

Universal Design Trends Allow Developers to Appeal to a Broader Audience

DESIGN FOR ALL - Older homeowners and disabled employees aren't the only groups that need universal design.

By Barbara Ballinger



For years, even decades, universal design represented a little-known concept. Design professionals who worked with people with any number of physical and mental challenges understood its importance—to create comfortable, accessible, and safe settings by including such features as zero-threshold entrances that made it easy for a person in a wheelchair to get through a doorway, or elevators that allowed them to reach the upper floor of a house or office building.

Somehow, the concept became associated with those with limitations—an elderly person who needed a grab bar to hold onto when getting into and out of a bathtub, for instance. And the

features themselves were designed more for function than looks, so they often had an institutional aesthetic.

In recent years, however, momentum has been building to make universal design more widely acceptable to all people—hence its name—as proponents have stressed that anyone of any age may suddenly experience an illness or accident that changes their ability to function, either

temporarily or permanently. Finally, the idea of 36-inch hallways, doors with a 32-inch clearance, light switches not higher than 48 inches, and counters of various heights are being paid attention to because they represent smart design choices. Furthermore, designers have stressed that such features needn't make a house look ugly or different.

The trend is good news for developers working in an increasingly difficult economic climate, says Valerie Fletcher, executive director for the nonprofit educational group Institute for Human Centered Design in Boston. Today's trends in universal design help make a home or office appeal to a broader, more inclusive audience.

IN THE BEGINNING

The concept of modifying a structure to better suit its occupants is hardly new. Retrofitting houses dates back to World War II when returning injured veterans needed to have their homes altered, according to Richard Duncan, executive director at Housing Works Inc., Universal Design, a Chapel Hill, N.C.-based nonprofit focused on housing issues.

The idea gained momentum with the 1990 passage of the Americans with Disabilities Act, which led to regulations regarding architectural standards for new and remodeled commercial properties and government-funded multifamily housing for those with disabilities. Additionally, the boom of assisted-living facilities made more design professionals aware of the need to offer varied housing for the growing aging population.

The importance of incorporating universal design features also has been highlighted by the huge demographic shift of the baby boomer population, which has started to hit age 60 and, in many cases, wants to age in place, if possible. Plus, there's now awareness that anyone— even people in their prime such as actors Michael J. Fox or Christopher Reeve— may require special living arrangements, says Rebecca Stahr, president and CEO of Atlanta-based LifeSpring Environs, a marketing and design consultancy for the 50-plus housing market.

Rosemarie Rosetti found out how quickly life can change when she was paralyzed in a bicycle accident 9 ½ years ago at age 44. "Fifty percent of the house became inaccessible," she says, referring to the Columbus, Ohio, home she shared with her husband Mike Leder. Getting to her basement-level office became nearly impossible, and bathroom doors had to be removed, compromising her privacy. Cooking also became a challenge.

With Leder, Rosetti founded the Universal Design Living Laboratory to encourage greater awareness of the design trend. The couple is constructing a 3,500square-foot, one-story home, which will serve as a demonstration house to showcase universal design principles when it is completed in May 2009. It will also meet the U.S. Green Building Council's LEED for Homes certification and the American Lung Association's Health House standards.

GUIDING PRINCIPLES



But there are other reasons to embrace universal design besides helping the elderly and disabled. While ADA guidelines specify important criteria, those represent just minimum standards, Stahr says. In contrast, universal design seeks to go beyond those guidelines, and she wants developers and other design professionals to recognize how it can help make anyone's house and office more user-friendly.

Stahr's LifeSpring Environ's group advocates the concept of an EasyLiving Home that makes living convenient for occupants, as well as visitors, with three main features: an easy, no-step entry with the threshold less than half an inch high; a door opening of 32 inches or wider and preferably 36 inches; and a first-floor bedroom and bathroom, the latter with sufficient maneuverable space.

The Center for Universal Design at North Carolina State University in Raleigh, N.C., is considered a leading authority on the subject, and formulated seven principals to follow. [See "7 Principles of Universal Design" on page 48]. Among the most important is "equitable use," which stresses that the design of a space should be done so that it appeals to users with diverse skills. A wider hallway, for instance, lets wheelchair occupants get through, as well as anyone pushing a baby stroller, or someone with no physical challenges.

Many forward-thinking developers already are incorporating some of these progressive concepts on their own, while some include features that are a result of area laws. Bolingbrook, Ill., Mayor Roger Claar helped pass an ordinance in January 2003 that requires a number of universal design features such as one grade-level entrance, a first-floor bathroom, receptacles not lower than 15 inches from the floor, electrical light switches not higher than 48 inches above the floor, 36-inch-wide doorways, and showers reinforced so grab bars can be attached.

"We did this because the disabled community brought it to our attention—the difficulty of using a bathroom in someone's home if doors were only 21 inches or 30 inches wide. But the more I looked at the issue, it made sense whether you were disabled or not. If you live long enough,

everyone gets some impairment,” Claar says. Initially, the village asked for builders to follow these guidelines on their own, but many were opposed because of the cost factor, he says.

DESIGN IN ACTION

Some developers prefer to focus on a specific target audience, perhaps by age. Epcon Communities builds condos priced from the high \$160,000s to the mid-\$300,000s ideally suited for the 50-plus market. The interiors of the condos include wide-turning radiuses so wheelchairs won't bump into walls and counters, slip-resistant hardwood floors, abundant lighting, and counters built according to the owner's height and any disability, says Nanette Overly, vice president of sales and marketing for the Dublin, Ohio-based firm. The homes are designed and built to prevent renovations if owners' needs change, she says.

“If you don't [incorporate universal design], you limit your market and customer base. What this also does is create a sense of community by bringing together different ages.” — TOM FOLEY, DEVELOPER OF THE BANKS OF SALINE

The universal design concepts carry through to the outdoors and shared facilities. “We want residents to have access to all amenities,” Overly says, pointing out that the clubhouse is step-free, the fitness center offers free weights that residents in wheelchairs can use, and walking paths are wider than normal and are paved to accommodate wheelchairs.

The Banks of Saline, a condominium building with 2- and 3-story units in Saline, Mich., was designed to appeal to both young professionals and older homeowners with disabilities. “Door widths are wider than usual, and the open-style living plan was meant to appeal to young professionals with large sectional sofas, or older people in wheelchairs,” says Tom Foley, the developer of The Banks of Saline. “I did these things to cut out different buyers' objections. If you don't, you limit your market and customer base. What this also does is create a greater sense of community by bringing together different ages.”

Smaller firms also recognize the advantage of incorporating universal design. Chicago-based interior designer Leslie Markman-Stern conducts a “needs” analysis for every client. “I find out whether they're in a wheelchair and have eyesight or hearing problems,” she says.

Markman-Stern tries to include certain features, even if clients don't have limitations such as arthritis or an inability to walk without a wheelchair or cane. Why? She considers the features smart long-term choices. Among those she frequently uses are easy-to-turn levers rather than knobs, shower seats, adjustable hand held sprayers in tubs and showers, anti-scald valves, oven controls at the front of cooktops to avoid reaching, and floors tiled with small mosaics since the extra grout offers good traction.

THE NEXT ERA

Still, many developers and other design professionals choose not to incorporate universal design features in residential projects because they worry that the homes will look institutional or the

features will add additional expense. In commercial projects, that's less of an issue because of ADA, state, and local codes, says Housing Works' Duncan.

Universal design experts say both fears can be overcome. "You don't have to copy a handrail out of an ADA manual; [you] can select or design one that looks sculptural and attractive," says Janet Morra, an architect with Margulies & Associates in Boston.

Likewise, lights can be placed on dimmer switches since some people may need brighter lights while others need dimmer lights. "Even when something needs to be visible, aesthetically pleasing alternatives are often available," says Brooke Ziccardi, an architect with Ziccardi Designs in Costa Mesa, Calif.

Jordan Guide, a designer with Barbara Pallat Interiors in Burr Ridge, Ill., knew that a client with multiple sclerosis was concerned about how some features would look when her townhouse kitchen was retrofitted, so she went to great lengths to make the compliant products attractive. "We were creative—putting in outlets mounted on countertops and customizing higher-end cabinetry with special hardware," Guide says.

The costs to make such changes needn't be excessive in most cases, particularly with new construction. Builder Roy Wendt, whose eponymous firm is based in Grayson, Ga., estimates that the universal design features he selects for his active-adult ranch homes add only about \$500 per house. The homes range from 2,000 square feet to 4,000 square feet and are priced from \$300,000 to \$500,000.

Wendt's Olde Town Grayson design was among the first five winners in the Livable Communities Awards, co-sponsored by AARP and NAHB to recognize forward-thinking builders, developers, and remodelers for projects accessible for all ages and abilities. The Olde Town Grayson design included more drawers on lower kitchen cabinets than doors so homeowners wouldn't have to bend to reach difficult spaces; pull-out trash and recycling containers next to the kitchen sink; task lighting under all kitchen cabinets; barrier-free showers without a door in bathrooms (though one could be installed); and push-toggle light switches throughout. Markman-Stern agrees that most costs needn't be excessive. "A lever is the same cost as a doorknob," she says. "An elevator may be more, but it's not a huge cost."

Those costs that are excessive usually fall into two categories: unusual needs such as a hoist to lift a disabled person into a swimming pool for therapy, or retrofitting for buildings or rooms. Retrofitting a house after building may cost a third more than if done initially, Stahr says.

In the long run, universal design can save developers and homeowners from having to redo mistakes. "It represents 'good' rather than 'bad' design that won't necessitate a callback or warranty issue," Stahr adds.

And with everyone's lives busier, any way to preclude maintenance is something that most developers will eagerly rally around.

Resource Center - Here are the Web's best sites for information about universal design.

- American Association of Retired Persons provides home design resources online, including tips for making a home safer and more comfortable (www.aarp.org).
- Center for Universal Design at North Carolina State University evaluates, develops, and promotes accessible and universal design (www.design.ncsu.edu).
- The Center for Inclusive Design and Environmental Access, known as the IDEA Center, is dedicated to improving the design of environments and products (www.ap.buffalo.edu/idea).
- LifeSpring Environs offers a Universal Design certification for builders and developers (www.lifespringenvirons.com) as well as its Easy Living Home guidelines (www.easylivinghome.org).
- The National Association of Home Builders offers its CAPS certification, an acronym for Certified Aging-in-Place Specialists, which educates building professionals on how to modify houses according to Universal Design guidelines. The organization also has a CASH designation, which stands for Certified Active Adult Specialist in Housing and is more geared for the 50-plus housing market (www.nahb.com).
- Universal Design Living Laboratory works to bring about awareness of the quality of indoor and outdoor lifestyle through universal design, green building, safety, and healthy home construction (www.udll.com).
- Institute for Human Centered Design is dedicated to the role of design in enhancing the human experience (www.ihcd.org).

7 Principles of Universal Design

The Center for Universal Design at North Carolina State University developed these guiding principles to help achieve universal design.

1. **Equitable Use.** The design is useful and marketable to people with diverse abilities. A wider hallway allows anyone in a wheelchair to pass through and reach a desired destination.
2. **Flexibility in Use.** The design accommodates a wide range of individual preferences and abilities. An elevator allows people to reach a second floor of a multi-story house or office building if they can't climb stairs.

3. Simple and Intuitive Use. The design is easy to understand, regardless of experience, knowledge, or language skills. A home or building is laid out so users can easily find their way through the space.

4. Perceptible Information. The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. Different colors differentiate a level or change in level; a flashing light indicates that someone's at the door if the homeowner can't hear a bell.

5. Tolerance for Error. The design minimizes hazards and the adverse consequences of accidental or unintended actions. Low-pile carpeting spares falls, as does lighting along the floor.

6. Low Physical Effort. The design can be used efficiently and comfortably with minimum fatigue. A shower without a threshold allows a person with minimal or no mobility to roll in a wheelchair.

7. Size and Space for Approach and Use. Space is provided to approach, reach, and use an area regardless of the person's size, posture, and/or mobility.



Water Ways: Shower stalls and seats are safer and easier to use than bathtubs, which is why many homes with universal design features incorporate them.