-assessment process is helpful.

Instructions

While completing the TJCOG Livability Self-Assessment for Municipalities, macros should be enabled in the Excel workbook. If macros are disabled by IT, then it is recommended that you use the manual tabs at the bottom of the workbook to navigate through the self-assessment.

Suggested data sources and instructions are included in the self-assessment. Please note the ease or difficulty in finding the data and/or following the instructions.

Please pay particular attention to the amount of time it takes to complete the self-assessment questions and note any items that are difficult for you to complete.

Please note the time you spend using the accompanying toolkit and if there are resources in the Toolkit that are particularly helpful or not helpful.

Because the self-assessment and toolkit are still in development, please do not distribute these documents to others, except as appropriate for further evaluation and planning within your own community.

If you have questions during your testing, please contact:

Mary K. Warren Assistant Director, Area Agency on Aging

Phone: (919) 558-2707 Email: mwarren@tjcog.org

As a reminder, we've included the projected timeline for this project, below. Thank you for your time and participation in this important research project.

Timeline

October 1st: TJCOG Livability Assessment for Municipalities pilot project begins.

October 1st -15th: Time allotted to review material, ask questions (if needed), and complete the TJCOG Livability Assessment for Municipalities.

October 15th-November: You will be contacted to schedule and participate in a post-assessment interview. Post-assessment interviews will be conducted by Heather Altman, Director of Community Connections, Carol Woods Retirement Community and DrPH candidate, UNC Chapel Hill Gillings School of Global Public Health

Spring 2015: Follow up contacts will be made to determine how and in what ways the Self-Assessment and Toolkit have been useful in furthering livability planning or community dialogue.

APPENDIX G: INTERVIEW GUIDES

Triangle J Council of Governments

Livability Self-Assessment Pilot

Interview Guide – Initial Feedback Discussion

Municipality Name: ____

Participant (Code) Name: ____

Participant Title: ____

Date: _________________

Introduction

The purpose of this interview is to learn about your experience taking the Livability Self-Assessment and using the accompanying Toolkit. Your feedback will be used to identify areas of possible refinement for both of these resources. In addition to learning about your experiences, I'm also interested in your initial ideas of if, and how, you may apply the Self-Assessment in your community.

This research is being conducted on behalf of the Triangle J Council of Governments to pilot study the Livability Self-Assessment and Toolkit in preparation for broader dissemination throughout our region. Additionally, this research will be included in my dissertation work for the University of North Carolina at Chapel Hill's Gillings School of Global Public Health. [Added: it is important to note I did not create the Livability Self-Assessment or Toolkit, I am purely an evaluator coming in to help gather feedback, so please feel free to speak openly about your experiences.]

This interview should not take longer than 60 minutes. I will be interviewing representatives of 4-6 communities participating in this pilot study. These interviews will be completely confidential. The information will be reported in aggregate and de-identified ways. With your permission, I would like to record our interview. This is purely to help me with my note-taking. Are there any questions that you have about this interview or research study? May I record this interview?

Background

1) Why were you interested in participating in this pilot study?
2) What motivated you to pursue the question of the livability of your community? What was the incentive or driving force?
3) Have you ever completed a livability assessment before? If so, what type and how long ago? Did you find that assessment useful?

Feedback on Completing the Assessment

4) How long did it take to complete the Livability Self-Assessment?
5) How many people were involved in completing the Assessment? What were their roles?
6) What are your overall impressions of the Assessment in terms of its ease or difficulty to complete?
7) Were there any questions that you were unable to answer or that were very difficult to answer? Why?
8) Did you have any difficulties running the Macros on the Excel Worksheet?
9) Was the secondary data easy to obtain and understand? Please explain.
10) Were the dashboards and visuals helpful and easy to understand? Please explain.

Recommendations for Enhancements

11) Did you feel there were any topic areas or questions missing from the Assessment? Please explain?
12) What suggestions do you have for making the Assessment easier to complete?
13) Did the results of the Assessment appear accurate? Please explain.
14) Were you surprised by the results? Please explain why or why not?
15) In what ways did you use the accompanying Toolkit in completing the Assessment?
16) What suggestions do you have for possible revisions to the Toolkit?
17) In what ways did the Assessment meet or not meet your expectations?

Feedback on the Potential Usefulness of the Assessment & Toolkit

18) What are your overall impressions of the Assessment in terms of its usefulness for helping municipalities understand their strengths and opportunities related to Livability for seniors specifically, and for all citizens in general?
19) How would you describe the usefulness of the Assessment to other municipalities?
20) In what ways will the Assessment & Toolkit be helpful for planning for Livability?
21) In what ways do you plan to use the Assessment over the next 6 months?

Closing

22) What else would you like to share about your experience completing the Livability Self-Assessment or the using the Toolkit?

Triangle J Council of Governments

Livability Self-Assessment Pilot

Interview Guide – 6 Month Check-In

Municipality Name: ____

Participant (Code) Name: ____

Participant Title: ____

Date: _________________

Introduction

The purpose of this interview is to learn about your experiences since taking the Livability Self-Assessment and using the accompanying Toolkit. I am specifically interested in whether, and how, this experience affected your community planning efforts.

This research is being conducted on behalf of the Triangle J Council of Governments as part of the pilot study of the Livability Self-Assessment and Toolkit. The research is designed to study the effectiveness of these resources to support community planning efforts throughout the region. Additionally, this research will be included in my dissertation work for the University of North Carolina at Chapel Hill's Gillings School of Global Public Health.

This interview should not take longer than 60 minutes. I will be interviewing representatives of 4-6 communities participating in this pilot study. These interviews will be completely confidential. The information will be reported in aggregate and de-identified ways. With your permission, I would like to record our interview. This is purely to help me with my note-taking.

Are there any questions that you have about this interview or research study?

May I record this interview?

Impact of Taking the Assessment

1) What specific activities took place as a result of completing the Livability Self-Assessment?

    1a) (Refer back to answer in Q21 in Initial Interview) how is this similar or different than what you expected would happen when we met 6 months ago?

    1b) Who was involved in these activities (could be individuals and/or groups)?

2) If no activities occurred, why? What factors contributed to the lack of action?

3) What outcomes or impact would you say occurred as a result of completing the Livability Self-Assessment?

Application of the Assessment and/or Findings

4) What processes or action steps used in applying the findings of the Livability Self-Assessment proved successful? Why?

5) What processes or action steps used in applying the findings of the Livability Self-Assessment proved unsuccessful? Why?

6) Please describe any factors that facilitated or supported the use of the assessment findings in your community?

7) Please describe any factors that were obstacles or challenges to the use of the assessment findings in your community?

Considerations of Past & Future Actions

8) In looking back over the past 6 months, would you do anything differently related to applying the findings of the Assessment or using the Toolkit?

9) Please describe any plans you may have for further/future use and application of the Livability Assessment and Toolkit? Related: Would you consider taking the assessment again on a periodic basis (ex. every year or 5 years?)

Recommendations for Other Communities

10) Would you recommend that other communities complete the Livability Self-Assessment? Why or why not?

11) Would you recommend that other communities use the Toolkit? Why or why not?

12) What recommendations do you have for other communities on the effective application of the Livability Self- Assessment in promoting community dialogue and planning on aging-in-community supports and services?

Closing

13) What else would you like to share about your community's experience of taking and applying the Livability Self-Assessment & Toolkit?

APPENDIX H: SUMMARY OF STUDIES

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Black, K. (2008)	• Needs Assessment • Purposive sampling design. • Survey conducted in-home by interviewer • Statistical Packages for the Social Sciences 15.0 • Univariate statistics • Correlation analysis • Chi square and t-tests	• Ages 65+ • 114 Residents of a NORC • SW Florida	• Availability of NORC for programs • Services and health-related activities	• Physical, Psychological & Social Measures of Well-Being	• Findings suggest greater health needs among the oldest residents compared to their younger counterparts based on physical, psychological and social measure of well-being. • Older respondents had more chronic conditions used more adaptive equipment and were more depending in IADLs. Needed help shopping, meal preparation and transportation which are essential components of independent living.
Bronstein, L., Gellis, Z. D., & Kenaley, B. L. (2011)	• Qualitative Interviews • Transcription and analysis • Analytic induction method	• 9 leaders of a NORC • Albany, NY	• Availability of NORC for Programs • Community Development Model • Provides formal and informal home and community-based support	• What does NORC staff need to know in supporting older adults to be able to remain in their own homes?	• Findings reveal the need to support older adults aging in place and NORC programs can support this effort • The importance of informal systems of care by friends neighbors, and family to serve as a bridge to formal systems of care • Access to trustworthy concrete service providers (i.e. shoveling snow, changing light bulbs, raking leaves, etc.) • Develop improved models of collaboration between residents and service delivery systems

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Clarke, P. J., Ailshire, J. A., House, J. S., Morenoff, J. D., King, K., Melendez, R., et al. (2012)	• Representative survey • Cognitive function assessed with modified version of the Telephone Interview for Cognitive Status instrument. • Multilevel linear regression • Descriptive statistics	• 949 adults. • Community-dwelling in the City of Chicago • Aged 50 and over	• Cognitive Function • SES • Urban Design - Design of Outdoor Environments • Neighborhood Resources & Institutions	• Cognitive Function & SES • Neighborhood Resources recreational centers (gyms, parks, swimming for exercise) as well as institutions (community centers, libraries, churches for social interaction and intellectual stimulation • Neighborhood disorder: (capturing social and physical disorder that may discourage residents from accessing services and resources).	• Residence in an affluent neighborhood had a net positive effect on cognitive function • For white respondents, the effects of neighborhood affluence operated in part through a greater density of institutional resources (eg. community centers) • Stable residence in an elderly neighborhood was associated with higher cognitive function • Long term exposure to such neighborhoods was negatively related to cognition. • For African American and Hispanic respondents a greater density of neighborhood institutions was negatively associated with cognitive function.
Chatterjee, A, & DeVol, R (2012)	• Composite index, ranking metro areas • 78 Indicators make	• 359 Metro Areas in the US	• General Indicators • Health Care • Wellness	• Same as community factors	• Ranked the 359 best cities for successful aging, focusing on the Top 20 Large & Top 20 Small Metro areas.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
	up the index • Based on publicly-reported data • Surveys, literature reviews & interviews with experts determined weighting scales		• Financial • Living Arrangements • Education / Employment • Transportation/ Convenience • Community Engagement		• Highlighted "Programs with Purpose," examples of grass-roots efforts to support aging in place.
Dye, C. J., Willoughby, D. F., & Battisto, D. G. (2011)	• Qualitative Study • Focus Groups • Exploratory & Descriptive • Content analysis	• 39 older adults • 5 focus groups • Rural county in South Carolina	• Physical Environment • Senior Friendly Communities • Transportation • Services and Resources • Support Services & Social Environment	• What do rural elders perceive they need to stay in their homes as long as they choose? • What are rural elders views about how housing, financial resources and health impacts their ability to stay in their homes? • What do rural elderly think about the use of local paraprofessionals in helping them get the assistance they	• Themes & Subthemes: • Self-Reliance • Healthcare • Health Maintenance and Chronic Disease management • Social Support: informational and instrumental support • Transportation • Caregiving • Need for Additional Assistance

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
				need to stay at home?	
Elbert, K. B., & Neufeld, P. S. (2010)	• Qualitative and Quantitative data • Collected through a variety of evaluation methods • examined exit data, and collecting impact narratives • Comparing questions and participant responses to similar survey information from 2002. • Analysis involved descriptive statistics with comparisons to national data benchmarks.	• St. Louis NORC • 1152 program participants (384 - 33% response rate) in 2010 • Exit data on 909 former members	• NORC Supportive Programs • Opportunities for Meaningful Engagement • Support Staff • Provision of Programs and Assistance in Small Geographic Area • Efforts to Engage & Mobilize Residents • Transportation • Supportive Services • Development of community partnerships	• Members • Program Participation and Satisfaction • Impact and Considerations • Comparison with 2002 Data. • Specific Aging in Place Question: Has involvement helped them remain in their home. • Skilled Nursing Placement Rate • Average age of move to Independent Living location • Average age of dying in their own home.	• 78% indicated they were more aware of community resources • 62% felt a part of a strong community • 52% felt t involvement helped them remain in their homes • And almost half felt they made a new friends and improved or maintained their health. • Also compared skilled nursing placement rate: Missouri 4.8%, National 4.5%, St. Louis NORC rate 2.03% (less than half) • Members continue to live in their home at a later age • Average age of dying in own home 90 • Average age of moving out to independent living (86) • Average age move into nursing home (87) vs national age of 82 which shows a delay in institutionalization. • Non-member vs. Member nursing home placement rate
Emlet, C. A., & Moceri, J. T. (2011)	• Community Forum World Café Format • Focus Groups • Qualitative analysis • Narrative analysis • Transcriptions analyzed for	• 23 adults 40-65 & adults 65+ • follow-up focus group with 5 people	• Social Interaction & Social Connectedness • Elder-friendly Community	• What does it mean to you to be socially connected? • How can our city help with life transitions	• 3 Themes emerged: • Social Reciprocity • Meaningful Interactions • Structural Needs/Barrier

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
	themes.	• Suburban Western WA.		that would keep you in this community? • What do I have to offer my community?"	
Enguidanos, S., Pynoos, J., Denton, A., Alexman, S., & Diepenbrock, L. (2010)	• Qualitative Case • Conducted at multiple points in time to examine outcomes & intermittent progress • Primary and secondary data analysis of the formative measures • Comparative analysis of the differences between the 2 sites • Summaries of participants in action	• 2 NORCs • Los Angeles Metropolita n Area • 613 members were enrolled over the course of the program.\	• Availability of NORCs • Senior Empowerment • Community Building • Provision of a Basket of Services	• Demographics • Participation and engagement • Service utilization • Activities • Volunteerism • Sustainability	• Different trajectories of program development and implementation • Levels of unmet need varied Vertical NORC had better outcomes • Facilitators: obtaining start- up funds, engaging powerful partners and providing a flexible mix of services • Challenges: building senior empowerment, planning for long-term sustainability, • What works in one NORC may not work in other. • Perceptions that it contributed to the creation of a social networks and sense of community and supported residents ability to age in place.
Gonyea, J. G., & Burnes, K. (2013	• Prospective single group pretest-posttest design • Stress was measured using the 10 item Perceived Stress	• 33 seniors in Aging Well At Home Program • Ages 69-95 • Brookline, MA	• Key element of NORCs: care management and social work services, health care management	• Stress • Loneliness • Depression • Self-Efficacy • Social Connection • Safer in Home &	• Finding revealed a significant decline in participants' perceived stress. • AWAH was less successful in lessening loneliness and was not associated with any change in depression. • In self-assessments, the majority of

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
	Scale • Loneliness was assessed with the widely used 20 item UCLA Loneliness Scale, version 3 • Depression was measured suing the widely used Geriatric Depression Scale.		and prevention programs, education, socialization and recreational activities and volunteer opportunities. • AWAH had 3 core program components: community liaison, warm houses, and community forums.	Neighborhood • Confidence that I can get assistance in locating resources and services • Security	participants reported a greater sense of self-efficacy and social connection • 87% agree or strongly agree that the program has made me feel more connected to my neighbors and my neighborhood. • 71% safer in my home and neighborhood, • 80% agree or strongly agree more confident that I can get assistance in locating community resources and services that if need, • 75% less alone in my neighborhood • 76% more secure that I can manage living in my current home.
Greenfield, E. A. (2013)	• Exploratory Study • Secondary analysis of qualitative data. • Semi-structured in-depth interviews. • Interviews were entered into Atlas TI (version 6.0) for analysis. • Used Grounded Theory Approach • Thematic analysis through a multi-phase and iterative process of coding	• 15 NORC programs in New Jersey	• Availability of NORCs • Community-Level Enhancements to Services and Support	• Aging in Place is the outcome from Community-Level Enhancements to Services and Support. • Greater number • Greater access • Greater responsiveness • Greater appropriateness • Greater coherence • Greater	• 4 Overarching Themes • Professionals seek to infuse capital within 3 domains of relationships: • 1) Lead agency staff's relationships with older adults • 2) Formal service providers' relationships with each other • 3) Older adults relationships with each other. • This social capital potentially enhances the amount of community-based services and supports within a residential area, as well as their accessibility, appropriateness, responsiveness, and coherence. • 4) Efforts to influence these relationships took place in the

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
				utilization	context of the lead agencies gaining and utilizing specialized knowledge of the community.
Greenfield, E. A., Scharlach, A. E., Lehning, A. J., Davitt, J. K., & Graham, C. L. (2013)	• Survey: mailed questionnaire & hour-long telephone interview. • Descriptive statistics for total, as well as Villages and NORCs separately. • Bivariate analyses • Examined differences using chi-square tests and independent sample *t* tests	• 69 Villages • 62 NORCs • National survey	• Availability of Villages • Availability of NORCs • Programs & Services	• Socio-demographics • Eligible for Medicaid and/or Nutrition Programs • Need for Personal Care • Future research needs to examine which features influence key programmatic outcomes to promote aging in place.	• Village members were reportedly more likely than NORC program participants to be younger, to be less functionally impaired, to be more economically secure, and to reside in higher socioeconomic communities. • Reflecting these differences in populations served NORC programs reported offering more traditional health and social services, had more paid staff, and relied more on government funding than Villages. • Both identified promoting older adults access to services as their most important goal, then strengthening older adults social relationship and reducing social isolation.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Harrell, R. Lynott, J., Guzman, S. & Lampkin, C.	• Qualitative - 4 Focus Groups of 50+ • Quantitative, Cross-Sectional Survey of 50+ • Qualitative – follow-up phone survey with survey participants • 2 Reports: 1) What is Livable? Community Preferences of Older Adults 2) Is this a Good Place to Live? Measuring Community Quality of Life for All Ages	• Nation-wide Survey with 4,596 participants 50+ • 80 in-depth post survey interviews • Focus Groups in Chicago & Birmingtham • Review of previous AARP Livability Surveys	• Affordability • Choice of a particular type of home or neighborhood • Safety • Access to schools, jobs, shopping, recreation, and other amenities • Attractiveness	• Livability Community Principles • General (Create Livable communities, improve health, foster safety and personal security, engage residents in community planning, and provide equal access to the decision-making process, coordinate planning processes, invest in existing communities) • Land Use (Enhance access, create communities with a strong sense of place, promote mixed-used development, foster lifelong	• Findings from the surveys increased both the understanding of general preferences for livability and an understanding of how preferences differ within the general population of older adults. • The preferences of older adults are complex, intertwined and sometimes conflicting. • Lessons for measuring livability: individual definitions of livability can include issue areas that may or may not be addressed by public policy; people and communities have differing perspectives; one type of community does not fit all; perceptions of a livable community are made when choosing housing and may not change as the person ages, unless a major life change forces a new perspective. • Discussed efforts at creating a Livability Index to a) reflect the preferences of a wide range of people as they age, b) include objective indicators to measure what those people's communities look like today and c) measure the potential for the communities to improve and do a better job of meeting needs in the future.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
				learning opportunities) • Housing (improve home design, promote affordable housing options, foster home and community based service delivery) • Transportation and Mobility (create options, promote affordability and accessibility, promote sustainable transportation infrastructure, foster coordinated services and assets.	

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Keenan, T. A. (2010)	• Cross-sectional AARP survey • Descriptive study, • Telephone survey, random digit dialing probability sample of all telephone households in the continental US	• ages 45+ • 1616 national respondents	• Being Near Friends/Family • Being Near Where You Want To Go • Being Near Church or Social Organizations • IEasy to Walk • Being Near Good Schools Being Near Work • Being Near Transit	• Same as Community-Level Factors • Plus: Plans to Stay in Current Residence for As Long As Possible • Plans to Stay in Local Community For As Long As Possible	• Aspects of one's community continue to be the primary motivation for aging in place as one ages, reflected in the two-thirds of respondents who agreed they want to stay in their home because they like what their community has to offer. In contrast, roughly one-quarter of respondents noted they would stay in their community because they cannot afford to move. • Two-thirds of respondents agreed they want to say in their home because "I like what my community has to offer me." • When asked about seven different community aspects and the level of importance they have for them, two-thirds of respondents said being near friends and/or family and being near where one wants to go is extremely or very important to them. • Roughly half noted being near church or social organizations or being somewhere where it's easy to walk are extremely or very important the them. • Only about one-fifth of respondents reported being near transit was extremely or very important to them.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Keyes, L., Rader, C., & Berger, C. (2011)	• The Atlanta Regional Commission (ARC) developed the Lifelong Communities Initiative, sponsored a Charrette in February 2009.	• 1500 people in concurrent workshops • broad range of professionals & local citizens	• Designing physical environments allow all people to remain in their home and communities as long as they desire. • Promote Housing and Transportation Options • Encourage Healthy Lifestyles • Expand Access to Services	• Seven core principles: • 1) Connectivity • 2) Pedestrian Access and Transit • 3) Neighborhood Retail and Services • 4) Social Interaction • 5) Dwelling Types • 6) Healthy Living • 7) Consideration for Existing Residents	• Six conceptual master plans were developed for sites around the Atlanta region incorporating strategies demonstrating how new development and retrofitted suburban communities can support people of all ages through their lifetimes. • The intent of the charrette planning process was to foster a multidisciplinary approach to community design and development and increase the regional interest, awareness, and momentum around these issues.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Lehning, A., Scharlach, A., & Wolf, J. P. (2012)	• On-line Surveys and existing community change literature. • Qualitative data analysis consisted of data reduction, data display and conclusion drawing /verification. • Quantitative analysis used Stata Statistical Software Release 11 • Calculated univariate statistics • Fisher's Exact Test	• On-Line Review of Community Aging Initiatives • Survey of 293 initiatives identified (124 in final sample 42% response rate)	• Data Collection, Planning • Inter-organizational collaboration • Peer Support Networks, • Service Provision • Advocacy • Community Education	• Existence of these initiatives and the characteristics, programs and services • Need to take this framework to design evaluations of the effectiveness and sustainability of these initiatives.	• In addition to the typology of the 5 categories: Community-wide Planning Efforts, Consumer Driven Support Networks, Cross Sector Systems Change, Residence-Based Support Services and Single Sector Services • Challenges: funding, sustainability community barriers, marketing the initiative, and building partnerships. • Community barriers to initiative, including ageist attitudes prevent the larger community from viewing older adults as community assets. • Some community members are unaware of the needs of older residents convincing local leaders there is a need for specialized community services to enhance aging in place within neighborhoods.
Lehning, A. J. (2012)	• Sequential, explanatory, mixed-method study • quantitative data collected via on-line surveys, combined with qualitative data collected via telephone interviews • Quantitative	• 62 City Planners (out of 101 cities located in San Francisco Bay Area) • Interviews with subsample of 18 survey respondents	• Community Design • Incentives for Mixed-Use Neighborhoods • Changes in Infrastructure to improve walkability • Transportation • Education programs for older drivers	• Existence of innovations listed in Community-Level Factors	• Successful advocacy strategies for local government adoption include facilitating the involvement of older residents • Targeting key decision makers within government • Emphasizing the financial benefits to the city • Focusing on cities whose aging residents are vulnerable to disease and disability. • Advocacy is an effective strategy to encourage city government adoption

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
	analysis: 4 different regression equations • Qualitative analysis: data reduction, data display, and conclusion drawing /verification.		• assessment programs for older adults • Infrastructure changes to improve older driver safety • alternative transportation • slower-moving vehicle ordinance • Housing: accessory dwelling unit ordinance, • Developer incentives to guarantee housing units for senior • incentives to make housing accessible, • home modification assistance		of these innovations. Younger individuals with disabilities are more active in local advocacy efforts. Percent of population with a disability was positively associated, whereas percent of the population aged 65 and older was not associated or negatively associated.
Marek, K. D., Stetzer, F., Adams, S. J., Popejoy, L. L., & Rantz, M. (2012)	• Quasi-experimental retrospective cohort design (12 months) • Matched 39 pairs with Medicare and	• Older adults in central Missouri who required long term	• Availability of "AIP Program" • Medicaid Home & Community Based Services (HCBS) Waiver	• Health care costs • Utilization of HCBS services including intensive nurse	• Total Medicare & Medicaid costs were $1,591.61 lower per month in the AIP group ($p<0.01$) when compared with the nursing home group over a 12 month period. • These findings suggest the provision

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
	Medicaid payers. • Analysis focused on cost data, using Medicare Standard Analytical Files and multiple regressions. • analyzed program costs and chronic conditions	care services • 39 in each group: Nursing Home & Aging in Place Group	Program • HCBS services including: personal care services, housekeeping, companion care, supervised adult day care, and limited in-home nursing care.	care coordination and home health	of nurse-coordinated HCBS and Medicare home health services has potential to provide savings in the total cost of health care to the Medicaid program while not increasing the cost of the Medicare program.
Norstrand, J. A., Glicksman, A., Lubben, J., & Kleban, M. (2012)	• Cross-Sectional Survey. • Analysis with statistical software package Stata Version 11 • Pearson Correlation • Binary and Ordinal Logistic Regressions	• 3,219 • Adults 60+ • From 5 county SE Penn. region (22% response rate).	• Social Capital Measures: • Participation in Groups • Neighbors Willing to Help • Sense of Belonging • Trust in Neighbors • Talk to & See Friends/Family	• Social Capital • Physical Health (self-rated) • Mental Health (depressive symptoms)	• Participation in Groups, Sense of Belonging and Neighbors Willing to Help were associated with self-rated health • Trust in Neighbors and Sense of Belonging and Neighbors Willing to Help were associated with depressive symptoms, even when socio-demographic indicators were controlled.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Sassen, B., Selod, S., & Bavaro, K. (2011)	• Annual customer satisfaction and quality of life survey • Analysis using descriptive statistics and linear regression	• 259 Mather Edgewater "Without Walls" program members	• "Without Walls" Community Program • Services to an aging population while keeping them in their own community • Programs to address: social, vocational, spiritual, physical, emotional and intellectual well-being.	• Satisfaction with program options	• Improvement of customer's overall health, enhancement of their lives, making new friends, and becoming more self-reliant due to attending Mather Edgewater programs, all correlated with their likeliness to recommend Mather Edgewater. • The regression highlights older adults find a high level of satisfaction in some of the Mather Edgewater programs. • These programs enable older adults to improve the quality of their lives by participating in wellness programs result in an improvement in their social, vocational, spiritual, physical, emotional and intellectual well-being.
Scharlach, A. (2011)	• SAME STUDY AS REPORTED IN LEHNING (2012)	• 292 Aging-friendly community initiatives in 2009	• Community Resources • Housing • Transportation / Mobility • Health • Social interaction • Productivity • Cultural / Religious involvement • Educational / Leisure activity	• Continue to engage in life-long interests and activities • Enjoy opportunities to develop new interests and sources of fulfillment	• 4 types of initiatives: community planning, system coordination and program development, co-location of services, and consumer associations

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Scharlach, A., Graham, C., & Lehning, A. (2011)	• 2 Surveys emailed to Village Directors • First survey collected basic demographic information. • Second survey used fixed choice questions to gather organizational characteristics. • Data analysis: descriptive characteristics • Quantitative data from surveys were merged and descriptive analyses were conducted using SPSS. • Content analysis of open-ended responses: an initial list of all relevant codes, then reviewed the coding. • Code reported as themes when they appeared in at least 25% of Villages' responses.	• 42 Villages Surveyed nation-wide • 30 Villages completed both surveys, (71% response rate)	• Village Model • Organizational capacity • Response to community needs	• Reduced health disparities • Better self-related health • Greater perceived self-efficacy • Enhanced psychological and emotional well-being. • Future research needs to examine the efficacy of the Village model itself, preferably through longitudinal studies tracking Village members from the time of their initial enrollment, using adequate comparison groups of relatively similar individuals. • Need better	• Almost all the Villages (93%) reported promoting aging in place was primary mission or goal • Providing or referring services to members (87%) • Improving members' health, well-being, or quality of life (67%) • Empowering or increasing the confidence of members (47%) was also identified by many villages as a primary mission or goal. • Promoting elder involvement was a mission/goal of approximately half 47% of all Villages. • Other common themes: providing information, volunteer support and creating partnership with other organizations. • Most common challenge cited by 83% of respondents was recruiting new members. Some of the difficulty was attributed to the newness of the Village concept. Other villages attributed difficulty recruiting members to resistance to paying dues. Other Villages attributed difficult recruiting members to older adults resistance to admitting they needed help • 2/3rd of villages (67%) indicated obtaining funding was a major challenge. • 53% said growing the organization,

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
				evidence regarding the effectiveness including the ability of Villages to meet members service needs, enhance their health and well-being and enable them to aging in place.	including recruiting staff, volunteers, vendors and recruiting board members was a challenge.
Scharlach, A. E., Davitt, J. K., Lehning, A. J., Greenfield, E. A., & Graham, C. L. (2014)	• Mailed Survey and Follow-Up Phone Interview	• 86% of the operational Villages known to the Village to Village Network.	• WHO Global Network of Age-Friendly Cities and Communities • Program Domains contributing to health, participation and security as people age • Social Domains • Supportive Service Domains • Physical Infrastructure	• Same as the WHO Domains	• Study provides initial evidence regarding ways Villages implement features of age-friendly community models with select groups of older community members, as well as the ways they contribute to the age friendliness of the larger community. • Most of the Villages examined here provided supports and services consistent with the 8 domains identified by the WHO Global Network • Unlike Traditional aging services providers who typically provide only one or two types of services, 85% of Villages provided assistance with a least six of the 8 WHO domains.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
			Domains		
Stanford Center on Longevity (2013)	• Review of existing livable community and sustainability indicator systems and checklists • Extensive review of existing research literature • Interviews with 19 aging in place experts	• 19 national aging in place experts	• Variety of Housing Options are Accessible and Affordable • Features PromotingAccessibility to the Community • Community Supports and Services	• Same as Community-Level Factors	• Community characteristics promoting aging in place have the potential to lead to positive outcomes for the entire population. This includes improving the health and well-being of older adults, and benefitting other residents, businesses, organizations, and local governments by, for example, fostering the economic and environmental health of the community.
Szanton, S. L., Thorpe, R. J., Boyd, C., Tanner, E. K., Leff, B., Agree, E., et al. (2011)	• Prospective randomized controlled pilot trial. • Different validated scales were used for quality of life, falls and self-reported data for ADL and IADLs. • Data analyzed using STATA 10, including Student t-test, chi-square analysis, Cohen D effect and descriptive statistics.	• 40 low income older adults with difficulties in one or more activities of daily living (ADLs) or two or more instrumental activities of daily living (IADLs)	• Community Program to Serve Seniors in their Homes • Occupational Therapy, Nursing & Handyman Services.	• Perceptions of benefit • Improvement in performing ADLs & IADLs • Health-related quality of life and falls efficacy	• Intervention consisted of up to 6 visits with an Occupational Therapist, up to four visits with a nurse and an average of $1300 in handyman repairs and modifications. • 100% of the intervention group stated the study benefited them vs 93% of the control group. • The intervention group improved on all outcomes. • The CAPABLE intervention was acceptable to participants and feasible to provide and showed promising results, suggesting this multicomponent intervention to reduce disability should be evaluating in a larger trial.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Tang, F., & Lee, Y. (2010)	• Community Partnership for Older Adults Survey	• Vulnerable, community-dwelling older adults sample 2001	• Supportive Community Services • Adult Day Programs, Senior Lunch Programs, Personal Assistance Services, Helplines, Senior Centers, Visiting Nurse Services	• Use of community programs: adult day programs, housekeeping, senior lunch, senior centers, visiting nurse service, helpline or personal assistance services. • Anticipation of service needs	• Vulnerable older adults were less likely to anticipate for aging in place, limited in their abilities to perceive service needs, and less prepared for frailty and dependency • Previous services use, particularly use of key in homes services such as housekeeping and personal assistance was associated with perceived services needs for aging in place. • Utilization of senior centers, home repair and visit nurses was related to perceived relocation as this exposure may make them more open to address the issues of health decline and relocation • Findings indicate impaired elders and those who lacked confidence in the current residence expected an earlier age to need regular help or move out. • Study documents a relatively low level of HCBS utilization. People are not always aware of their needs, and people are often unaware of the HCBS available in the community.

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
Tang, F., & Lee, Y. (2011)	• Cross-sectional study design • Descriptive analysis • Conducted ordinary least squares (OLS) regression analysis • multinomial logistic regression	• Sample community-dwelling adults 4611 • Conducted in 2002 among a sample of adults age 50+ • In 13 areas across 10 states • Data collected using computer assisted telephone interview CATI	• Social Support Networks • Social Activity • Social Integration • Connection with Information Sources (health care providers, government agencies, nonprofits, churches and media),	• Social Support Networks • Participation in social activity • Connection with various information sources • Decision making of aging in place or moving • Functional limitations • Knowledge of Home & Community Based Services	• Results indicated those with moving expectation were comparable in sociodemographics, self-rated health and social support networks. • Knowledge of home and community based services availability was associated with respondents reporting and older age at which they expected regular help and moving • Knowledge of HCBS availability, information sources for personal care and social activity engagement were important in understanding the choices of age ranges at which respondents expected to aging in place and to move. • Findings point to the importance of expanding social support networks, providing opportunities for social activity, and strengthening information networks with the emphasis on targeting older adults and their caregivers.
Tang, F., & Pickard, J. G. (2008)	• Prospective Approach - Telephone Survey • Bivariate analysis & logistic regression	• Same sample as above • Community Partnership for Older Adults (CPFOA) • Rep. Sample	• Availability and awareness of Long Term Care and Community Services	• Same as Community Factors • Anticipation for aging in place or relocation • Access to & use of these services	• Perceived awareness of community-based services varied substantially among adults • Perceived awareness of the availability of all types of community-based long-term care services were significantly related to aging in place anticipation • Perceived awareness of a lack of

AUTHOR & YEAR	STUDY DESIGN & ANALYSIS	SAMPLE	COMMUNITY-LEVEL FACTORS	AGING IN PLACE MEASURES	FINDINGS
		of adults, 50+ • 13 areas in 10 states • 4611 adults			eight types of services in the community was related to aging in place anticipation. • Findings demonstrated older adults were not aware services were available in the community. • Lack of awareness was a major barrier, even more than unavailability of services and financial restraints.

APPENDIX I: RESEARCH QUESTIONS & CORRELATING INTERVIEW QUESTIONS

How can the Livability Self-Assessment be effectively applied in local cities and towns to study a region's ability to support aging in community?	
Related sub-questions include:	**Correlating Interview Questions**
How does the experience of local cities and towns compare in terms of completing the assessment?	Comparing all answers + Demographic Data on each Municipality (size, urban/rural) & De-Identified Participant information (department, tenure)
What recommendations can be made to strengthen the Livability Self-Assessment and Toolkit for increased usability?	Initial: Q4-18
What outcomes occurred as a result of participating in the Livability Self-Assessment pilot study?	Comparing Initial Q20-21 with 6-Month: Q1-3, Q9
What are the facilitators and obstacles to applying the findings of Livability Self-Assessment in local cities and towns?	Initial: Q2-15 6-Month: Q2, Q6-8
What strategies used in applying the findings of the Livability Self-Assessment proved successful? Which failed? Why?	6-Month: Q4-5, Q8
What recommendations can be made for effective application of the Livability Self-Assessment in promoting community dialogue and planning on aging-in-community supports and services?	Initial: Q18-20 6-Month: Q10-13

APPENDIX J: SUMMARY OF PARTICIPANT FEEDBACK AND RECOMMENDATIONS OF REFINEMENTS TO THE LIVABILITY SELF-ASSESSMENT

<table>
<tr><th colspan="2">SUMMARY OF RECOMMENDATIONS FOR REFINEMENTS TO THE LIVABILITY SELF-ASSESSMENT</th></tr>
<tr><td>Introduction</td><td>• Make it clearer to respondents there are links to use to help answer the questions.
• Provide instructions on how to go back to previous answers.
• Provide the option to refrain from answering a question. Some questions are not applicable to a jurisdiction. Clarify a blank score will not negatively impact the final score.</td></tr>
<tr><td>Demographics</td><td>• Discuss whether respondents should use the Census (ex. from 2010) or the American Fact Finder (ex. for 2012) for individual questions.
• Clarify if it is okay the years don’t match up when using different sources for different questions.
• Provide instructions for viewing the specific tables/charts within American Fact Finder. Ensure terminology on website matches the terminology in the Assessment.
• Provide instructions on what smaller communities should do if their information is not available.
• Clarify instructions for calculating and inputting population percentages of persons 65+.
• Identify data source for median home sales prices and median rental prices.</td></tr>
</table>

Housing	• Question #A1 and others: expand possible departments to contact. The instructions say: "municipal planning department" however other departments/organizations, such as the County Housing Department may have the information. • Question #A1: Need additional guidance for this question. It's not clear what is being asked. Clarify what is meant by the term "visitable." • Question #A3: Confusion in the intent of question. Flexible housing as defined in the Assessment is not regulated by zoning codes and therefore municipalities don't regulate anything in that sense. Possibly re-phrase to: "do you require homes to be built to universal living standard" and/or include regulated options. • Question #A5: Use more specific intervals. For example, 0% to 25% of housing is multifamily is a huge spread. A quarter of all your housing versus zero percent of your housing are multifamily are two very different things and represent two very different communities, but they're lumped together in one category. Recommendation for #A5: 0% to 10%, 10% to 20%, 20% to 30%. • Clarify Question #A6: Occupancy and Structure, Housing Value and Cost Utilities – information was not available • Questions #A6: change the intervals, so not zero to 50%, but zero to 30%, 30% to 60%, and 60% to 100%. Having more than 75% of households spending more than 30% of their annual income on housing is an incredibly high number.

Transportation	• Questions #B1 & #B2: Clarify if it's okay if a municipality partners with another municipality to provide the service, as some areas coordinate transportation regionally. • Question #B1: Determine if the presence of a fixed route public transportation system can be re-phased or skipped, as it's currently penalizing smaller communities who do not have large enough populations to support fixed route bus systems. • Question #B1: Possibly reframe the question to be more objective. For instance, ask: "proportion of residents within ¼ mile (walking distance) of a fixed-route transit stop?" Or even better might be "proportion of low- or fixed-income residents near transit stops." • Question #B2: Some of the choices had a lot of "ands" in them, so what if it was one but not the other? Example: "transit options for older adults and individuals are available to residents at all income levels by both for profit and nonprofit organizations." You got older adults and individuals with disabilities, those two populations could be considered different, additionally all income levels and for-profit and non-profit organization. That's five different things in one choice. • Question #B3 could be broken down into multiple questions: 1) whether there is a written policy and 2) whether they are meeting the expectations required in the policy. One respondent expressed concern they were meeting the intent of the question, but they didn't have a written policy about it. • Question #B5: clarify what link/paths should be used to answer the question. • Question #B6: Clarify how to determine and use the "Walkability Score." Not all cities/towns have an overall score. Those who did felt the information was problematic as some areas in their municipality have strong walkability and others areas do not, nor were they designed for walkability. It should not impact the overall town/city score. According to a participant, no municipality in North Carolina scores over a 1 on this indicator. • Question #B6: Walkability score seemed to be based on a 5-minute walk, one participant expressed interest in it being based on a 10-15 minute walk.

Safety	• Question #C1: add numbers or more specifics to the answer choices to help determine which one to choose. • Add additional questions regarding safety, with only 2 questions, each question is weighted very heavily affecting the overall topic score. • Add question about response time and travel distance for emergency responders. This is what insurance companies use for their rates.
Health Care	• Clarify Question #D1 & #D2: clarify how to determine the answers for Health Professional Shortage Area & Presence of specialist physicians. The links connect to HRSA and the American Medical Association, but it was tough to get clear answers as there was a lot of information to sift through. • Determine what information is needed and who should respond as municipalities by and large don't provide a lot of these services.
Supportive Services	• *No recommendations*
General Retail & Services	• Question #F2: Clarify how to interpret the information on the food desert website. • Add additional question(s) to this section as with only two questions, each score has a lot of power on the overall section score.
Social Integration	• *No recommendations*
Totals	• Change the scoring: make it a 4 or 5 point scoring system. Three respondents made this request. This would allow more variety and accuracy in the scores. Related, the scores assume each question is an equal component of livability and all questions are equal in importance, consider weighting questions. • Recalibrate the scoring scales so it is not as easy to receive the highest scores (a 3). All 5 respondents talked about scoring higher on the Assessment then they expected.
Formatting	• *No recommendations*
Dashboards	• Dashboard and visuals were helpful and easy to understand.

Missing items	• Add more questions in the sections with a few questions so there is more consistency between sections. • Include questions focused on individuals with disabilities.
Suggestions for Improvement	• A lot of these questions came across as very broad. Consider adding specificity to aide in choosing answers. • It would be useful if some of the qualitative answers had specific benchmark goals for jurisdictions seeking to improve their standings. • Ensure all the web links, paths and instructions are correct.
Toolkit	• Highlight the items in the Assessment covered in the toolkit. Possibly hyperlink to the Toolkit, or combine the Toolkit information into the Assessment so it is not a separate document.

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