



PRELIMINARY FINDINGS: AUDIT OF ACCESSIBLE FEATURES IN NEW BUILD HOUSE PLANS

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The Australian Building Codes Board (ABCB) is undertaking a [Regulation Impact Assessment](#) (RIA) of options for minimum accessibility standards for housing for potential inclusion in the 2022 National Construction Code (NCC).

The consultation process provides a unique opportunity to improve the design of new residential housing for all Australians. The NCC has a 3-year amendment cycle and the RIA consultation process is lengthy. The [current consultation](#) commenced in 2018 and is in its final phase, with potential changes commencing in 2022. Housing is critical social infrastructure that is with us for 30 or 40 years, so it is vital to get it right.

The twin Royal Commissions into [aged care](#) and [disability](#) demonstrate public and political will to address issues across both sectors and represent an opportunity for lasting change. Institutional housing that segregates people with disability and the elderly is not working. The recent challenges experienced by the aged care sector during the COVID-19 pandemic also highlight the importance of helping our ageing population to remain in their own homes for as long as possible. Universal design principles attest that well-designed housing that works for people with mobility impairments does not compromise the design of housing for the general population – rather, it enhances the built environment. Indeed, a ‘willingness-to-pay’ survey conducted by the Centre for International Economics (CIE), as part of its [Consultation Regulation Impact Statement](#) commissioned by the ABCB, confirmed that people in households that do not currently contain any persons with limited mobility place considerable monetary value on the accessibility features. The current consultation process is an opportunity to consider the functionality of new housing for everyone and the need to future-proof Australian housing for an ageing population.

Aims of this study

The aims of this study are to:

1. Test the hypothesis that some accessibility features are already incorporated into the most popular house designs being built in Australia, but not in a systematic way that makes all new builds accessible.
2. Demonstrate that accessibility features are basic elements of good house design for the general population, and not the features commonly seen in public, accessible toilets and institutions.
3. Indicate the likely cost of including accessibility features in new builds.

Method

An initial desktop search identified the 10 largest residential developers in Australia in 2018-19, based on the total number of dwellings built. This search, complemented by phone calls, then identified each developer's 10 most popular house designs, including which of these designs had a display home in greater Melbourne. An audit of 20 homes (maximum of 3 per developer) was conducted, and a preliminary analysis of the results is included below. The audit involved photographing, measuring, and assessing the presence of elements outlined in Livable Housing Australia (LHA)'s Silver, Gold and Platinum levels of design in these new builds. These 3 levels are determined by using the LHA's 15 [Livable Housing Design Elements](#), most of which are also included in the CIE's [report](#).

- Option 1 includes 5 recommendations at Silver Standard – Elements 1 - 4 and 6.
- Option 2 includes 12 recommendations at Gold Standard – Elements 1 - 12
- Option 3 includes 13 recommendations at Gold Standard with some Platinum – Elements 1 – 12, and 14. With Elements 8 and 14 at Platinum Level.

Findings

Incorporation of assessable features in the sample assessed

A summary of LHA’s Design Elements included in individual building plans is shown below (Table 1). Dwellings are listed in order from the most to the least compliant. LHA elements are listed in order of least compliant (left) to most compliant (right).

Table 1: Display homes and their compliance with the Livable Housing Design Elements

Dwellings Assessed	Livable Housing Design Elements														
	Doors	Toilet – front	Shower	Toilet – walls	Laundry	Stairs	Corridors	Kitchen	Entrance	Switches	Bedroom	Access	Windows	Taps & handles	Living
	E3.1	E4.2	E5	E4.1	E9	E7	E3.2	E8	E2	E11	E10	E1	E14	E12	E13
Porter Davis (Midland)					Gold		Platinum	Gold		Gold	Platinum	Gold	Platinum	Platinum	Platinum
Burbank (Kelly)						Silver	Silver	Gold	Gold	Gold	Gold	Platinum	Platinum	Platinum	Platinum
Porter Davis (Charlton)						Silver	Platinum	Gold		Gold		Platinum	Platinum	Platinum	Platinum
Metricon (Sentosa)			Silver			Silver	Platinum	Gold		Gold	Platinum	Platinum	Platinum	Platinum	Platinum
Henley (Palace)						Silver	Platinum	Gold	Platinum	Gold		Platinum	Platinum	Platinum	Platinum
JG King (Carson)					Gold	Silver				Gold	Platinum		Platinum	Platinum	Platinum
Porter Davis (Madison)					Platinum	Silver	Platinum	Gold	Platinum	Gold		Platinum	Platinum	Platinum	Platinum
Burbank (Fitzgerald)				Silver		Silver	Silver		Gold	Gold	Gold	Silver	Platinum	Platinum	Platinum
Carlisle (Crompton)								Gold	Platinum	Gold	Platinum		Platinum	Platinum	Platinum
Henley (Vienna)						Silver			Gold	Gold	Gold	Platinum	Platinum	Platinum	Platinum
Metricon (Fortitude)						Silver	Platinum	Gold		Gold	Platinum	Platinum	Platinum	Platinum	Platinum
Dennis Family (Robinvale)								Gold		Gold	Gold	Platinum	Platinum	Platinum	Platinum
Boutique (Rivera)									Gold	Gold	Platinum		Platinum	Platinum	Platinum
JG King (Melrose)										Gold	Platinum	Platinum	Platinum	Platinum	Platinum
Simmons (Hann)						Silver	Platinum		Platinum	Gold	Platinum	Platinum	Platinum	Platinum	Platinum
Homebuyers (Empire)				Silver		Silver	Silver		Gold	Gold			Platinum	Platinum	Platinum
Carlisle (Sorrento Grand)						Silver		Platinum		Gold			Platinum	Platinum	Platinum
Dennis Family (Balmoral)						Silver				Gold	Platinum	Platinum	Platinum	Platinum	Platinum
Simmons (Belthorpe)						Silver			Gold	Gold	Gold		Platinum	Platinum	Platinum
Metricon (Regan)						Silver				Gold	Gold	Platinum	Platinum	Platinum	Platinum

E1: Dwelling Access, E2: Dwelling Entrance, E3.1: Internal Doors, E3.2: Internal Corridors, E4.1: Width between walls either side of closet toilet, E4.2: Space in front of toilet, E5: Shower (Accessible ground level), E6: Reinforcement of Bathroom Walls, E7: Internal Stairways, E8: Kitchen Space, E9: Laundry Space, E10: Entry Level Bedroom Space, E11: Light Switches and Power-points, E12: Door and Tap Hardware, E13: Family Living Room Space, E14: Window Sill Height (Note that the study methodology does not allow analysis of E6 or E15)

Legend Platinum Level Gold Level Silver Level

Discussion

All homes assessed had at least 6 of 15 LHA's Design Elements incorporated into their design. More than half of the homes had 8 or more elements. 9 of the homes have 5 or more Platinum elements.

Assessment of house plans against the requirements for Option 1 (Silver) demonstrates the extent of partial but not full compliance with the Design Elements. Most (95%) of the dwellings complied with either Dwelling Access (E1) or Dwelling Entrance (E2) requirements, but few (20%) included both – yet both are essential for someone with a mobility impairment entering a home. This is consistent with the CIE report which concluded that 5-10% of new stock meets Silver level based on previous estimates and stakeholder feedback.

No dwellings met the Internal Doors and Corridors (E3) requirements. However, there are 2 parts to this element – internal corridor space and internal doors. Of the 20 dwellings assessed, 14 (70%) met the internal corridor space standards (E3.2) but none complied with the internal door dimension standard (E3.1). Although there would be some initial change-over costs, once wider standard doors become standard, the incremental cost of wider doors is minimal.

The Accessible Ground Floor Toilets (E4) element also has two parts – a ground floor toilet and space in front of the toilet. All of the dwellings included a ground floor toilet, but none had a toilet with a room of sufficient dimensions to comply with Option 1 (minimum 1200mm between pan and door swing). These findings suggest that many of the individual requirements to comply with Option 1 are already present in new builds and are accepted industry practice. However, they are incorporated into the designs in a random way that does not make the dwellings consistently accessible.

To qualify for Option 2 (Gold), building plans must meet 12 of the Design Elements. This includes the 5 elements that constitute Option 1 (but at a Gold, not Silver standard), plus Element 5 and Elements 6 - 12. In reference to Elements 6 to 12, all of the buildings in the sample included at least 3 of these in their designs (3 elements = 20%; 4 elements = 60%; 5 elements = 20%). However, similar to the situation with Option 1 compliance, no building plan included all of the additional Option 2 elements.

The LHA's Design Elements focus on features of a dwelling that may or may not be present (e.g. step-less entry, ground level toilets, and frameless showers), or must meet designated space standards, such as; dimensions of front and internal doors, bathrooms, and bedrooms. Overall, the display homes showed a consistent pattern of exceeding some minimum Silver level requirements. When considering the space standards of elements that are common to all houses – including bedrooms, kitchens, living rooms, and bathrooms – the 20 audited homes demonstrated that current industry practice is capable of routinely meeting space standards at Gold levels. Internal stair dimensions in the 9 of 20 dwellings that were two-storeyed are the only element that is consistently at Silver level and not higher. However, conspicuous non-compliance is found in internal door dimensions (0%), ground level toilet dimensions (0%), frameless shower (5%), and front door dimensions (50%) which failed to meet Silver level requirements.

The first 5 accessible features (E1-E5), which constitute the bulk of requirements for compliance with Option 1 (Silver), are less often included in the existing housing plans than some of the features required for Option 2 (Gold). However, where they are included (E1 and E2) or partially included (e.g. internal corridor dimensions in E3.1), components of current house designs consistently exceed minimum levels.

In part, compliance with some Gold and Platinum level elements most likely reflects the fact that the dwellings assessed consist of suburban, detached family houses which in Australia are among the largest in the world in spatial terms. While caution should be used in assuming similar levels of compliance in inner city townhouses or apartments, the vast majority of new homes in Australia are built by volume home builders in new and existing suburbs.

While it is realistic for the vast majority of new homes to be built at the Option 2 level (Gold), there are going to be geographically complex sites where this will be near impossible or the costs will be prohibitive. Therefore, a simple, transparent and timely process is needed for obtaining an exemption based on the gradient and/or size of a house block.

A note on costs

This study did not explicitly attempt to quantify the additional cost of including the LHA's Design Elements at different space standard levels. However, the consistent exceeding of minimum (Option 1 or Silver) requirements across multiple design elements suggests that the cost of compliance has been factored in to current designs to a significant extent.

Conclusion

This study suggests that consistently incorporating accessible features into the building code for all new dwellings would not be a significant impost on volume builders of residential housing in Australia. Indeed, the country's biggest builders are already incorporating most of these features in some new builds because they are consistent with good design. Surprisingly, the audit of 20 display homes found that *all* the house designs had at least 5 elements that complied with either the Gold or Platinum levels. However, a notable example of widespread non-compliance is the width of internal doors. That being said, changing the standard width of doors is a common-sense change that is effectively cost neutral. Therefore, despite some compliance with the LHA's Livable Housing Design Elements in the 20 display homes, accessible elements related to the width of doors, the dimensions of the ground level toilet and a frameless shower were the most consistent barriers for people with mobility impairments.

The findings of this study support the idea that well-designed housing that works for people with mobility impairments does not compromise the design of housing for the general population – rather it enhances the built environment. The current ABCB consultation process is a unique opportunity to improve the functionality of new housing for everyone and future-proof Australian housing for our ageing population.

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