

Universal Design Checklist

Lift Design

Lifts are a vital means of movement for many users including people of all ages with mobility impairments, people moving furniture/goods, caregivers with prams and ambulance officers. The following checklist provides best practice guidance for designing accessible lifts.

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Location & Signage

- Locate lifts, escalators and stairs together in one place to offer people choice of movement.
- Ensure that lifts are clearly visible or well signposted from the building's entrance.
- Provide prominent visual and tactile floor numbering or audio floor notification in all lift landing areas (CEUD).
- Ensure that signage is provided within lifts to help users find their destination.

Minimum Dimensions

- Match the capacity of lifts to the anticipated volume and needs of the building's users.
- A minimum internal lift dimension of 1800mm x 1800mm is recommended (CEUD).
- Ensure lift doors have a minimum clear opening width of 950mm (CEUD).
- Include a clear landing space of 1800mm x 1800mm outside of all lift doors (CEUD).
 - Ensure the lift and landing space are level.

Handrails

- Provide handrails on all walls without doors (CEUD).¹
- Locate handrails at a height that accommodates different user heights.
 - Dual height handrails provide for a wider range of users.
 - As a guide handrails should be 850-950mm for adults, and 450-600mm for people of shorter stature (including children) (CEUD).
- Ensure handrails are easy to grasp and are structurally fixed to support up to 150kg.
 - All handrails should be round or have rounded edges, these are easier for the hand to grip.
 - Round handrails should have a diameter of 32-50mm for adults and 25-32mm for children (CEUD).
 - Wall mounted handrails should have a clearance of 50-75mm from walls (CEUD).
- Handrail fixings should be free of sharp edges or corners (NZS 4121).

User Controls & Cues

- Position landing and lift controls within easy reach of all users. Lift controls should be positioned at a 500mm horizontal distance from any adjacent wall and 900mm to 1100mm from floor level (CEUD).
- Ensure control buttons are easy to use.
 - Braille and embossed print should be located to the left of the activation button (MBIE).²
 - Buttons should have positive activation, such as lighting up when pressed.
 - If a touch screen control type is used, ensure that tactile features can be read without triggering the buttons.
- Provide audio and visual cues that alert users to the floor number reached, whether the lift is moving up or down, and when the lift doors are opening/closing.³
- Avoid destination lifts in buildings where individuals visit only occasionally such as hospitals or shopping centres (MBIE).⁴

Sensory Design

- Solid or opaque walls are recommended.⁵
 - Where glass lifts are installed, provide standard closed cars nearby as an alternative (MBIE).
- Ensure that the colour of the lift's door contrasts with background colours.
- Design the lift's interior to minimise glare and reflection (CEUD).⁶
- Provide a half-height mirror along the lift's rear wall.⁷
- Light to 100lux and ensure an even level of illumination throughout (CEUD).

Additional Requirements

- Ensure lift doors remain open for a minimum of eight seconds (CEUD).⁸
- Provide an emergency communication system that is suitable for all users (CEUD).⁹

Endnotes

- 1 Handrails are particularly important for users with balance difficulties, such as someone using crutches.
- 2 People with visual impairment run their fingers over the control panel. Ensure the button pressure is set so that people do not inadvertently activate another floor selection.
- 3 Audio and visual cues are particularly important for people with sensory impairments.
- 4 Destination lifts are difficult for many users, including those with mobility impairments, sensory impairments, cognitive impairments or visitors. When destination lifts are employed ensure there are adequate instructions and/or staff available for users.
- 5 Transparent lifts can be confusing and disorientating for some users, including those with low vision and people with cognitive impairment. Technology is available that turns clear glass walls opaque when the lift is moving.
- 6 Glare and reflection is particularly disorientating for those with low vision or who have cognitive impairment.
- 7 A half-height mirror enables users who are not able to turn around, for example people in wheelchairs and people with prams, the ability to see what is behind them as they back out of the lift. This is particularly important in lifts which are smaller than 1800mm x 1800mm. A full height mirror may inadvertently appear to be an exit door, particularly for people with visual or cognitive impairment.
- 8 This is particularly important when a bank of lifts is provided, it ensures people have enough time to locate and enter their lift.
9. For additional information on call points refer to [MBIE guidance](#).

Reference List

1. Ministry of Business Innovation & Employment (2019). Buildings for everyone: Designing for access and usability. Wellington, NZ: MBIE. <https://www.building.govt.nz/building-code-compliance/d-access/accessible-buildings>
 2. Standards New Zealand (2001). NZS: 4121 Design for access and mobility – Buildings and associated facilities. Wellington, NZ: SNZ <https://www.standards.govt.nz/assets/Publication-files/NZS4121-2001.pdf>
 3. The Centre for Excellence in Universal Design (n.d.) Building for everyone. Dublin, Ireland: CEUD <http://universaldesign.ie/Built-Environment/Building-for-Everyone/>
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