LIFELONG HOMES AND COMMUNITIES INITIATIVE



Safe, Healthy & Accessible Homes for All

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ABSTRACT

Our homes are the heart of our communities and the hubs of our lives. Studies have shown that adults in the U.S. spend approximately 90% of their time indoors, much of that at home, with over 30% of working adults working from home most or part of the time. While we have learned much over the past few decades about the environmental and social determinants of health related to built environments, these understandings have not translated into new standards and practices for the development of residential environments. We know more now than ever about how our environments can affect our health, wellness, and longevity. Lifelong Homes & Communities are thoughtfully designed with these factors in mind. The Lifelong Homes & Communities guidance systems introduced in this report provide ways to create homes and communities that can help us live our best lives, at any age and ability. Lifelong Homes & Communities provide benefits to elderly family members, people living with injuries or disabilities, families with young children, and really anyone. Features such as wider doorways, easily operable handles and switches, good lighting, and healthy indoor air make life better for all. Other features provide flexibility and adaptability so that homes can help accommodate whatever needs families or visitors may face. It's time to rethink how our homes can work for us, helping us to live our best lives both now and in the future.

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Executive Summary

Extensive research has shown that the environmental and social determinants of health are crucial to our daily vitality, well-being, and longevity. The Blue Zones project, for example, highlights factors that contribute to longevity around the world, including moving naturally, belonging to a community, sharing time with loved ones, and eating fresh and healthy foods, among others. While adults in the U.S. spend approximately 90% of their time indoors[1], the majority of that time is within their homes[2]. Most homes in the U.S., both new and existing, have not been designed with health, well-being, and longevity in as a focus. As our population ages, we are confronted with unprecedented housing challenges. With healthcare advances, people are living longer than ever but often with disabilities that can make life at home, especially when living alone, difficult. Most adults in the U.S. would like to stay in their home and community for as long as possible, but there are four main barriers in the industry that are hindering the development of more age- and disability-friendly housing options: 1) home developers and builders are not incentivized to build homes and communities that support aging in place; 2) homebuyers of all life stages do not understand the need or options for age- and disability-friendly homes; 3) most homes and communities are not designed to accommodate older adults or those living with disabilities; and 4) municipalities struggle to incentivize lifelong home development.

In response to the growing need and the various barriers, the Institute for the Built Environment (IBE) at Colorado State University (CSU) is raising awareness of these issues and has developed guidance systems that provide pathways for the development of safer, healthier, and more accessible homes and communities. The Lifelong Homes & Lifelong Communities guidance systems include five key focus areas: Community Context; Visitability; Design & Adaptability; Health, Safety & Wellness; and Affordability & Maintenance.

This paper summarizes relevant research on the need for age- and disability-appropriate, multi-generational housing options; explains the various features of the Lifelong Homes & Lifelong Communities guidance systems; describes the Lifelong pilot program and projects; and presents concepts and actions that require future consideration. The overall intent of this report is to raise awareness of this pressing issue and to solicit a call to action for potential partners to join us in offering effective solutions.



WHY LIFELONG HOMES & COMMUNITIES?

THE OLDER ADULT POPULATION IS GROWING

In the United States, the population of older adults (defined as those 65 years or older) is growing rapidly and adding to the number of adults living with disabilities, drastically outpacing the needed supply of affordable, safe, and accessible housing. People are living longer and the population of people aged 60+ years is expected to double, worldwide, by 2050 while the number of people aged 80+ is expected to triple in that time[3]. The population of older adults in the U.S. has increased by 34% over the past decade[4]. The largest generation ever born, the Baby Boomers (born between 1946-1964) are now all 60 years old or older. It is projected that the number of households in the U.S. headed by an adult age 80+ will more than double by 2040, reaching nearly 17 million households[5].

THIS ISSUE IS BIGGER THAN JUST AN AGING POPULATION, HOWEVER, AS THERE ARE MANY MORE PEOPLE LIVING WITH DISABILITIES IN THE UNITED STATES.

DISABILITIES ARE ON THE RISE

As the population ages, visual, hearing, mobility, cognitive, self-care, and independent living issues are also on the rise. The U.S. Centers for Disease Control (CDC) and Prevention states that more than 40% of Americans aged 65 and older, and more than half of those aged 80 and older, are affected by at least one functional disability[6]. Functional disability types include mobility, cognition, hearing, vision, independent living, and self-care. Ambulatory difficulty, including walking and climbing stairs, impacts 16% of adults aged 65–79 and 37% of those 80 and over. Disabilities extend beyond older adults however, **as more than one in four adults in the U.S. currently lives with some type of functional disability**[6].

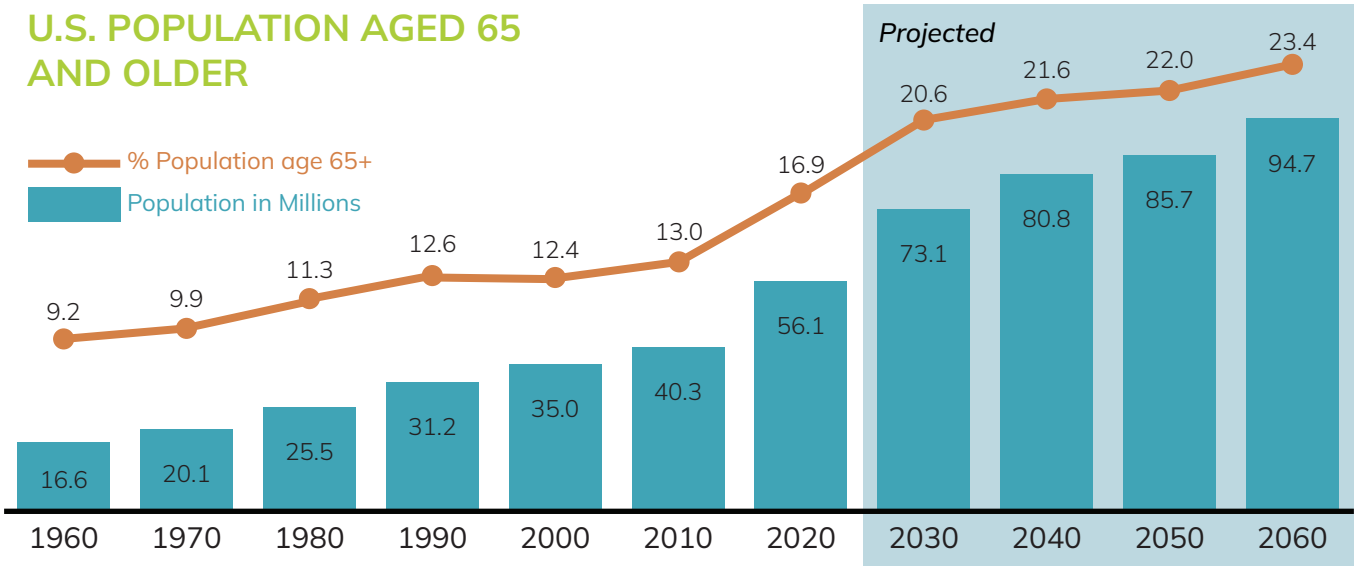
MORE ACCESSIBLE HOUSING IS NEEDED

As the population ages and disabilities are on the rise, the housing market has not kept pace with the need. While 26% of the adult population lives with functional disabilities, less than 4% of homes offer the foundational features needed to live with these disabilities successfully[5].

"Of the nation's 115 million housing units, only 10% are ready to accomodate older populations." - Centers for Disease Control[8]

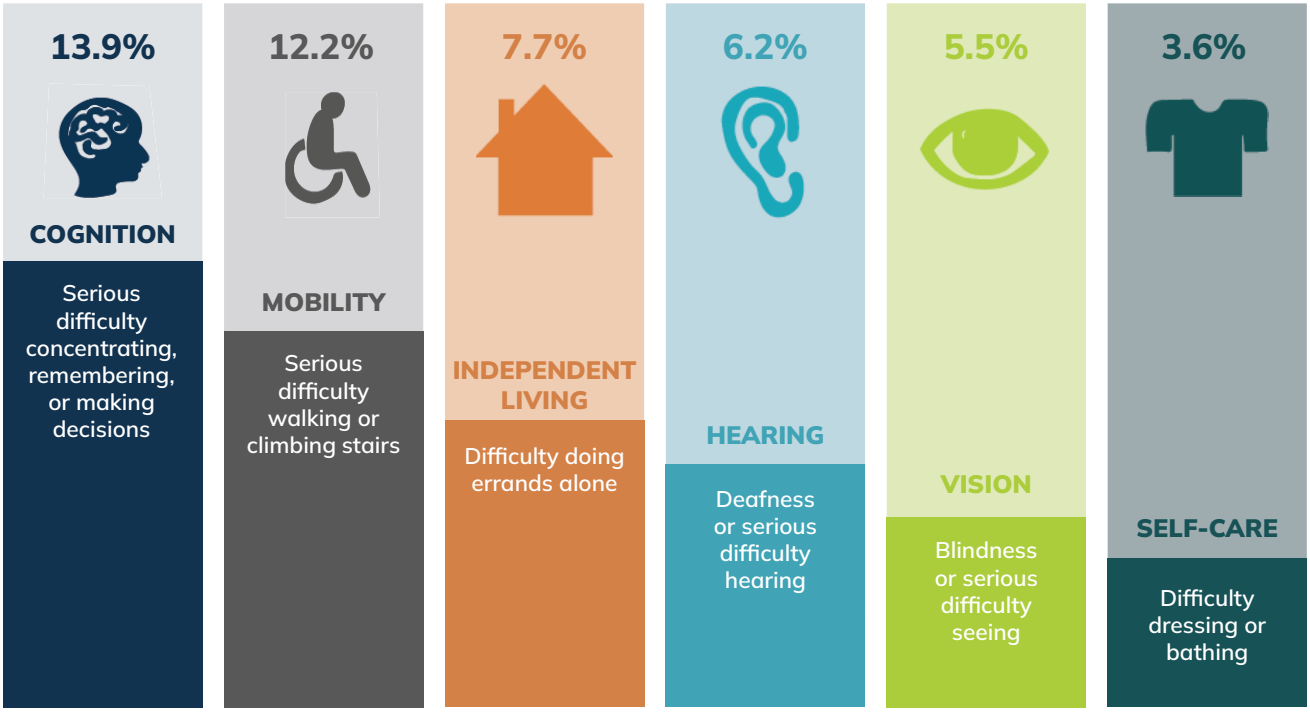


U.S. POPULATION AGED 65 AND OLDER



Graphic adapted from: U.S. Census Bureau. (2020). Old Housing, New Needs: Are U.S. Homes Ready for an Aging Population?[8]

ADULTS WITH FUNCTIONAL DISABILITIES



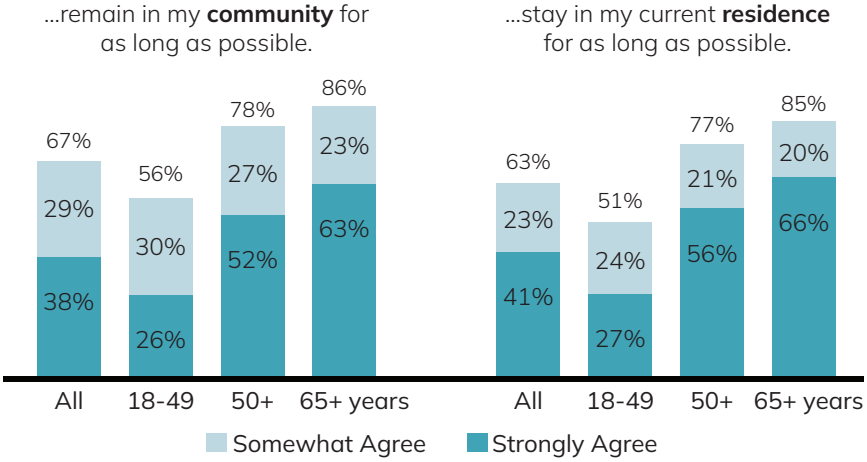
Graphic adapted from: U.S. Centers for Disease Control (2024), Disability Impacts All of Us.[4]

AMERICANS WANT TO AGE IN PLACE

AARP (formerly the American Association of Retired Persons) has consistently found that Americans prefer to stay in their current residence, or at least their current community, for as long as possible as they age. AARP's 2021 Home and Community Preferences Survey found that 63% of respondents strongly or somewhat agreed that they would like to stay in their current residence for as long as possible; among respondents aged 65 and older, 85% agreed[7]. Given the choice, 71% of all respondents would prefer to stay in their own residence and live alone over staying in their own residence with a family member or friend, or moving in with a family member or friend.

AMERICANS, ESPECIALLY OLDER ADULTS, PREFER TO REMAIN IN THEIR COMMUNITY OR CURRENT RESIDENCE

How strongly do you agree or disagree with the statement: What I'd really like to do is...

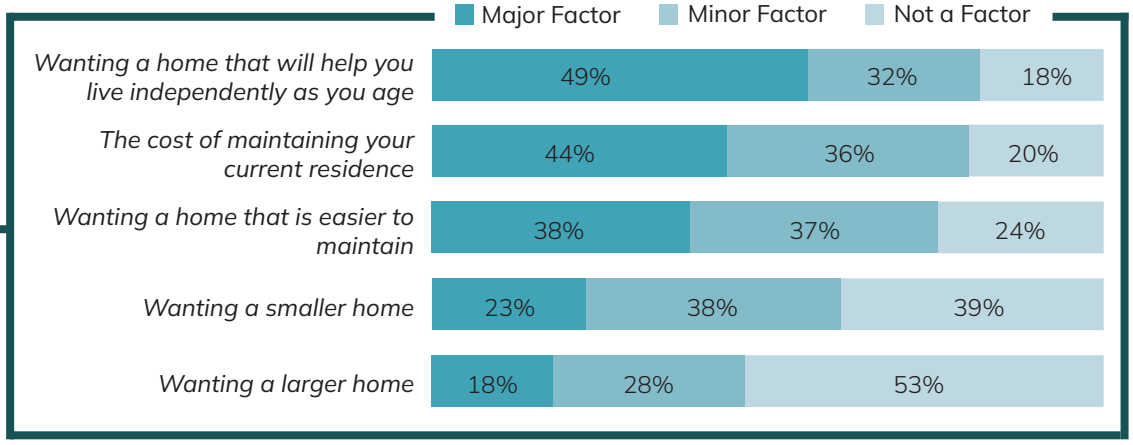


Graphic adapted from AARP (2021) Home and community preference survey[8]

Across all AARP survey respondents, the biggest factor in considering whether to move out of their current residence was wanting a home that will help them live independently as they age: 49% of respondents considered this a major factor[7]. The cost of maintaining their current residence (44%) and wanting a home that is easier to maintain (38%) were also significant factors in this decision[7]. Most older adults do not wish to live in a nursing home and few can afford assisted living because of high costs and fixed incomes. Fewer than one-third of adults aged 65 and older said it was likely that they would move into a "continuing care community that has offerings for people who can live independently as well as for people who need more care, such as in an assisted living or nursing home setting."[7] Even for those who may be interested in continuing care services, the Joint Center for Housing Studies found that, across 97 U.S. metro areas, only 13% of adults aged 75 and over who live alone could afford assisted living without dipping into assets, and that only 14% could afford a daily visit from a home health aide.[5]

AMERICANS WANT HOMES THAT HELP THEM LIVE INDEPENDENTLY AS THEY AGE

If you were to consider moving out of your current residence, how much of a factor would the following be in your decision to move?

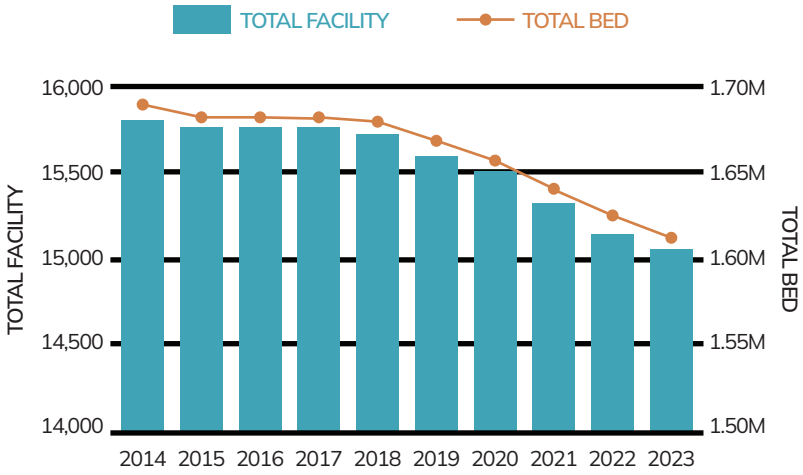


Graphic adapted from AARP (2021) Home and community preference survey.[7]

ASSISTED LIVING IS EXPENSIVE & THE NUMBER OF FACILITIES ARE DWINDLING

The lack of affordable assisted living care is exacerbated by a staffing shortage due to the challenging work environment and moderate wages. In 2022, the U.S. Bureau of Labor Statistics reported that the average annual salary for registered nurses working in Skilled Nursing Facilities was $77,190, which is 15% lower than the average $90,600 in general medical and surgical hospitals.[9] In the Skilled Nursing Outlook 2024 survey, leaders in the skilled nursing industry identified staff recruitment and retention as the most significant concern, with more than 50% ranking it as the primary challenge[10].

A DRASTIC DECLINE IN NURSING HOME FACILITIES & BEDS



LIMITING ADMISSIONS	FACILITIES DOWNSIZING	CLOSURES INCREASING	OPENINGS DECREASING
55% Facilities that have to turn away prospective residents/patients	**45,217** fewer nursing home beds	**579** nursing homes closed	**64** new nursing homes opened each year in 2020-2022
48% Facilities with a waiting list of at least a few days	**21%** Facilities that downsized the number of beds they can offer due to labor shortages	**21,508** residents displaced by closures	**3** new nursing homes opened in 2023
As of June 2023	**24%** Facilities that closed a unit, wing, or floor due to labor shortages	**30** more U.S. counties became nursing home deserts	2020-August 2023

Graphic adapted from American Health Care Association (AHCA) Access to Care Report, August 2023.[12]

Due to employee recruitment and retention challenges in skilled nursing facilities and other factors, many facilities have closed in the past decade. In 2022, the American Health Care Association reported that over 1,000 skilled nursing facilities closed between 2015 and 2021.[11] Furthermore, according to a 2023 report from the American Health Care Association and National Center for Assisted Living (AHCA/NCAL), from 2020 to 2023, nearly 600 nursing homes closed (largely due to the COVID-19 pandemic) and only 3 new nursing homes were opened in 2023, down from an average of 64 new nursing homes opened in 2020-2022. This has led to an overall decrease of more than 45,000 nursing home beds and the displacement of over 21,000 people.[12] If these trends continue, increased labor shortages could lead to higher costs and fewer assisted living facilities overall, further incentivizing people to remain in their own homes or live in the homes of family members, even if not well equipped for their needs.

Market Barriers

Since 2019, IBE has been engaging stakeholders and conducting market research to better understand why more age- and disability-appropriate housing options and communities are not available and what can be done to address this. The team identified four primary market barriers to the creation of lifelong homes and communities – those that are safe, healthy, accessible, and enable people to thrive regardless of age or ability.

LACK OF SUPPLY

Very few homes and communities – both existing and new-build – are designed to accommodate the changing needs that come with aging and/or disability. As of 2020, only around 10% of homes in the U.S. offered features considered foundational to aging in place including: a step-free entryway; a bedroom and full bathroom on the first floor; wide hallways and doorways; and at least one bathroom accessibility feature[8]. As of 2019, only 47% of U.S. adults aged 65-79 and 54% of those aged 80 and over occupied homes with single-floor living and a no-step entry into the home[5]. In the 2021 AARP survey, more than one-third of respondents said that they anticipate needing major home repairs, modifications, or changes as they or family members age; more than 70% of these individuals identified easier access into, around, or within their home as one of the most anticipated modifications[7].

Another aspect of accessibility is affordability. A growing number of older households are cost burdened, meaning they spend 30% or more of household income on housing, utilities, and, when applicable, taxes and insurance. In 2021, nearly 11.2 million older adult households, an all-time high, were cost burdened; over half of these were severely cost burdened, spending more than 50% of income on housing costs[5]. In 2020, 10 million households headed by someone age 60 or over reported being unable to pay their energy bills and nearly 7 million reported that to pay utility bills, they had to forgo food or medicine[13]. Housing costs include upkeep, which can be particularly demanding for older adults because they often live in older homes: 25% of older adults live in homes built before 1960 and more than half live in homes built before 1980[5]. These older homes are more likely to require major system replacements or significant repairs over time. Exacerbating housing and improvement costs is the fact that in order to age in their homes, many older adults must also pay for personal care services and supports as well[5].

LACK OF AWARENESS

Many U.S. adults do not consider accessibility an immediate priority. Among those who do, most are unaware of the types of features that will help them live more successfully in their homes as thier needs and abilities change. According to the 2021 AARP survey, despite the common desire to age in place, only 44% of respondents considered “accessible homes with features like a no-step entry, wide doorways, and first-floor bedrooms and bathrooms” as extremely or very important to have in their community[7]. Notably, 53% of survey respondents were 49 years of age or younger, suggesting that people may not consider such features important until they directly experience accessibility challenges[7]. Many home design features that make accessibility easier for someone who needs a mobility device, such as a wheelchair or a walker, however, also make daily tasks easier for other family members as well. For example, a wide doorway and step-free entry can allow for a parent to easily push a stroller with a sleeping baby into a house and doors with lever door handles can be opened with an elbow when carrying arm loads of groceries or other packages. Lifelong features can benefit all people.

LACK OF DEMAND

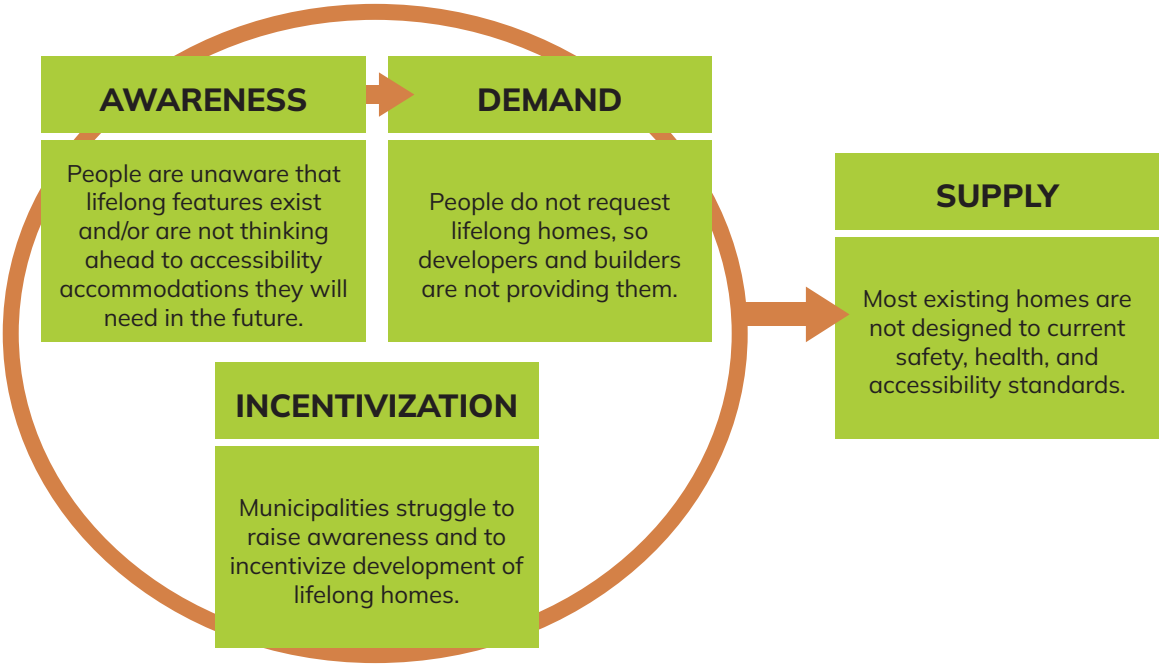
Given the lack of homeowners' and homebuyers' awareness of the features that will help them live and stay in their homes more succesfully, it stands to reason that they are not demanding them. As a result, home developers and builders are not often including those features, missing a ripe opportunity, particularly given that when older adults do move, they are more likely to choose a newer property. Approximately 20% of older adults who relocated between 2016 and 2021 moved into a home built within the last decade[5].

LACK OF INCENTIVES

Municipalities are aware of the need for lifelong housing options in communities across the nation, yet they struggle to raise awareness and incentivize their development. However, most local governments do not have clear standards for what to include in formal codes (either mandatory or voluntary) to support the development of lifelong homes and lack the information and tools needed to raise awareness. Some cities have attempted to pass "visitability" ordinances, intended to increase the accessiblity of homes, while others support contained retirement communities, restricted to residents aged 55 or older. These types of ordinances are disparate and do not go far enough, however. Those ordinances often lack consistent standards or requirements for what visitable or age-restricted housing should include, and therefore don't really end up spurring the development of more housing options that truly include the features needed for aging and living with disabilities.

According to Harvard's Joint Center for Housing Studies, "Despite federal efforts to provide housing assistance directly to older adults with low incomes and to support developers in building and preserving affordable units, more resources are needed to address the ballooning demand for help managing the cost of housing and modifying homes for safety and accessibility"[5]. It is time for local and regional governments to step up and play a leading role in ensuring lifelong homes and communities. This will require raising awareness and providing incentives and education to consumers, developers, and builders in order to increase the needed supply.

BARRIERS TO THE CREATION OF BETTER HOUSING OPTIONS



Meeting Market Demand & Filling Gaps

IBE's research has indicated that the market barriers to the creation of lifelong homes and communities could be overcome through guidance systems that include improved design standards and/or certifications. As the National Association of Realtors attests, programs such as the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) standard, the International WELL Building Institute's (IWBI) WELL Building Standard, and the Enterprise Green Communities (EGC) standard by Enterprise Community Partners, have proven to spur the market and overcome the types of barriers identified in this report[14]. Green building programs have shown to have been successful at:

1. Raising awareness among both consumers and the construction industry about sustainability strategies such as resource efficiency, the properties of sustainable and healthy materials, site considerations, and more;
2. Providing a market niche where developers, builders, and other industry professionals can differentiate themselves within the market; and
3. Providing guidance and tools that municipalities, agencies, and organizations can use to assess, educate, incentivize, and influence the market according to their sustainability goals.

In addition to the existing green building programs available, there are a number of age-friendly and universal design guidelines available around the world. While there are many existing programs and guidelines available related to homes and communities, no individual program is strong in all areas essential to the provision of safe, healthy, and accessible homes and communities that are capable of serving people who are living with changing abilities. Some programs are strong in accessibility, safety, or health; others are strong in community context; and still others have strengths around affordability and maintenance. Some programs are focused on multifamily homes while others are focused primarily on new single-family home construction or the modification of existing single-family homes. No one program brings everything together in a way that is focused on the types of features that can help people thrive in their homes, no matter their age or abilities, and no matter the type of home and community they live in. There is a ripe opportunity for a comprehensive guidance and/or certification system that focuses on all aspects of safe, healthy, and accessible design for homes and neighborhoods.

IBE's complementary Lifelong Homes and Lifelong Communities guidance systems bring together the most relevant strategies from existing housing design certifications and guidelines and integrates new strategies based on research and community engagement, to provide a comprehensive system focused specifically on the creation of safe, healthy, and accessible lifelong homes and communities. IBE is now piloting the lifelong criteria with a variety of projects to learn more about what is meaningful and feasible for different types of projects and communities. They are also continuing to work with many different partners to co-create research, tools, and information to move the Lifelong Initiative forward. IBE hopes to one day forge partnerships to develop and launch full certification systems that will be useful for overcoming the barriers found in the market. Lifelong Homes & Lifelong Community guidance systems can inform the design and creation of homes and communities that are safe, healthy, accessible, and enable all people – older adults, those with short-term injuries or permanent disabilities, younger families, and all people – to thrive in their homes regardless of age or ability.

DEVELOPING THE SYSTEMS

The Lifelong Homes and Lifelong Communities guidance systems offer solutions to overcome market barriers to the provision of lifelong homes and communities.

DEVELOPMENT PROCESS

MARKET RESEARCH

Complete

- Inventory of >20 existing programs
- Gap analysis
- Stakeholder engagement

SYSTEM DESIGN

In progress

- Informed by research on evidence-based practices for design and construction
- Collaborative process with partners to refine criteria requirements
- Prioritization and point allocation of criteria

PILOT

In progress

- Testing and refining with representative stakeholder groups
- Applying across diverse housing types to inform type-specific criteria
- Convened Action Advisory Team to continue system development
- Currently seeking additional pilot project partners

CERTIFICATION DEVELOPMENT

Future phase

- Develop rating system guide(s)
- Provide education and training for end-users
- Partner with certification body to develop and administer certification program(s)





Methodology

IBE integrated the latest research on the environmental and social determinants of health to inform the development of the Lifelong Homes and Lifelong Communities guidance systems. Studies of the social determinants of health, such as the Blue Zones Project, have identified common factors shared by thriving older adults around the world, such as moving naturally; eating healthily; managing stress; feeling a sense of belonging and purpose; and having connections to loved ones and supportive relationships[16]. With this research serving as a compass, IBE then inventoried over 20 existing certification programs and guidelines related to residential environments, including voluntary certification systems and design guidelines focused on age friendliness, green building, health, wellness, and universal design[18]. IBE assessed nine of the most relevant programs/guidelines and identified nearly 200 criteria related to safety, health, and accessibility for residential environments. Using the criteria, IBE conducted a gap analysis of the existing programs, identifying strengths and weaknesses between and across them.

The gap analysis identified that existing age-friendly programs – which tend to focus on the modification of existing single-family homes – have strengths in accessibility, universal design, and some safety features. However, the age-friendly programs often exclude considerations such as affordability, maintenance, and access to community amenities and basic services like social outlets and healthcare that can greatly impact a older adult's health, wellbeing, and ability to stay in thier home. In contrast, green and sustainable building programs – which tend to focus on new and multifamily housing – have strengths in community context, health, resource efficiency, materials, and maintenance. However, these programs do not address crucial age- and disability-friendly considerations such as accessibility, accommodations, and safety for different types of disabilities beyond mobility. IBE's Lifelong Homes and Lifelong Community guidance systems bring together disparate strategies for home and community design focused specifically on health, safety, and accessibility for a range of ages and abilities. The comprehensive systems address all stages of design, construction, and inhabitation, including lifestyle considerations for occupants, such as active living, healthy eating, home adaptability, and emergency preparedness, to support people of any ability during any phase of their lives.

IBE has been working closely alongside pilot participants to apply the criteria and make modifications to the systems based on their feedback. Part of the intent of piloting the criteria is to get real world input from a variety of project team members regarding the meaningfulness and feasibility of implementing criteria, the accessibility of language used to describe requirements, the effectiveness of guidance tools and education, and the ways in which the guidance system could be used by teams and communities to help them achieve and communicate their goals throughout the project's life cycle. The Lifelong Community guidance system was co-created through the pilot process and is designed to get teams thinking about the Lifelong criteria early in the project. A companion to the Lifelong Homes guidance system, the Lifelong Community guidance system inspires the design and development of communities that support active, healthy, sustainable living for all who live there, and pave the way for the development of Lifelong Homes. The primary intent of the Lifelong Communities program is to provide recognition for developers and land planners who go beyond typical neighborhood design standards by incorporating community elements and amenities that support healthy, lifelong living and the development of Lifelong Homes.

EXAMPLE CERTIFICATION PROGRAMS ANALYZED



http://www.usgbc.org

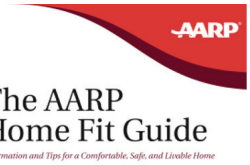


A Community for All Ages

























GAP ANALYSIS

Category	AARP Home Fit	ADA	Rogue Valley	Age Friendly Sarasota	Iowa City	Lifelong Homes	LEED Homes	Ent. Green Comm. w/ AIP	WELL	Fitwel
Community Context										
Recreation, beauty, & active living				X		X	X	X	X	X
Socializing, purpose, & culture				X		X	X	X	X	X
Basic needs & healthy food						X	X	X	X	X
Access to services					X	X	X	X	X	X
Visitability										
Exterior access to home	X	X	X		X	X		X	X	X
Interior access	X	X	X		X	X		X		
Accessible Guest Restroom	X	X	X		X	X				
Design & Adaptability										
Adaptability	X	X	X	X	X	X		X		X
Integrated Design			X			X	X	X	X	
Accessible Kitchen/Full Bath	X		X	X	X	X		X		
Accessible Bedroom	X		X	X		X		X		
Health & Safety										
Safety	X		X		X	X	X	X		X
Lighting & Visual	X		X			X		X	X	X
Healthy Indoor Env. Quality			X			X	X	X	X	X
Health Features						X	X	X	X	X
Wellness Features						X	X	X	X	X
Affordability & Maintenance										
Resource Efficiency						X	X	X	X	X
Home Affordability						X			X	
Low Maint.			X			X	X	X	X	X

STRENGTHS

STRENGTHS

GUIDANCE SYSTEMS OVERVIEW

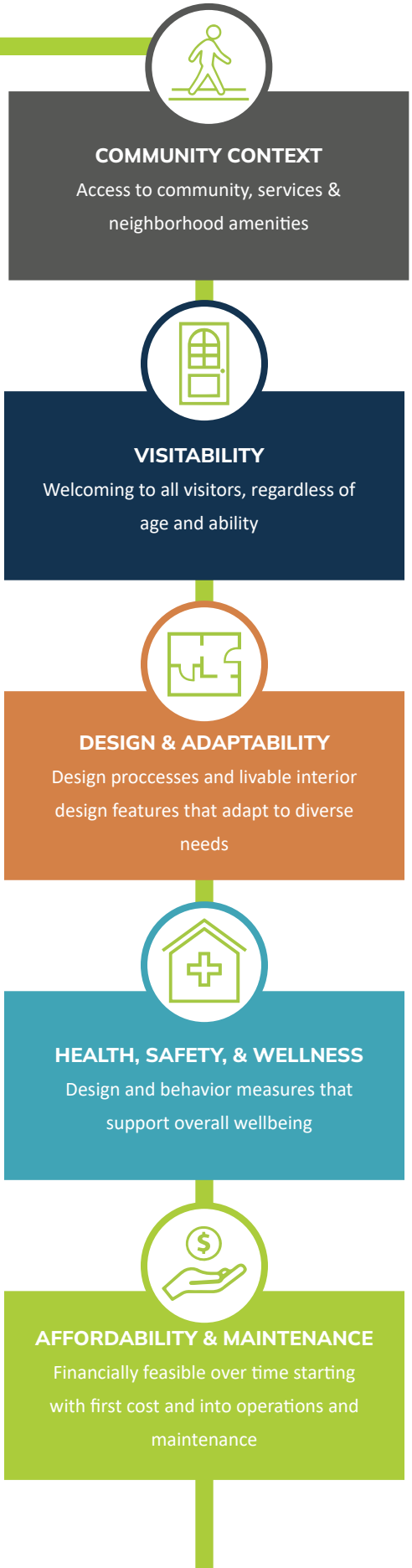
While there are a number of existing building certification systems available on the market, findings show that the existing systems are often lacking in their breadth of criteria and/or scope of applicability. Most of the existing green building programs were not designed for a focus on residential environments. Even the programs that were designed with a focus on residential environments (e.g. Enterprise Green Communities) have a limited focus on a specific type of residential environment (i.e. multi-family). This creates large gaps in the types of housing options being created with even some of the features needed for successfully supporting aging and living with disabilities. The health, safety, accessibility, and wellness features that create supportive home environments cross many different focus areas that require design, construction, and/or lifestyle considerations for implementation. In addition, each feature may have multiple criteria for implementation which can guide project teams in making decisions and crafting the strategies appropriate for each unique project they are focused on.

The Lifelong Homes guidance system includes criteria across five key areas of focus that have been shown to provide different benefits for the home environment and its occupants:

- **Community Context**
- **Visitability**
- **Design and Adaptability**
- **Health Safety & Wellness**
- **Affordability & Maintenance**

Collectively, these focus areas bring features and criteria together into a single system of guidelines most relevant to age- and disability-friendly living. Each focus area includes multiple categories and each category is comprised of features and criteria that represent specific design or behaviour strategies.

While it may not be feasible to include every lifelong feature in every type of home, this guidance system helps project teams and homeowners assess what features to prioritize for inclusion in projects. It also provides a useful reference for guiding discussions between occupants and the professionals helping them meet their housing needs, such as designers, builders or realtors.



Categories & Features Overview

The following chart lists the categories (in BOLD) and features within each of the five focus areas. Examples of specific criteria for each feature can be found in Appendix 1.

COMMUNITY CONTEXT: CATEGORIES AND FEATURES

RECREATION, BEAUTY, & ACTIVE LIVING
Access to outdoor biophilia, water, open space, trails, public art, cultural/historical features, walkability, bikeability, fitness, wayfinding, signage, and information.

SOCIALIZING, PURPOSE, & CULTURE
Access to social gathering spaces, community/civic center, library, places of worship, volunteer/employment opportunities, communication technologies, inter-generational interaction, programs, activities, classes, lifelong learning/education, celebration of history and culture, and participation in decision-making.

BASIC NEEDS & HEALTHY NUTRITION
Access to healthy food resources, retail, services, programs, and transportation.

COMMUNITY SUSTAINABILITY
Community hazard, resiliency, disaster and/or emergency planning, sustainable site/community planning (e.g. permeability, heat island, etc.), sustainable infrastructure, community conservation and/or renewable energy production, waste diversion, and community recycling programs.

VISITABILITY: CATEGORIES AND FEATURES

EXTERIOR ACCESS
Accessible exterior pathways, wayfinding, entry, and parking.

INTERIOR ACCESS
Interior accessible circulation pathway (ACP), accessible lighting and thermal controls, outlets, bathroom, and common spaces.

DESIGN & ADAPTABILITY: CATEGORIES AND FEATURES

DESIGN PROCESS
Integrative design process, stakeholder engagement, credentialed professionals.

ENHANCED INTERIOR ACCESSIBILITY
Increased accessible circulation pathway (ACP) to include accessible kitchen, dining, full bath, closet, and laundry.

ADAPTABILITY FEATURES
Task and adaptable lighting, blocking for future grab bars, adaptable cabinetry, and innovation.

HEALTH, SAFETY, & WELLNESS: CATEGORIES AND FEATURES

SAFETY & FALL PREVENTION
Safe stairs and walking surfaces, safety and fall prevention measures, fire and burn safety, and controlled home entry.

INDOOR ENVIRONMENTAL QUALITY
Fresh air, ventilation, contaminant controls, healthy materials, thermal comfort and controllability, and healthy cleaning.

LIGHTING & VISUAL
Safe lighting and navigation, daylight and views, lightbulbs and glare control, and increased visibility features.

HEALTH & WELLNESS
Healthy water, acoustics and noise control, healthy food, mind and spirit features, sleep support, and healthy and active living features.

AFFORDABILITY & MAINTENANCE: CATEGORIES AND FEATURES

MAINTENANCE
Landscape, exterior materials, interior materials, moisture management, material durability and sustainability, and pest controls.

AFFORDABILITY & RESOURCE EFFICIENCY
Home size, home affordability, energy efficiency and renewables, water efficiency, waste reduction, low operating costs, and recycling.

1. COMMUNITY CONTEXT

Access to community, services, and neighborhood amenities

CATEGORIES

Recreation, Beauty & Active Living

Basic Needs & Healthy Nutrition

Socializing, Purpose & Culture

Community Sustainability

The Community Context focus area is based on the environmental and social determinants of health in the wider context around the home – factors such as opportunities for natural movement, healthy eating, supportive relationships, and having a sense of purpose and belonging. This focus area accounts for the physical and social aspects of a neighborhood or community that are accessible from a home, including connections to health services and walking-distance proximity to other services (within ½-mile), neighborhood amenities, and connections with other community members. Although many features in this focus area are commonly included in other existing green and sustainable building programs, many criteria found in the Community Context focus area are absent in most existing age-friendly guidance and certification programs. The focus area also includes a number of criteria for the sustainability and amenities of the site and neighborhood, supporting well-connected, pedestrian-friendly, beautiful, and natural features around the home and within its surrounding context.

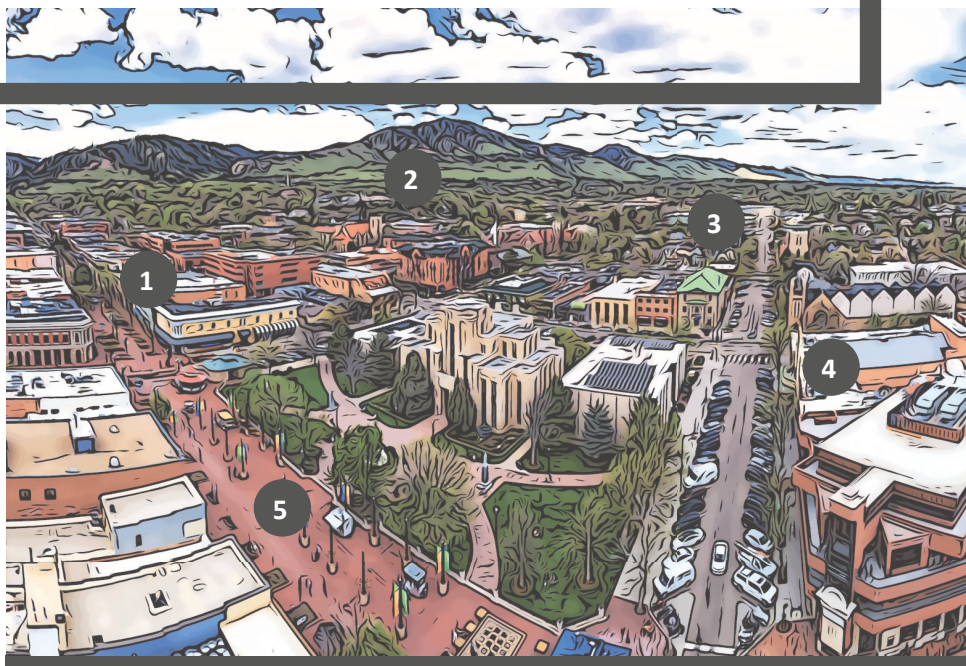


Figure 1. Example of Community Context features:

1. Healthy food vendors (grocery store, farmers market)
2. Nature (open space, trails, and/or parks)
3. Fitness facilities (gym, playing fields, occupational therapists)
4. Arts and entertainment
5. Social gathering spaces

2. VISITABILITY

Welcoming to all visitors, regardless of age and ability

CATEGORIES

Exterior Access

Interior Access

The Visitability focus area is based on the most basic principles of Universal Design (UD) - the design of products and environments to be usable by all people, to the greatest extent possible[18]. This focus area addresses exterior accessibility up to an accessible entrance and interior accessibility of common spaces, including at least one guest bathroom. Features in this focus area ensure that a home is welcoming to visitors of any ability. Visitability is an international movement, supported by the Lifelong Homes criteria, that advocates for three basic accessibility features in every new home built, including at least one zero-step entry, doors with at least 32 inches of clear passage space, and at least one bathroom on the main floor that is wheelchair accessible[17].



Figure 2. Examples of exterior Visitability features:

1. Well-lit home address for wayfinding
2. Step-free entry and pathway
3. Covered entry with adequate lighting
4. Lever handle on door
5. Furniture to put things down to open door



Figure 3. Examples of interior Visitability features:

1. Lever handles on doors
2. Wide hallways/corridors
3. Wide doors to bathroom and other common areas
4. Lighting / thermal controls and outlets accessible from seated position
5. Guest bathroom (powder) that meets ADA requirements

3. DESIGN & ADAPTABILITY

Design processes and livable interior design features that adapt to diverse needs

CATEGORIES

Design Process

Adaptability Features

Enhanced Indoor Accessibility

The Design & Adaptability focus area includes aspects of the design process (e.g. integrated design, professional credentials, other certifications) as well as additional interior design features of the home. Interior design features are informed primarily by Universal Design (UD), expanding on the Visitability focus area (which relates primarily to common areas). This focus area addresses accessibility and UD throughout the home, including the kitchen, dining, bathing, sleeping, storage, and laundry facilities. Interior design features accommodate a range of differing abilities and provide opportunities for building adaptivity into projects for accommodating future needs.

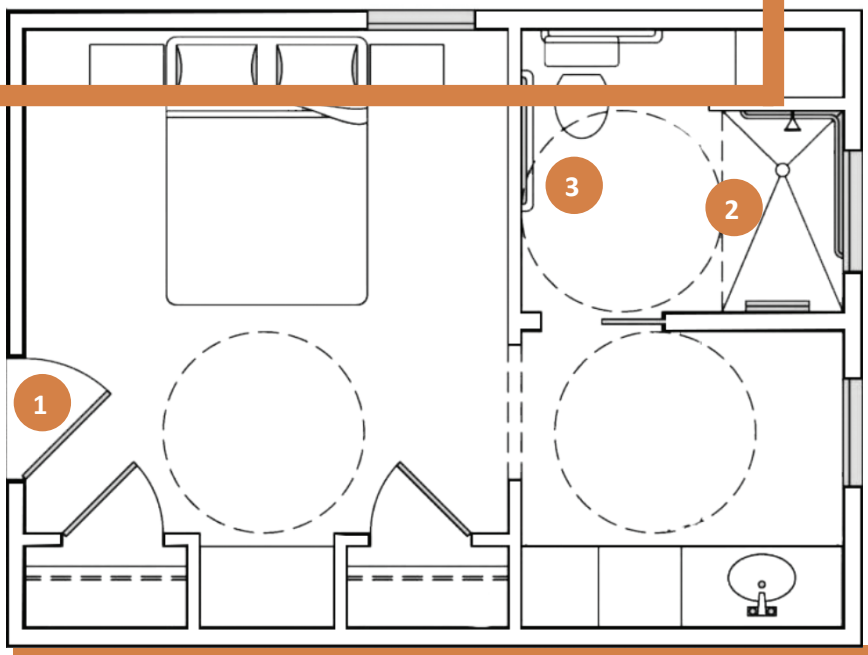


Figure 4. Examples of Design & Adaptability features throughout the home:

1. Bedroom and laundry facilities on the entry level or on a circulation pathway easily accessed from the home's primary entrance
2. Step-free or roll-in shower or tub
3. Grab bars or blockings to accommodate future bars near toilets and in tubs/showers

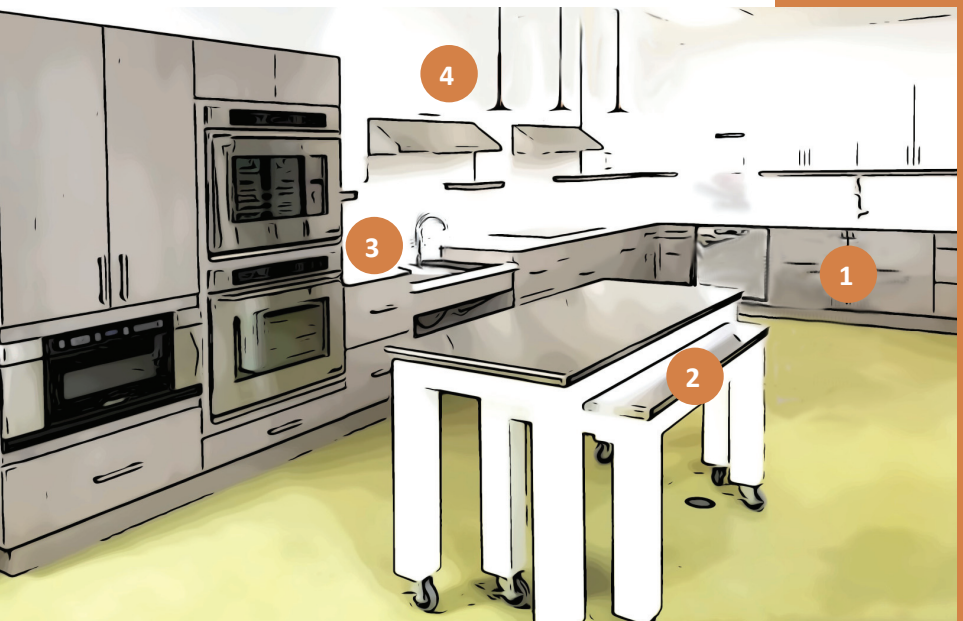


Figure 5. Examples of Design & Adaptability features in the kitchen:

1. Easy-to-reach cabinets and shelves
2. Seatable work surface
3. Easy-to-reach faucets, appliances, and controls
4. Task and adaptable lighting options

4. HEALTH, SAFETY & WELLNESS

Design and behavior measures that support overall wellbeing

CATEGORIES

Safety & Fall Prevention

Lighting & Visual

Indoor Environmental Quality

Health & Wellness

The Health, Safety & Wellness focus area encompasses features focused on ensuring the overall wellbeing of residents and visitors alike. It addresses indoor environmental quality (IEQ), including lighting (interior and daylighting), views, acoustics, thermal comfort and controllability, and indoor air quality (IAQ). This focus area also addresses other features that can directly impact occupants' health and wellness, such as safety and fall prevention. More so than any other focus area, it extends beyond design strategies to include behavior and lifestyle choices that residents can implement to work with design features and enhance the livability of their homes. Behavior and lifestyle guidelines include choices such as thinking through tripping hazards, clutter-free living, and things to consider when making furniture choices.

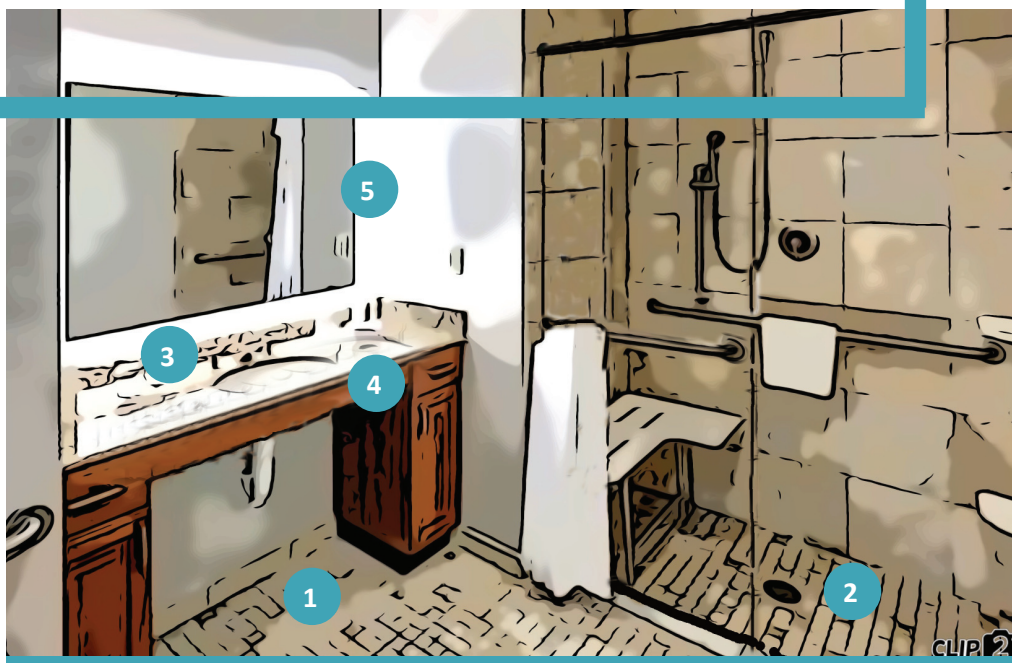


Figure 6. Examples of Health, Safety & Wellness features in the bathroom:

1. Slip-resistant walking surfaces
2. Non-slip surfaces and/or mat in bathtub/shower
3. Anti-scalding measures, such as water heater setting and/or control devices on faucets
4. Contrasting color choices in materials to add visibility to
5. surface and/or texture changes
   Adjustable, dimmable, and/or night-time navigation lighting.

5. AFFORDABILITY & MAINTENANCE

Financially feasible over time, starting with first cost and into operations and maintenance

CATEGORIES

Maintenance

Affordability & Resource Efficiency

The Affordability & Maintenance focus area fills a gap in current age-friendly certifications, which overlook the considerations that home size, costs, and upkeep over time can impact a resident's ability to live and age successfully in their home. This includes considerations of financial accessibility as well as the ability to continue to maintain both interior and exterior spaces and materials. This focus area addresses durable and sustainable materials, as well as low-maintenance design features such as pest controls, moisture management, and landscaping. Energy, water, and waste efficiency are also addressed; features that can reduce monthly and long-term home operating costs. In addition, this focus area also considers right-sizing of the home for the number of occupants and their needs.



Figure 7. Examples of Affordability & Maintenance features:

1. *High-efficiency insulation*
2. *Operable windows that can reduce reliance on air conditioning*
3. *Durable and easy-to-clean materials*
4. *Energy-efficient lighting, appliances, and technologies*
5. *Weather stripping and pest management at all doors, windows, and openings.*

PILOT PROGRAM

IBE is collaborating closely with designers, builders, developers, realtors, non-profits, municipalities, and community members to pilot the Lifelong Homes and Lifelong Communities guidance systems. Through pilot projects, IBE is testing and refining the systems and criteria to ensure that they can be applied effectively and with ease to a diversity of housing types in any community.

IBE is actively engaged with each pilot project team in a collaborative, dynamic process that includes a robust feedback loop to actively refine the Lifelong Homes and Lifelong Community guidance systems. For example, IBE's work with a developer identified the need for a community-scale certification and as a result, IBE worked with developers to co-create the Lifelong Community guidance system that is also under pilot. Current pilot projects include new single-family homes in planned communities, existing single-family retrofit guidelines, new single-family production homes, and both new and existing affordable multi-family housing projects. By piloting the criteria, IBE is adapting criteria and resources to meet the unique needs of different housing types in different communities. For example, applying the criteria in a large urban center like Denver is quite different from applying them in a smaller suburban town or a rural area. IBE is still seeking additional pilot project types, such as those involving Accessory Dwelling Units (ADUs) or manufactured housing.

Single Family | Multifamily | Manufactured/Modular | Existing Homes



Figure 8. The pilot program is shaping the Lifelong Homes and Lifelong Communities guidance systems and resources to enhance the development of many different types of housing in many different communities, including rural, urban, and suburban.

The Lifelong Pilot Program is answering questions such as:

- What opportunities and obstacles do design and construction professionals, particularly builders, experience when applying the criteria?
- Is there value in offering focus area badges to support project teams that cannot pursue full Lifelong Homes certification (e.g., due to cost or time constraints)?
- What design requirements are feasible within the constraints of design and construction, such as costs, time, etc.?
- What are the most effective ways to inform potential homebuyers?
- How can the criteria be incorporated throughout the project lifecycle – from development through design, to construction, and occupancy – without being too burdensome or costly?
- How can the guidance systems be used to differentiate housing options and inform potential homebuyers and/or owners?



PILOT PROJECT: Sonders Fort Collins

Supporting Lifelong Homes at the Community Scale

IBE has been working closely with the Sonders development team as they develop Sonders Fort Collins, a new sustainable community in northern Colorado for "active-agers" – those seeking more free time, fun, activities, and meaning in life. Through this collaboration, IBE identified the need for a community-scale companion to Lifelong Homes, resulting in the creation of the Lifelong Community guidance system. This system focuses on the design of communities that support healthy, sustainable living for all who live there, regardless of age or ability.

Through the collaborative pilot process, the IBE and Sonders teams determined that many criteria in the Lifelong Homes guidance system cannot be directly influenced by the development team when handing off a project to production builders. However, certain criteria, such as step-free entrances, must be identified as a goal and addressed by the design team as early as possible in the development process before becoming impossible to implement later in the project. Subsequently, IBE consolidated criteria and created a process specifically for developers and planners to utilize when planning the community, early in the process. The resulting Lifelong Community guidance system includes the entirety of the Community Context focus area as well as requirements for setting design goals and guidelines for the project that will support at least 10% of the planned homes in the community in meeting the requirements of the Lifelong Homes guidance system.

Together, IBE and Sonders have been piloting the criteria at the community scale throughout the planning and design process. As part of the pilot, Sonders has partnered with at least one of their builders to assure the inclusion of Lifelong Homes features in their designs and the development of at least 10% Lifelong Homes within the community. In addition, the Sonders team is supporting homebuyers awareness and actively marketing the benefits of Lifelong Communities and Lifelong Homes at the Sonders development. In 2023, Sonders Fort Collins became the first-ever pilot Lifelong Community pre-certified project.

PILOT PROJECT: Thrive Home Builders



Applying Lifelong Homes Criteria to Production Building

Thrive Home Builders, one of the two builders in the Sonders Fort Collins development, is exceeding code in several ways: All homes will be LEED-certified, EPA Indoor airPLUS Qualified, solar powered, and net-zero ready. Incorporating features consistent with the Lifelong Homes guidance system was the next logical step for this production builder to go beyond green building to the creation of homes built for health.

During early discussions between IBE and Thrive, it became apparent that the ability to incorporate certain design elements is different for builders of production homes than it is for custom home builders. A production builder can incorporate one or more features from the Lifelong Homes criteria, as a base feature, into all of the homes they will be building at a site. Other Lifelong features may be options for select models or lots. For example, because the Sonders development was already graded prior to their involvement in the project, Thrive could only offer step-free entrances in some of the lots but were easily able to incorporate wide doors and hallways into all of the models on the site. IBE created a pathway specific to production homes through which the builder and homes can be recognized for the Lifelong features that are included in all of the homes, and the benefits these features offer to potential residents, while also recognizing those homes in which they have gone the extra step and have included additional features of Lifelong Homes. For example, IBE modified the requirement for step-free entrances, creating a pathway in which the builder can instead make a home “step-free ready” by identifying ways to make the home step-free if desired, and assuring that accommodations for this adaptation have been integrated into the home. This included designing ramp and/or lift options and providing dedicated space and/or panel breakers to accommodate these adaptations by homeowners in the future, if desired or needed. This allowed them to offer some homes with full step-free entrances and some “step-free ready” options to potential homebuyers, while also offering a number of beneficial Lifelong features in all of their homes at the Sonders development.

PILOT PROJECT: Habitat for Humanity



Integrating Lifelong Strategies into Missing Middle Affordable Housing Renovation

IBE is partnering with Habitat for Humanity of Metro Denver to integrate Lifelong Homes strategies into an 11-unit townhome redevelopment in Denver's Cole neighborhood. Missing middle housing refers to housing that falls between single-family homes and mid- to high-rise apartment buildings, including duplexes, triplexes, townhomes, and clusters. According to the National League of Cities (NLC), middle housing can help cities and towns to diversify housing options along the spectrum of affordability and there isn't nearly enough available in cities and towns across the nation[19]. All 11 townhomes in this project will undergo major renovations, designed with Lifelong Homes in mind, and two units will be modified to become fully accessible per ADA guidelines.

Although Habitat Metro Denver's standard construction practices include many elements from Lifelong Homes, the team identified several design strategies that would further benefit future homeowners of any age or ability. For example, guided by Lifelong Homes criteria, Habitat modified its standard height of thermal controls to ensure accessibility from a wheelchair; changed exterior door thresholds to provide easier entry; and adjusted bedroom closet design to provide better access to shelving and storage. Habitat found that these elements were not cost prohibitive nor too complex to incorporate if integrated early in the design process.

Since the organization's primary mission is to provide long-term affordable housing, it is no surprise that the Habitat homes performed well in the Affordability & Maintenance focus area, incorporating all mandatory criteria and more than 70% of optional criteria in this project. The inclusion of Lifelong Homes criteria will allow these affordable homes to accommodate the families that purchase them to be able to live in them long-term, even as they age and their abilities change.

PILOT PROJECT: City of Centennial



Helping Homeowners Renovate Existing Homes

Knowing that most of its existing housing stock was originally built in the 1970s and 80s, and understanding that they didn't have very much developable land left, the City of Centennial, Colorado sought to help homeowners considering home renovations to do so in a way that supported them in their ability to stay in their homes as they age. With a grant from the Rose Community Foundation and using the Lifelong Homes criteria, IBE worked with City staff to create an age-friendly home renovation guide and online assessment tool. The guide showcases Lifelong Homes features that can be applied to a remodel or as one-off retrofits. The assessment tool helps homeowners identify which strategies make the most sense for their home and lifestyle and offers key talking points for conversations with design and contracting professionals.

The assessment tool and renovation guide are available on Centennial's interactive website: https://www.centennialco.gov/Government/City-Projects-and-Initiatives/Centennial-Lifelong-Homes.

"The Lifelong Homes program empowers Centennial communities to enjoy more social, manageable, healthier, and friendlier lives."
- Arapahoe Highlands Civic Association

PILOT PROJECT: Housing Catalyst



Lifelong Homes & Communities Guides Affordable Multi-Family Developments

Housing Catalyst, the affordable housing authority of Fort Collins, Colorado, and thier design team are working with IBE to utilize the Lifelong Homes & Lifelong Communities guidance systems to enhance their developments and development practices. With two pilot projects currently underway, Housing Catalyst hopes to use Lifelong criteria on all of their future projects.

The first pilot project is for the renovation of Plum Place, an existing 2-story, age-restricted, multi-family apartment building with 15 on-bedroom units and an elevator. IBE worked closely with the design team for the project to look at ways to integrate the Lifelong criteria into the project resulting in a number of upgrades to the common areas of the building, including: an accessible approach and entry to the building with ramps, handrails, and access control; easy access to site amenities including the trash enclosure and pet relief areas; a new accessible common area bathroom and laundry area; use of contrasting colors to clearly define floor space, edges, and transitions of flooring types; and upgraded common area lighting. The criteria was also used to design the unit renovations, resulting in 10% of the units being fully accessible and 100% being fully Visitable.

The second pilot project is a new-build, 3-story, inter-generational, multi-family apartment building with 73 units - with a mix of 1-, 2-, and 3-bedroom layouts. The building will have a zero-step entries, an elevator, and visitable interiors for all units, making this building 100% Visitable. At least 10% of the units will be fully accessible as well. The developer wanted to especially highlight the inter-generational aspects of Village on Eastbrook, working with IBE to identify Lifelong strategies to forge community partnerships and develop programming that would encourage inter-generational connections and overcome challenging aspects of the location such as limited access to public transportation, inclusion of bike maintenance facilities on-site, and access to healthy food options through community gardens and a local Community Supported Agriculture (CSA) organization.

Regional Considerations

The share of older people is growing across all U.S. geographies, from rural to large metropolitan areas, increasing by at least 2.7 percentage points in counties of all types. However, smaller metros and rural communities have higher concentrations of older adults. In 2021, people age 65 and over accounted for 20 percent of the population in counties outside metro areas, compared to 14 percent in the urban cores of large metro areas.[4]

In urban and rural communities, there are meaningful differences in household demographics and housing and care options for older adults. Older adults and those living with disabilities in rural communities may find it difficult to access needed services due in part to a lack of transportation alternatives to driving for those that cannot drive or may not be able to afford a private vehicle. Consequently, walkability, access to public transit, and other transportation options are critical community amenities. Lack of access to transportation increases isolation, constrains autonomy, and can even increase mortality risk among older adults.[4] Further, fewer options are available for long-term care in rural communities; even telehealth an online services are often inaccessible due to patchy broadband cover.

Lower density communities also typically offer limited alternatives to single-family homes, so older adults seeking more accessible or manageable housing within their communities may find few options.[4] For older adults with changing needs, housing options suitable for diverse household configurations and affordable across the income spectrum are crucial. For example, Accessory Dwelling Units (ADUs), cohousing communities, and house sharing options can offer alternatives for people seeking to remain in their communities.[4]

The Lifelong Homes & Communities Initiative seeks to better understand how to overcome these barriers, and others, found at the regional scale. We are seeking to work with a variety of communities in rural, urban, and suburban settings through pilot projects to better understand their housing needs and how the Lifelong guidance systems may help.



LOOKING AHEAD

The Lifelong Homes and Lifelong Communities guidance systems are still in beta form. Their content and structure will continue to evolve as IBE learns more through research, partners, advisors, and pilot project participants. To accelerate progress, in early 2024, IBE assembled an Advisory Action Team to help advance research, training, outreach, and pilot projects. Thus far, the Advisory Action Team includes developers, urban planners, architects, interior designers, landscape architects, researchers, homebuilders, and government housing specialists.

Future Considerations

The Lifelong Homes and Lifelong Communities guidance systems have been informed by research and guidance from trusted partners, and we recognize that there are opportunities for refinement and additional strategies.

A sampling of features that IBE is currently researching and considering for inclusion in the systems include:

Intellectual and Developmental Disabilities (IDD): IBE recognizes that the guidance systems currently have gaps in addressing housing concerns for people living with intellectual and developmental disabilities. For example, the team is actively researching different space types (e.g., stimulating spaces & non-stimulating spaces) in homes and communities for people with autism and other IDDs.

Access to medical care: Though the guidance systems, in their current form, include criteria related to access to services, we recognize a need to directly address access to medical care services for all home and community types, including rural and existing neighborhoods.

Reference manual: Teams pursuing Lifelong Homes and Communities need detailed guidance on how to navigate initiation, integrated design process, strategy implementation, and documentation. IBE is currently working on producing a Rating System Manual which will provide more detailed information on each criteria.

Rating system structure: Most building rating systems are unconsciously designed to reward projects for implementing the maximum number of strategies possible, not necessarily the best strategies for each unique project. The Lifelong team is striving to innovate ways to recognize the unique character of projects without incentivizing “point chasing,” while still ensuring rigour that differentiates Lifelong projects from traditional housing.

Certifying body: IBE is not structured to serve as a long-term certification provider that conducts technical reviews or administration of third-party certifications for a great number of projects. IBE will soon seek the right partner(s) to serve in this role and help to expand the program.

Get Involved

IBE will continue to engage municipalities, non-profits, developers, designers, builders, community members and other vested partners in refining the Lifelong Homes and Lifelong Community guidance systems for public launch as full certification systems. Join us in this ever-important effort.

REGISTER A PILOT PROJECT	BECOME A PARTNER
Apply the Lifelong Homes and Lifelong Communities criteria to your housing project and share your experience and feedback throughout the process.	If outreach or policy is your specialty, join us in raising awareness of and advocating for lifelong homes.

Email us at chhs_ibe@mail.colostate.edu.

THANKS TO OUR PARTNERS

We owe our progress to our many partners and sponsors and thank them for contributing to and supporting this work and advocating for the development of better homes.

PAFC Partnership For Age-Friendly Communities in Larimer County

Columbine Health Systems Center for Healthy Aging Colorado State University

Sonders Fort Collins

the LIGHT CENTER

DOLA CO

FirstTier Bank

POLESTAR VILLAGE

City of Centennial

NAHB

HOUSING CATALYST

ROSE COMMUNITY FOUNDATION

Colorado Commission on Aging CCOA Advocating for Seniors

Habitat for Humanity of Metro Denver

thrive HOME BUILDERS

Adue interiors

LOVELAND Housing Authority

Colorado State University Nancy Richardson Design Center

CONNELL

KGA

Little Red Hen Foundation

alms

Actual Communities SINCE 1986

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APPENDICES



APPENDIX 1: Features & Criteria

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
COMMUNITY CONTEXT		
Recreation, Beauty & Active Living	**Access to Outdoor Biophilia and/or Water**	**A**: Neighborhood/community includes publicly accessible biophilia features that provide opportunities for interaction with other non-human forms of life within 1/2-mile walking distance of unit.
		B: Neighborhood/community includes publicly accessible natural or man-made water features within 1/2-mile walking distance of unit.
	Walkability (Walkscore, Accessible Sidewalks)	**A**: Neighborhood/community has a Walk-Score of at least 50.
		B: Majority of sidewalks and trails in neighborhood/community meet ADA accessibility standards. For existing homes/communities, must assess compliance at a minimum.
		C: Accessible pathways include benches, accessible seating and resting areas.
	Access to Nature, Open Spaces, Trails, Parks and Playgrounds	**A**: Neighborhood/community includes public access to natural, open, and/or green spaces within 1/2-mile walking distance of the unit.
		B: Neighborhood/community includes access to parks, playgrounds, and/or trails within 1/2-mile walking distance of the unit.
		C: Publicly accessible drinking fountains and/or potable water stations are provided at natural and open spaces, trails, parks and/or playgrounds within 1/2-mile walking distance of the unit.
	Access to Public Art &/or cultural/historical features*	**A**: Neighborhood/community includes access to public art or cultural features (indoor or outdoor) within 1/2-mile walking distance of the unit.
	Bike Storage, Sharing & Maintenance Space (require no lifting & has clear pathway)	**A**: Bicycle storage facilities are provided near public gathering places within 1-mile biking distance of the unit (e.g. parks, plazas, public buildings, schools, etc.)**.**
		B: Neighborhood/community includes access to a free publicly accessible bicycle maintenance station with tools and tire pumps. Bonus point if there are staffed bicycle assessment and maintenance services.
		C: Neighborhood/community includes designated bike paths, trails, or lanes.
		D: Neighborhood/community includes access to a public bicycle sharing program. If bike share program includes designated bike parking locations and/or hubs, those must be located within 1/2-mile walking distance of the unit.
		E: Neighborhood/community has a Bike-Score of 50 or higher.
	Wayfinding, Signage, and Information	**A**: Neighborhood/community includes wayfinding features and signage pointing to community amenities.
		B: Neighborhood/community includes informational signage about community history, public art, or other cultural amenities.
	Enhanced Pedestrian Pathways	**A**: Neighborhood/community includes features designed to manage vehicular speeds where pedestrians may be present (e.g. speed bumps, traffic calming design, etc.).
		B: Neighborhood/community includes features designed to enhance visibility of pedestrians through one or more strategies (e.g. high-visibility cross-walk markings, improved lighting, enhanced signage, and/or careful consideration of plantings, etc.).
		C: Crosswalks at major intersections within 1/2-mile walking distance of the unit include multiple accessibility features (e.g. auditory, tactile indicators, etc.).
	Access to Transit	**A**: Neighborhood/community has a Transit Score of 50 or higher.
		B: The unit is within 1/2 mile walking distance from a public transit access point on a regular route.
		C: Residents have access to a car- and/or ride-sharing program (e.g. senior ride-share, etc). Bonus points if electric or hybrid electric vehicles.

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
COMMUNITY CONTEXT (CONT.)		
Basic Needs & Health	**Access to Basic Needs and Health & Support Services**	**A**: Neighborhood/community includes access to a grocery store with fresh fruits, vegetables within 1/2-mile walking distance of the unit.
		B: Neighborhood/community includes access to a weekly food share or farmer's market within 1/2-mile walking distance of the unit.
		C: Neighborhood/community includes access to community gardens and/or sensory gardens within 1/2-mile walking distance of the unit.
		D: Neighborhood/community includes access to a café or restaurant within 1/2-mile walking distance of the unit.
		E: Neighborhood/community includes access to a fitness facility within 1/2-mile walking distance of the unit.
		F: Neighborhood/community includes access to a at least two retail establishments within 1/2-mile walking distance of the unit.
		G: Neighborhood/community includes access to at least two of the listed types of basic services within 1/2-mile walking distance of the unit.
		H: Neighborhood/community includes access to healthcare provider and/or health & wellness or nutrition education within 1/2 mile walking distance of the unit.
Socializing, Purpose, and CultureBasic Needs & HealthBasic Needs & Health	**Access to neighborhood/community services, amenities, and programs that support socializing, purpose, and culture.**	**Assess neighborhood/community at 1/2-mile, and 1-mile, and 2-mile radii for the following services, amenities, and programs:** **A:** Neighborhood/community includes access to public or semi-public social gathering places (e.g. plazas, gardens, community rooms, etc.) within ½-mile walking distance of the unit. **B:** Neighborhood/community includes access to a community center, civic center, and/or public library within ½-mile walking distance of the unit. **C:** Neighborhood/community includes access to a church, religious center, place of worship and/or meditation within ½-mile walking distance of the unit. **D:** Neighborhood/community includes access to a places that offer regular volunteer and/or employment opportunities are located within ½-mile walking distance of the unit. **E:** Neighborhood/community includes access to opportunities for inter-generational connections and interactions within ½-mile walking distance of the unit. **F:** Neighborhood/community includes a variety of programs &/or activities within ½-mile walking distance of the unit. **G:** Neighborhood/community includes educational opportunities within ½-mile walking distance of the unit. **H:** Neighborhood/community includes opportunities to celebrate the history of place & the community culture within ½-mile walking distance of the unit.
	Reliable Access to Communication Technologies	**A**: Reliable wi-fi service is available in the neighborhood/community. Bonus points if wi-fi is provided free of charge.
		B: Reliable cell phone service is available at the unit and/or landline telephone service is provided.
Other Considerations	**AARP Livability Index**	**A**: Neighborhood/community has an AARP Livability Index score of 50 or higher.
	Noise	**A:** Neighborhood/community has a noise ordinance.
	Community Resiliency, Disaster, and/or Emergency Planning	**A**: Neighborhood/community has a resiliency, disaster, and/or emergency management plan (identifying potential disasters relevant to particular site) and residents are aware of the plan**.**
		B: Neighborhood/community has an emergency communications system in place.
		C: Neighborhood/community includes a community emergency shelter or resiliency hub within 1/2-mile of the unit.
	Participation in Decision-Making	**A**: Residents have opportunities and forums to voice their preferences and participate in major decision-making processes for their community.

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
COMMUNITY CONTEXT (CONT.)		
Community Sustainability	**Sustainable Site (habitat, ecosystems, brownfield, etc.)**	**A**: For new construction – site does not include endangered ecosystems and/or habitat for endangered species.
		B: For new construction – the site was previously designated as a brownfield or grayfield site.
		C: For new construction – the site was not previously prime agricultural land.
		D: Homes and shared buildings in neighborhood/community are not located in the floodplain.
	Site Permeability & Heat Island Effects	**A**: Pervious paving materials and landscaping were designed to increase site permeability.
		B: Paving, landscaping and exterior building materials were designed to reduce community heat island effects.
	Energy Conservation &/or Renewable Energy Production (for master planned communities only)	**A**: All community or publicly accessible buildings and site features were designed to be at least 10% better than the most recent IECC.
		B: At least 10% of energy for shared neighborhood/community buildings and features is produced on-site from renewable sources.
		C: NetZero community. Bonus points for Net Positive community.
	Water Conservation &/or Sustainable Treatment/Process (for master planned communities only)	**A**: Water conservation strategies are incorporated into the design of all community or publicly accessible buildings and site features.
		B: Sustainable rainwater processing and/or black/graywater treatment is included in the site design.
	Waste Diversion & Recycling (including construction) (for master planned communities only)	**A**: Waste diversion & recycling strategies, services and/or facilities are located and accessible within 1,000 feet walking distance from all units.
		B: For new construction - Waste diversion & recycling activities were implemented during construction.
	Resilience to Climate and Natural Hazards - Assessment and Mitigation	**A:** Climate and natural hazards and were assessed and planned for/mitigated specific to site.
VISITABILITY		
Exterior Access	**Exterior Pathway & Wayfinding**	**A:** Unit includes a clearly identifiable step-free, accessible pathway built to ADA standards to provide access to the accessible entrance (with any necessary ramps/slopes/lift).
		B: Exterior walkways are well-lit.
	Accessible Entry	**A:** Unit meets ADA accessability requirements for primary visitor entrance including manuevering clearances, door handles, thresholds, closing speed, and opening force.
		B: Unit includes a step-free entrance at primary visitor entrance on accessible pathway.
		C. Primary visitor entrance is well-lit for safety and ease of access.
	Parking	**A:** Dedicated van/wheelchair accessible parking space is provided for each visitable unit. If there is more than one visitable unit, accessible parking may be shared provided that a minimum of 5% of the total parking spaces are accessible and 25% of all accessible parking spaces are van/wheelchair accessible parking spaces. If accessible parking space is inside a garage, verify there is adequate space to accommodate one vehicle with a >60" access aisle and confirm step-free ready infrastructure is in place to accommodate lift or ramp in garage if needed.
		B: Accessible Parking is covered and/or sheltered from the elements (i.e. inside a garage or covered carport).
	Covered Entry	**A:** The accessible entry is covered by a minimum 36” eave, roof or awning on the exterior side of the door.

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
VISITABILITY (CONT.)		
Interior Access	**Accessible Circulation Path (ACP)**	**A:** An accessible circulation path (ACP) is provided from primary visitor entrance to common areas and accessible bathroom and includes interior doors that are a minimum of 32" clear width and hallways and corridors that are minimum clear 36” width**.**
		B: All interior doors on ACP have ADA compliant hardware that can be opened with a closed fist or loose grip and are located between 34" and 48” a.f.f. and provide minimum 18” clearance on the handle side of door. Doors to non-regularly occupied spaces are exlcluded.
	Electrical Outlets	**A**: At least half of outlets in all common areas on ACP are located between 15" and 48” a.f.f.
	Accessible Guest Bathroom	**A:** There is an accessible guest bathroom located on the ACP with wheelchair turn-around space and an accessible door, lighting controls, sink, and toilet per ADA standards (see Rating System Manual for details).
DESIGN AND ADAPTABILITY		
Design Process	**Integrative Process**	**A:** The owner, designers, and builders work together to make project decisions through regular meetings and conduct at least one integrative design charrette early in the design process.
	Stakeholder Engagement	**A:** Important stakeholders (e.g. potential residents, community members, extended family members, caregivers, consultants, etc.) are included in the design process and decision-making**.**
	Credentialed Professional	**A:** The project team includes at least one professional with credentials in building health, safety and/or accessibility measures (e.g. NAHB Certified Aging in Place Specialist, Licensed Architect, NCIDQ, LEED AP, WELL AP, or similar credential)**.**
Adaptability Features	**Task & Adaptable Lighting**	**A:** Interior lighting was designed and installed to include adaptable options for ambient lighting, navigation, tasks, and healthy sleep support (see Rating System Manual for details)**.**
	Lighting & Thermal Controls	**A**: Lighting and thermal controls are visible & accessible from a wheelchair and are located between 36" and 48” a.f.f.
	Blocking for Grab Bars & Handrails	**A:** If grab bars and/or handrails are not installed, appropriate blocking has been included in walls for future installation.
	Adaptable Cabinetry	**A**: Cabinets under kitchen and bathroom sink include removable cabinet bases.
	Step-free Ready Entrance	**A:** Exterior Pathway and Entrance: Primary entrance is step-free or, if step-free entrance is not provided, a plan and infrastructure is in place to allow for future installation of step-free system/structure (e.g. ramp, lift, or other system/structure that allows pathway and entrance to be step-free).
		B: Accessible Threshold: A step-free accessible entry is provided and the threshold complies with ADA accessible threshold requirements (i.e. less than or equal to 1/2"). Plans or specs.
	Adaptability Innovation	**A**: The home includes innovative adaptability features that enhance residents' ability to adapt to changing needs**.**
Additional Accessible Bath & Kitchen Features	**Increased Accessible Circulation Path (ACP)**	**A:** An accessible circulation path (ACP) includes access to accessible kitchen, accessible full bath, accessible bedroom, accessible closet, and accessible laundry facilities (if included).
	Kitchen & Dining Accessibility	**A:** An accessible kitchen is provided on the ACP that includes accessible faucets, appliances, controls and storage.
		B: Multiple height and/or adjustable height work surfaces are provided in (or near) the kitchen.
		C: Mobility-friendly dining for 2+ people is provided with table-top surface no higher than 34 inches a.f.f. and clear space underneath at least 27 inches high.
	Accessible Bathroom	**A:** An accessible bathroom is provided on the ACP that includes an accessible door, toilet, sink, and bathing unit with a handheld showerhead.
		B: Shower/tub entrance is at least 36" wide to allow easy access for caregiver.

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
DESIGN AND ADAPTABILITY (CONT.)		
Accessible Bedroom & Additional Features	**Accessible Bedroom**	**A:** An accessible bedroom is provided on the ACP**.**
	Accessible Closet	**A:** There is a closet in the accessible bedroom with ADA compliant closet doors and hardware with either accessible or adaptable clothing storage.
	Accessible Laundry	**A:** There is an accessible laundry area on the ACP with minimum 30" x 48" clear space centered on each appliance for parallel approach in wheelchair, reachable controls and opening, and adequate task lighting**.**
	Accessibility Innovation	**A**: The home includes innovative accessibility features that enhance residents' ability to function. Must be located on the ACP.
HEALTH, SAFETY, AND WELLNESS		
Safety & Fall Prevention	**Safe Stairs & Walking Surfaces**	**A:** All stairs and walking surfaces (interior & exterior) have slip-resistant and safe walking surface materials (including showers/tubs). If there is carpet on stairs, it is secure and in good condition. Per ASTM F 462, showers should have COF ≥0.04.
		B: All stair treads and transitions between different surfaces or wet/dry areas have high-contrast edges for increased visibility**.**
	Fall Prevention & Support Measures	**A:** Shower/tub and toilet area in accessible bathroom(s) includes appropriately installed grab bars.
		B: Handrails are appropriately installed on both sides of all stairs (or stairs are not present).
		C: Shower/tub in accessible bathroom includes a seat or bench or shower/tub is adequately sized to allow installation of portable seat/bench.
		D. Unit includes exterior ice prevention design strategies to minimize build up and longevity of ground ice.
	Fire and Carbon Monoxide Safety	**A**: Each unit includes appropriately installed smoke detectors and carbon monoxide alarms per NFPA standards 72 and 101.
		B: Fire extinguishers and/or fire blankets are located in or adjacent to each room that has heated appliances or systems (e.g. oven, stove, furnace, boiler, water heater, fireplace, etc.).
		C. Egress windows are installed and operable in all bedrooms.
	Anti-scalding	**A**: All sinks, showers, and tub faucets have anti-scalding devices installed.
		B: Exterior handrails are not fabricated from materials that retain excessive heat or are fully shaded during high-temperature conditions.
Safety & Fall Prevention	**Controlled Home Entry**	**A:** At least one entrance door has technology that allows keyless entry (e.g. key pad, smart locks).
		B: Main entrance door allows for visibility and communication without needing to be fully opened.
Lighting & Visual	**Safe & Supportive Lighting**	**A:** All interior and exterior staircases are well-lit. Interior staircases include switches at both top and bottom and exterior stair lights are automatically controlled by either motion- or photo-sensors.
		B: All showers have a light source that provides adequate illumination and is suitable for a wet location.
		C: The ACP is well-lit along the entire path of travel.
		D. Accessible closets include appropriate lighting.
	Night-time Navigation and Sleep Supportive Lighting	**A:** Nighttime navigation lighting is provided along the pathway between accessible bedrooms and accessible **bathrooms** and includes low-level, dimmable, or indirect lighting with a color temperature no greater than 2700 Kelvin.
		B: Nighttime navigation lighting is provided along the pathway between accessible bedrooms and **kitchen** and includes low-level, dimmable, or indirect lighting with a color temperature no greater than 2700 Kelvin.
		C: Implement/install strategies to limit exterior and interior light for sleep support.

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
HEALTH, SAFETY, AND WELLNESS (CONT.)		
Lighting & Visual	**Daylight & Views**	**A:** Daylighting is provided for at least 75% of all regularly occupied spaces**.**
		B: Views of the outdoors and/or nature are provided for at least 75% of all regularly occupied spaces**.**
		C: At least 50% of all view windows have sills no greater than 36" a.f.f.
	Lightbulbs & Glare Control	**A**: Lightbulbs with a Color Rendering Index (CRI) of ≥90 are installed in all permanent light fixtures.
		B: Glare from all interior electric lighting has been considered and addressed (e.g. angled lighting, diffused, dimmable, surface reflectance of furniture and finishes, and fixture locations).
	Visual Contrast	**A:** All counters have a contrasting color from surrounding materials for increased visibility.
Indoor Environmental Quality (IEQ)	**Fresh Air & Ventilation**	**A**: Both mechanically and naturally ventilated spaces were designed to meet the most recent ASHRAE 62.2 standard (or equivalent) and homeowners are provided with clear, updated instructions that include ASHRAE requirements and recommended IAQ monitoring strategies**.**
		B: All bath, kitchen, and clothes dryer exhaust systems vent directly outdoors**.**
		C. HVAC system includes filtration media that filters at least 50% of particles 0.3-1 µm in size (e.g. ≥MERV 13, activated carbon, HEPA, or ≥F8 filters).
		D: Indoor air quality testing has been conducted.
		E: Permanent indoor air quality monitoring has been installed**.**
	Contaminant Controls	**A**: Radon testing has been conducted to verify indoor radon levels. If radon levels exceed 150 Bq/m3 (4 pCi/L), radon has been mitigated and home retested to verify 150 Bq/m3 (4 pCi/L) limit is not exceeded.
		B: Radon levels do not exceed 100 Bq/m3 (2.7 pCi/L).
		C. Unit does not include any open combustion equipment or appliances (e.g. cooktops, stoves, water heaters, furnaces/boiler, or space heaters).
		D: Unit includes protection from vehicle emissions from outdoors and/or garage (e.g. detached garage, garage isolation, and enhanced air sealing).
		E: Smoking is prohibited indoors and within 25 feet of all entrances, operable windows, and outdoor air intakes (multifamily only).
		F: Construction indoor air quality control: follow construction IAQ measures from either LEED for Homes or WELL Residential.
	Healthy Building Materials	**A**: Interior and exterior building materials have been installed per referenced standards. Points are allocated based on the number of compliant categories (see materials guidance list in Rating System Manual).
		B: 75% of all flooring area does not include permanently installed carpeting (100% for bonus point).
		C: Materials or systems that filter indoor air polluntants are installed**.**
Indoor Environmental Quality (IEQ)	**Thermal Comfort**	**A**: Unit is designed with thermal zones for different areas, taking into account uses and thermal performance.
		B: At least one operable window is provided in each regularly occupied room**.**
	Cleanable surfaces	**A**: High touch interior surfaces are made from easily cleanable surface materials and coatings.
Health & Wellness	**Water Safety**	**A:** High quality water has been provided and tested in the home**.** Compliance can be achieved through either testing of the unit's water supply or municipal water utility testing and must meet the EPA's standards for drinking water quality set by the Safe Drinking Water Act (SWDA).
		B. Water heater must be set to 140 degrees F (60 degrees C) minimum.

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
HEALTH, SAFETY, AND WELLNESS (CONT.)		
Health & Wellness	**Acoustics & Noise Control**	**A**: Average noise sources (indoors & outdoors) have been identified through testing and indoor noise intrusion has been mitigated to achieve thresholds set by WELL Residential criteria R-S04 Part 2.
		B: For Multi-family: Meet noise control measures as defined by *New York City Admin Code Article 9 - Noise Control in Multiple Dwellings.*
	Emergency Preparedness	A: The unit has a medical alert, home security, or smart home communications system installed.
		B: Battery storage and/or emergency power devices is provided**.**
		C. A safe room is provided and designed specifically for local natural disasters, per FEMA P-320 and P-361.
		D. Unit has been designed and constructed specifically to mitigate local natural disasters beyond minimum code requirements (e.g. earthquakes, forest fires, hurricaines, tornados, etc). Additional points available for third-party certification.
	Healthy & Active Living	A: For multifamily developments, the building has been designed to encourage active living by incorporating at least three design elements from Chapter 3 of the New York City's Active Design Guidelines.
		B: The unit or building includes dedicated fitness room, fitness equipment, and/or fitness programming.
		C: Dedicated space(s) for meditation and/or mindfulness are provided in the unit or building.
		D: Impact reducing flooring or anti-fatigue mats are provided in locations where occupants might stand for extended periods to execute tasks.
	Variety & Purpose	**A:** Varied sensory experiences are provided in the unit or building with the express purpose of engaging the five senses.
		B: Dedicated space for pursuit of hobbies, work, or purposeful activities are provided in the unit or building.
		C: Biophilic design elements are incorporated throughout the interior spaces such as natural materials, patterns and/or shapes, colors, live vegetation, water features, and/or other natural elements.
AFFORDABILITY & MAINTENANCE		
Maintenance	**Landscape Maintenance**	**A:** Low-maintenance landscaping is installed for at least 80% of total site area, excluding the building footprint(s).
		B: At least 60% of plantings are native and/or non-invasive plant species**.**
		C: At least 60% of plantings are pollinator-friendly species.
	Durability & Sustainability	**A:** Desconstructability of materials has been planned for**.**
		B: Moisture-resistant materials and/or assemblies are installed on exterior and at all potentially wet interior areas.
		C: Durable and low-maintainence materials are installed. Points are allocated based on the number of compliant categories (see materials guidance list in Rating System Manual).
		D: Materials contain recycled content**.**
		E: Materials have been regionally sourced**.**
		F: Materials included rapidly renewable content**.**
		G: Materials and products with Environmental Product Disclosures (EPDs) and/or Health Product Disclosures (HPDs) have been installed and the information provided to residents.
	Access to Equipment and Controls	**A:** Furnace/boiler/air handler and water heater are located in an easily accessible location so they can be maintained and serviced.
		B: Main water shutoff is in an easily accessible location and clearly labeled (located along ACP?).
	Pest Control	**A:** Areas where pests could enter are addressed to prevent intrusion of pests.

SUB-CATEGORY	FEATURE	CRITERIA REQUIREMENTS
AFFORDABILITY & MAINTENANCE (CONT.)		
Affordability & Resource Efficiency	**Energy Efficiency & Renewables**	**A.** The unit or building is ENERGY STAR certified.
		B: Appropriate weather stripping is installed at all exterior doors.
		C: Insulation at least 10% better than code minimum is installed in exterior walls and/or roof and/or below grade.
		D: Energy efficient light bulbs are installed in at least 90% of all lighting fixtures.
		E: HVAC system does not include ducts or ducts are tested for tightness and meet 2021 IECC duct leakage requirements of 4 CFM per 100 square feet of conditioned floor area or less.
		F: All eligible appliances meet ENERGY STAR label or equivalent.
		G: On-site renewable energy production is provided.
		H: Energy metering for all energy sources is installed for each unit. Bonus points available for energy submetering (multifamily) or energy tracking apps (single family).
		I: Heating and cooling is controllable for each regularly occupied space.
		J. High albedo exterior hardscape and roofing materials are installed and/or shading is provided to reduce heat island effect.
	Water Efficiency & Conservation	**A:** Water metering is installed for each unit (or each building for multi-family) and/or a leak detection system capable of identifying anomalous water useage is installed and the system has been checked for leaks**.**
		B: Water efficient fixtures are installed - toilets, showerheads, and lavatory faucets must be WaterSense labeled. Kitchen sink faucets muct have a maximum flow rate of 2.0 gpm. Clothes washers and dishwashers must be ENERGY STAR labeled. The water pressure in the unit must not exceed 60 psi (414 kPa).
		C: Provide water efficient landscaping.
		D. Landscaping includes smart irrigation controls.
	Home Affordability	**A:** The rent/mortgage and utilities are not more than 30% of household income.
		B: The unit (or multifamily building) serves residents with incomes at or below 100% AMI.
	Home Size	**A**: Earn 1 point for every 4% decrease in home size compared to the ENERGY STAR for Homes, version 3, reference home**. Up to 3 points total possible.**

APPENDIX 2: GAP ANALYSIS

GAP ANALYSIS OF EXISTING AGE-FRIENDLY, GREEN BUILDING, AND HEALTHY BUILDING HOME DESIGN FRAMEWORKS

Category	AARP Home Fit	ADA	Rogue Valley	Age Friendly Sarasota	Iowa City	Colorado Lifelong Homes	LEED Homes	Ent. Green Comm. w/ AIP	WELL	Fitwel
Community Context										
Recreation, beauty, & active living				X		X	X	X	X	X
Socializing, purpose, & culture				X		X	X	X	X	X
Basic needs & healthy food						X	X	X	X	X
Access to services					X	X	X	X	X	X
Visitability										
Exterior access to home	X	X	X		X	X		X	X	X
Interior access	X	X	X		X	X		X		
Accessible Guest Restroom	X	X	X		X	X				
Design & Adaptability										
Adaptability	X		X	X	X	X		X		X
Integrated Design			X			X	X	X	X	
Accessible Kitchen/Full Bath	X		X	X	X	X		X		
Accessible Bedroom	X		X	X		X		X		
Health & Safety										
Safety	X		X		X	X	X	X		X
Lighting & Visual	X		X			X		X	X	X
Healthy Indoor Env. Quality			X			X	X	X	X	X
Health Features						X	X	X	X	X
Wellness Features						X	X	X	X	X
Affordability & Maintenance										
Resource Efficiency						X	X	X	X	X
Home Affordability						X			X	
Low Maint.			X			X	X	X	X	X