Perceived Value of Visitable Housing in Ohio

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Executive Summary

A "visitable" house enables someone who has an ambulatory difficulty to enter and navigate the living area of the main floor of a residence. It has:

- One zero-step or low-slope entrance,
- Doorways at least 32" wide, and
- A usable half-bathroom on the first floor.

By 2024, it is estimated that Ohio may have 5 million residents with ambulatory difficulties. Houses with well-designed visitable features can benefit that population as well as injured veterans, the public, and the state. They can enhance independence and care-giving, lower costs incurred due to falls and injuries, lower Medicaid costs by allowing home care, and minimize tax expenditures by not requiring people to move to a nursing home or long-term care facility. However, developers complain about a lack of consumer demand for visitable units, stigma associated with visitable features, and higher costs associated with building such houses. Perhaps their perceptions are inaccurate or the perceived lack of consumer demand results from consumers seeing poorly designed visitable features or not seeing them at all.

Surveys of 266 Ohio homeowners, homebuyers, developers, and other real-estate professionals were conducted to learn more about the obstacles and benefits of visitable houses by showing respondents visitable features and asking them to respond to a range of questions. Results indicated:

- Strong consumer demand for visitable features;
- Low cost for providing features in new construction; and
- Improved livability associated with each feature.

To inform the design of the surveys, builders, real estate agents, and designers participated in discussions and focus groups (summarized in the Appendices). The on-line surveys with color photos of visitable and non-visitable features were taken by 266 Ohio residents (96 homeowners, 107 homebuyers, 39 builders, developers, and designers, and 24 real estate agents and appraisers).

Although most of the homeowners and homebuyers expected houses with a visitable feature to sell for more than houses without it, and although most of them believed that such a house was home to an older person or a wheelchair user, respondents:

- *Preferred to buy* the houses with a visitable feature; and
- Thought houses with visitable features would sell faster than houses lacking such features.

Builders, developers, and designers with experience with visitable houses estimated the cost in new construction as:

- Less than one percent of the construction cost; and
- $3,180.00 less than the cost of retrofitting a house to make it visitable.

All three surveys found that each visitable

feature improved livable qualities, such as:

- Access
- Aesthetics
- Resale value
- Ease of moving in or out or moving furniture

The benefits of visitable features to consumers and the state, their relative low cost, and consumer demand for them all suggest that Ohio can benefit from offering incentives to encourage the construction of visitable units.

Background

"Visitability" refers to a house that affords someone who has ambulatory difficulties the ability to enter and get around (visit). Eleanor Smith, a disability rights advocate and the creator of an organization called Concrete Change based in Georgia, adopted the term in 1990 after learning of its use in Great Britain for a similar concept (Center for Inclusive Design and Environmental Access, 2010). Less restrictive than the Americans with Disabilities Act (ADA, 1990), visitability has three requirements: one zero-step or low-slope entrance to the home, doorways at least 32 inches wide, and at least a half-bathroom on the first floor (Concrete Change, n.d.). Although a visitable house may also have low thresholds (1/4-1/2-inch), hallways with at least 36 inches of clear width, reinforcement in walls next to toilets (so that grab bars can be installed if they are needed), and light switches and electrical outlets 15-48 inches from the finished floor, these features go beyond the requirement for visitability (Center for Inclusive Design and Environmental Access, 2010). While useful for veterans, aging baby boomers, and others who have ambulatory difficulty, visitable features also benefit many other people (Maisel, Smith, & Steinfeld, 2008).

Visitability differs from full accessibility and from universal design (Maisel et al., 2008). Universal design (Maisel et al., 2008) applies to commercial properties as well as residential ones whereas visitability applies only to residences. In seeking to make a house visitable, it differs from designs for accessibility or for aging-in-place, both of which have more features throughout the building and site (Maisel 2011). Visitability represents a baseline and cost-effective approach for design and planning policy (Maisel et al., 2008). Like universal design, visitability stems from the view that barriers in the built environment disable people by making it harder for them to carry out their daily activities (Maisel, et al., 2008).

Over the lifespan of a single-family detached house and considering the aging baby boom generation, researchers found a 25 percent chance that the house would eventually house a resident with a self-care limitation and a 60 percent chance that the house would eventually house a resident with a physical limitation; and yet, more than 90 percent of housing units in the United States are inaccessible for a person with a disability(Smith, Rayer, & Smith, 2008). Visitability aims to change this situation by making it easier not only for wheelchair

users but for elderly people to visit a home. Non-disabled buyers with sufficient financial resources drive the housing market. In turn, property developers and builders operate under the notion that people will move to appropriate accommodations as their needs change. This implicit recognition that current housing fails to meet the needs of older adults (Howe, 2013) is not sustainable. In reality, approximately 80 percent of people 65 years old or older own their house, and 80 percent have a median duration of owner occupancy for 25 years (Howe, 2013).

In Ohio, seven percent of the non-institutionalized population, or 796,198 residents, have ambulatory difficulties (American Community Survey, 2013) or, "serious difficulty walking or climbing stairs," (U.S. Census, 2010). Table 1 shows the number of residents with ambulatory difficulties broken down by age and the percent of that age's population in the state. The five counties with the highest poverty rates in the state — Athens, Pike, Jackson, Adams, and Gallia (Mundi, 2010) — have a higher percentage of the population with ambulatory problems (9.93 percent) than the state. They also have a higher percentage of the population in each age group with ambulatory problems (American Community Survey, 2013). Note also that the population 65 years old and older has higher percentages of ambulatory difficulties. In the next ten years, Ohio will add approximately 7.8 million people over the age of 65 with ambulatory difficulties (American Community Survey, 2012). In 2012, Ohio had 16.9 million people ages 60 to 64, and 19.7 million people ages 55 to 59 (American Community Survey, 2012). If the percentages of people with ambulatory difficulties stays the same, then by 2019, Ohio will add 4.0 million residents with ambulatory difficulties, and by 2024, it will add another 4.6 million residents with ambulatory difficulties. Some of this aging population will move out of the state or die. The likely percentage moving out of the state is minute, with about 5,400 people age 55 to 64 and 5,600 people age 65 to 74 (Ohio Research Office, 2013). However, the number of residents over 65 with ambulatory difficulties is projected to grow to 3.6 million by 2019 and 4.2 million by 2024. These projected numbers are derived from Ohio death rates of 851.9 per 10,000 for people age 56 – 64 and 1875.1 per 10,000

Table 1: Number of Non-Institutionalized Ohio Residents with Ambulatory Difficulties (American Community Survey, 2013)

Age	Number with ambulatory difficulty	Percent of the population	Percentage of population in five highest poverty counties
0 to 5	NA	NA	NA
5 to 17	13,622	0.76%	1.3%
18 to 65	418,420	6.62%	10.38%
65 and older	364,156	23.45%	29.4%

for people age 65 – 74 (Ohio Research Office, 2013).

In response to changing demographics, at least eight states have passed legislation requiring visitability for certain housing types using certain state funds; Vermont requires visitability in certain new, single family homes built with and without public funds, and Florida requires accessible bathrooms in publicly- and privately-funded houses (Hayes, 2010). Some political sudivisions, such as Pima County, Arizona and Chicago have enacted ordinances requiring visitability for all publicly- and privately funded houses; and both states and towns use initiatives, including reimbursements, tax incentives, visitability certification procedures, and public awareness campaigns, to encourage visitability (Hayes, 2010). By January 2008, 57 states and municipalities in the United States had adopted a visitability program (Maisel et al., 2008), 33 mandatory and 24 voluntary (Maisel, 2011). However, because most of the programs apply only to houses and apartments built with public support, those policies fail to cover most single-family housing units in the United States (Maisel et al., 2008). Two exceptions, Bolingbrook, Illinois and Pima County, Arizona, have visitability ordinances that apply to all single-family units in their communities (Center for Inclusive Design and Environmental Access, 2010).

Even as demographic pressures increase and communities adopt visitability programs, scholarly work on visitability remains sparse. In our review of the research, we found four types of barriers to the construction of new visitable housing units: geographic, cognitive, aesthetic, and economic. Geographic barriers include a sloped lot and fear that a zero-step entrance may increase the chances for flooding. Cognitive barriers include a perceived lack of consumer demand, new house buyers tend to be young and able, and thus unconcerned about visitable features, and developer's lack of knowledge or experience in building visitable houses. Aesthetic barriers include the perception that the visitable features lessen the aesthetic appeal of the house, particularly for young buyers. Economic barriers include higher construction costs, lack of availability of parts, and the perception that visitable feature will lessen the house value. A closer examination at each type of barrier reveals it as either unwarranted or easily addressed.

For geographic barriers, fewer than five percent of houses have topography constraints which would require an exemption from standards (Howe, 2013); and designers may find it easier to design for visitability on sloping lots when siting a unit and grading the lot for visitability (Concrete Change, n.d.). As for flooding, retail spaces such as banks and restaurants without increasing flood risk already have zero-step entries (Concrete Change. n.d.). Proper engineering can block water penetration (Maisel et al., 2008).

For cognitive barriers, although developers point to a lack of demand for visitable housing (Maisel et al., 2008), consumers may not ask for the features because they do not

see or know about them (Nunn Sweaney, Cude, & Hathcote., 2009). They may also not know the advantages of visitable features (Smith et al., 2008). Builders and developers shape the market by making consumers aware of the features that might serve them best. Even though developers report little buyer interest, studies suggest that many people would pay extra for accessibility features (Smith et al., 2008). Thus, for visitability to take hold in a community, both supply and demand must increase (Maisel et al., 2008).

The state of Maryland passed a law requiring the provision of visitability options at the point of sale (Md. Code, 2011). Irvine, California, instituted a program in which builders must give customers a list of access-friendly design options along with estimated costs (Kochera, 2002). Although a case study of this initiative found that few homebuyers opted for those options, builders subsequently successfully integrated visitability features in new houses (Kaminski, Mazumdar, DiMento, & Geis., 2006). However, Irvine is unique in that one developer, the Irvine Company, owns most of the unbuilt land in the city and thus has a powerful effect on what is built (Kaminski et al., 2006).

As for concern about the age of the buyer, even if a developer builds a unit for a particular buyer, that house will often have other residents over its lifetime. In addition, consumers often come to require accessible or visitable homes suddenly through illness or injury (Concrete Change, n.d.). Disability can occur at any time, and it may be temporary or permanent. Accidents, diseases, and aging can affect the mobility of persons who had no mobility impairments when they bought a house (Kaminski et al., 2006). Beyond the occupants, the challenges to mobility can affect visitors, such as friends, family members, or caregivers. A nationally representative survey found that universal design features appealed to a wide range of people (Nunn et al., 2009). Although builders and developers may lack experience in building visitable housing (Maisel, 2006), experts have created pattern books to help them build visitable houses (Maisel, 2011).

As for aesthetics, specialized designs, and in particular designs that look as if they are specifically for a person with a mobility impairment, may convey negative meanings and carry a stigma (Nunn et al., 2009); but with good design, visitable features can improve the visual appeal of a house (Nunn et al., 2009). The central tenets of universal design – aesthetics, affordability, and availability – hold for visitability as well (Pierce, 2013). Architects and builders who provide visitable homes note that with good design, a visitable house can both work better and look appealing (Duncan, personal communication, January 31, 2014). Some will argue that society should allow homebuyers to choose the house they want rather than forcing them to accept features they may not need or want (Maisel et al., 2008) and that "one-size fits all" regulation does not make sense when people have different needs (American City and Country, 2009). The legitimacy of visitability is

challenged by questions of its impact on individual rights and its congruence with existing building codes (Nishita, Liebig, Pynoos, Perelman, & Spegal., 2007).

For economic barriers, developers and builders often cite higher cost as a barrier to building visitable houses (Nishita et al., 2007) and as making houses less affordable (Maisel et al., 2008). However, visitability has more to do with fine-tuning the design than raising construction cost (Duncan, 2014). Incorporating visitable features early in the design process keeps cost low (Maisel et al., 2008). Builders who lack experience with visitable houses overestimate the costs (Maisel et al., 2008). Studies suggest a cost increase of between one and five percent for universal design features (Nunn et al., 2009) and between one and two percent for visitable features (Teaford, 2014), and a detailed comprehensive study commissioned by the U.S. Department of Housing and Urban Development found a marginal cost increase of less than one percent of the total development costs (Steven Winter Associates, 2001). Studies also indicate that retrofitting a house for visitability costs more than incorporating visitable feature in new construction (Center for Inclusive Design and Environmental Access, 2010). For example, Concrete Change estimates that new construction adds $200 for zero-step entrances and $50 for wider interior doors, but retrofitting adds $3,300 for a safe zero-step and $700 to widen each interior doorway (Concrete Change, n.d.). In Naperville, Illinois, which requires all new private housing units to have all three visitable features, builders reported that their additional costs ranged from $500 to $5,000 per home in new construction (Kaminski et al., 2006). In sum, visitable design features need not change the appearance of a home or increase the price of construction or remodeling (NAHB Research Center, 1996). Good design can provide basic accessibility to single-family house at minimum costs (Center for Inclusive Design and Environmental Access, 2010). As for availability of parts, hardware stores now carry them. Homebuyers and homeowners do not have to pay more to special order or have parts custom made, and builders have no trouble ordering features such as wider doors or ordering parts on a wholesale basis (Center for Inclusive Design and Environmental Access, 2010).

Some builders contend that visitable features lessen the value of a house (Maisel, 2006). Although such features may affect the value of a house, no evidence could be found to show that visitability lessens the appraised or sales values of a house. Instead, the evidence suggests that visitability may add value (Center for Inclusive Design and Environmental Access, 2010) and enhance safety, aesthetics, livability, long-term maintenance, resale value, and other factors (Maiselet al., 2008). It also may increase the size of the home buying market by enticing those who are interested in visitable features to become homebuyers (Concrete Change, n.d.). Builders of visitable homes have reported that visitable houses sold as quickly as non-visitable ones (Maisel et al., 2008). Through interviews, researchers learned that

in apartment buildings with visitable and non-visitable units, the visitable units rented out first.

Builders and others have also argued that mandating visitability infringes on the rights of homebuyers by dictating features that must be included in their homes (Maisel, 2006). They prefer a voluntary approach to visitability (Kaminski et al., 2006) in which demand rather than government mandates and legislation drive the market (Nishita et al., 2007). Persuasion and incentives may face less resistance and can bring about incremental change (Spegal, & Liebig, 2003; Teaford, 2014). Yet government requirements have had more success than voluntary programs in increasing the number of visitable housing units (Smith et al., 2008). As a real estate agent noted in one focus group, a regulation (such as those done for energy efficiency) that sets a minimum standard for all developers prevents one developer from selling at a lower cost per unit than another because they are not meeting that standard (Summaries of the focus groups are available in the Appendices).

The needs of older or people with disabilities go beyond a social service/caregiver issue; they also come into the purview of design and planning (Howe, 2013). Society, including designers and builders, may need stronger legislative directives to have adequate housing choices for older adults (Karol, 2008). Regulation can lower costs and save money in the long run by requiring the installation of visitable features in new houses so that those same homes do not need to be retrofitted later (Kochera, 2002).

This study sought the answer to nine questions, using five surveys that stemmed from the literature on visitability:

- Would homeowners judge houses with visitable features as more expensive?
- How much does it cost to build a new house with visitable features, and how much more does it cost to retrofit an existing house with those features?
- Would real estate agents and appraisers see more value in houses with visitable features than in houses without those features?
- Would homeowners and homebuyers judge houses with a visitable feature as more likely to house an older person or a person with difficulty walking?
- Which kind of house would homebuyers prefer to buy?
- Which kind of house would developers, builders and designers think buyers would prefer to buy?
- Which kind of house would each group expect to sell faster?
- How does each group assess the livable qualities of each visitable feature?
- Does re-branding "visitable" houses as "Better Living Design" houses improve their desirability?

The results are organized in three categories: homeowner and homebuyers; builders, developers, and designers; and real estate agents and appraisers.

Homeowner and Homebuyer Perceptions

Abstract

Visitable design features (32" wide doors, no-step/low-slope entries, and usable bathrooms on the main floor) have clear benefits, but many builders and developers balk at them because they believe that buyers do not want them. To find homeowner and homebuyer perceptions of houses with visitable features, on-line surveys of 96 homeowners (31 men and 65 women) and of 107 homebuyers (25 men, 80 women, 2 no response) throughout Ohio were conducted. Viewing matched photos of nine visitable and non-visitable features (three pairs of entries, doors, and baths), homeowners and homebuyers predicted that the houses with visitable features would sell for more and were more likely to house an older person or a person who had difficulty walking. Nevertheless, they reported they would prefer to buy a house with visitable features, and they thought such houses would sell faster than houses lacking such features. They also rated each visitable feature as having favorable effects on the livable qualities of the house. The results suggest a strong market demand throughout Ohio for houses that have no-step/low step entries, 32" wide doors, and one usable bathroom.

Objectives

The present research centers on the perceptions of Ohio homeowners and homebuyers. It sought answers to five questions:

- Would homeowners judge houses with visitable features as more expensive?
- Would they judge such houses as more likely to house an older person or a person with difficulty walking?
- Which kind of house would they prefer to buy, one with visitable features or one without them?
- Which kind of house would they expect to sell faster?
- How does a visitability feature affect livability?
- Does re-branding visitability as "Better Living Design" improve its desirability?

Method

Sample: An online survey of 96 homeowners (31 men, 65 women) and 107 (25 men, 80 women, 2 no response) homebuyers throughout the state of Ohio was conducted. Table 2 illustrates that participants came from 134 zip codes in Ohio and had diverse socio-demographic characteristics such as gender, marital status, education, number of people living in the house, age, home value, and income. The percentage of homeowners (26 percent) and homebuyers (16 percent) reporting that someone in the household has difficulty walking are similar to the percent of non-institutionalized individuals in Ohio having ambulatory difficulty. With an average household size of 2.44, the seven percent of Ohioans with ambulatory difficulties translates into 17.1

percent of households having someone with an ambulatory difficulty. Compared to the state, the samples have higher percentages of women, Caucasians, people with college or graduate degrees, people who are married or living together, people over the age of 44, and lower percentages of people with no children living at home, one-person households, houses costing $300,000 or more, or household income of $150,000 or more.

Instrument: After participants consented to participate on-line, the survey showed nine color photos of visitable and non-visitable features, three 32" wide doors matched with three narrower doors, three no-step or low--slope entries matched with three step entries, and three usable bathrooms matched with three non-usable bathrooms. Figure 1 shows, for each pair, how the online survey tried to control other aspects of the environment. The order of the pairs varied at random across participants in each survey, and the placement of the visitable and non-visitable feature varied with the visitable feature on the right four times and on the left five times. The survey had participants imagine that everything else about the house was the same and had them pick the house they thought would sell for more, note the percent more, and select the one they would prefer to buy.

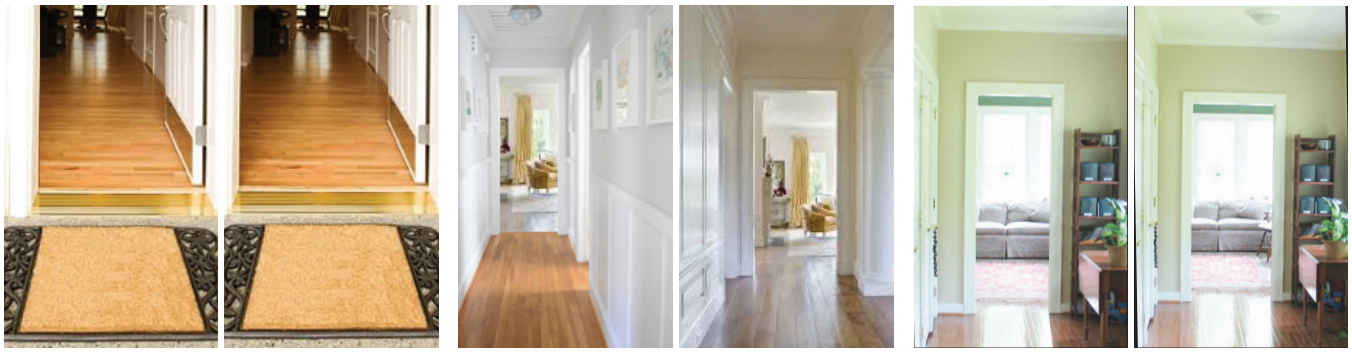
Table 2: Characteristics of the Ohio Samples

		Owners (N = 96)	Buyers (N = 107)	Ohio *
Gender	Men	32%	24%	49.2 %
	Women	68%	76%	50.8%
Race/Ethnicity	White	87%	79%	76.5%
	Black/African American	7%	9%	13.6%
	Asian	3%	6%	5.6%
	Other	0	3%	4.3%
	Hispanic/Latino	3%	3%	16.4%
Education	Less than High School	2%	2%	11.1%
	High School Graduate	26%	6%	34.2%
	Some Coll/Assoc Deg.	30%	21%	28.7%
	Bachelor Degree	29%	39%	16.4%
	Graduate/Profess Degree	13%	32%	9.7%
Marital Status	Married, Living together	70%	63%	48.4%
	Single, Unmarried, Widowed, or Divorced	30%	37%	51.7%
No. of children > 18 living at home	None	57%	54%	71.8%
	One	17%	19%	
	Two	15%	16%	
	Three or more	11%	11%	
No. of people living in the house	None	8%	16%	
	One person	38%	37%	51.7%
	Two persons	22%	17%	
	Three	32%	30%	
Person with difficulty walking	Yes	27%	15%	17.1%
Age	18 – 24 years old	6%	6%	9.6%
	25 – 34	18%	44%	12.5%
	35 – 44	21%	27%	12.4%
	45 – 54	19%	14%	14.4%
	55 – 64	17%	4%	13.3%
	65 or older	19%	5%	14.7%
House Value	less than $99,999	25%	16%	23.7%
	$100,000 - $149,999	27%	27%	15.8%
	$150,000 - $199,999	17%	27%	15.0%
	$200,000 - $249,999	22%	19%	18.5%
	$300,000 – or more	9%	11%	27.0%
Household Income	$0 - $14,999	7%	4%	12.6%
	$15,000 - $24,999	5%	4%	10.7%
	$25,000 - $34,999	8%	4%	10.4%
	$35,000 - $49,999	23%	17%	13.7%
	$50,000 - $74,999	25%	23%	18.2%
	$75,000 - $99,999	15%	19%	12.2%
	$100,000 - $149,999	15%	20%	12.8%
	$150,000 – or more	2%	9%	9.4%
Where in Ohio	Southwest	26%	17%	
	North	23%	25%	
	Central	25%	52%	
	Southeast	26%	6%	
Zip codes		87 represented	75 represented	1416**

* American Community Survey (2013)
**United States Zip Codes (2014)

Figure 1. Photos of matched visitable and non-visitable doors, entries, and bathrooms.

Doors (32” door on the right in each pair)



Bathrooms (usable bathroom on the right in each pair)

Entries (zero-step, low-slope entries on the right in each pair)

The survey also described a visitable house and a non-visitable house, indicated that houses in the neighborhood sold on average in 30 days, and asked how long it would take for each kind of house to sell. Respondents rated qualities (such as aesthetics, resale value) associated with each feature (from 1 = strong negative to 7 = strong positive). They were shown examples of six visitable features (two of each kind) and three non-visitable features (one of each kind) and then asked if an older person or someone who had difficulty walking lived in the house shown. They were also asked to rate how certain they were of their response.

Results

Which kind of house do consumers think will sell for more? Ohio homeowners and homebuyers more often selected the houses with a visitable entry, doors or bathroom as selling for more than the houses without such features (Figure 2). The differences between the number of choices of visitable versus non-visitable features were statistically significant for each group (homeowners, $X2$ (1, N = 499) = 86.83, $p < .001$; homebuyers, $X2$ (1, N =487) = 166.79, $p < .001$). On average, homeowners estimated that houses with a visitable feature would sell for 4.93 percent more and homebuyers estimated they would sell for 7.76 percent more.

Of the participants who judged one kind of house as selling for more, more participants (homeowners, 75.5 %; homebuyers, 66.1%) judged the houses with a visitable feature as selling for more (Homeowners, $X2$ (1, N = 499) = 86.83, $p < .001$; Homebuyers, $X2$ (1, N =386) =39.83 $p < .001$). The differences varied for the features (shown in Figure 3), with larger differences for doors and bathrooms than for entries and a larger difference for both homeowners and homebuyers for the door, bath, and entry.

Comparisons of the results by age for homeowners (18 to 44 years old, N = 43; over 44 years old, N = 53) and for homebuyers, a younger group (18 to 34 years old, N = 52; over 34 years old, N = 52), revealed no overall difference for which house they thought would sell for more and which they would prefer to buy. Comparisons of the results by house price (less than $200,000, homeowner N = 66, homebuyer N = 73; $200,000 or more, homeowner N = 30, homebuyer N = 31) also revealed no differences for which house they thought would sell for more and which they would prefer to buy.

Figure 2. Percentage of responses indicating which house would sell for more.

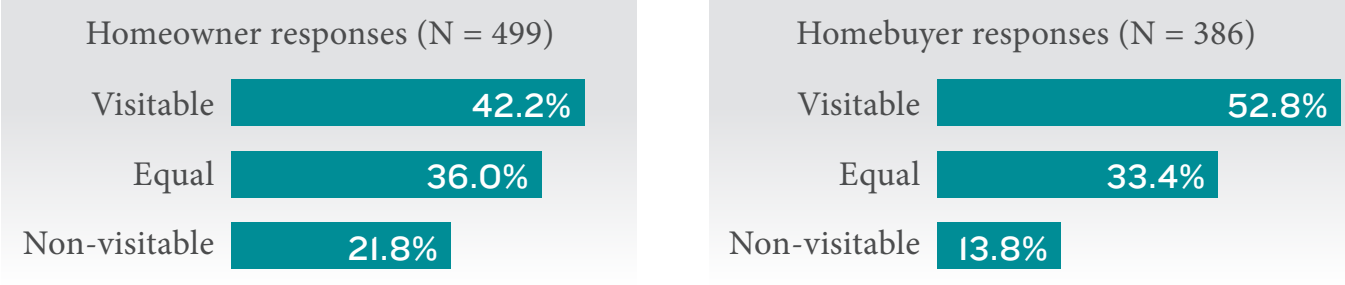
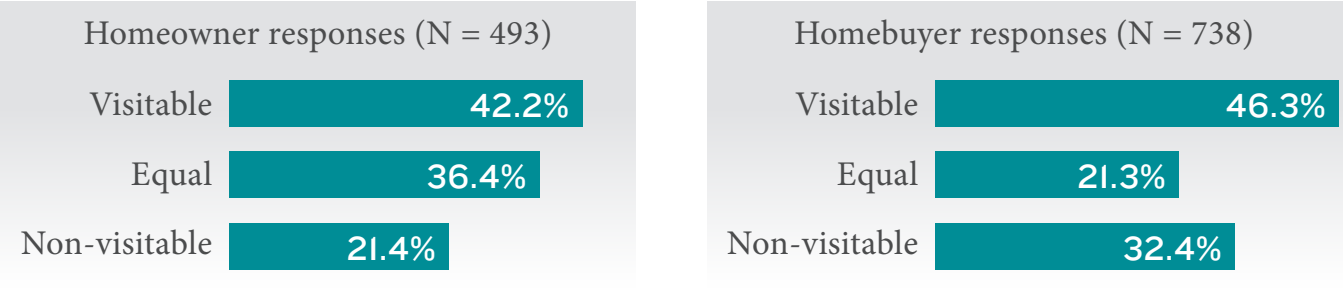


Figure 3. Homeowners and homebuyers more often selected the visitable door, bath or entry (top row) as selling for more than its non-visitable comparison (bottom row).

Participants more often judged houses with a visitable feature as housing an older person or a person with difficulty walking than houses without the feature (homeowners, 58.5 percent; and homebuyers 78.7 percent). The comparisons were statistically significant (homeowners: $X2$ (1, N= 861) = 25.10, $p < .001$; homebuyers, $X2$ (1, N=672) = 223.20, $p < .001$). The finding held for each feature for homeowners although less so for doors (homeowners, 63; homebuyers, 61.1 percent) than for baths (homeowners, 83 percent; homebuyers, 86.1 percent) and entries (homeowners, 88.4 percent; homebuyers, 88.4 percent).

In spite of the assumed higher prices and the assumed occupancy by an older person or wheelchair user, participants said they preferred to buy houses with the visitable features. When asked which house in each pair they would prefer to buy, more of the participants chose houses with a visitable feature than houses without it (Figure 4). The differences were statistically significant (homeowners, $X2$ (1, N = 493) = 55.23, $p < .001$; homebuyers, $X2$ (1, N = 738) = 22.9, $p < .001$). The preference to buy the visitable house did not differ for comparisons between the younger and older homeowners or homebuyers; nor did they differ by the house value of homeowners or homebuyers. While participants with lower and higher house values more often preferred to buy the visitable house, the difference was larger for participants in the lower priced houses than in the higher priced houses $X2$ (2, N = 96) = 6.56, $p < .05$).

Figure 4. Percentage of responses for which house they would prefer to buy.



Respondents also estimated that houses with the visitable features would sell faster than those lacking such features (12.5 days faster for homeowners and 10.36 days faster for homebuyers). Homeowners estimated that visitable houses would sell in 27.02 days and the non-visitable houses would sell in 39.47 days ($t(77) = -4.08$, $p < .001$). Homebuyers estimated that visitable houses would sell in 22.7 days and that non-visitable houses would sell in 33.06 days ($t(190) = -5.60$, $p < .001$).

The results for each feature echoed those for the features combined. For bathrooms, most homeowners (57.6 percent) and homebuyers (56.9 percent) judged the usable bathrooms as costing more, with few homeowners (13.5 percent) and homebuyers (10.6 percent) judging the non-usable ones as more expensive. Overall, participants judged the usable bathrooms as slightly more expensive (homeowners, M = 5.7 percent; homebuyer, 9.1 percent) than the non-usable ones. Nevertheless, most homeowners (58.3 percent) and homebuyers (58.7 percent) preferred to buy the houses with the usable bathroom; fewer homeowners (22.2 percent) and homebuyers (25.0 percent) preferred to buy the houses with a non-usable bathroom. For each pair of bathrooms, the pattern of response varied.

For entryways, most homebuyers (64.2 percent) and a plurality of homeowners (42.7 percent) judged the houses with a no-step/low slow entry as costing more; fewer homebuyers (35.8 percent) and homeowners (25.3 percent) judged the houses with a step entry as costing more. The comparison of those who chose one or the other as costing more was statistically significant (homeowners, $X2(1, N = 196) = 12.76$, $p < .001$; homebuyers, $X2(1, N = 235) = 5.21$, $p < .05$). Participants judged the no-step/low-slope entries as costing about the same as step entries (homeowners, 1.88 percent, homebuyers, -0.12 percent) than the step entries. Of the 288 responses, more homeowners (41.3 percent) and homebuyers (44.8 percent) preferred to buy the houses with no-step/low-step entries than those homeowners (38.2 percent) and homebuyers (43.9 percent) who preferred to buy the houses with step entries. For each pair of entries, the pattern of response varied.

For doors, most participants (homeowners, 66.0 percent; homebuyers, 65.8 percent) judged houses with a 32” door as equal in price to those with a 28” door. However, of those choosing one as costing more, more participants judged the 32” doors as costing more (homeowners 30.2 percent,

homebuyers, 31.1 percent) than did those who judged the 28" doors as more expensive (homeowners, $X2$ (1, N = 98) = 58.94, $p < .001$; homebuyers, $X2$ (1, N = 202) = 114.38, $p < .001$). On average, participants judged the houses with the 32" wide doors as costing slightly more (homeowners, 4.52 percent; homebuyers 11.76 percent) than the ones with the 28" doors. However, many homeowners (60.4 percent) and homebuyers (46.7 percent) judged them as equal. Of those who expressed a preference, most (homeowners, 80.7 percent; homebuyers, 96.9 percent) preferred to buy the houses with the 32" door (homeowners, $X2$ (1, N = 114) = 42.98, $p < .001$; homebuyers, $X2$ (1, N = 171) =122.95, $p < .001$). For each pair of doors, the pattern of response varied.

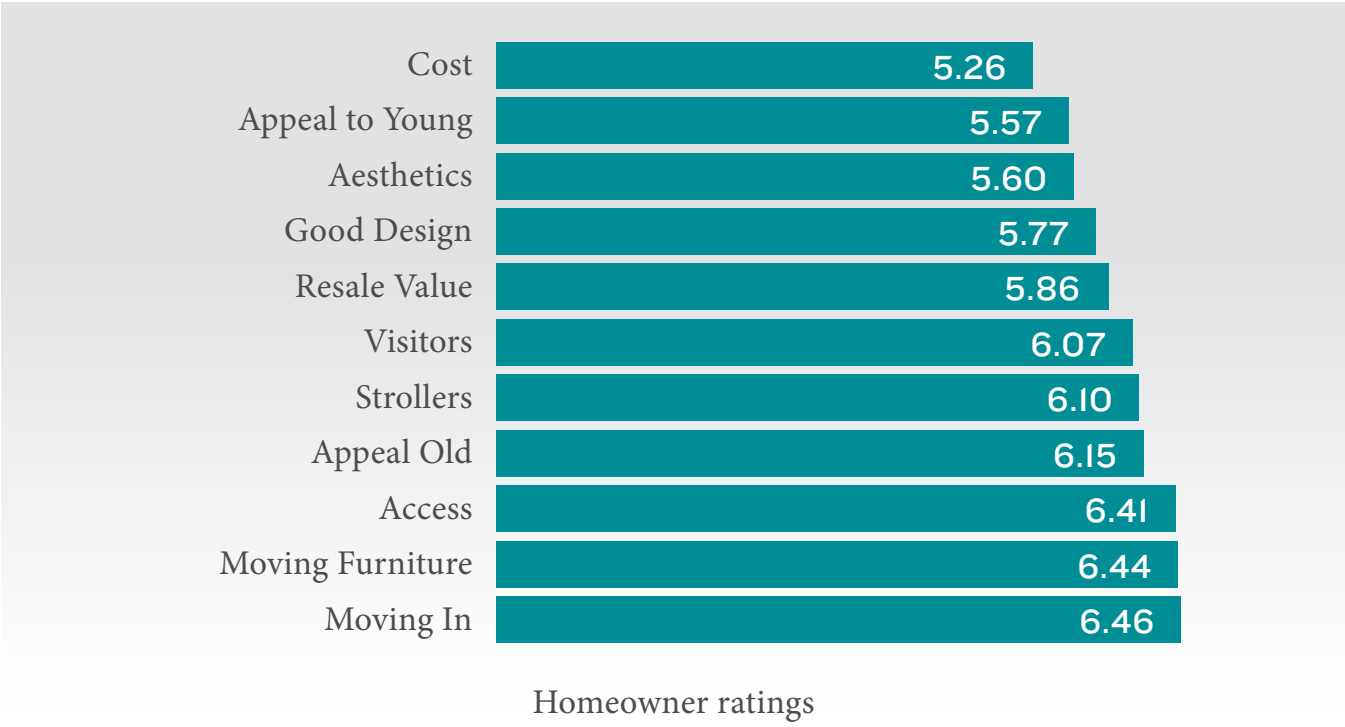
Most homeowners (77.44 percent) and homebuyers (82.1 percent) thought houses with a visitable feature housed an older person or a person who needed assistance walking. These differences were statistically significant (homeowners, $X2$ (1, N = 798) = 240.41, $p < .001$; homebuyers, $X2$ (1, N = 674) = 218.78, $p < .001$). The differences were larger for the entries (owners, 87.8 percent; buyers, 88.4 percent), and bathrooms (owners, 82.9 percent; buyers, 86.1 percent) than for doors (owners, 63.4 percent; buyers, 61.1 percent). The pattern of response held for the younger and older participants, and for those reporting lower or higher house values. Though the rated certainty of these judgments varied, it tended toward certainty (on a scale from 1 to 7 with 7 = most certain, 5.23 for homeowners, 4.8 for homebuyers).

Respondents were asked to consider the expected effects of each feature on various qualities of the house. The investigators derived the list of qualities for each feature from one-on-one discussion and focus groups with experts and from the review of the research. Overall, participants judged each feature as having positive effects. Both homeowners and homebuyers rated houses with 32" doors favorably on all of the features (Figures 5). They rated houses with usable baths favorably on all qualities except losing space (Figure 6).They also rated houses with no-step, low-slope entries favorably on all items except crime and appeal to the young (Figure 7). Responses did not differ between the younger and older homeowners or homebuyers or by value of the house for homeowners and homebuyers.

Finally, re-branding visitable houses as Better Living Design houses did not affect their desirability. Although both groups gave higher desirability scores to visitable features labelled as a Better Living Design house than to those labelled as a visitable house (homeowners, $d = 0.13$; homebuyers, $d = .43$), the differences were not statistically significant.

Responses did not differ between the younger and older homeowners or homebuyers or by value of the house for homeowners and homebuyers.

Figure 5. Rated effects of 32" doors on various qualities (from 1= very negative to 7 = very positive).



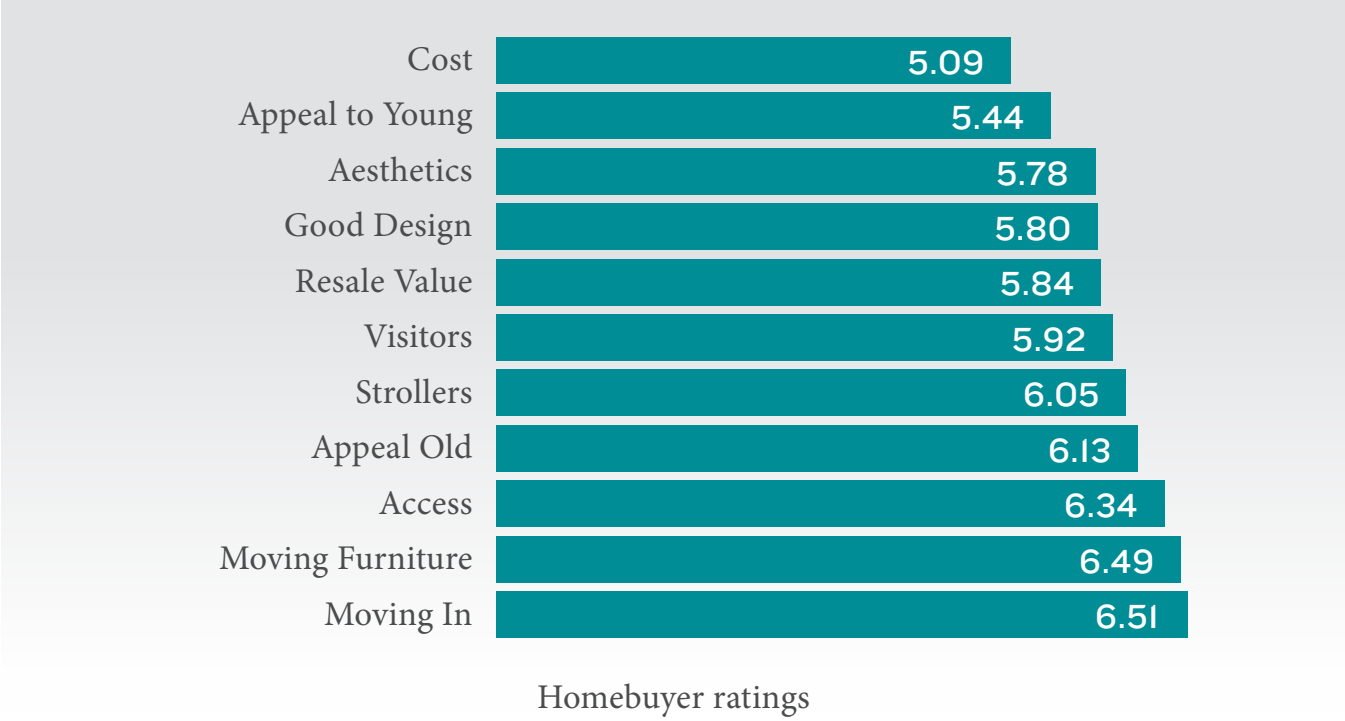
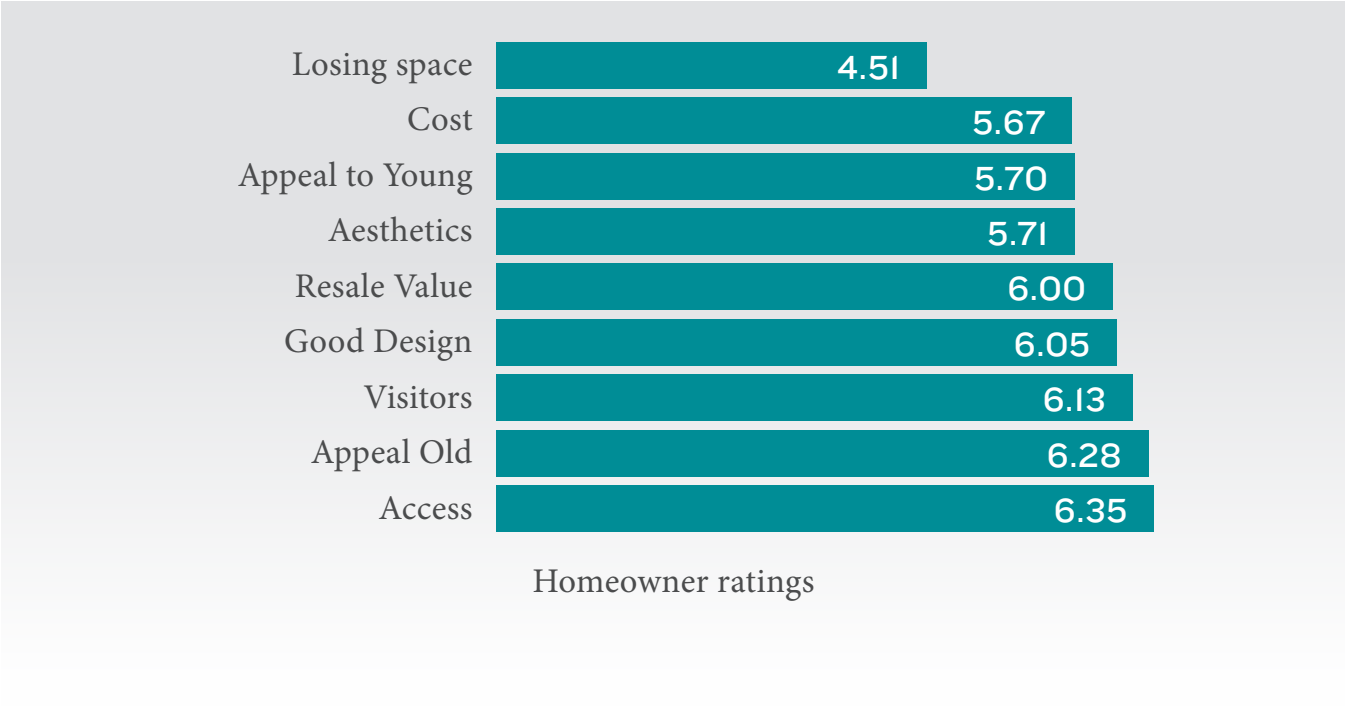


Figure 6. Rated effects of usable baths on various qualities (from 1= very negative to 7 = very positive).



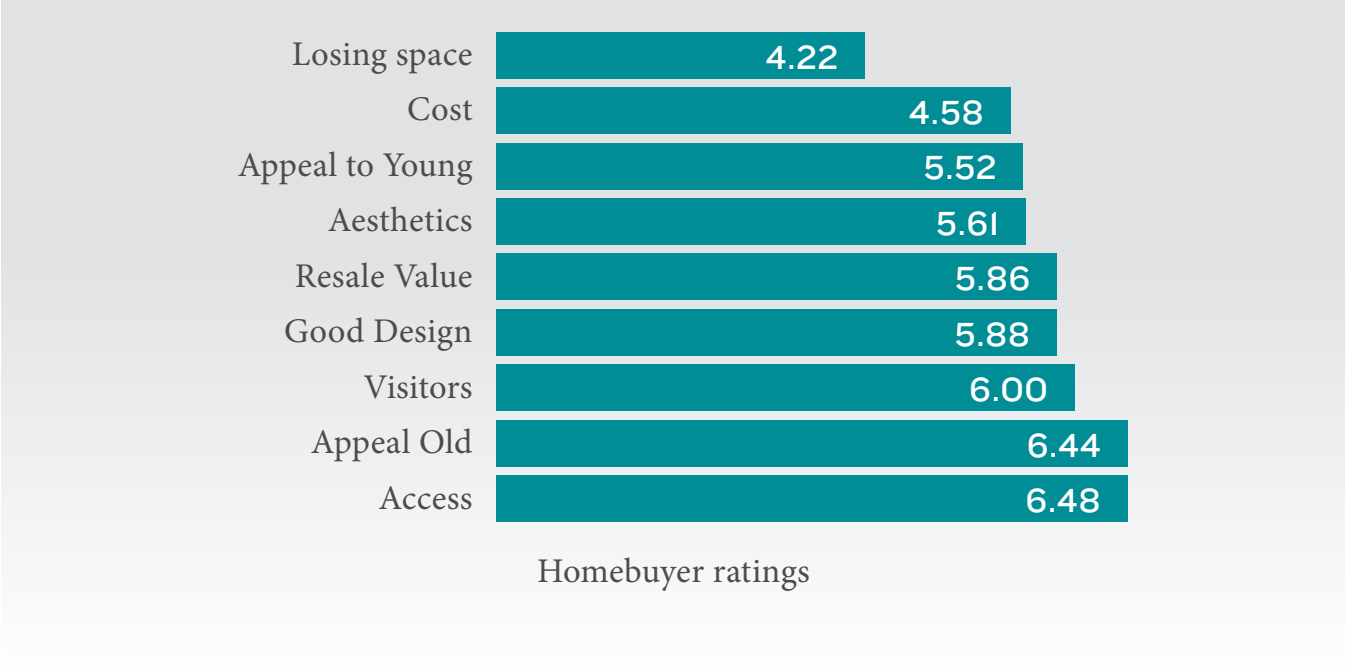
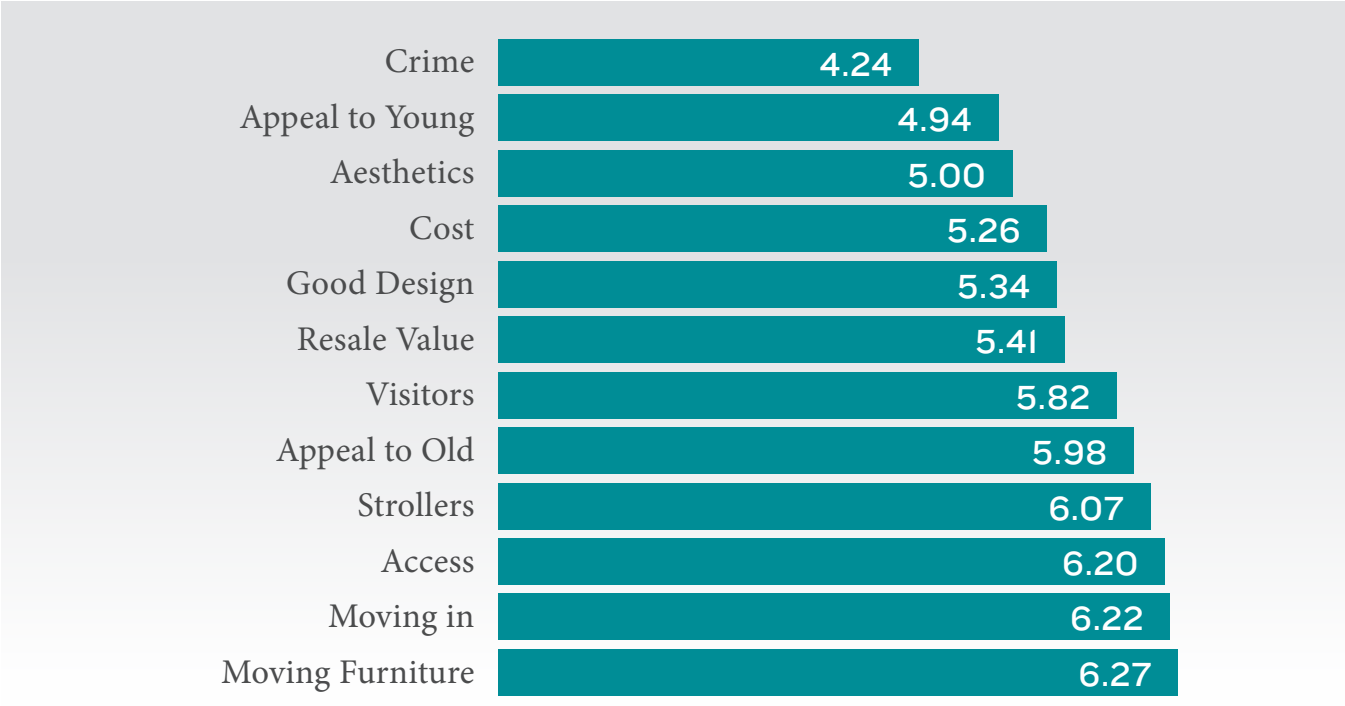
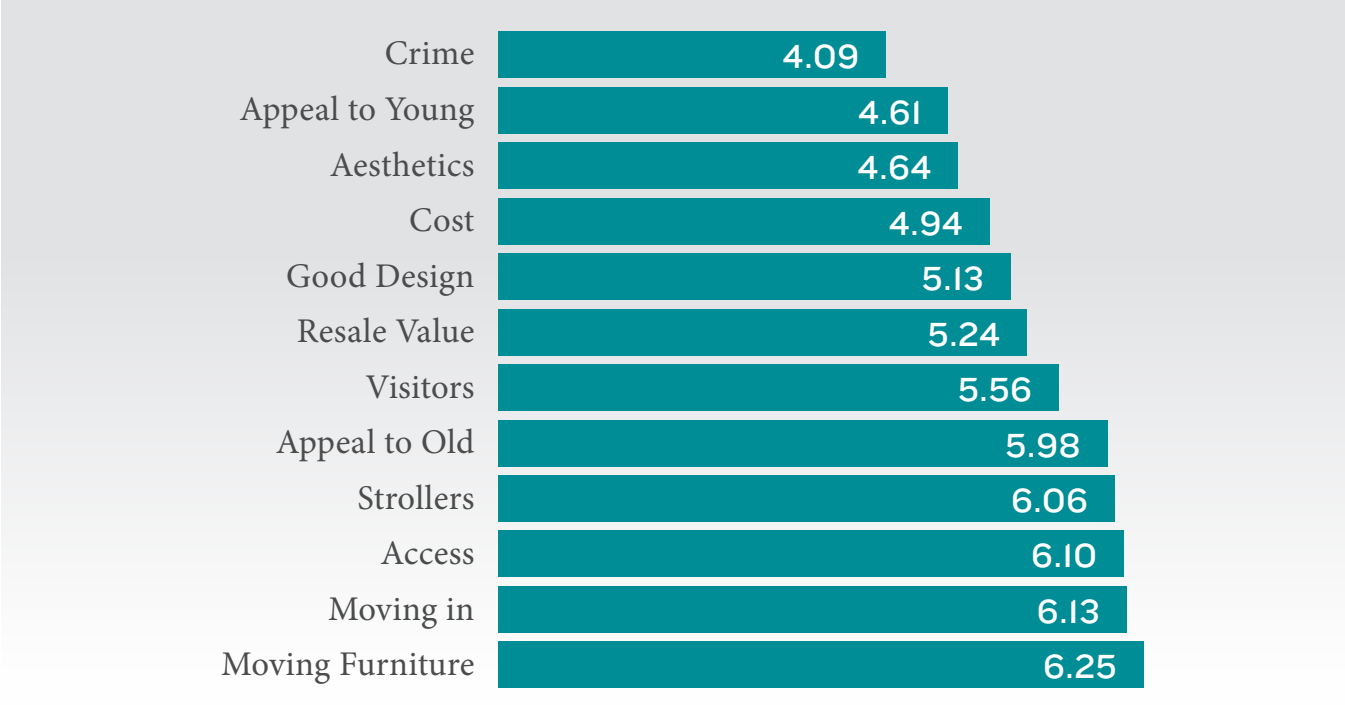


Figure 7. Rated effects of no-step or low step entries on various qualities (from 1= very negative to 7 = very positive).



Homeowner ratings



Homebuyer ratings

Discussion

In contrast to developer perceptions, the analyses found that although Ohio homebuyers and homeowners judged houses with visitable features as costing more, they reported they were more likely to buy a house with those features and they estimated that such houses would sell faster than houses lacking visitable features. Respondents also valued the effects of each visitable feature on the qualities of the house, such as aesthetics, good design, and resale value. They expressed these favorable responses even though they tended to judge a house with a visitable feature as housing an older person or someone with difficulty walking. Furthermore, the analyses found that responses to comparisons for each kind of feature varied with the pairs of features, suggesting that the quality of the design can affect perceptions of visitable features.

The present studies relied on responses to color photos of visitable features. A meta-analysis of 152 environments evaluated by 2,400 people found that responses to such photos generalize well to on-site response (Stamps, 1990). Nonetheless, additional research could consider market data and test consumer responses to similar houses designed with and without visitable features.

Right now, Ohio taxes cover the cost of keeping older people in their homes and retrofitting houses to make them accessible to people with health problems. Ohio could lower healthcare costs while improving housing quality by finding ways to encourage developers to build new houses with visitable features.

Developer, Builder, and Designer Perspectives

Abstract

Visitable design features (32" wide doors; no-step, low-slope entries; and usable bathrooms) have many benefits, but many builders and developers balk at them because they believe that buyers do not want them. To find perceptions of developers, builders, and designers of houses with visitable features, we conducted on-line surveys of 39 Ohio builders, developers, and designers. Those with experience with visitable features estimated the added cost to a new house of $1,370.50, which was $3,761.00 less than retrofitting a house with those same features. Respondents expected that, for each visitable feature, buyers would more likely want to buy a house with it than without it. Furthermore, they expected houses with the feature to sell faster than houses without it. They rated each visitable feature as enhancing the livable qualities of the house, and they rated houses described as having visitable features more favorably when labelled as a "Better Living Design house" than when labelled as a "visitable house." The results suggest that Ohio professionals involved in construction of houses see a market demand for visitable houses and may respond more favorably if such houses were labelled "Better Living Design."

Objectives

The present study centers on those who provide housing units. It sought answers to five questions:

1. How much does it cost to build a new house with visitable features, and how much more does it cost to retrofit an existing house with those features?
2. Do developers, builders, and designers think that buyers would prefer to buy houses with or without visitable features?
3. Which kind of house do they expect to sell faster, and how much faster?
4. Do they judge the features as having favorable or unfavorable effects on various qualities of a house?
5. Would labelling visitable houses as Better Living Design (BLD) houses make the features more desirable to developers, builders, and designers?

Method

Sample. This on-line survey captured 39 people (14 builders, 4 developers, and 17 architects or interior designers). Table 3 provides a breakdown of the sample, which included people from 32 Ohio zip codes. Most participants (61.5 percent) reported they had worked in the profession for more than 10 years, and most participants reported experience building new houses with visitable features (60.0 percent) or

Table 3: Characteristics of the Developer, Builder, and Architect/Interior Designer Sample

	Category	N = 39
Number of new visitable houses built	None at all	16
	1 - 5	17
	6 - 10	2
	11 - 15	0
	16 - 20	1
	More than 20	3
Number of renovated/retrofitted visitable houses built	None at all	18
	1 - 5	13
	6 - 10	4
	11 - 15	0
	16 - 20	1
	More than 20	3
Kind of house built/designed	Speculative Build	8
	Custom Builds	28
Annual build (number of houses built in the last 12 months)	1 – 10	26
	11 – 30	7
	31 – 100	1
	101 - 200	1
	0 = 201-1,000 (5)	0
	More than 1,000	1
Ohio Location	Zip Codes in sample	32

retrofitting houses for visitability (53.8 percent). Of those with experience, most reported building between 1 and 5 new units (73.9 percent) and between 1 and 5 retrofitted units (61.9 percent).

Instrument. After participants consented to participate on-line, the survey presented them with background questions and five kinds of questions about their perceptions. It asked them about:

- The costs of visitable features in new and in retrofitted houses;
- Likely buyer preferences;
- Likely selling time;
- The effects of each feature on various house livability qualities; and
- Desirability if labelled "Better Living Design" or "visitable."

For cost questions, only participants who reported they had built houses with those features could answer. For each feature, and for new houses and retrofitted houses separately, the survey asked respondents if it cost more or less or if they did not know. The survey also included a space below the "more" or "less" answer for respondents to enter a dollar amount. For buyer preferences, participants saw each of the nine images of visitable and non-visitable features (three 32" wide doors matched with three narrower doors; three no-step or low-slope entries matched with three step entries; and three usable bathrooms matched with non-usable bathrooms). For each pair, other aspects of the environment were controlled. (See Figure 1 in the homeowner/homebuyer section for details.) The survey randomized the order of the pairs across participants and varied the placement of the visitable and non-visitable feature such that the visitable feature appeared on the right four times and on the left five times. The survey stated that, "all else is the same about the two houses below and their neighborhood," and asked respondents to pick the one they thought, "most buyers would prefer to buy." It also gave them the option to pick, "about the same."

For selling time, the survey described two neighboring homes, one with visitable features and one without them, indicated that a house in the neighborhood typically sells in 30 days, and asked, "How long would you expect it to take for each house to sell?" The survey had a space under each house for participants to enter the number of days they believed it would take for each house to sell.

For each visitable feature separately, the survey obtained ratings (from 1 = strong negative to 7 = strong positive) of its effect on qualities (such as good design, aesthetics, cost, appeal to young buyers, appeal to older buyers, and sale or resale value).

For framing, participants were assigned at random to one of two questions. Each question described the visitable features, but one referred to them as features of a "Better Living Design" house and the other referred to them as features of a "Visitable" house." The survey asked participants to rate the desirability to buyers of a house with those feature (Undesirable, Somewhat Undesirable, Neither, Somewhat Desirable, Desirable).

Table 4: Estimated Costs to Build Each Feature New or to Retrofit a House for Them

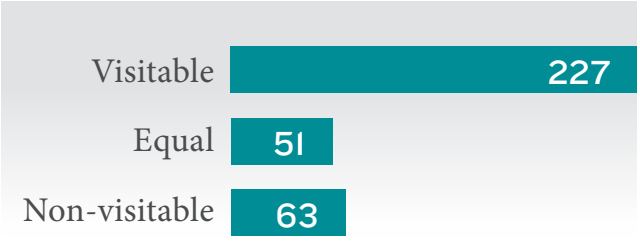
	Usable bath	No-step/low-slope entry	32" wide doors	All three
New	$812.50	$250.00	$308.00	$1,370.50
Retrofit	$3,281.25	$1,225 .00	$625.00	$5,131.25

Results

Participants estimated the cost of retrofitting an existing home to add all three visitable features as $5,131.25. In comparison, including them in a new home was $1.370.50 ($3,760.75 less expensive than the retrofit. Table 4 shows for each feature, participants estimated the retrofit cost as higher than the new construction cost. The greatest difference emerged for a usable bath (d = $2,468.50) followed by a no-step/low-slope entry (d= $975.00) and 32" wide doors (d = $317.00). However, few participants provided estimates (8 for retrofit, and depending on the feature, between 3 and 5 for new construction).

In spite of the higher price estimated for visitable features, most participants thought buyers would prefer to buy a house with those features (Figure 8). The difference between the number choosing houses with the visitable and non-visitable features was statistically significant (X2 (1, N = 290) = 92.75, p < .001).

Figure 8. Which house would most homebuyers want to buy?



The pattern held for each feature separately. Significantly more participants picked the houses with the 32" doors over those with the 28" doors (d = 79, X2 (1, N = 91) = 68.58, p < .001), houses with a usable bath than those without a usable bath (d = 52, X2 (1, N = 102) = 26.51, p < .001), and houses with no-step/low-slope entries than those with steps (d = 33, X2 (1, N = 97) = 11.23, p < .001).

They also thought that a visitable house would sell approximately 8.5 days faster than a similar but non-visitable house. They guessed that in neighborhoods where houses typically sell in 30 days, the visitable house would sell in 25.7 days (SD = 16.2) while the comparable non-visitable one would sell in 33.3 days (SD = 9.5). This difference was statistically significant (F (1, 31) = 8.56, p < .01) with a medium effect size (n2= .21).

As for the effects of each visitable feature on housing qualities, the results indicated that participants judged each feature as having positive effects on aesthetics, good design, sale or resale prices, and appeal to old. Assuming a positivity bias (Klar & Giladi, 1997), in which people tend to respond more favorably, then a neutral score on a scale from 1 to 7 might move from 3 to 4.5 or 5. Then, for 32" wide doors, Figure 9 shows that participants judged them as having favorable effects on appeal to old, good design, sale or resale price, and aesthetics;

and neutral effects on cost, appeal to young, and crime. For usable baths, Figure 10 shows that participants judged them as having favorable effects on appeal to old, good design, sale or resale price, and aesthetics; and neutral scores for appeal to young and cost. For no-step/low-slope entries, Figure 11 shows that participants judged them as having favorable effects on appeal to old, good design, sale or resale price, and aesthetics; neutral scores for sale or resale cost and appeal to young; and negative effects on crime safety.

Figure 9. Effects of 32" doors on house qualities (1= very negative, 7 = very positive).

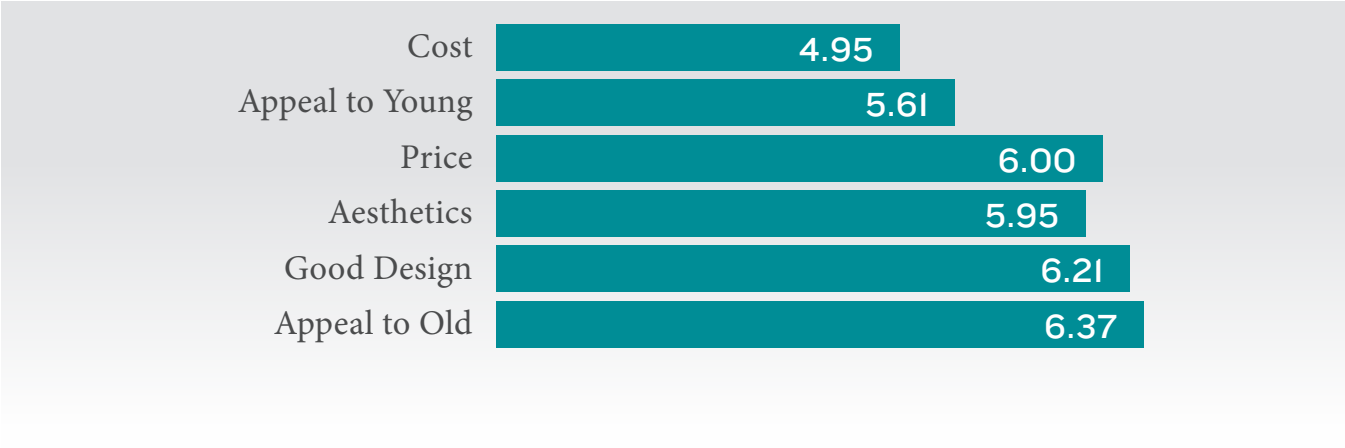


Figure 10. Effects of usable baths on house qualities (1= very negative, 7 = very positive).

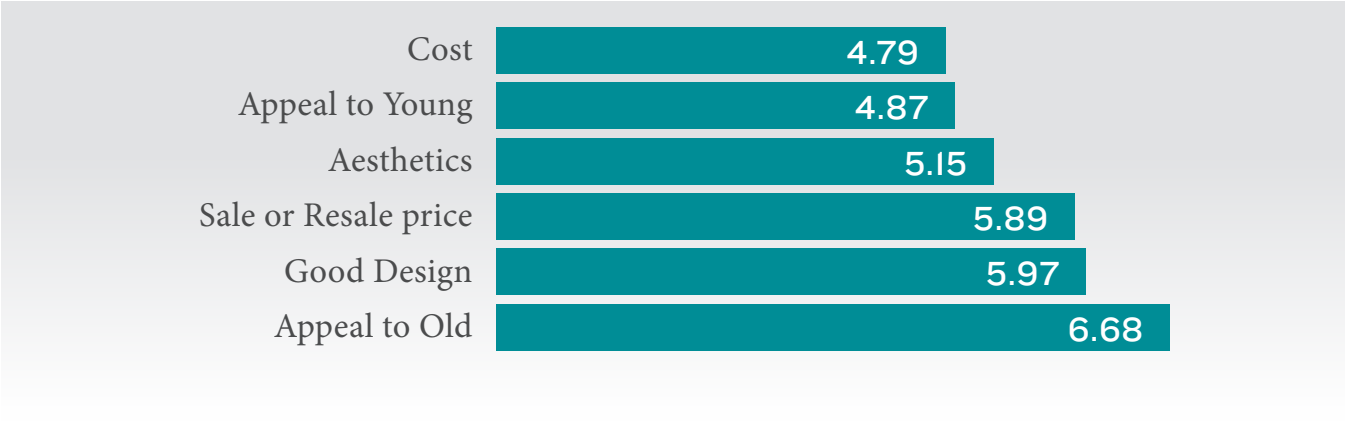


Figure 11. Effects of no-step/low-slope entry on house qualities (1= very negative, 7 = very positive).

Survey results demonstrated that branding mattered for the participants. Assigned at random, some participants received a description of the visitable elements with a "Visitable" label and others received the same description with a "Better Living Design" label. Participants rated the house with the Better Living Design label as more desirable ($M = 5.42$, $SD = 0.79$) than the one with the Visitable label ($M = 3.89$, $SD = 0.85$). This difference was statistically significant ($t(37) = 5.30$, $p < .001$) with a large effect size ($d = 1.86$).

Discussion

The survey of Ohio builders, developers and designers confirmed the low cost of including visitable features in new houses (less than 1 percent of construction costs on a new $150,000 house) and demonstrated that up-front inclusion of these features is less costly than retrofitting a house. The survey found that these professionals expected houses with visitable features to sell faster, expected buyers to prefer to buy such a house, and judged each visitable feature as having favorable effects on various house qualities.

Because the tests obtained responses to visitable and non-visitable features that were similar in other ways, the results may suggest cause; the perceived lower cost and faster sales time resulted from the visitable features rather than uncontrolled extraneous factors. A meta-analysis of 152 environments evaluated by 2,400 people found that responses to photos like the ones used in this survey generalize well to on-site response (Stamps, 1990). The consistent pattern of results for each of the three examples of each visitable feature suggests the desirable qualities of the features tested may generalize to other instances. That said, small differences in the intensity (not the direction of response) to each visitable feature indicates that design matters; good design can enhance the desirability of a visitable feature. Although participants came from across the state of

Ohio and had experience building houses, the sample was small and made up primarily of people involved in custom building. Nonetheless, a meta-analysis of 19,000 respondents responding to more than 3,200 environments found strong consistency in response across groups, indicating that characteristics of the environment had much larger effects than characteristics of the respondent (Stamps, 1999). Still, future research could gauge perceptions of a larger sample and of speculative builders. If the present findings hold, they indicate a low cost for including visitable features in new houses and a market demand for each feature. Thus, Ohio could benefit with increased new home construction that includes visitable features.

Real Estate Agent and Appraiser Perspectives

Abstract

To learn more about the value of visitable features, researchers conducted on-line surveys of Ohio real estate agents and appraisers. Each survey had participants respond to matched color slides of nine visitable and non-visitable features (three pairs of entries, doors, and baths). Due to the small sample for each group (18 real estate agents, 6 appraisers), the two groups were combined for the analyses. Participants judged the visitable features as having more value than the non-visitable features, and they expected houses with a visitable feature to sell faster. The results indicate that visitable features in Ohio houses can enhance the value of houses in the state.

Objectives

The present study centered on real estate agent and appraiser perceptions. It sought to answer three questions:

1. Do they see more value in houses with visitable features than in houses without those features?
2. Which kind of house would they expect to sell faster?
3. Would the desirability of a visitable house improve if it were labelled as a "Better Living Design" house instead of a "Visitable" house?

Method

Sample. The sample included 24 people (9 men, 14 women, and 1 N/A) from 16 zip codes in Ohio. The sample had 18 real estate agents and six appraisers. Most participants (66.7 percent) reported they had worked in the profession for four years or more. See Table 5 for details.

Table 5: Characteristics of the Real Estate Agent and Appraiser Sample

	Category	N = 24
Gender	Men	9
	Women	14
	N/A	1
Profession	Real Estate Agent	18
	Appraiser	6
Years in the real estate industry	0 to 3 years	8
	4 to 6 years	5
	7 to 10 years	0
	More than 10 years	11
Houses/condos sold in past 12 months (n = 16)	0 to 10	8
	11 to 20	2
	21 to 30	2
	31 to 100	3
	More than 100	1
Ohio Location	Zip Codes in sample	16

Instrument. After participants consented to participate on-line, the survey presented them with background questions and five kinds of questions. They were asked about their perceptions of the:

- Value of houses with visitable features;
- Sales time of houses with visitable features; and
- Desirability of visitability if framed as Better Living Design or Visitable.

All participants saw each of nine images of visitable and non-visitable features (three 32" wide doors matched with three narrower doors, three no-step or low-slope entries matched with three step entries, and three usable bathrooms matched with non-usable bathrooms). For each pair, other aspects of the environment were controlled (see Figure 1). The survey randomized the order of the pairs across participants and varied the placement of the visitable and non-visitable feature such that the visitable feature appeared on the right four times and on the left five times. The survey stated that, "all else is the same about the two houses below and their neighborhood."

For value, the appraisers checked the one they would appraise at a higher value. Later in the survey, they were asked about each visitable feature separately and how much more or less they would appraise a house with that feature ("More," "About the same," or "Less"). If they checked either more or less, they could enter a dollar amount in a text box. Real estate agents checked the house they thought would sell for more, or they could check "no difference." If they checked a difference, they could check how much more ($0 – $4,999, $5,000 - $9,999, 10,000 – $14,999, or $15,000 or more). For the 32" doors, the survey asked, "Which

house would you expect a house to sell for more? One having 32" wide door clearance on one floor or one having 28" door clearances on one floor?" For the usable bath, the survey asked, "Which house would you expect to sell for more? One having a usable full bath (sink, toilet, and shower) on one floor or one having a ½ bath (sink and toilet) on the first floor?" For entries, the survey asked, "Which house would you expect to sell for more? One having at least one zero-step or low-slope entrance or one having only one- or two-step entrances?"

For sales time, real estate agents checked the house in each of the nine pairs they expected to sell faster. Appraisers did not receive a question about sales time.

For branding, participants were assigned at random to one of two questions. Each question described the visitable features, but one referred to them as features of a "Better Living Design" house and the other referred to them as features of a "Visitable" house." The survey asked participants to rate the desirability to buyers of a house with those feature (Undesirable, Somewhat Undesirable, Neither, Somewhat Desirable, Desirable).

Results

Most participants judged the visitable house as more valuable. When participants picked either a visitable or non-visitable feature as more valuable (54.2 percent of choices), they most often chose a visitable feature (97.0 percent) as the more valuable ($X2$ (1, $N = 33$) = 29.12, $p < .001$). Participants most often chose a $0 - $4,999 increase in value for each feature (73.7 percent). Combined, these responses suggest an increase in value of up to $14,997 for all three features. Note that due to the small sample size for real estate agents and for appraisers, we combined their answers to two questions relating to value: appraiser estimates of which house they would appraise at a higher value and real estate agent estimates of which house would sell for more.

The real estate agents also expected houses with the visitable features to sell faster. Most of them (58.2 percent) chose one or the other kind of house as selling faster rather than selecting no difference. Of the choices made, houses with a visitable feature were picked more often (77.1 percent) than houses without one ($X2$ (1, $N = 131$) = 38.48, $p < .001$). This result applied to choices in relation to each visitable feature separately (91.1 percent for 32" wide doors; 80.4 percent for low-slope, no-step entries; and 72.5 percent for usable baths).

As for framing, although more of the participants who received the Better Living Design prompt picked it as selling for more (72.7 percent) than did those receiving the visitability prompt (54.5 percent), the samples were too small (11 for each condition) to draw a statistical inference.

Discussion

The results suggest that each visitable feature – 32" wide door; no-step, low-slope entrance; or usable bath – adds value to a house and makes it likely that the house will sell faster. If

all else is the same, new houses with all three features may be worth up to $14,999 more than houses without those features.

The present study tested perceptions of each feature in color photos and text, altered such that the photos or descriptions of visitable and non-visitable features were similar other ways. As a result, the findings suggests that, for the participants tested, the perceived extra value or sales price and shorter sales time resulted more from each visitable feature than from an uncontrolled extraneous factor. A meta-analysis of 152 environments evaluated by 2400 people found that responses to such photos generalize well to on-site response (Stamps, 1990). The consistent pattern of results for each of the three examples of each visitable feature suggests that results may generalize to other instances. However, for each visitable feature, differences in the intensity (but not the direction of response) suggest that design quality matters. A well-designed door, entry, or usable bath can make that feature more appealing and marketable.

Although participants came from across the state of Ohio and had real estate and appraisal experience, the samples were small. Nonetheless, a meta-analysis of 19,000 respondents responding to more than 3,200 environments found strong consistency in response across groups, indicating that characteristics of the environment had much larger effects than characteristics of the respondent (Stamps, 1999). Additional research could try to gauge perceptions of a larger sample of real estate agents and appraisers in Ohio. If the present findings hold, they indicate added value for including visitable features in new houses and they suggest a market demand for such features. Thus, increasing visitable featured in new home construction may well benefit the housing industry and owners of single-family houses in Ohio.

Conclusions

Recall that a visitable house has 32" wide doors; one no-step, low-slope entrance; and a usable bath on its main floor. The results from multiple surveys with participants from throughout Ohio revealed positive perceptions of visitable houses. Ohio homeowners and homebuyers believed they would prefer to buy a house with one or more visitable feature, expected such a house to sell faster, and saw each visitable feature as enhancing the qualities of the house such as its aesthetics, good design, and resale value. Ohio housing professionals (developers, builders, and designers) agreed with homeowners and homebuyers. They believed that homebuyers would prefer to buy houses with one or more visitable features, expected visitable houses to sell faster, and believed the visitable features would enhance the qualities of the house. Ohio real estate agents and appraisers also saw value in each visitable feature. They estimated that each feature added value to a house, up to $14,999 for a house with all three visitable features. Labelling a house with visitable features as a "Better Living Design" house improved perceptions of its desirability among developers, builders and architects, but made no difference for the other survey participants.

Meta analyses indicate that the present findings in response to the color photos should generalize well to on-site responses (Stamps, 1990). They also indicate strong similarities in response across adults by age, gender, culture, and special interests (Stamps, 1999). Although the meta-analyses suggest that the findings may generalize to on-site response among other Ohio residents, future research looking at on-site responses among other participants could clarify the findings provided in this study. Research should also assess responses of speculative builders, and it should examine market data or test consumer responses and purchase decisions to similar houses designed with and without visitable features. Similarly, Ohio could implement (and then evaluate) a policy to encourage builders to include visitable features in new houses. Research could also consider ways in which designing for visitability can reduce living expenses, enhance independence, facilitate caregiving, and improve quality of life (Howe, 2013). It could consider state- and city-level initiatives, such as one study in Montana (Seekins et al., 2008) that obtained information about the state's residents and the visitability of the state's housing units. Using a random digit telephone survey of almost 5,000 adults, the study found that about one in five respondents over the age of 18 had a disability, and about one in five lived in a visitable house. More residents over the age of 65 lived in a visitable house (28 percent) than those under the age of 65 (15 to 20 percent). Respondents with a disability who lived in a visitable house were less likely than those who did not to report any days of poor mental health. Research could also consider the benefits and cost savings associated with fewer falls and injuries in houses with visitable features. It could also investigate the lower Medicaid costs associated with visitable houses that allow in-home care. It would be useful to understand the ways in which visitable housing units can help people to age in place and save societal costs by allowing them to stay in a home rather than move to a nursing home or long-term care facility.

If the present findings hold, then visitable features add value to a house and there is market demand for such features. Furthermore, many of the perceived obstacles to visitable features do not apply for buyers of single-family houses. In light of builder and developer resistance, states and municipalities might adopt mandates to promote visitability in both the public and private market. Government and non-profit organizations could also offer incentives and set visitability certification standards as they do for Energy Star housing or LEED building practices. Such actions may change visitability to an approach that developers promote and that consumers expect as a desired norm in new single-family houses.

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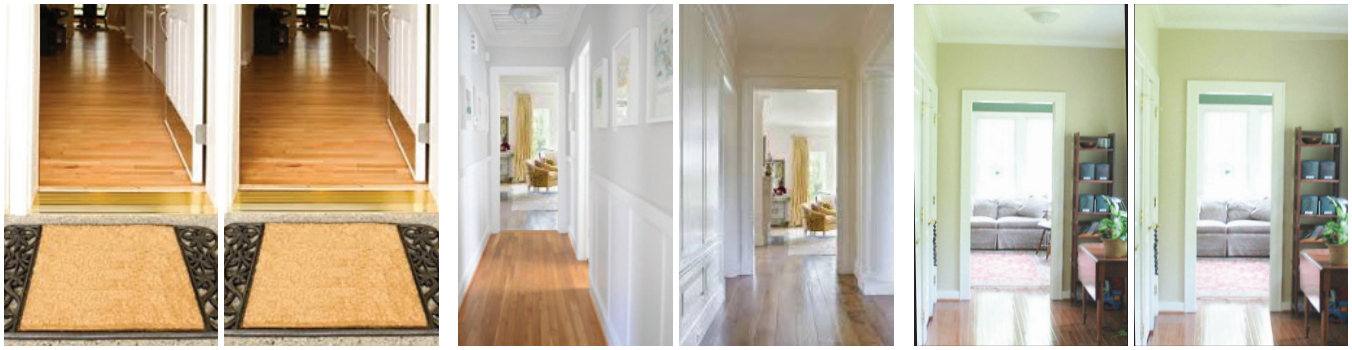
Appendix A: Photos in Locations for Each Survey

Photo location for questions about selling price and prefer to buy. The survey randomized the nine pairs across the participants and did not show the labels.

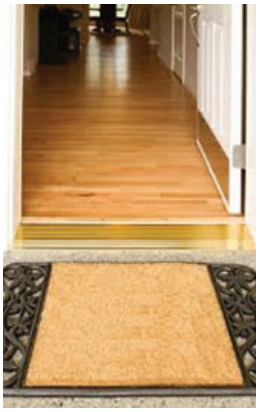
Visitable Door



Visitable Bath

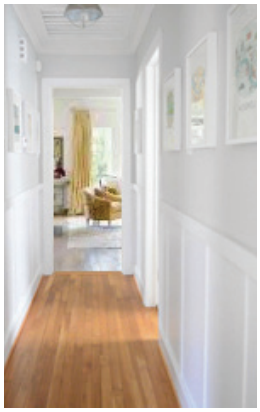
Visitable Entry

Photos for questions about whether an older person or wheelchair user lives in the house. The survey randomized the order of the nine photos across participants and did not show the labels.

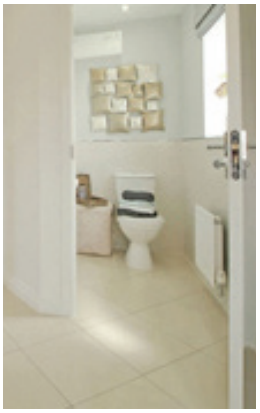


Visitable Door

Visitable Door

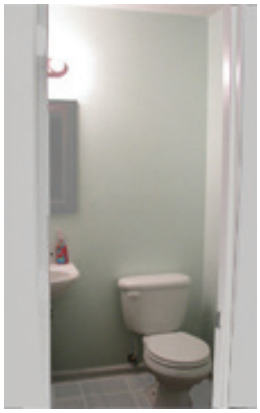


Non-visitable Door



Visitable Bath

Visitable Bath



Non-visitable Bath

Visitable Entry

Visitable Entry

Non-visitable Entry

Appendix B: First Focus Group Summary Notes (March 26, 2014)

Question #1 - What comes to mind when you hear the term visitability?

Question #2 - Have you been involved in these designs? What are some of the obstacles we might face in getting the industry to build this way?

Question #3 – What could we do to encourage people to implement these designs?

Question #4 – How can we make these three features appeal to the widest range of homebuyers?

Question #5 – If you had one minute to talk to the governor about visitability, what would you tell him?

Summary of Main Points:

Comments on aesthetics

- A lot of this is about design. Proper design up-front could make this all quite easy. We have to get away from the "medicinal" look of some accessible features.
- We need the IKEA of ramps. We need dual-purpose design that looks good.

Comments on cognitive barriers

- This has to be consumer-driven.
- Builders need to see that these kinds of houses will sell.
- If people see more of these kinds of features, and if real estate agents and builders point out these features, then people might start demanding them.
- Homebuyers are afraid of being perceived as frail or needy and often don't like visual reminders of the possibility that they could one day have a mobility challenge.
- We often forget to think about visitors to our home and the needs they may have to access our home.
- Children who are accustomed to fully accessible buildings and schools could change the game as they get older and expect those features.
- It may be best for builders to put these features in without consumers even realizing they are there because consumers often don't know to ask about these things.
- Could we get HGTV to do a show on visitable design? This would create a trend.
- Could we use the Parade of Homes to highlight visitable design?
- Public opinion changes. It just takes time. Think about seat belts which were initially met with resistance but are now a given. Safety sells.
- Human nature is such that we deny ageing and refuse to believe that we might experience injuries or disablements.

Comments on economics

- Great ideas but market not quite ready for it
- We probably need some standardization or some kind of requirement. Or would incentives be enough? We could come up with some clever ideas to give tax incentives, cost breaks, etc.
- People never want to feel that they are losing space that could be used for something else

they want in their home. They also don't like to feel like they're paying for more square footage for a larger bathroom, for example, that they don't believe they need.

- Builders are thinking about getting a job done and moving on to the next one. They're not thinking about what might benefit a customer five years down the road. So you have to find a way to incentivize them to think this way so that they put in extra blocking that can support a grab bar later, etc.
- Human nature is to always choose the cheapest option. We have to think about cost.
- Comments related to geographic barriers
  - We need to think more about how to do zero-step entries in a way that looks good and doesn't compromise the integrity of the home as far as water/snow/insects/etc.

Comments on benefits

- There are very real cost savings when it comes to making it possible for people to stay in their own homes rather than having to move to assisted living or nursing homes.
- We need to couch this issue around job creation and inclusion when we are talking to legislators.
- Consensus that wider doorways are a "no-brainer." They're good for almost everyone because they make it easier to move things in and out of the house.
- We have to think about temporary disabilities, too. People break legs, etc.
- We also have to remember that a house will be occupied by multiple people over the course of its lifetime. This could be a good reason to make visitability a requirement rather than an option.
- Good design doesn't have to cost more.
- The governor should know that this would allow more people to stay in their homes and help save on healthcare costs.

Comments on other things

- There needs to be an education process. It's not dissimilar to the need for financial literacy education as far as making good investments, etc. People need to think about their future.
- Baby boomers could change the game, but that could take many more years. We need faster solutions.
- It would be great to follow international building codes and to ensure that all new homes are built in a visitable manner. However, we still face the challenge of lots of old housing stock. Renovations are costly.
- We need to shift from a reactive to a proactive state of mind with visitability.
- How could we bring together the idea of a "fit city" and the features of visitability? And how do visitability and sustainability fit together?
- Issue of neighborhoods like Upper Arlington and German Village where you have older homes or no room for new housing stock. Existing housing stock might not be easy to renovate for visitability. And yet people don't want to leave their communities.
- We need to change the words. Better living design sounds better and has fewer negative perceptions attached to it.

Appendix C: Second Focus Group Summary Notes (April 1, 2014)

Introductions, visitability defined: Zero step or low-slope entrance, at least one floor with 32" hallways and doors, usable and maneuverable bathroom. (Not part of visitabililty, but possibly desirable, blocks in bathroom as structural support for future add-ins). Note that we grouped the responses by categories (aesthetics, cognitive, economic, geographic, other) after the focus group.

When you hear the term visitable or better living design, as defined, what comes to mind?

Opportunity for person with disability to visit you

Handicap accessible

Fully accessible

Meeting needs of different groups, including seniors

Open and welcoming

Good first basic step for accessibility

Inclusive design, levels playing field for everyone

First right of equality- ability to visit everyone in community

If you've been involved directly or indirectly with visitability (better living designs), what do you see as the problems/obstacles?

Cognitive

- Perception that it is difficult to do, fear of resale
- Marketability might be problematic, viewed as nonconforming properties; valuation process could be difficult from an appraisal standpoint
- Education to public, marketing, publicity

Economic

- Builders don't want more regulations, resistant to change, don't want to be forced
- Cost- impact of dollars when benefiting one family/person
- Housing stock not inviting for making these changes, retrofitting is difficult & expensive
- Don't want to add cost as builder
- Appraisal process doesn't sufficiently capture benefit of visitability, may not be worth additional costs required from builders

Other

- Still challenge for single-family homes & exempt structures
- Architects need to plan with visitability in mind- opportunity to at least make it visitable in the future
- Concentrated senior market and understanding that this is the future can drive visitability implementation
- 5-7 year turnover in homes, 2-3 years for apartments
- Not strong enough constituency pushing for this- especially from people promoting aging in place

What do you see as the benefits?

Aesthetics

- Can be aesthetic, maybe just need more education & awareness

Economic

- Retail value, increased market, possibly will rent visitable units first
- Saving costs in long term
- Epcon, a housing developer, offers nonstandard options for universal design in packages- normalize, helps with public awareness

Other

- Livability for a lifetime
- Safety, convenience, comfort, accessibility, human dignity & equality
- Easier time getting in and out
- Think about the longevity of the building, not just the people there now
- Livability for unforeseen circumstances and changes in life
- Convenience feature is critical, perhaps above aging in place- consumer market for this

How could we implement any or all three features of visitability (better living design) to overcome the obstacles and appeal to the widest range of homebuyers and homeowners?

Aesthetics

- Market universal design as aesthetic, help consumers understand that it can be cool or beautiful, make it part of the expectation

Cognitive

- Labeling, marketing- emphasis on convenience could appeal to everyone
- Education
- Inevitable, larger demand for accessibility, convince builders and consumers that this is an inevitable trend
- Senior real estate advisors- extra training to help specific groups
- Changing how people think can change the way people build- change the market, especially with care crisis and aging

Economic

- Incentives to build visitable structures, incentives for retrofitting/rehab if using community-based funding sources
- Tax credits, even for education or advertising
- Emphasize saving money for builders
- Teach valuation of visitability for appraisers- perhaps change appraisal standards, different understanding of nonconforming homes
- Long term care insurance- can stay at home, includes home care, don't have to go to nursing home, insurance companies have incentive to shift toward staying at home, less expensive for them
- Disability insurance also has incentive to make home more livable

Geographic

- Zero step certification

Other

- Legislation
- Planning for features to be added if not

possible to implement at time of building

- Good time to implement this with baby boomers
- National-level certification as incentive, consider social sustainability of visitability in assigning points for LEED projects, working to change this but the point values aren't equitable right now- need more points for visitability efforts
- Collaboration with green building- projects can benefit both
- Expert advice, CAP program for retrofits

If you had one minute to talk to the governor about how to get visitability (better living design) for Ohio, what would you say?

Economic

- Freedom and cost-containment
- Rep Stinziano –proposing tax incentives for builders & homebuyers, house bill 84

Other

- Underserved population that currently doesn't have affordable housing options that meet their needs- big public policy issue
- Importance of staying in your own home, have to think of ways to incentivize builders, developers, and consumers to see the benefits of this
- Design most sustainable community in the US- to do this we need to implement visitability standards so housing stock will not be obsolete in 10 years

Nasar's Quick Preliminary Summary

Benefits are much broader- gain for more people than just those with disabilities
Obstacles: consumer demand, developers don't want to be told what to do
Ways to overcome: Education, incentives, possibly legislation- for whole range of groups
Understanding value of sustainability

Anything else we missed?

Ohio Mortgage Bankers
Ohio Homebuilders
NARI
NAHB
Am Society of Interior Designers
AIA
Vendors- product manufacturers
Appraisers- OH Coalition of Appraisal Professionals, Central OH chapter of the Appraisal Institute

Appendix D: Homeowner and Homebuyer Survey

There are no right or wrong answers. We are only interested in your honest opinion. All answers are confidential and anonymous and not tied to any individual information.

Do you live in the State of Ohio?
☐ Yes (18)
☐ No (19)
If No Is Selected, Then Skip To End of Survey

What part of the state do you live in?
☐ Southwest (1)
☐ North (2)
☐ Central (3)
☐ Southeast (4)

Is your housing unit:
☐ Owned by you or someone in your household (with a mortgage or loan). Include home equity loans. (1)
☐ Owned by you or someone in your household free and clear (without a mortgage or loan) (2)
☐ Rented (3)
☐ Occupied without a payment of rent (4)
If Owned by you or someone in ... Is Selected, Then Skip To End of Block If Owned by you or someone in ... Is Selected, Then Skip To End of Block

If you rent your housing unit or occupy it without a payment of rent, do you plan to buy a new house in the next six months?
☐ Yes (1)
☐ No (2)
If No Is Selected, Then Skip To End of Survey

If you or someone in your household owns the house, do you plan to buy a new house in the next six months?
☐ Yes (1)
☐ No (2)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."
☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?
☐ House on right (1)
☐ No Particular Preference (2)
☐ House on left (3)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."
☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?
☐ House on Left (1)
☐ No Particular Preference (2)
☐ House on the Right (3)

Q4 If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about

equal, check "About the Same."

☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?

☐ House on Left (1)
☐ No Particular Preference (2)
☐ House on the Right (3)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."

☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?

☐ House on Left (1)
☐ No Particular Preference (2)
☐ House on the Right (3)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."

☐ (1) _____
☐ About the Same (2)
☐ (3)

Which one would you prefer to buy?

☐ House on Left (1)
☐ No Particular Preference (2)
☐ House on the Right (3)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."

☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?

☐ House on Left (1)
☐ No Particular Preference (2)
☐ House on the Right (3)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."

☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?

☐ House on Left (1)
☐ No Particular Preference (2)
☐ House on the Right (3)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."

☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?

☐ House on Left (1)
☐ No Particular Preference (2)

☐ House on the Right (3)

If all else is the same about the two houses below and their neighborhood, pick the one you think would sell for more, and enter the percent more in numbers in the box below it. If you think they're about equal, check "About the Same."

☐ (1) _____
☐ About the Same (2)
☐ (3) _____

Which one would you prefer to buy?

☐ House on Left (1)
☐ No Particular Preference (2)
☐ House on the Right (3)

Two neighbors have the same models of a house, but one (LowSlope) has on the first floor: one low-slope or no-step entrance 32" wide door clearances a usable full bath (sink, toilet, & shower). The other (OneStep) has on the first floor: one to two step entrances 28"door clearances a half bath (no shower). If a house in the neighborhood typically sells in 30 days, how long would you expect it to take for each house to sell? Enter the number of days in the box below each house.

☐ Days for LowSlope (1) _____
☐ Days for OneStep (2) _____

Which one would you prefer to buy?

☐ LowSlope (1)
☐ No particular preference (2)
☐ OneStep (3)

How much effect do you think having 32" door clearances instead of 28" door clearances on a first floor would have on each quality? (where -3 = strong negative, 0 = no effect, and 3 = Strong positive effect)

	-3 (1)	-2 (2)	-1 (3)	0 (4)	1 (5)	2 (6)	3 (7)
Good design	☐	☐	☐	☐	☐	☐	☐
Aesthetics	☐	☐	☐	☐	☐	☐	☐
Cost	☐	☐	☐	☐	☐	☐	☐
Appeal to young buyers	☐	☐	☐	☐	☐	☐	☐
Appeal to older buyers	☐	☐	☐	☐	☐	☐	☐
Ease of moving furniture, luggage, people	☐	☐	☐	☐	☐	☐	☐
Resale price	☐	☐	☐	☐	☐	☐	☐
Ease of moving in	☐	☐	☐	☐	☐	☐	☐
Ease of use for small children and strollers	☐	☐	☐	☐	☐	☐	☐
Ease for hosting visitors	☐	☐	☐	☐	☐	☐	☐
Ease of access for visitors, self or family member if injured or in need of walking assistance	☐	☐	☐	☐	☐	☐	☐

How much effect do you think having a usable full bath (sink, toilet and shower) instead of a half bath (sink and toilet) on the first floor would have on each quality? (where -3 = strong negative, 0 = no effect, and 3 = Strong positive effect)

	-3 (1)	-2 (2)	-1 (3)	0 (4)	1 (5)	2 (6)	3 (7)
Good design	☐	☐	☐	☐	☐	☐	☐
Aesthetics	☐	☐	☐	☐	☐	☐	☐
Cost	☐	☐	☐	☐	☐	☐	☐
Appeal to young buyers	☐	☐	☐	☐	☐	☐	☐
Appeal to older buyers	☐	☐	☐	☐	☐	☐	☐
Losing space elsewhere	☐	☐	☐	☐	☐	☐	☐
Resale price	☐	☐	☐	☐	☐	☐	☐
Ease for hosting visitors	☐	☐	☐	☐	☐	☐	☐
Ease of access for visitors, self or family member if injured or in need of walking assistance	☐	☐	☐	☐	☐	☐	☐

How much effect do you think having one low-slope or no-step entrance instead of a one or two step entrance would have on each quality? (where -3 = strong negative, 0 = no effect, and 3 = Strong positive effect)

	-3 (1)	-2 (2)	-1 (3)	0 (4)	1 (5)	2 (6)	3 (7)
Good design	☐	☐	☐	☐	☐	☐	☐
Crime	☐	☐	☐	☐	☐	☐	☐
Aesthetics	☐	☐	☐	☐	☐	☐	☐
Cost	☐	☐	☐	☐	☐	☐	☐
Appeal to young buyers	☐	☐	☐	☐	☐	☐	☐
Appeal to older buyers	☐	☐	☐	☐	☐	☐	☐
Ease of moving furniture, luggage, people	☐	☐	☐	☐	☐	☐	☐
Resale price	☐	☐	☐	☐	☐	☐	☐
Ease of moving in	☐	☐	☐	☐	☐	☐	☐
Ease of use for small children and strollers	☐	☐	☐	☐	☐	☐	☐
Ease for hosting visitors	☐	☐	☐	☐	☐	☐	☐
Ease of access for visitors, self or family member if injured or in need of walking assistance	☐	☐	☐	☐	☐	☐	☐

Do you think an older person or a wheelchair user lives in the house below?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in the house below?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in this house?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in the house below?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in this house?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in this house?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in this house?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in this house?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

Do you think an older person or a wheelchair user lives in this house?
☐ Yes (1)
☐ No (2)

How certain are you of your answer?
☐ Very Uncertain (1)
☐ Uncertain (2)
☐ Fairly Uncertain (3)
☐ Neither (4)
☐ Fairly Certain (5)
☐ Certain (6)
☐ Very Certain (7)

A "Visitable" house has one zero-step or no-slope entry, and a first floor with 32" wide door clearance and a usable bath (sink, toilet, and shower). How desirable is a Visitable house to you (i.e. one with those three features)?
☐ Very Undesirable (1)
☐ Undesirable (2)
☐ Somewhat Undesirable (3)
☐ Neither (4)
☐ Somewhat Desirable (5)
☐ Desirable (6)
☐ Very Desirable (7)

A "Better Living Design" house has one zero-step or no-slope entry, and a first floor with a 32" wide door clearance and a usable bath (sink, toilet, and shower). How desirable is a Better Living Design house to you (i.e. one with those three features)?
☐ Very Undesirable (1)
☐ Undesirable (2)
☐ Somewhat Undesirable (3)
☐ Neither (4)
☐ Somewhat Desirable (5)
☐ Desirable (6)
☐ Very Desirable (7)

What is your gender?
☐ Male (1)
☐ Female (2)

What is your race/ethnicity? (check one)
☐ White (1)
☐ Black, African Am. (2)
☐ American Indian (3)
☐ Asian (4)
☐ Hispanic or Latino (5)
☐ Other (please specify) (6)

_____

What is your zip code?
(Enter your five-digit code)

For this survey, we want to make sure our participants are paying attention. Please paste or type the word 'survey' into the text box below.

What is the highest degree you have received?
☐ No high school degree (1)
☐ High school degree (2)
☐ Some college (1-4 years, no degree) or Associates degree (including occupational or academic degrees) (3)
☐ Bachelor's degree (BS, BA, AB etc.) (4)
☐ Masters or Professional school degree (MA, MS, MENG, MSW, MD, DDC, JD etc.) (5)
☐ Doctorate degree (PhD, EdD, etc) (6)

What is your marital status?
☐ Now married (living with spouse) (1)
☐ Widowed, divorced, separated, single (2)

How many children under the age of 18 live in your house now?
☐ None (1)
☐ 1 (2)
☐ 2 (3)
☐ 3 (4)
☐ 4 or more (5)

How many people live in your house now?
☐ 1 (1)
☐ 2 (2)
☐ 3 (3)
☐ 4 or more (4)

Is there a person in your household who has serious difficulty walking or climbing stairs?
☐ Yes (1)
☐ No (2)

What is the estimated value of your house, or, if you're buying, the estimated value of the house you will buy?
☐ Less than $99,999 (1)
☐ $100,000 - $149,999 (2)
☐ $150,000 - $199,999 (3)
☐ $200,000 - $249,999 (4)
☐ $250,000 - $299,999 (5)
☐ $300,000 - $349,999 (6)
☐ $350,000 - $399,999 (7)
☐ $400,000 or more (8)

What is your annual household income?
☐ $0 - $14,999 (1)
☐ $15,000 - $24,999 (2)
☐ $25,000 - $34,999 (3)
☐ $35,000 $ 49,999 (4)
☐ $50,000 - $74,999 (5)
☐ $75,000 - $99,999 (6)
☐ $100,000- $149,999 (7)
☐ $150,000 - $199,999 (8)
☐ $200,000 or more (9)

What is your age?
☐ 18-24 (1)
☐ 25-34 (2)
☐ 35-44 (3)
☐ 45-54 (4)
☐ 55-64 (5)
☐ 65 or older (6)

Appendix E: Builder, Developer, Architect, Interior Designer Survey

There are no right or wrong answers. We are only interested in your honest opinion. All answers are confidential and anonymous and not tied to any individual information.

What best describes your professional work?
☐ Developer (1)
☐ Builder (2)
☐ Architect or Interior Designer (7)
☐ Other (please specify) (8)
_____

How many new homes have you built or designed with a zero-step/low slope entrance, 32" wide door clearance, and a full bathroom (shower or tub, toilet and sink) on the first floor?
☐ None at all (1)
☐ 1 - 5 (2)
☐ 6 - 10 (3)
☐ 11 - 15 (4)
☐ 16 - 20 (5)
☐ More than 20 (6)
If None at all Is Selected, Then Skip To End of BlockIf 1 - 5 Is Selected, Then Skip To End of Block

For new construction, approximately how much MORE or LESS does it cost to build a zero-step or low-slope entrance versus a one- or two-step entrance? Check the "More" or the "Less" button and enter the number amount, or check "I don't know."
☐ Dollars More (1) _____
☐ Dollars Less (2) _____
☐ I don't know (3)

For new construction, approximately how much MORE or LESS does it cost to provide a 32" wide door clearance on one floor versus a narrower 28" door clearance? Check the "More" or the "Less" button and enter the number amount, or check "I don't know."
☐ Dollars More (1) _____
☐ Dollars Less (2) _____
☐ I don't know. (4)

For new construction, approximately how much MORE or LESS does it cost to provide a usable bathroom with a sink, toilet and shower than a bathroom with only a sink and toilet? Check the "More" or the "Less" button and enter the number amount, or check "I don't know."
☐ Dollars More (1) _____
☐ Dollars Less (2) _____
☐ I don't know (3)

How many homes have you retrofitted with zero step or low slope entrances, 32"; wide door clearance, bathroom (shower or tub, toilet and sink) on the first floor?
☐ None at all (1)
☐ 1 - 5 (2)
☐ 6 - 10 (3)
☐ 11 - 15 (4)
☐ 16 - 20 (5)
☐ More than 20 (6)
If None at all Is Selected, Then Skip To End of BlockIf 1 - 5 Is Selected, Then Skip To End of Block

To retrofit an existing house, approximately how much does it cost to convert a one- or two-step entrance into a zero-step or low-slope entrance? Enter the dollar amount.

☐ Dollars (1) _____

To retrofit an existing house, approximately how much does it cost to convert a floor with narrower door clearance to one with 32" wide door clearance? Enter the dollar amount.
☐ Dollars (1) _____

To retrofit an existing house, approximately how much does it cost to convert a bathroom with a sink and toilet to one that is usable and has a sink, toilet and tub or shower? Enter the dollar amount.
☐ Dollars (1) _____

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one do you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to

buy. If you think they're about equal, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you think most buyers would prefer to buy. If you think they're about equal, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

Two neighbors have houses with the same design. One (LowSlope) has on the first floor: one low-slope or no-step entrance, 32" wide door clearances a usable bath (sink, toilet, & shower), on the first floor The other (OneStep) has on the first floor: one step entrance, narrower 28"door clearances a half bath on the first floor If a house in the neighborhood typically sells in 30 days, how long would you expect for each house to sell? Enter the number of days you'd expect it to take for each house to sell.

☐ Days for LowSlope (1) _____

☐ Days for OneStep (2) _____

How much effect do you think having a usable full bath (sink, toilet and shower) instead of a half bath (sink and toilet) on the first floor would have on each quality? (where -3 = strong negative, 0 = no effect, and 3 = Strong positive effect)

	-3 (1)	-2 (2)	-1 (3)	0 (4)	1 (5)	2 (6)	3 (7)
Good design	☐	☐	☐	☐	☐	☐	☐
Aesthetics	☐	☐	☐	☐	☐	☐	☐
Cost	☐	☐	☐	☐	☐	☐	☐
Appeal to young buyers	☐	☐	☐	☐	☐	☐	☐
Appeal to older buyers	☐	☐	☐	☐	☐	☐	☐
Sale or resale price elsewhere	☐	☐	☐	☐	☐	☐	☐

How much effect do you think having one low-slope or no-step entrance would have on each quality? (where -3 = strong negative, 0 = no effect, and 3 = Strong positive effect)

	-3 (1)	-2 (2)	-1 (3)	0 (4)	1 (5)	2 (6)	3 (7)
Good design	☐	☐	☐	☐	☐	☐	☐
Aesthetics	☐	☐	☐	☐	☐	☐	☐
Cost	☐	☐	☐	☐	☐	☐	☐
Appeal to young buyers	☐	☐	☐	☐	☐	☐	☐
Appeal to older buyers	☐	☐	☐	☐	☐	☐	☐
Sale or resale price elsewhere	☐	☐	☐	☐	☐	☐	☐

How much effect do you think having a wider 32” door clearance over a narrower 28” door clearance would have on each quality? (where -3 = strong negative, 0 = no effect, and 3 = Strong positive effect)

	-3 (1)	-2 (2)	-1 (3)	0 (4)	1 (5)	2 (6)	3 (7)
Good design	☐	☐	☐	☐	☐	☐	☐
Aesthetics	☐	☐	☐	☐	☐	☐	☐
Cost	☐	☐	☐	☐	☐	☐	☐
Appeal to young buyers	☐	☐	☐	☐	☐	☐	☐
Appeal to older buyers	☐	☐	☐	☐	☐	☐	☐
Sale or resale price elsewhere	☐	☐	☐	☐	☐	☐	☐

On its first floor, a ‘Visitable’ house has: one low-slope or no-step entrance 32” wide door clearances a usable bath (sink, toilet, shower) How desirable do you think a Visitable house (i.e. one with those three features) is to most buyers?

☐ Undesirable (1)
☐ Somewhat Undesirable (2)
☐ Neither (3)
☐ Somewhat Desirable (4)
☐ Desirable (5)

On its first floor, a ‘Better Living Design’ house has: one zero-step or no-slope entry a 32”; wide door clearance a usable bath (sink, toilet, and shower or tub). How desirable do you think a Better Living Design house (i.e. one with those three features) is to most buyers?

☐ Undesirable (2)
☐ Somewhat Undesirable (3)
☐ Neither (4)
☐ Somewhat Desirable (5)
☐ Desirable (6)

What is the zip code of your business? (Enter your five-digit code)

For this survey, we want to make sure our participants are paying attention. Please paste or type the word ‘Survey’ into the text box below.

How many years have you worked in home development or design?

☐ 0-3 years (1)
☐ 4-6 years (2)
☐ 7-10 years (3)
☐ More than 10 years (4)

What best describes the kind of homes you develop or design?

☐ Speculative housing (1)
☐ Custom builds (2)

How many houses did you design or build in the past 12 months (your annual build)?

☐ 1-10 (1)
☐ 11-30 (2)
☐ 31-100 (3)
☐ 101-200 (4)
☐ 201-1000 (5)
☐ More than 1000 (6)

Appendix F: Real Estate Agent Survey

There are no right or wrong answers. We are only interested in your honest opinion. All answers are confidential and anonymous and not tied to any individual information.

What is your profession? (check the one that most applies to you)
☐ Real Estate Agent (6)
☐ Other (please specify) (8) _____

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster? If you think they'd sell in about the same time, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."
☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you that you would expect to sell faster. If you think they'd sell in about the same time, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

Two neighbors have identical houses, but one is "Visitable." On its first floor, it has: one low-slope or no-step entrance 32" wide door clearances a full bath (sink, toilet, shower) The other house is not. On its first floor it has: one or two step entrances 28" wide door clearances a 1/2 bath (sink, toilet, shower) Check the one you think would sell for a higher price. If you think they'd sell for the same price, check "About the same."

☐ Visitable house (1)
☐ About the same (2)
☐ Other house (3)

How much more?

☐ $0 - $4,999 (1)
☐ $5,000 - $9,999 (2)
☐ $10,000 - $14,999 (3)
☐ $15,000 or more (4)

Two neighbors have identical houses, but one is a "Better Living Design" house. On its first floor, it has: one low-slope or no-step entrance 32" wide door clearances a full bath (sink, toilet, shower) The other house is not. On its first floor it has: one or two step entrances 28" wide door clearances a 1/2 bath (sink, toilet) Check the one you think would sell for a higher price. If you think they'd sell for the same price, check "About the same."

☐ Better Living Design house (1)
☐ About the same (2)
☐ Other house (3)

How much more?

☐ $0 - $4,999 (1)
☐ $5,000 - $9,999 (2)
☐ $10,000 - $14,999 (3)
☐ $15,000 or more (4)

Which house would you expect a house to sell for More? One having 32"; wide door clearance on one floor or One having 28" door clearances on one floor Check the 32"; 28"; or No difference button.

☐ 32" (1)
☐ 28" (2)
☐ No difference (3)

How much more?

☐ $0 - $4,999 (1)
☐ $5,000 - $9,999 (2)
☐ $10,000 - $14,999 (3)
☐ $15,000 or more (4)

Which house would you expect to sell for more? One having a usable full bath (sink, toilet and shower) on the first floor or One having a 1/2 bath (sink and toilet) on the first floor Check the "Usable Full bath," "Half-bath" or "No difference" button.

- ☐ Usable full bath (1)
- ☐ Half bath (2)
- ☐ No difference (3)

How much more?

- ☐ $0 - $4,999 (1)
- ☐ $5,000 - $9,999 (2)
- ☐ $10,000 - $14,999 (3)
- ☐ $15,000 or more (4)

Which house would you expect to sell for more: one having at least zero-step or no slope entrance or one having only one- or two-step entrances? Check the "Zero step," "Steps," or "No difference" button.

- ☐ Zero step (1)
- ☐ Steps (2)
- ☐ No difference (3)

How much more?

- ☐ $0 - $4,999 (1)
- ☐ $5,000 - $9,999 (2)
- ☐ $10,000 - $14,999 (3)
- ☐ $15,000 or more (4)

Now tell us a little about yourself.

What is your gender?

- ☐ Male (1)
- ☐ Female (2)

What is the zip code of your business? (Enter your five-digit code)

For this survey, we want to make sure our participants are paying attention. Please paste or type the word "survey" into the text box below.

How many years have you been in real estate sales?

- ☐ 0-3 years (1)
- ☐ 4-6 years (2)
- ☐ 7-10 years (3)
- ☐ More than 10 years (4)

Approximately how many houses/condos did you sell in the past 12 months?

- ☐ 0 -10 (1)
- ☐ 11-20 (2)
- ☐ 21-30 (3)
- ☐ 31-100 (4)
- ☐ 101 or more (5)

What is you approximate average sales price in the past 12 months?

- ☐ Less than $99,000 (1)
- ☐ $100,000 -$149,999 (2)
- ☐ $150,000 -$199,999 (3)
- ☐ $200,000 -$249,999 (4)
- ☐ $250,000 -$299,999 (5)
- ☐ $300,000 -$349,999 (6)
- ☐ $350,000 -$399,999 (7)
- ☐ More$400,000or more (8)

Appendix G: Appraiser Agent Survey

There are no right or wrong answers. We are only interested in your honest opinion. All answers are confidential and anonymous and not tied to any individual information.

What is your profession? (check the one that most applies to you)

☐ Appraiser (5)
☐ Other (please specify) (8) _____

If all else is the same about the two houses below and their neighborhood, check the one you would appraise at a higher value? If you think they're about equal, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you would appraise at a higher value? If you think they're about equal, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you would appraise at a higher value? If you think they're about equal, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

If all else is the same about the two houses below and their neighborhood, check the one you would appraise at a higher value? If you think they're about equal, check "About the Same."

☐ (1)
☐ About the Same (2)
☐ (3)

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☐ (1)
☐ About the Same (2)
☐ (3)

Two neighbors have identical houses, but one is "Visitable." On its first floor, it has: one low-slope or no-step entrance 32" wide door clearances a usable bath (sink, toilet, shower) The other house house is not. On its first floor it has: one or two step entrances 28" wide door clearances a 1/2 bath (sink, toilet, shower) Check the one you think would have the higher appraised value. If you think they're about equal, check "About the same."

☐ Visitable house (1)
☐ About the same (2)
☐ Other house (3)

Two neighbors have identical houses, but one is a "Better Living Design" house. On its first floor, it has: one low-slope or no-step entrance 32" wide door clearances a usable bath (sink, toilet, shower) The other house is not. On its first floor it has: one or two step entrances 28" wide door clearances a 1/2 bath (sink, toilet) Check the one you think would have the higher appraised value. If you think they're about equal, check "About the same."

☐ Better Living Design house (1)
☐ About the same (2)
☐ Other house (3)

How much more or less would you appraise a house that had 32" door clearances on one floor than a house with 28" door clearances? Check the "More" or the "Less" button and enter the number amount, or check "No difference."

☐ Dollars More (1) _____
☐ Dollars Less (2) _____
☐ No difference (3)

How much more or less would you appraise a house that had a usable full bath (sink, toilet and shower) on the first floor than one that had a 1/2 bath (sink and toilet) on the first floor? Check the "More" or the "Less" button and enter the number amount, or check "No difference."

☐ Dollars More (1) _____
☐ Dollars Less (2) _____
☐ No difference (3)

How much more or less would you appraise a house that had one zero-step or no slope entrance than a house that had only one- or two-step entrances? Check the "More" or the "Less" button and enter the number amount, or check "No difference."

☐ Dollars More (1) _____
☐ Dollars Less (2) _____
☐ No difference (3)

Now tell us a little about yourself. What is your gender?

☐ Male (1)
☐ Female (2)

What is the zip code of your business? (Enter your five-digit code)

For this survey, we want to make sure our participants are paying attention. Please paste or type the word "survey" into the text box below.

How many years have you been doing housing appraisals?

☐ 0-3 years (1)
☐ 4-6 years (2)
☐ 7-10 years (3)
☐ More than 10 years (4)

Any info for back cover??