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UNIVERSAL DESIGN
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A PLUS FOR EVERYONE:

Universal design and why it should be in your brief

WORDS Jane Bringolf PHOTOGRAPHY Taylor'd Distinction



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Step-free, flush transitions between inside and out are a basic requirement for accessibility, and are easy to achieve with some attention to door frame design.

Often thought of simply as accessibility for wheelchair users, universal design is in fact much broader than that. Its focus on the adaptability of spaces to cater for everyone, regardless of disability, life stage and household makeup, makes it an important part of sustainable design. Universal design expert Jane Bringolf explains what it's all about, and how easy it is to incorporate in your build.

To state the obvious, none of us are getting any younger. In fact, we all aspire to living a long and healthy life. So why are we still building homes as if we are never going to grow old, get sick or break a leg? Bringing a universal design perspective to our homes means many of life's expected and unexpected events can be accommodated. It's a design concept that considers the life course from cradle to grave. That means everyone benefits, both occupants and visitors.

Universal design does not refer to a particular style or kind of design; rather, is a design-thinking process and is best applied at the beginning of the project. It means thinking

about all the people living in and visiting a home and the ways their needs may change over time. Its features make the home more comfortable and safer to live in, as well as easier and cheaper to modify if more specialised accommodations are needed later.

Basic universal design features include a step-free entry into the home, a toilet on the entry level (usually the ground floor), wider doorways and corridors throughout, and more circulation space in the bathroom in case you ever need support with showering, for example. Such accessibility features are not new – they've long been included and fine-tuned in seniors living developments and homes designed for people with high support needs. So, technically there is no real barrier to including them in your own home, and it certainly doesn't mean your house has to look like a hospital.

BENEFITS OF UNIVERSAL DESIGN

According to Australian Bureau of Statistics data, more than one third of our households include a person with disability. If you add households in which someone has a long-term health condition, allowing for some overlap, we are looking at around half our households directly affected by the way our homes are currently designed.

For people with a disability, having an accessibly designed home is linked to participation outside the home too: a home that works well for an individual saves time and energy and can mean the difference between being able to go to work or school or having to stay at home. This applies to all of us; if you have an accident or something else happens to affect your mobility,

for example, an already well-designed house can mean the difference between staying in hospital for longer while waiting for necessary modifications to take place and getting back to the comfort of home straight away.

Once people leave the paid workforce they tend to spend more time at home. This increases their sense of personal security and attachment to home. A universally designed home will support people to stay put throughout their later years so that institutional care is avoided or at least minimised, in line with most people's wishes.

In fact, universal design features are good for everyone. Trip hazards can be a problem for young and old alike, and eliminating them is a great idea. A step-free entrance is good for bringing in the shopping, a pram or bicycle, and big items of furniture, as well as making things easier for someone temporarily on crutches. A bit more room to move around makes life comfortable for everyone. And the robot vacuum cleaner can get into every room when there is level access into the wet areas. Universal design features are not special features – they are just quietly and conveniently there for when you need them.

UNIVERSAL DESIGN IN THE NATIONAL CONSTRUCTION CODE

Advocacy groups have been campaigning for mandatory universal design features as part of the National Construction Code (NCC) for almost twenty years. It's been a slow process, but happily, this year's NCC update has made it a reality.

Based on Livable Housing Australia's Silver Level guidelines

→ In the kitchen, providing space to manoeuvre, avoiding corners and opting for drawer storage under benches instead of cupboards all contribute to good universal design.





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In the bathroom, plan for a lip-free shower recess with screens that can be removed in future if required for easier access.

(see box opposite), the new NCC standard begins with continuous step-free access from the front boundary into the home. Where this is difficult to achieve, level access can be through the garage or parking area. The entry should have a level transition (no lip or step). Bathrooms and laundries must have a level transition at the doorway as well.

The entry door and all other doors must have a clear opening of 820 millimetres. Corridors must be at least 1,000 millimetres wide, but it's also a good idea to minimise corridors in your design in order to create more useful space.

At least one toilet is required on the entry level (which is usually the ground floor). The new standard requires an increased minimum space in front of the toilet pan to give more room to manoeuvre. At least one bathroom must have a step-free shower recess and screens that can be easily removed if

needed down the track for increased access.

If grab rails are ever required in the toilet or bathroom, they usually need to be placed to suit the individual. This means installing reinforcing panels in the walls, because studs and noggins might not be in the right place to take the fixing screws.

In two-storey homes, the stairway must have a continuous handrail on at least one side. A wider stairway (at least 1,000 millimetres) will give space to install a stair climber later.

Specifications relating to kitchen and laundry design, light switches and door handles are not part of the Silver Level standard, but are included in Livable Housing Australia's Gold Level guidelines. These features offer extra convenience for everyone at any stage of life, and while not mandatory, are definitely worth considering for your project.

The changes will be in the National Construction Code from 1 May 2023, with a transition period until 1 October 2023. Once they come into effect, the new NCC accessibility requirements will apply to all new homes and major renovations. So now is a great time to get serious about including universal design features in your new build or renovation; start by checking that your designer and builder understand the changes.

There are a few concerns circulating about the NCC changes, in particular relating to aesthetics and the cost of implementation. However, fear not. First, it's about thoughtful design, not fancy fixtures or systems, so there are not really any expensive extras to buy. And second, universal design is good design and invisible until it's pointed out. You only notice it when it is not there – when you trip, or find something inconvenient or difficult to use.



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Small things can make a big difference to a space's ease of use, like pedestals to raise washing machines and dryers off the laundry floor and within easier reach without bending.

FURTHER SUGGESTIONS

In addition to the new requirements detailed above, I'd recommend considering the following.

Ensure easy access to storage by installing drawers instead of cupboards under benches in the kitchen, laundry and bathroom. A pull-out workboard in the kitchen is useful too: placed at a sitting height for an adult, it also provides a workspace for children.

Install lever handles on taps and on every door so that you can operate them with your elbows when your hands are full, or if you don't have good grip. Consider grip strength and dexterity when choosing drawer and cupboard handles and other opening and closing mechanisms. Also consider raising power points from the skirting board and placing light switches and door handles at hip height for ease of use.

Drawer-style dishwashers and even fridges provide flexibility and easy access. Install a pedestal with a storage drawer under front-loading washing machines for less bending.

In two-storey homes, think about designing a location for the installation of a lift in the future. This space can begin life as cupboards and then be utilised for the lift later.

Level entry to balconies and alfresco areas is not covered in the guidelines, and I feel it is just as important as an accessible front door. Sliding or bifold door tracks can be set into the slab to enable a level transition to outdoor areas. Decking is a good way to adjust outdoor levels to match the interior floor level.

If more space in bedrooms is needed, consider changing space-consuming walk-in robes to cupboards (with doors that open a full 180 degrees for easy access). You might even win space in the ensuite this way too.

If eyesight or visual perception might become an access requirement, consider colour contrasts between floors and walls, and also between kitchen and bathroom benches and surrounding surfaces.

CONCLUSION

Universal design is about designing inclusively for as many people as possible, without the need for special types of designs. When applied to housing, it's a design process that considers the real lives of families and households – throughout their lives. In the end, it's just good sense to have homes that can accommodate the expected and unexpected situations life brings for all family members. The Livable Housing Guidelines are based on universal design principles and are a good place to start when thinking about your home and how it will suit your family in the future. ⑤

ABOUT THE AUTHOR

Jane Bringolf is chair of the Centre for Universal Design Australia. She wants to see a world where designers and policymakers automatically consider the diversity of the population in everything they do. She writes regularly on universal design and inclusive practice and contributes to various advisory panels. www.universaldesignaustralia.net.au

LIVABLE HOUSING DESIGN GUIDELINES

Livable Housing Australia's Livable Housing Design Guidelines include three levels: Silver, Gold and Platinum. These guidelines are underpinned by the principles of universal design and show how existing features can be adapted with style and minimal fuss.

Silver Level

Silver Level features are minimal and are suitable for people with reduced mobility. While homes designed to this level don't fully cater for people needing higher levels of support, they enable people using mobility aids to visit. The main features are:

- Step-free access from the street or parking area to the entrance
- Step-free entrance into the home
- All doorways to have at least 820mm clear opening and level transitions
- Toilet on the entry level with circulation space in front of the pan
- A bathroom with a step-free shower recess
- Reinforcement in bathroom walls to install grab rails later
- Continuous handrails on stairways

Gold Level

Gold Level guidelines provide more circulation space in all rooms and consider the convenient placement of light switches, door handles and power points, ensuring a house is suitable for most people who want to age in place with home supports. Homes designed to this level will also suit most wheelchair users. Main features are:

- All doorways to have at least 850mm clear opening and level transitions
- Corridors and passageways at least 1,200mm wide
- Step-free shower recess at least 900mm x 900mm in a bathroom on the entry level
- Internal stairways with a clear width of 1,000mm
- At least 1,200mm clearance in front of fixed kitchen benches and appliances
- Space on the entry level for a bedroom with at least 1,000mm clearance on one side of the bed.

Platinum Level

The Platinum Level is most suited to full-time wheelchair users, depending on who they live with. The circulation space requirements are more generous than in the Gold Level, and details such as window sill heights are considered. For details, see livablehousingaustralia.org.au/design-guidelines.