

ACCESSIBLE HOUSING AVAILABILITY FOR THE GROWING U.S. ELDERLY POPULATION

Jean Memken and Nichole Earley

Abstract

The purpose of this study was to compare the number of accessible housing units available for purchase in the U.S. with the number of elderly households in this country. It was hypothesized that the number of elderly households would be proportionately higher than the number of available accessible housing units. Data for this research came from the MLS listings on www.realtor.com and the 2000 U.S. Census. The number of accessible housing listings for U.S. municipalities with populations greater than 150,000 people was compared with elderly populations for those municipalities as well as the projected elderly population for the year 2025. Analysis of variance was used to compare regions of the country in terms of accessible housing listings and elderly populations. Results showed that the Northeastern section of the U.S. had significantly more accessible housing listings than any other section of the country; however, there were no significant differences in current or projected elderly populations among the regions of the country. In addition, multiple regression analysis revealed a significant positive relationship between number of housing units on the market and number of accessible units available for sale. The results of this research revealed a major shortfall of accessible housing units in all areas of the country, which could have major implications for elderly households desiring to age in place and needing accessible housing to do so.

Introduction

As a nation, the U.S. is on the verge of a tremendous boom in its elderly population. The U.S. Census Bureau (2000) predicted that the elderly population in this country will more than double in the next 25 years. As this large group ages, they will need a proportionally large amount of safe, flexible housing to suit their changing needs. This translates into a large accessible/visitable

Jean Memken is Associate Professor, Department of Family and Consumer Sciences, Illinois State University, Normal, IL; and Nichole Early completed her Master's degree in Family and Consumer Sciences at Illinois State University and is currently a Ph.D. candidate at the University of Wisconsin, Madison, WI.

housing stock that will be needed to accommodate the aging population's housing needs. In preparation for this demographic shift, the U.S. housing stock must be investigated. The purpose of this study was to examine the accessible/visitable housing availability in the U.S. for the elderly today and to compare it to the future needs of the elderly population. *Elderly* is defined, for the purpose of this study, as age 65 and older—the same age marker for the elderly used by the U.S. Census Bureau (Federal Interagency Forum on Aging Related Statistics, 2004).

It was hypothesized that the number of elderly households significantly exceeds the stock of accessible single-family homes available today. In addition, the relationship between the number of accessible housing units in a community and community demographics was compared. The primary limitation of this study was a lack of comprehensive quantitative data on accessible/visitable housing available in the U.S. This limitation makes it difficult to fully examine the housing situation for the aged population.

Review of Literature

Visitable vs. Accessible vs. Universal vs. Adaptable

There are many design buzz words focused on moving the built environment into a more inclusive state. In order to detangle the verbiage, each term will be defined, along with a supporting example.

Visitability is a cost effective and inclusive design approach to integrate the most basic accessibility features into newly constructed housing. The term visitability was first used by Concrete Change, an advocacy group based in Atlanta, Georgia. This group has been promoting basic accessibility features in housing since the late 1980s (Concrete Change, 1998).

Visitability focuses on the three most essential access features needed to make a home user-friendly for disabled visitors or for the occupant should they become temporarily or permanently disabled. These features are:

1. At least one zero-step entrance.
2. Doorways with 32 inches clearance space and hallways with 36 inches clear width.
3. Basic access to at least one half or full bath on the main floor. A basic access bath “has sufficient length and width for a person using a wheelchair to enter and close the door” (Research and Training Center on Disabilities in Rural Communities, 2004, p. 2).

Although this concept is relatively simple, its impact is important. Holtzman (2004) recognized the importance of visitability by explaining that “...people with physical challenges, who according to the 2000 U.S. Census comprise 19 percent of the nation's population, are often isolated due to the difficulty of navigating friends' and neighbor's homes” (p. 45). Visitability expands housing

options for the elderly as well as many other populations with just a few changes in the design and construction of the home. These minimal changes are usually achieved through state and local ordinances (Hartje, 2004).

Accessibility is an older concept which originated in the 1950s but had little impact until the 1970s and 1980s when the Rehabilitation Act Amendments of 1977 and the Americans with Disabilities Act (ADA) were passed. These acts only apply to housing constructed with government funding. Mace (1990) defined accessible design as products and environments that meet prescribed requirements for use by people with disabilities.

For single-family homes, there are no federal accessibility feature requirements. Accessibility, in general terms, requires buildings to not exclude as a result of a disability. Accessibility is broader than visitability. While visitability recommends only three features, accessibility includes those and many more. Simply put, accessible housing is standard housing with adaptive features such as roll-in showers, grab bars, and lowered cabinetry. Critics fault accessible design for pure function taking precedence over aesthetics.

Reacting to these early shortcomings of accessible products and design, *universal design* strives to eliminate this “flaw.” Universal design is an inclusive approach to creating products and environments that can be used by all, regardless of physical abilities, without needing adaptation. It is defined as the “design of products and environments to be useable by all people to the greatest extent possible, without the need for adaptation or specialized design” (Deardorff & Birdsong, 2003, p. 134).

One of the important results of the universal design movement was to eliminate the “special needs” label placed on individuals with disabilities or those trying to maintain their independence (Null, 2003). Since universal design refuses “separate but equal” in terms of design, this enables universally designed environments to be both beautiful and usable, rather than useful but stigmatized and institutional. Although universal design seeks beautiful, universal solutions, the reality is all products and environments cannot be used by every person. With this knowledge, universal design proponents offer that usability for all serves as an ideal, rather than an actual, attainable goal.

Adaptability is a concept which includes basic wheelchair accessibility in terms of circulation clearances. In addition, it takes basic accessibility a step further by offering easy conversion if occupants need to make changes to meet the unique needs of their particular disabilities. Adaptable design includes flexible features that can be adjusted for the personal needs of specific users in a short time by unskilled labor without involving structural or finish material changes (Deardorff & Birdsong, 2003). According to Redfoot and Gaberlavage (1991), these “modifications to the home environment can reduce the stresses associated with reduction in physical functioning (sight, hearing, mobility) and may reduce the incidence of withdrawal from activities, premature institutionalization, accidents, and fatal injuries” (p. 37).

In a study by Deardorff and Birdsong (2003), a large majority of universal design experts either agreed or strongly agreed with these design definitions, except for accessible design. Hence a more contemporary definition for accessible design developed by Deardorff and Birdsong (2003) is “products and environments that are easy to approach, reach, enter, or use” (p. 134).

Why is Accessibility an Issue?

Housing has a great impact on the quality of our daily lives (Hartje, 2004). Only when a home offers accessible features or is prepared for easy adaptability can aging in place be a possibility. As an elder’s needs change throughout the aging process, an accessible, visitable, universally designed, or adaptable home is ready to suit those changes. There are several housing types available for the elderly; however, most elderly persons would rather just stay put. “According to a 2000 AARP survey, more than 90 percent of persons age 65 and older would prefer to stay in their current residence as long as possible” (Kochera, 2002, p. 3). However, in a study by Gobtop and Memken (2005) it was found that to incorporate accessibility modifications in existing homes so elderly can age in place is significantly more costly than if the accessibility features had been put in place when the home was built.

Besides the important advantage of accessible and visitable homes offering the chance to age in place, these features offer many benefits to any aged individual with any ability level. An example is the zero-step entrance which offers a safe, trip-free, means to exit and enter, even if not wheelchair-bound. Since, according to the National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention (2005), we know environmental risk factors contribute to an estimated 50% of home falls, these types of features are important to help seniors avoid falls—the leading cause of injury deaths among the aged. Another advantage of the no-step entrance is the opportunity for wheelchair-bound individuals or others using walking aids to enter without assistance and with dignity. A second example of age-less accessible features is the accessible bathroom. First, the no-step shower offers a flexible, easy-to-use, safe alternative for the user. Grab bars, an accessible (but not a visitable) feature, are often handy for easy and safe maneuvering around the bathroom even for individuals who do not fully need them. The National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention (2005) recommended that seniors make living areas safer by having grab bars installed next to the toilet and tub/shower. With the ingenuity of universal design, today’s grab bars can be disguised as towel racks which enable them to blend into the design.

Having a kitchen that is accessible further contributes to the independence of elderly aging in place as they do not have to rely on others for meal preparation. In a study by Hartje (2005), professionals that were well-versed with universal design

concepts identified 12 essential universal design features that would make kitchens accessible, including adjustable height shelves, stretches of continuous countertops, clear knee space under the sink, single lever faucet controls, and non-slip textures.

Isolation from others versus participation with others makes the difference for many between being alive and living. Isolation causes a host of negative effects. The most prominent is depression, the “most common mental disorder of late life” (Fogel, 1992, p. 17). Beyond depression, elders, especially women, involved in their communities as volunteers have a lower rate of major illness compared to non-volunteers. According to Henderson (1993), “52% of the women who didn’t belong to clubs or engage in volunteer work had experienced a major illness... compared with 36% of women who had been socially active (p. 16). While an accessible house can help an aged individual live better, it is not enough to facilitate a life beyond the home. As a result, we must look beyond aged residents’ front doors. This is where visitability becomes important to the elderly.

Although there are many advantages to creating housing with these accessible features, and the application of universal design features and products in housing is expanding, the industry is still in the early stages of development (Hartje, 2005). Because most housing is not required to be accessible, many accessible design features are passed over for more traditional building practices. There is not a set of comprehensive and concise guidelines for universally designed housing that builders can use, and many do not want to invest the time and money into modifying the home designs they currently build (Hartje, 2005).

Number of Elderly Persons

Worldwide, there were 600 million people aged 60 and over in 2000 compared to an estimated 1.2 billion by 2025 and 2 billion by 2050 (World Health Organization, 2005, p. 1). The growth of the elderly can be seen in U.S. population numbers as well. According to the U.S. Census Bureau (2000), there were 34.9 million elders 65 and over in the year 2000. They projected that by the year 2040, less than 30 years from now, elders 65 and over will total 71.4 million—over double the 2000 estimate.

Combined, several factors are creating this significant growth in the elderly population. These factors include decreased birth rates, longer life spans, and an aging baby boomer generation. With such a major demographic change, “researchers and policymakers expect...housing problems to worsen in the next few decades” (Maisel, 2005, p. 5).

Data from the 2005 American Community Survey showed almost 80% of U.S. elderly households were homeowners (U.S. Census Bureau, 2005). Elderly homeowners were less likely than homeowners in other age groups to relocate. A May 2000 AARP study revealed 86% of those 45 and older would prefer to stay in their present homes (Benedict, 2001).

There are many reasons elders have for staying in their homes. They find comfort from familiar surroundings and their support network. Also, if an elder sells his home, he may be put in a position to “lose an asset that is excluded in determining eligibility for some forms of income transfer, housing, health, or supportive services programs and replace it with assets that are included in eligibility calculations” (Mutschler, 1992, p. 7).

An AARP-sponsored survey of elderly householders revealed that residential mobility and migration among those 60 or over has remained stable over the last 30 years. Only one out of every 10 elderly reported they had moved to a different county in the last five years. Approximately 90% of respondents had remained in their own homes or had moved to another home in the same county (AARP, 2005).

Whether their homes are accessible, adaptable, or blatantly not elder-friendly, many elders are choosing to stay in their current residences. According to a recent U.S. Department of Housing and Urban Development report, “more than 1 million households with a disabled older resident have unmet structural housing needs” (as cited in Kochera, 2002, p. 3). These structural housing needs include ramps or bathroom accessibility features.

What about Senior Housing?

In the 1980s, the senior housing industry expanded significantly. In this growth spurt, the industry expanded beyond the bounds of nonprofit, religious-affiliated housing to include continuing care retirement communities and congregate developments. Despite the decorative elegance of these facility types, the elders that chose these new options were fewer in number, older, and more frail than expected. In the late 1980s and early 1990s, converted and new assisted living facility markets grew. Beyond those two types, “new senior housing production has slowed up considerably” (Dobkin, 1992, p. 32). Henderson (1993) observed: “Living in a neighborhood that has a mix of neighbors, rather than in an ‘age ghetto,’ provides a feeling of continuity and acceptance” (p. 18). As indicated by the numerous senior housing vacancies across the country, senior housing is, at best, a partial solution for elders’ accessible housing needs.

A recent report from the Joint Center for Housing Studies of Harvard University revealed that the baby boom generation is largely unaware and unconcerned about their future housing needs. Therefore, most home builders are not interested in building supportive, accessible housing. Currently, almost 75% of the U.S. elderly live in conventional housing which is not designed to accommodate future disabilities. According to the report, there are no indicators suggesting this trend will change in the short-term (Raymond, 2000).

However, there are some examples of innovative design in senior housing. One example is The Green House Project, a senior development that includes small

community homes, where six to eight people can comfortably live and receive the skilled care they need to remain independent. These homes are accessible, but they blend into the communities where they are built. In addition, they are lined with a network of doctors, nurses, and other medical staff. Dr. Bill Thomas, the developer of this project, believes that during the next decade the senior housing industry will undergo a period of experimentation where models will emerge that will meet the needs of all current elderly as well as future seniors (Raymond, 2000).

Because most elderly in this country want to age in place, it is important to understand what traditional single-family options are available for them on the housing market. Until innovative housing models are commonplace in the market, elderly persons will need to have accessible housing incorporated into traditional neighborhoods. This research sought to discover how much accessible housing exists in today's housing market.

Method

The purpose of this study was to examine what accessible housing options were available for the current elderly population. In addition, this research sought to better understand the demographic characteristics of communities in the U.S. that had more accessible housing units on the real estate market. This study used secondary data sets from several sources to operationalize the variables and test the hypothesis that the number of elderly households in this country significantly exceeds the number of accessible housing units available. Data were collected in the fall of 2005.

Real estate listings for single-family homes versus listings for single-family homes with accessible features were used as a source for estimating the percentages of accessible housing available among the total stock. (This, however, does not address or separate out visitability features from the accessible features.) Because the actual multiple listing service (MLS) database is only available to real estate agents and then only for their particular region, there is no means for researchers to access and use this information (Eschew, 2005).

As a result of this limitation, this study used MLS listings from www.realtor.com to compare the available single-family housing numbers to the available single-family housing with accessible features numbers for all the U.S. municipalities with populations greater than 150,000 people. According to Eschew (2005), www.realtor.com is a subscription site for realty offices to post their office's real estate listings. Therefore, www.realtor.com as a data source has its limitations. In some cities and states, www.realtor.com is very popular with a large number of listings for those areas. In other places it is less popular with fewer listings for those areas. According to Belt (2005), accessibility features, in real estate market terms, include zero-step front entrance and/or a ramp from the garage, a walk-in shower, wider doorways, and sometimes one-floor living.

The municipalities populated over 150,000 were taken from the 2000 U.S. Census. Other data included: total state population in 2000, total elderly population in 2000, projected total state population for 2025, projected total state elderly population for 2025, and regional breakdowns as defined by the U.S. Census Bureau (2000). Also included were the real estate listings by city for single-family homes and the real estate listings by city for accessible single-family homes, both from www.realtor.com. All population data were gathered from the U.S. Census Bureau (Demographia, 2000). Also, the state population data for 2000 and the projected values were transformed into percentages. These data were analyzed using SPSS software. Comparison of means and regression analysis were used to test the hypothesis. A significance level of $p < .05$ was used for this analysis.

Results

The variables in this study included state total population for 2000 and projected for 2025, state elderly population for 2000 and projected for 2025, number of current single-family dwellings by city and region, and number of current accessible single-family dwellings by city and region. Comprehensively, all the states in this study had between 6.06% and 17.17% elderly populations as of the 2000 Census with a mean of 11.24%. Only the state of Alaska had less than 9%. This contrasts sharply with the mean percent of accessible dwellings in U.S. regions of .60%. Also, it is important to note that by 2025 the mean elderly population projection percentage increases to 16.05%.

At the city level, 116 of the 135 cities had less than 1% accessible single-family home listings. Only five cities had more than 2% accessible listings. This finding was remarkable considering these cities (Buffalo, New York, Rochester, New York, Atlanta, Georgia, Seattle, Washington, and Tacoma, Washington) are located in states that all had over 9% elderly populations in 2000 and over 16% projected elderly populations for 2025. Of the 135 cities studied, Buffalo was the only city in the U.S. with a similar percentage of accessible listings (14.63%) and elderly population percentage (12.41%).

Regions of the U.S. were compared in terms of available accessible housing units using one way analysis of variance (ANOVA). Results are shown in Table 1. The Northeastern region in the U.S. showed a significant difference from all other regions in terms of the accessible housing percentage ($N = 12, F = 3.67, p = .014$) than all other regions. This region's average percentage of accessible dwellings was approximately 2% of all units on the market (1.91%). More specifically, within the Northeastern region, the Middle Atlantic region subgroup (which includes New York, New Jersey, and Pennsylvania) had a much higher percent of accessible housing for sale (2.55%) than any other regional subgroup. The other regions all had less than 1% of accessible single-family dwellings listed for sale at the time of the study. The Midwest had an average of .43% (with almost one million people

age 65 and over). The Southern region had only an average of .45% accessible dwellings as a part of the total housing market (with an elderly population of 1.3 million), and the Western region included only about .5 percent of accessible housing with an elderly population of over 2 million.

Analysis of variance was also used to compare the number of elderly residing in each of the four regions as well as the projected population of elderly in the year 2025. No significant differences were found among the regions in terms of the total number of elderly residents or projected elderly residents. Given the large numbers of elderly in all four regions of the country and the very small percentage of units on the market, the hypothesis for this study (that the elderly population would far exceed the number of available accessible housing units) is supported.

Table 1. Analysis of Variance Comparing Regions by Accessible Listings and Current and Future Elderly Populations

Region	Percent Accessible Single-family dwelling listing*	2000 65+ population	2025 65+ population
Notheastern			
Mean	1.91	1,507,250.00	2,137,333.00
N	12	12	12
Std. Dev.	4.31	781,692.70	1,050,136.50
Midwestern			
Mean	.43	964,521.70	1,518,826.10
N	23	23	23
Std. Dev.	.48	469,250.50	668,028.21
Southern			
Mean	.45	1,347,259.00	2,702,351.90
N	54	54	54
Std. Dev.	.71	869,717.10	1,790,406.10
Western			
Mean	.52	2,049,174.00	3,955,695.70
N	46	46	46
Std. Dev.	.85	1,482,889.00	2,741,347.70
Total			
Mean	.60	1,535,444.00	2,877,555.60
N	135	135	135
Std. Dev.	1.48	1,133,505.00	2,175,475.70

* Significant at the .05 level, $F = 3.67$, $p = .014$

This study also compared population and housing listings of each community with the percentage of accessible housing units. Multiple regression analysis was used to see if any of the community characteristics might serve as predictors of accessible housing within the community. Analysis of these data showed the overall model was significant ($F = 6.491, p = .000$). However, of the four variables in the model (current total population, current elderly population, total single-family listings, and region), only total single-family dwelling listings was a significant predictor. The relationship between total listings and accessible listings was positive. Surprisingly, the 65+ population had a negative relationship ($t = -1.376, p = .171$) with the number of accessible single-family home listings. In other words, although not significant, the more elderly there were in a given area, the fewer accessible single-family homes were listed.

Table 2. Regression Coefficients of Percent Accessible Units in U.S. Communities

	Standardized Coefficients		
	Beta	t	p
2000 total population	.52	1.34	.18
2000 65+ population	-.50	-1.38	.17
Single-family listings	.40	4.83	.00
Regions	-.10	-0.93	.35

Discussion

Over 90% of the U.S. elderly population prefers to age in place. Combined with an upcoming boom in the U.S. elderly population, there is a rapidly growing need for accessible, visitable, and/or adaptable housing stock. The need, as this study has reported, will increase significantly within a relatively short time. The data showed that, on average, accessible housing makes up only .60% of all single-family housing units on the market in the U.S. This result is especially surprising when contrasted with each state's elderly population, which had a mean of 11.91%. Also, this study found that only one of the 135 U.S. municipalities populated with over 150,000 people (Buffalo) had an accessible housing stock percentage similar to the state's average percentage of elderly residents.

In less than 20 years, the elderly population projection percentages by state will average 16.04%. This statistic shows the increasing importance of continuing research on accessible housing for the elderly. Although the elderly population is emphasized here, accessibility issues extend to other groups as well. In 1990 in the U.S., 30% of families had at least one disabled member. However, the 1990 National

Health Interview Survey indicated “less than three percent of Americans lived in homes with any kind of accessibility feature” (Maisel, 2005, p. 6). Therefore, the need for accessible housing is greater than just to meet the elderly population’s needs.

More surprisingly, this study found a negative correlation between the number of elderly residents and the accessible dwelling numbers. This result indicates that not only are all regions short of accessible housing stock but those areas with the greatest numbers of elderly have the least amount of accessible housing available. Because of this shortage, we can surmise current local statutes and incentives are not enough to generate builders’ and developers’ desire to fill the accessible, visitable, and adaptable housing need today and especially in the future.

Converting existing traditional dwellings to meet accessible or visitable standards is much more expensive than planning ahead and integrating these features into new construction (Gobtop & Memken, 2005). Not only is there a financial advantage to adding accessibility/visitability features during the new construction planning phase, but there is also an aesthetic advantage. Today, visitable and accessible homes can be built which are indistinguishable from conventional dwellings. In addition, the other components of visitability, an accessible bathroom and extra wide entryways, can easily be incorporated during construction.

Without proper action either through government mandates, incentive programs, or consumer promotional campaigns, the need for accessible/visitable and adaptable housing will continue to outpace its construction. Without progress in aligning the housing stock with population needs, the problem will expand with the aged population boom. This problem is one that will be more financially costly to address later rather than at present.

What is Delaying Visitable and Accessible Housing?

For the disabled and aged, the built environment can serve as a constant reminder of difference. While an accessible home for self opens the door to better living, visitable homes for others open the door to a better life for elders in their communities. So what is the hold up in getting more accessible units in our neighborhoods and communities? There are many misconceptions about visitability and accessibility that retard progress. Some myths, among many, include the following.

Many mistakenly believe that accessibility is already mandated by law. The fact is ADA and other accessibility laws do not include single-family detached homes and town houses. Some cities have individually adopted a variety of accessibility statutes and incentives. Even these programs have had limiting constraints placed upon them. While Naperville, Illinois passed a noteworthy visitability ordinance, the Northern Illinois Home Builders Association drove changes to the ordinance. These concessions removed the no-step entrance portion of the ordinance.

Another myth about visitability and accessibility is poor aesthetics. Critics often claim visitable and accessible features are ugly and obtrusive. Even if accessibility features are retrofitted into conventional dwellings, this can be accomplished beautifully. Unfortunately, the most noticeable retrofits are the ones poorly tacked on, usually by someone untrained in universal design. This kind of afterthought accessibility helps the myth to persist. While it is common enough to see a poorly retrofitted ramp here and there, the fact is visitable homes, as is the goal, have fully integrated features that make the homes indistinct from surrounding conventionally built homes. With universally designed products and features, accessible homes can be thoroughly indistinguishable from traditional homes. If accessibility/visability is planned before construction begins, the results will be optimal and the expense will be minimal.

The myth that most often bares its head is that visitability features are very expensive to build. Visitable features are least expensive when included in the design during the original planning stage. To plan and build a home with visitable features, Maisel (2005) estimated a total cost increase of \$100 for homes on concrete slabs and \$300-\$600 for houses with basements/crawlspaces over the cost of conventional plans built (p. 28). Although visitable features may not be enough to completely accommodate aging in place, it is much less expensive to make a visitable home accessible compared to making a conventional home accessible.

Some areas have even gone so far as to create builder incentive programs to alleviate cost and further encourage voluntary visitable building. One such program is the Accessible Housing Demonstration Grant Program, established in Illinois in 1999. This program offers builders \$5,000 to incorporate four specific features in each spec home they build. These features are a step-less entrance, wider doorways and hallways, a half-bath on the main floor, plus bathroom walls reinforced for grab bars. "The intended goal is to encourage builders to provide features in at least ten percent of the homes in a housing development and to generate builder expertise and public awareness that will lead to acceptance in the unsubsidized market" (Maisel, 2005, p. 21). The program officially began in 2002, and has led to the construction of 96 visitable homes and the participation of 21 developers.

Encouraging Visitable and Accessible Building

There are many theories on how best to encourage visitability and accessibility concepts in single-family homes. Is local legislation, federal regulation, builder incentives, or something else the best means to create the accessible/visitable housing stock for the growing U.S. elderly population? All have their fair share of proponents and opponents. Since their first accomplishment with visitable Habitat for Humanity housing in 1990, the Atlanta, Georgia organization Concrete Change works to get "basic (visitable) changes made as quickly and broadly as possible" in the Atlanta area (Truesdale & Steinfeld, 2005, p.4). Because of Concrete

Change's work for almost 20 years, it was not surprising to see in this study that Atlanta had the third largest percentage of accessible housing listings (4.644%) of all the 135 U.S. municipalities over 150,000 people. This could indicate active advocacy groups as powerful forces for change of the local level. Future studies could examine the correlation between active area advocacy groups and accessible/visitable housing availability.

Also, "some advocates believe that it is possible to enhance the appeal of accessibility features by marketing them as amenities" (Kochera, 2002, p. 7). The idea of a consumer-driven push is certainly interesting considering how large this particular pool of potential consumers is. Kochera (2002) remarked on this new turn: "Indeed, features such as large bathrooms and master bedrooms located on the first floor of a home are already viewed as amenities by many homebuyers, especially older shoppers" (p. 7).

Recently, a builder's billboard advertisement in St. Charles, Illinois was doing just that. The advertisement mentioned a couple of features (that we generally term accessibility features) and promoted them as great for families with kids or mature adults. The feel of the advertisement was, "Look how we've anticipated your needs! Aren't we thoughtful? Come live in our development!" Although not an exclusive solution, consumer demand could be one very potent solution, among many, needed to drive accessibility/visitability. If consumers are informed about which accessibility features and universally designed products are available and how they will benefit from them, they will be more likely to spend their money for these products which will drive the market. Forward-thinking builders and developers, such as the one advertising in St. Charles, will be the first in line to answer the market's call.

Conclusion

The results of this study could be used by professionals, municipal officials, and concerned citizens to support the push for visitable, accessible, and adaptable construction via any number of avenues. Also, it should be used as a springboard for future research. Because there is little quantitative research on accessible housing availability in the U.S., there are many opportunities for future research on this topic. Incorporating new sources of accessible dwelling numbers would be very useful in future research. Also, research opportunities on this topic could include studying other predictors of accessible unit indicators. As with any research, more concrete data would benefit future examination of this topic.

Today, as the U.S. elderly population grows, it is important that built environment professionals continue to investigate and prepare for this demographic shift. The large amount of housing stock needed to meet the needs of this group today pales in comparison to the amount that will be needed in the fast-approaching future. This study underlines this need quantitatively and serves as a foundation for further accessible housing research.

References

- AARP. (2005). *Retirement migration in the 2000 Census*. Retrieved July 9, 2005, from www.assets.aarp.org/rgcenter/il/migration_2.pdf
- ASSIST. (2007). *Visiting new heights. Assist – A community design center*. Retrieved July 7, 2007, from www.assistutah.org/access-visitability/visitability.htm
- Belt, J. (2005, October). Personal communication with licensed realtor.
- Benedict, E. (2001). When baby boomers grow old. *American Prospect*, (9), 20-25.
- Callahan, J. J. (1992). Aging in place. *Generations*, 16(2), 5-6.
- Centers for Disease Control and Prevention. (2005). *A tool kit to prevent senior falls*. Retrieved November 29, 2005, from www.cdc.gov/ncipc/factsheets/falls.htm
- Concrete Change. (1998). *The beginnings of Concrete Change*. Retrieved July 4, 2007, from www.concretechange.org/cc_beginnings.htm
- Deardorff, C. J., & Birdsong, C. (2003). Universal design: Clarifying a common vocabulary. *Housing and Society*, 30(2), 119-138.
- Demographia. (2000). *2000 Census: US municipalities ranked by 2000 population*. Retrieved November 1, 2005, from www.demographia.com/db-uscity98.htm
- Dobkin, L. (1992). If you build it, they may not come. *Generations*, 16(2), 31-32.
- Eschew, D. (2005, October). Personal communication with licensed realtor.
- Federal Interagency Forum on Aging Related Statistics. (2004). *Older Americans 2004: Key indicators of well-being – Number of people 65 and over 1900-2000*. Retrieved October 8, 2005, from www.agingstats.gov/chartbook2004/spreadsheets.html
- Fogel, B. S. (1992). Psychological aspects of staying at home. *Generations*, 16(2), 15-19.
- Gobtop, S. M., & Memken, J. A. (2005). Housing the elderly: Investigating solutions to help seniors age in place. *Housing and Society*, 32(1), 71-84.
- Hartje, S. C. (2004). Developing an incentive program for universal design in new, single-family housing. *Housing and Society*, 31(2), 195-212.
- Hartje, S. C. (2005). Universal design features and product characteristics for kitchens. *Housing and Society*, 32(2), 101-118.
- Henderson, Z. P. (1993). Toward a rewarding life in old age. *Human Ecology*, 21(2), 15-19.
- Holtzman, A. (2004). Visitation rights. *Architecture*, 93(6), 45.

- Kochera, A. (2002). *Accessibility and visitability features in single-family homes: A review of state and local activity*. Retrieved October 8, 2005, from www.aarp.org
- Mace, R. (1990). *Definitions: Accessible, adaptable and universal design* (Fact Sheet Number 6). Raleigh, NC: Center for Universal Design, North Carolina State University.
- Maisel, J. L. (2005). *Visitability as an approach to inclusive housing design and community development: A look at its emergence, growth, and challenges*. Buffalo, NY: Center for Inclusive Design and Environmental Access, University at Buffalo.
- Mutschler, P. H. (1992). Where elders live. *Generations*, 16(2), 7-8.
- Null, R. (2003). Commentary on universal design. *Housing and Society*, 30(2), 109-118.
- Raymond, J. (2000). Senior living: Beyond the nursing home. *American Demographics*, 22(11), 8-13.
- Redfoot, D., & Gaberlavage, G. (1991). Housing for older Americans: Sustaining the dream. *Generations*, 15(3), 35-38.
- Research and Training Center on Disability in Rural Communities. (2004). *Visitability: Making your home a welcoming place for visitors with disabilities*. Retrieved October 6, 2005, from <http://rtc.ruralinstitute.umt.edu?IL/Ruralfacts/Visitability.htm>
- Rowles, G. D. (1993). Evolving images of place in aging and 'aging in place.' *Generations*, 17(2), 65-70.
- Truesdale, S., & Steinfeld, E. (2002). *Visit-ability an approach to universal design in housing* (Electronic Booklet). Buffalo, NY: Rehabilitation Engineering Research Center on Universal Design at Buffalo.
- U.S. Census Bureau. (2000). *Reports by state, age, and geographic area*. Retrieved November 1, 2005, from www.census.gov
- U.S. Census Bureau. (2005). *2005 American community survey*. Retrieved July 9, 2007, from www.factfinder.census.gov
- World Health Organization. (2005). *The world is fast ageing – have we noticed?* Retrieved October 6, 2005, from www.who.int/ageing/en/