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DESIGN RESOURCES

DR-05 Levels of Inclusive Housing

Levels of Inclusive Housing

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Issue and Its Importance to Universal Design

Surveys show that the majority of older people in the U.S. want to remain in their homes for as long as possible. This is problematic, as most existing single-family housing, where 70% of Americans live (U.S. Census, 2001), presents some problems for aging in place including steps at all entrances and narrow interior doors. For many architects, designers, advocates and researchers, resolving issues as to how to make houses more accessible for all people regardless of ability or age has become a priority, particularly in light of changing demographics. Various groups and individuals have emerged to promote different design concepts to address these issues. Although each of these groups comes from a different perspective, all have the same basic goal: to provide equal opportunity for people to access the built environment regardless of ability. A disability should not restrict anyone from playing a vital role in home life. Four of these initiatives involving inclusive housing are accessible design, visitability, adaptability, and lifespan design. Inclusive housing concepts such as these seek to redefine housing as an enabling technology for the lifespan, to help change social stereotypes and to improve self-concept of all residents.

Although these four strategies differ in their specific objectives, they share the same important goal - to improve the built environment by making it more usable, safer, and appealing. While accessibility codes define the legal requirements for multifamily and publicly funded housing, visitability ordinances focus on single-family homes. Lifespan design can be applied to any housing project and exceeds minimum code compliance.

Key Terms

Accessibility: Minimum compliance with accessibility standards.

Visitability: An affordable, sustainable, and accessible design approach to single-family housing initiated in 1987. A visitable home is one that meets only three conditions: one zero-step entrance, doorways that provide 32 inch clearance, and basic access to at least a half bath on the main floor.

Adaptability: A housing concept that assumes housing should include basic access features that support easy and inexpensive upgrades to full access if needed in the future.

Lifespan design: Design for aging in place includes a broader range of features than adaptable housing; designs for sensory limitations, security, and the prevention of falls are key goals. Moreover, community context is also important. Aging in place, with any decent level of quality of life, requires livable neighborhoods that have conveniently located community services, opportunities for recreation and work nearby, a vibrant street life, and informal gathering places through which neighbors can more easily get to know each other.

Existing Research/Evidence

Existing research on inclusive housing tends to highlight the growing need for more accessible housing due to changing demographics, seniors and people with disabilities' housing

preferences, and their difficulty in finding suitable housing (see, for example, Roper Public Affairs & Media Group 2005; Smith, Rayer, & Smith, 2008; Pynoos, 2001; Hammel et al., 2005).

(Current) Design Guidelines

In 1980, the American National Standards Institute revised ANSI A117.1 to include specific requirements for accessibility in housing, providing a voluntary standard that could be used as a model for regulations. Since 1980, the standard, now known as ICC/ANSI A117.1, has been revised and improved several times. The Department of Housing and Urban Development adopted its Fair Housing Accessibility Guidelines in 1991 in order to provide builders and developers with technical guidance on how to comply with the specific accessibility requirements of the Fair Housing Amendments Act of 1988. The ICC Committee that developed ANSI 117.1 most recently developed a new section with technical design criteria for visitability. Referred to as Type C units (2009), this section contains guidelines on entrances, interior spaces, circulation paths, bathrooms, and a few additional areas.

Although there has been no codification of lifespan housing, the following essential and optional features are generally desirable in lifespan housing (Steinfeld & White, forthcoming):

Essential	Optional
No-step access to the home and all patios, balconies, and terraces	No steps on any entry path
Low thresholds	One story plan, residential elevator, or planned space for future elevator
Doorways that provide at least 34 inches [865 mm] of clearance	Adjustable height kitchen and bathroom sinks
Door handles are 34-38 inches [865-965 mm] from the floor	Appliances and cabinets with built-in convenience features
Hallways with at least 42 inches [1065 mm] clear width	Intercom system
Access to at least one full bath on the main floor	Smart house system
Reinforcement in walls next to toilets and tubs for the future installation of grab bars	
Kitchen cabinetry that allows a person to work in a seated position	
Light switches and electrical outlets 24-48 inches [610-1220 mm] from finished floor	
Stairway treads at least 11 inches [280 mm] deep and risers no greater than 7 inches [180 mm] high	
Good lighting throughout the house with task lighting in critical locations	
Non-glare surfaces	
Contrasting colors at floor surface boundaries	
Clear floor space of at least 30 x 48 inches [760 x 1220 mm] in front of all appliances, fixtures, and cabinetry	
Front-loading laundry equipment	
Ample kitchen and closet storage or adjustable to be within 28-48 inches [710-1220 mm]	

Summary of Related New Research Accomplished by RERC-UD

Preliminary analysis from ongoing anthropometry research on wheeled mobility in the U.S, and a comparison with three other countries (UK, Canada, and Australia), suggests that the U.S. standards, which are based on research conducted in the 1970's, need to be updated to address advances in wheeled mobility technology and changes in user demographics. New research examines space requirements for accommodating wheeled mobility devices and their users in the built environment and looks at dimensions for clear floor area, maneuvering clearances, seat and knee clearance heights, as well as some reference dimensions on wheeled mobility device sizes (Steinfeld, Maisel, Feathers, & D'Souza, in press).

The most comprehensive report on visitability was recently completed by RERC-UD staff and confirmed that visitability is more cost effective when planned in advance, that innovative construction practices can help create aesthetically pleasing and waterproof step-less entrances, and that mandatory initiatives yield more visitable homes than voluntary programs (Maisel, Smith, & Steinfeld, 2008).

Best Practices/Practical Applications

Although the majority of mandatory visitability initiatives apply only to homes built with public funds, a few ordinances require visitability for all new homes, including private homes. In addition to the Pima County, Arizona (2002) ordinance, which also requires lever door handles, reinforced walls in the ground-floor bathrooms for future installation of grab bars, and reachable electrical controls for someone in a wheelchair, Bolingbrook, Illinois (2003) and Tucson, Arizona (2007) passed visitability ordinances that cover every new home.



The Mueller project, a housing community in Austin, TX where 25% of the homes must comply with the S.M.A.R.T. program.

An innovative program that includes both a mandatory and voluntary strategy, and that bundles multiple innovations together is the S.M.A.R.T. program in Austin, Texas. Builders who adopt the S.M.A.R.T. (safe, mixed income, accessible, reasonably priced, and transit oriented) program requirements, one of which is visitability, receive fee waivers, fast-track review and permit processing, advocacy by S.M.A.R.T. program staff to solve problems that emerge during development, and a density bonus (e.g., smaller lots without the need to apply for a zoning variance).

Research Needs (What still needs to be done)

Existing research on visitability explores the evolution of the accessible design strategy, its fundamental principles, and recent trends in its diffusion and adoption (Spegal & Liebig, 2003; Kochera, 2002; Maisel, Smith, & Steinfeld, 2008), but no research as yet has attempted to measure the physical, psychological, and social benefits of visitability or, for that matter, any

other approach to accessible housing and neighborhoods. Research is needed to test the hypotheses that inclusive housing has a positive effect on the functional independence and social participation of people with disabilities and that inclusive housing strategies are both easier to achieve and provide more long-term benefits than other approaches to housing.

Compelling research that clarifies what universal design accomplishes, and whom it benefits, compared to more traditional approaches to accessibility is a continuing need (NEA, 1999; 2004a). Not only is information needed on the benefits, but there is a continuing need for more information on models of successful practice and the costs of implementing visitability. Research is also needed to understand the limitations of visitability, as currently conceived, in order to strengthen the concept and improve its effectiveness.

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