

NZS 4121:2001 Environmental Scan and Scoping Exercise

Report to Whaikaha – Ministry of Disabled People

April 2026

Table of contents

Acknowledgements	3
NZS 4121:2001 Environmental Scan and Scoping Exercise Executive Summary	4
Background on NZS 4121:2001	6
Part 1. Environmental scan of disability access standards	8
Scope and methodology	8
High-level findings	9
Assessment of overseas standards by topic	10
Environmental scan recommendations	12
Steps following the environmental scan	13
Part 2. Scoping exercise	14
Issues identified in workshops	14
Technical recommendations from NZS 4121 scoping workshops	16
Options for future revision of NZS 4121:2001	19
Standards New Zealand's recommendations	24
Appendix A: Issues identified with NZS 4121:2001 during the scoping exercise	25
Appendix B Scoping methodology	38
Appendix C High-level comparisons of NZS 4121:2001 with similar standards	41

Acknowledgements

Standards New Zealand wishes to acknowledge the financial support and leadership provided by Whaikaha - Ministry of Disabled People, in commissioning this important work and offering valuable guidance during the scoping stakeholder workshops. Standards New Zealand is appreciative for this support and direction.

Standards New Zealand also wants to acknowledge contributions from the disability sector – organisations that represent the very people who are challenged by inadequate means of access and facilities in New Zealand buildings. Stakeholder feedback acquired as part of the scoping exercise is invaluable and will help inform a comprehensive revision of NZS 4121:2001 *Design for access and mobility – Buildings and associated facilities*.

NZS 4121:2001 Environmental Scan and Scoping Exercise Executive Summary

This report outlines main findings and recommendations from the environmental scan on disability standards, and subsequent scoping workshops with key stakeholders held in late 2025. The scoping workshops identified issues, gaps and opportunities relating to NZS 4121:2001 *Design for access and mobility – Buildings and associated facilities* (NZS 4121:2001). This is a 25-year-old standard that covers accessibility requirements for buildings and associated facilities in New Zealand.

The environmental scan was undertaken by Global Research Ltd, commissioned by Standards New Zealand to inform the review of NZS 4121:2001. The scan compared NZS 4121:2001 with leading overseas accessibility standards from Canada, the European Union, the United States, the United Kingdom, and Australia. The scan revealed that while NZS 4121:2001 has long served as New Zealand's foundational accessibility standard, it is now outdated and narrower in scope than its overseas counterparts and current sector needs. Key findings highlight that global standards have advanced significantly, adopting broader definitions of disability, embedding universal design principles, and providing more detailed coverage of areas such as:

- emergency evacuation
- sensory accessibility
- cultural considerations
- air quality
- use of smart technologies in buildings
- functional and cognitive barriers.

The environmental scan found the Canadian CSA/ASC B651:23 and EU EN 17210:2021 standards to be the most comprehensive overall. The Canadian standard offers strong technical detail and the EU standard provides the widest topical coverage. In contrast, NZS 4121:2001 was identified as lacking detail, relying on outdated concepts, and omitting entire topic areas now considered essential to contemporary accessibility practice.

Stakeholder scoping workshops followed shortly after the environmental scan was finalised. Over 50 participants representing the disability sector, academia and building practitioners were asked to outline key issues with NZS 4121:2001 and how they think these issues could be addressed. Workshop participants emphasised that NZS 4121:2001, while widely used and valued for its clear layout and measurable requirements, is outdated and misaligned with contemporary accessibility expectations and technological developments. The workshops identified 89 technical, regulatory and other issues requiring consideration in a future revision of NZS 4121:2001. This includes issues with:

- door widths
- circulation spaces

- tactile ground surface indicators (TGSi)
- bathroom design
- lift usability
- the lack of emergency egress provisions
- accessible parking parameters.

The workshops also highlighted broader system issues that fall outside the scope of the standard, such as:

- enforcement
- legislative requirements
- inconsistencies between NZS 4121:2001 and the Building Code
- the need for centralised guidance
- sector-wide education and competency.

The workshops collectively underscored the importance of:

- aligning NZS 4121 with modern principles of universal design
- strengthening alignment with the Building Code
- ensuring that any future revision is informed by robust research, international good practice and meaningful engagement with the disability sector.

Based on feedback from the scoping workshops, findings of the Environmental Scan by Global Research Ltd and consultations with MBIE Building System Performance branch (BSP), Standards New Zealand identified and evaluated the following options to align NZS 4121:2001 with the international good practice in disability access:

Option 1 Revise NZS 4121:2001 using the present standard as the foundation – utilising the best of a range of national and international standards content and material where appropriate.

Option 2 Replace NZS 4121:2001 with a modern overseas standard.

Option 3 Join the Australian Standard AS 1428.1:2021 with New Zealand, making it a joint AS/NZS standard.

Option 4 Adopt the international standard ISO 21542:2021 in New Zealand.

Standards New Zealand recommends option 1 above as it is more likely to deliver a modern disability access standard, incorporating good practices from international and other overseas standards, as well as catering to New Zealand unique needs where these exist. Additionally, the resulting standard is more likely to be fully aligned with the New Zealand building regulatory system.

While this option will require more resource and time, it is expected to produce a standard that is better suited to New Zealand's building users, industry, the regulator, and better meets accessibility needs. It is also more likely to be future proofed. The best parts of various

standards would look to be utilised, taking the best internationally and incorporating it in New Zealand.

Background on NZS 4121:2001

NZS 4121:2001 *Design for access and mobility – Buildings and associated facilities*, is New Zealand's principal accessibility standard for the built environment. It provides solutions for designing buildings and facilities that are accessible and usable for people with disabilities. The standard underpins accessible design requirements and offers a recognised method of complying with the New Zealand Building Code performance criteria relating to access and facilities for persons with disabilities.

Despite its age, NZS 4121:2001 is still widely used across the sector and continues to inform accessible building design. It remains one of Standards New Zealand's most downloaded standards each year, indicating its continued use in industry. Key characteristics noted by stakeholders include its clear layout, measurable requirements and coverage of several New Zealand-specific topics. The document is considered a legacy standard due to its age but is frequently accessed by industry to ensure compliance with building regulations.

NZS 4121:2001 is cited in the Building Act as an '*Acceptable solution for requirements of persons with disabilities*' that demonstrates compliance with the Building Code accessibility requirements. While not the only means of complying with statutory access requirements, NZS 4121:2001 is the primary mechanism used in New Zealand. The standard is also referenced as an Acceptable Solution in the Building Code clause D1 *Access Routes* (D1/AS1) and G1 *Personal hygiene* (G1/AS1) providing detailed design guidance in areas such as car parks, lifts and sanitary facilities.

Because of its placement within the regulatory system, the standard influences the design of public buildings, aiming to ensure that accessibility requirements are met consistently across Aotearoa.

Access to NZS 4121:2001 is sponsored by the Ministry of Business, Innovation and Employment (MBIE) through its Building System Performance branch. This sponsorship allows members of the public to view and download a PDF copy free of charge, supporting widespread access to the standard and encouraging compliance across industry.

NZS 4121:2001 is also used by a range of other government agencies to support procurement activity, construction of new and alteration upgrades of existing buildings, rehabilitation and primary health care services. Such government agencies include, among others:

- Health New Zealand | Te Whatu Ora
- Ministry of Education | Te Tāhuhu o te Mātauranga

- Ministry of Social Development | Te Manatū Whakahiato Ora
- Kāinga Ora – Homes and Communities
- Ministry of Health | Manatū Hauora
- Department of Corrections | Ara Poutama Aotearoa.

Scope of NZS 4121:2001

The standard applies to buildings and associated facilities that must provide accessible, usable environments for people with disabilities. It includes requirements and guidance for:

- public buildings and facilities
- places of assembly
- accommodation facilities (including detailed requirements for accessible bedrooms, kitchens, dining and living areas)
- circulation routes, including accessways, ramps, paths and manoeuvring spaces
- sanitary facilities, including requirements for toilets, showers and fittings
- signage, tactile ground surface indicators and hearing augmentation systems.

Section 14 of the standard specifically addresses accessible accommodation, offering detailed spatial and layout guidance beyond what the Building Code specifies.

The standard applies to both new buildings and, where practicable, alterations to existing buildings, ensuring that people with disabilities have equitable access to the built environment.

NZS 4121:2001 replaced earlier versions, including NZS 4121:1985, reflecting evolving accessibility expectations and industry practices. It was developed through broad sector collaboration involving architects, building officials, disability organisations and disability access specialists.

Part 1. Environmental scan of disability access standards

NZS 4121:2001 has provided the foundational guidance for accessibility in New Zealand's built environment since 2001. However, since its publication, global standards have advanced considerably, adopting broader definitions of disability, integrating universal design principles, and embedding provisions for emerging needs such as emergency evacuation, sensory accessibility, and cultural considerations.

In 2025, with funding support from Whaikaha – The Ministry of Disabled People, Standards New Zealand commissioned Global Research Ltd to undertake an environmental scan of disability access standards. This scan was commissioned to identify whether there was more current content that could be incorporated into NZS 4121. This could then ensure New Zealand's approach to accessibility is aligned with international good practice, reflects advances in technology, and recognises evolving design and technology in disability access. The Global Research Ltd report, with alternate formats of the executive summary, is available on the Whaikaha website: <https://www.whaikaha.govt.nz/about-us/our-work/accessibility-work-programme/revision-of-new-zealand-standard-41212001>

Scope and methodology

The environmental scan benchmarked NZS 4121:2001 against leading standards from:

- Canada (CSA/ASC B651:23 *Accessible design for the built environment*)
- European Union (EN 17210:2021 *Accessibility and usability of the built environment - Functional requirements*)
- United States (2010 ADA *Standards for Accessible Design*)
- United Kingdom (BS 8300-2:2018 *Design of an accessible and inclusive built environment – Buildings. Code of practice* and the UK Building Regulations Approved Document M 'Access to and use of buildings')
- Australia (AS 1428 *Design for access and mobility* (series) and *Disability Access to Premises Standard 2010*).

The international standard, ISO 21542:2021 *Building construction – Accessibility and usability of the built environment*, was also considered. However, as the European standard EN 17210:2021 is closely related to and aligned with the ISO standard, a detailed analysis of ISO 21542:2021 was deemed unnecessary.

Collectively, these represent global good practice and highlight where New Zealand's standard is strong and where it is outdated or incomplete.

A systematic comparison of the overseas standards was completed with a focus on comparing and identifying the differences between NZS 4121:2001 and similar standards in the collected

material. Topics not covered by NZS 4121:2001 were also noted as areas to be considered for inclusion in the future revision. The overseas standards listed above were assessed by:

- format
- scope
- comprehensiveness
- level of specific detail
- age.

Each standard was given a score out of five for each criterion.

NVivo, qualitative analysis software was used to systematically manage this process, and assist data analysis. While some artificial intelligence (AI) was used to support the environmental scan, the majority of analysis was completed by human researchers. Note that while NVivo has AI assistance available, it is not itself an AI application.

High-level findings

The Canadian and EU standards were assessed to be of the highest quality of the six standards assessed. Overall, the Canadian standard is easier to follow due to its coverage of technical details; however, the EU standard covers a wider range of topics.

Strengths of NZS 4121:2001

- Clear formatting and imposes measurable and actionable requirements
- Includes unique coverage of topics such as design and access, shelters within car parks, the location of toilet and shower facilities, and access to accommodation.

Limitations of NZS 4121:2001

- The standard often lacks rationale or detail for its provisions.
- Uses a narrow definition of disability, primarily focusing on mobility-related disabilities.
- Lacks coverage in areas such as emergency alerts and building evacuation, air quality, and acoustic design in built environments.
- Lacks cultural considerations for accessibility in buildings such as marae.
- Occasionally uses outdated language – for example, when explaining accessibility, NZS 4121:2001 refers to it as “not an emotional issue” which minimises the personal and social impact of inaccessibility. Another example is the use of the word “embarrassing” when describing the situation of a disabled person calling for assistance when staying in public accommodation; this suggests disability-related assistance is shameful. The use of this terminology is outdated and not inclusive.
- Acoustics, children and adolescents, air quality, functional and cognitive barriers and security access are not covered by the standard.

- Implementation issues due to NZS 4121:2001 being referenced in the Building Act which makes updating the standard more difficult and creates inconsistencies with the Building Code.

Assessment of overseas standards by topic

The following list covers key aspects of NZS 4121:2001 and highest rated aspects from overseas standards. The different aspects in each standard were rated relative to their equivalents in other standards assessed.

Definitions, design and access

- The Canadian standard: highest rated definitions.
- The EU standard: Includes provisions for people with allergies
- NZS 4121:2001: Rated best for Access and Design.

Accessible routes

- The Canadian standard: detailed analysis on hazards and obstructions, direction indicators, signs, controls and fittings, and emergency provisions. Supplementary information on surface finishes and audible and visual cues.
- The EU standard: detailed analysis on surface finishes, emergency provisions and audible and visual cues. Provides supplementary information on direction indicators and signs.
- The UK standard: the only standard to include Site and Building Layout.
- The Australian standard: includes supplementary information for emergency provisions and audible and visual cues.

Car parks

- The Canadian standard: Detailed information on signs, required number of parking spaces, car park dimensions and surface finishes. Lacks detailed information on access from car parks/pick up areas.
- The EU standard: Best overall requirements for signs, number required, dimensions, surfaces, and facilities.
- NZS 4121:2001: The only standard to include shelter. Provides detailed analysis for facilities, and number required.

Footpaths, ramps and landings

- The Canadian standard: favoured standard for moving walkways, escalators and ramps/ramp landings.
- The EU standard: provides detailed requirements for footpaths and fairing of surfaces as well as supplementary information for moving walkways.

- NZS 4121:2001: provides good information regarding ramps/ramp landings and fairing of surfaces as well as supplementary information on moving walkways.

Entrances, corridors, doorways and doors

- The EU standard: favoured standard for corridors. Provides supplementary information for entrances and doorways.
- NZS 4121:2001: rated highest for entrances and doorways.
- The UK standard: provides supplementary information on corridors.
- The Australian standard: provides supplementary information on doorways.

Stairs and lifts

- The Canadian standard: supplementary information on stair design and construction.
- The EU standard: rated highest for auditory, tactile and visual cues, and design of lifts. It also provides supplementary information on stair handrails.
- NZS 4121:2001: rated highest for stair design and construction, and handrails. It also provides supplementary information on auditory, tactile, and visual cues.
- The UK standard: provides supplementary information on design of lifts.

Toilets and showers

- The Canadian standard: rated the highest for signs and design.
- The EU standard: rated the highest for design and the inclusion of baby facilities such as breast-feeding rooms and non-gendered baby changing rooms.
- NZS 4121:2001: rated the highest for location and number of toilets and showers. It also provides supplementary information regarding design.

Public facilities

- The Canadian standard: rated the highest for dressing/fitting rooms; and drinking fountains. It also provides additional criteria for telephones.
- The EU standard: rated the highest for public counters and desks, ATMs and vending machines. Provides unique requirements for assistant dog facilities, rubbish bins, seating and waiting and storage spaces.
- NZS 4121:2001: provides supplementary information about telephones and ATMs and vending machines.
- The US standard: provides additional information about drinking fountains.

Places of assembly, entertainment and recreation

- The Canadian standard: rated the highest for places of recreation.
- The EU standard: rated the highest for places of assembly and entertainment.
- The UK standard: has additional requirements for places of assembly and entertainment.

- The US and Australian standards have supplementary coverage of places of recreation.

Accessible outdoor public areas

- The Canadian standard: Provides additional coverage of outdoor hazards, kerb ramps, street furniture and facilities, pedestrian crossings, and transit facilities.
- The EU standard: has the highest rated requirements for outdoor hazards, street furniture and facilities, landscaping, pedestrian crossings, and transit facilities.
- NZS 4121:2001: provides the best coverage of kerb design and kerb ramps.

Accommodation

- The EU standard: In-depth requirements for accommodation arrival and departure. Provides additional recommendations for accessible accommodation.
- NZS 4121:2001: Has the best coverage of the application of the standard, access, and accessible accommodation. Supplementary information regarding arrival and departure.
- The UK standard: Provides additional coverage of accessible accommodation.

Topics not covered in NZS 4121:2001

- Ways to reduce functional and cognitive barriers. The Canadian standard is the only one covering that. It also provides additional information for acoustics, air quality and security access.
- Acoustics and air quality. The European standard provides detailed coverage of acoustics and air quality. It also provides additional information for security access.
- Children and adolescents. The Australian standard includes additional requirements for children and adolescents.

Environmental scan recommendations

Overseas accessibility standards considered are broader, more detailed, and better aligned with a modern definition of disability. If NZS 4121:2001 is revised, it should:

- extend coverage to emergency evacuation, sensory environments, cultural considerations, and accessibility for a wider range of disabilities
- draw on the Canadian and the EU standards as primary benchmarks, while also integrating selected provisions from the UK, United States and Australia
- incorporate inclusive language and rationale for provisions
- reference complementary standards such as AS/NZS 1428.4.1:2009 (tactile indicators).

New Zealand could also adopt an overseas standard and replace NZS 4121:2001 with it. If this is considered an option, the Canadian CSA/ASC B651:2023 is recommended as it is comprehensive and well detailed. CSA/ASC B651:2023 contains requirements for making buildings and other facilities accessible to persons with a range of not only physical but also sensory and cognitive

disabilities, including but not limited to; mobility impairments, reaching or manipulation disabilities, hearing and visual impairments.

Unique aspects of the EU standard (EN 17210:2021) could also be incorporated into this new standard. Additionally, selected provisions from the existing New Zealand and Australian standards which are not covered in the Canadian and EU standards should also be integrated.

Steps following the environmental scan

The environmental scan was the first stage in the revision process. The next phases include:

- stakeholder scoping workshops to consult with the disability sector, design professionals, and other stakeholders
- identification of priority areas for revision of NZS 4121:2001
- development of a structured process for updating or replacing NZS 4121:2001 to ensure standards are future-proofed, internationally aligned, and culturally appropriate for Aotearoa New Zealand.

Part 2. Scoping exercise

A scoping exercise is a standard service offering by Standards New Zealand which aims to determine an understanding of the fundamental issue/s (for example, with an existing standard or a new standard to be developed) and determine options to address it. A scoping exercise is particularly useful for aged standards that have not been amended and/or revised for more than 7 to 10 years. Currency of such standards needs to be tested with relevant stakeholders to ensure that a relevant intervention is employed to modernise these standards.

The main objectives of the NZS 4121 scoping exercise were to:

- gather comprehensive feedback on NZS 4121:2001 ahead of a possible full revision
- identify issues, gaps and limitations in the current standard
- document potential solutions and recommendations for improvement
- inform decisions on whether to revise or replace the existing NZS 4121:2001 or adopt an international base standard adapted to New Zealand context
- focus the discussion on matters relevant to the standard, while noting broader system issues for separate consideration.

Issues identified in workshops

The total of 89 issues were identified through the scoping workshops (refer to Appendix A for the full list).

Broadly, issues identified in the scoping workshops fall into three categories:

- issues with the standard: matters that can be addressed through a revision of NZS 4121:2001
- regulatory issues: matters that relate to legislative or regulatory settings rather than the content of the standard itself
- other issues: matters that cannot be resolved through either improvements to NZS 4121 or changes to the regulatory framework.

Issues with NZS 4121:2001

Examples of issues suitable for resolution through changes to NZS 4121:

- doorway clear openings, corridor widths and turning radii to suit contemporary mobility devices
- threshold, kerb ramp and drainage details that minimise lips and traps and improve whole route usability
- detailed requirements for alarms and egress including visual alerting devices and places of refuge

- bathroom layouts including adult assisted change facilities, left and right transfer options and placement of rails and controls
- lift usability including control placement, alternative input methods and audio-visual cues
- design and placement of TGSi aligned with recognised New Zealand guidance, with product performance and maintenance expectations
- signage, wayfinding, lighting and contrast requirements to support users with low vision and cognitive needs
- parking and drop-off design parameters including parallel spaces, side clearances, rear ramp space and headroom guidance.

Regulatory issues

- Embedding accessibility obligations and enforcement within the Building Act and related instruments, including the effect of Section 18 that limits requirements to Code minimums.
- Reinstating or strengthening ongoing compliance checks such as a Building Warrant of Fitness for accessibility and associated enforcement mechanisms.
- Centralising guidance and clarifications across the building system so designers and consent authorities can locate authoritative advice.
- Education and competency development for designers, consent officers and building owners including formal training and qualifications.
- Consideration of broader human rights and anti-discrimination frameworks that sit outside NZS 4121.
- Alignment of triggers and bases for requirements in the Code and related documents, for example lift provision rules that currently differ from NZS 4121 provisions.

Other issues

- Disabled people concentrated in smaller towns with fewer resources; design must address social isolation, bus stops, libraries, and low-cost recreation spaces critical for inclusion.
- Lack of accessibility education in architecture and design programmes.
- Accessibility requirements scattered across multiple codes make it hard for architects to design compliant buildings.
- Increasing use of digital controls (lighting, lifts, reception) without accessible features.

While other issues identify genuine and important concerns, these are not the issues that can be resolved through accessibility standards or building regulations alone.

Complex relationship with New Zealand Building Code

Stakeholders also noted a complex relationship between NZS 4121:2001 and the Building Code. The standard is referenced as a compliance pathway in the regulatory system, yet several areas of misalignment and contradiction were identified. Examples raised included differing triggers or bases for lift provision and the practical effect of Section 18 of the Building Act that limits requirements to the Building Code minimums. Participants also noted challenges arising from scattered guidance materials and the historical removal of some accessibility checks from the Building Warrant of Fitness regime, which can reduce ongoing assurance of accessibility features.

Technical recommendations from NZS 4121 scoping workshops

Entrances, doors and building entry

- Accessible entry should be co-located with the primary entrance wherever practicable to avoid secondary routes.
- Opening forces for doors are often too high; consider lower forces and provide power assisted or pushbutton operation where needed.
- Use hold-open or free-swing devices coordinated with fire safety, and ensure maintenance regimes keep automated solutions reliable.
- Access control systems such as swipe readers need suitable placement, feedback and timings for a range of users.

Tactile ground surface indicators and wayfinding

- Directional tiles can trap wheelchair casters and pose slip risks when poorly maintained; apply only where needed and select safer products.
- Align Tactile Ground Surface Indicators (TGSi) design and placement with recognised New Zealand guidance, including setback from kerbs, colour and size.
- Provide hazard warnings at stairs, ramps and other risks, and maintain slip resistance over the product life.

Circulation widths, turning and layout

- The current minimum doorway clear opening of 760 mm is inadequate for many modern mobility devices; increases were recommended.
- Wider corridors, passing spaces and generous corner turning radii are needed to support manoeuvring.
- Access routes to doors should provide straight or gently angled approaches, avoiding sharply constrained turning angles.

Thresholds, kerbs and drainage

- Threshold lips should be minimised and bevelled (chamfered); larger lips and steep transitions create hazards.

- Kerb ramp design should keep users set back from traffic and avoid catches at gutters and grates.
- Road resurfacing and maintenance can degrade accessibility over time and needs to be managed.

Alerts, alarms and egress

- Provide both audible and visual alarms in public spaces and bathrooms.
- Define places of refuge and consider evacuation equipment and staff training.
- Encourage consideration of evacuation lifts as technology and guidance mature.
- Assisted change and bathrooms
- Include adult assisted change facilities and distinguish them from baby change.
- Provide left and right transfer options where multiple facilities exist and indicate transfer side on signage.
- Review placement and heights of grab rails, fixtures and controls; avoid clutter in transfer zones.

Vehicle access, parking and drop-off

- Define accessible parallel parking with step free, level access aligned to vehicle doors and ramps.
- Provide space both sides of vehicles and allow rear clearance for ramps or hoists, with adequate headroom in structures.
- Where general parking is reduced, ensure accessible drop-off points connect to accessible routes.

Stairs, ramps and handrails

- Stairs require consistent compliance even where ramps or lifts are provided.
- Provide continuous, dual height handrails with good contrast and lighting, and extend rails beyond top and bottom lands.

Lifts design, controls and usability

- Destination controlled touchscreens often lack accessible alternatives; provide numeric keypads, audio and clear indicators.
- Place secondary control panels with braille and tactile features at appropriate heights with clear spacing.
- Use mirrors and finishes that support orientation and visual comfort.

Heritage and existing buildings

- Clarify practical expectations for accessibility improvements during consented works and balance heritage with access.

Security and access control

- Security devices and timings must not undermine equitable access; rules should be consistent across users.

Lighting, contrast and visual comfort

- Address gaps in illumination, glare control and contrast guidance across spaces; avoid finishes that create glare or visual confusion.

Glass, manifestations and visual safety

- Provide manifestations within viewing zones for seated and standing users and clearly mark automatic doors.

Education, enforcement and acceptable solutions

- Awareness and interpretation gaps persist among designers and consent teams.
- Consider periodic accessibility reviews and keep circulation and transfer spaces free of obstructions.

Recreation and public spaces

- Explicitly include accessible playgrounds, shaded seating and accessible gates or perimeter controls.

Hotels, rest homes and accommodation

- Increase accessible room numbers and distribute by type and price; ensure space around beds and accessible fixtures.
- Provide visual and vibration alerting in rooms for d/Deaf and hard of hearing guests.

Scope and inclusivity of standards

- Broaden beyond wheelchair centric provisions to include neurodiversity, sensory needs and cognitive accessibility.
- Reference relevant national and international guidance where appropriate.

Options for future revision of NZS 4121:2001

As scoping workshops resulted in a substantial list of issues (summarised in Appendix A) with the existing 2001 standard, in Standards New Zealand's opinion, maintaining the status quo (in other words, not changing the existing standard) does not represent a viable option.

Based on feedback from the scoping workshops, findings of the Environmental Scan by Global Research Ltd and consultations with MBIE BSP, Standards New Zealand identified the following feasible options for consideration:

1. revise NZS 4121:2001 using the present standard as the foundation – utilising the best of a range of national and international standards content and material where appropriate
2. replace NZS 4121:2001 with a modern overseas standard
3. join the Australian Standard AS 1428.1:2021 with New Zealand, making it a joint AS/NZS standard
4. adopt the international standard ISO 21542:2021 in New Zealand.

Option 1 Revise NZS 4121:2001 using the present standard as the foundation (Standards New Zealand's recommended option)

Pros

- The copyright of NZS 4121:2001 is the property of Standards New Zealand (New Zealand Government), therefore the standard is readily available for revision, can continue (have updated) regulatory citation, and carries recognition, familiarity and authority.
- The revision can utilise, within reason and subject to copyright restrictions, modern content from other international and overseas national standards, thus making NZS 4121 a modern standard for New Zealand that is fully aligned with good international practice.
- The regulatory philosophy and prescriptive nature of NZS 4121:2001 will be retained and, if necessary, modified to suit specific requirements of the New Zealand regulators.
- The existing sponsorship (pre-funded access) arrangements with MBIE BSP are able to remain in place when the standard is revised, meaning the new NZS 4121:20XX will continue to be available as a free download from the Standards New Zealand website.
- The scope of a revision could ensure a one-stop-shop approach for all accessibility requirements necessary, avoiding the need for multiple standards as sometimes happens in other jurisdictions (for example, Australia).

Cons

- Revising NZS 4121 using the existing standard as the starting point would require substantial work because it is based on a very low and outdated foundation, and the

25-year-old publication does not include many modern provisions for disability access and facilities.

- Revising NZS 4121:2001 is likely to require greater financial and human resources, and would take longer to complete than undertaking a modified adoption of an international or overseas national standard.

While this option is likely to require greater financial and human resources, and take longer to complete, for the reasons outlined in the pros above it is likely to be the most practicable option for the New Zealand disability sector, the building industry and building regulator. It will be the easiest way to:

- maintain citation status
- ensure future uptake and consumption
- still enable a degree of utilisation of internationally recognised good practice
- enable the greatest New Zealand control and utilisation of the content.

Option 2 Replace NZS 4121:2001 with a modern overseas standard, such as CSA/ASC B651:23 *Accessible design for the built environment*, with New Zealand-specific modifications (a modified adoption)

Pros

- A modified adoption of a modern overseas standard should be faster and be a more productive and cost-efficient process than a revision based on the existing 2001 standard.
- CSA/ASC B651:2023 represents a stronger foundation for modification. The Environmental Scan undertaken by Global Research Ltd concluded that, unlike NZS 4121:2001, Australian, and the UK disability access standards, both CSA/ASC B651:2023 and the EU standard (EN 17210:2021) have all their accessibility information covered in one standard, making them easier to follow and find relevant information.
- Overall, the Canadian standard is easier to follow due to its coverage of technical details, however the EU standard covers a wider range of topics.
- The Canadian standard is considered the most advanced of all the disability access standards reviewed, including those from the United Kingdom, Australia, the European Union, the United States, and New Zealand.
- A modified adoption of CSA/ASC B651:2023 could align New Zealand disability access requirements with other developed nations like Canada and EU.

Cons

- Misalignment with New Zealand's regulatory and building system: the standard's structure, terminology and assumptions do not align well with the New Zealand regulatory framework or industry terminology.
- Limited relevance to New Zealand conditions and practice: the standard reflects Canadian climatic conditions, building typologies and transport systems.
- Risk of fragmentation and isolation from international alignment pathways. It is a national Canadian standard rather than an international standard. Adopting it could move New Zealand away from alignment with ISO-based accessibility frameworks and from Australia and the interoperability we have with that market and trans-Tasman standards cooperation partnership.

Despite the technical content of CSA/ASC B651:23 being superior to other standards, this option is considered by Standards New Zealand to present too many challenges with adoption of that Canadian standard. Challenges include costs and intellectual property use rights, associated with licensing fees and royalties that New Zealand would have to incur if this standard was adopted in whole. As with all other international or national standards, updates and changes to the standard can also be undertaken without New Zealand involvement. New Zealand would never own the IP of the standard, ongoing use of the standard in its entirety could be expensive to maintain due to royalties on sales obligations. Sponsorship access is not a given because of technology limitations in Standards New Zealand's ability to protect the standards IP from other markets sale jurisdiction. At the time of this report Canadian Standards Association had not been forthcoming in commercial discussions to explore these matters.

A high-level comparison of NZS 4121:2001 and CSA/ASC B651:23 using a broad criteria typically applied in accessibility standards reviews (produced with assistance from an artificial intelligence application Microsoft Copilot) can be found in Appendix C.

Option 3 Join AS 1428.1:2021 Design for access and mobility Part 1: General requirements for access – New building work with New Zealand (create a joint AS/NZS standard)

Existing commercial arrangements between Standards New Zealand and Standards Australia enable the development of joint standards where this is likely to support closer alignment between the two economies.

Aligning standards with Australia is beneficial for New Zealand and can deliver the following advantages:

- joint standards reduce the need for each of the two countries to maintain parallel, standalone standards covering similar technical provisions
- lower technical barriers to trade across the Tasman
- product suppliers, service providers can operate more easily in both countries
- faster update cycles are possible because resources are shared

Pros

There are several areas where the AS 1428 series performs well or adds value:

- communication accessibility
- emergency provisions
- children and adolescents
- tactile ground surface indicators (TGSi)
- recreation facilities
- interoperability of products, services, workforce familiarity and terminology between New Zealand and Australian markets.

Cons

- Fragmentation across multiple documents: there are six accessibility standards in the AS 1428 series.
- Limited rationale and commentary. Unlike the Canadian and EU standards, the AS 1428 series generally does not explain the reasoning behind requirements, reducing its usefulness for interpretation, education, and future adaptation.
- Uneven currency. While some parts are relatively recent, others (notably AS 1428.2 and AS 1428.3) are over 30 years old, weakening overall coherence and alignment with modern understanding of disability and modern technology, industry practice and regulatory expectations.
- Narrower scope than leading standards (does not include acoustics, cognitive/functional barriers or broader universal design principles).
- Current unalignment with regulatory citation in New Zealand, but able to be rectified through Act of parliament amendment, if deemed appropriate in future, and subject to legislative timetable.

In Standards New Zealand's view, while alignment with Australia is beneficial on a range of fronts, in this case, it is likely to be of a limited value and may not result in a standard adequate for citation in the Building Act and Building Code. It would also not contain many of the modern technology, product, service, facility and industry practice opportunities available to New Zealand. Joining one of the Australian Standards AS 1428.1 with New Zealand could still be considered as a separate project, to provide another alternative solution for Trans-

Tasman alignment and accessibility coverage, but not instead of a more fulsome solution needed in New Zealand.

A high-level comparison of NZS 4121:2001 and AS 1428.1:2021 using a broad criteria typically applied in accessibility standards reviews (produced with assistance from an artificial intelligence application Microsoft Copilot) can be found in Appendix C.

Option 4 Adopt ISO 21542:2021 Building construction – Accessibility and usability of the built environment (with New Zealand modifications)

Adoption of ISO standards aligns New Zealand with widely accepted international practice, helps reduce duplication and better uses Aotearoa's limited technical resources. Identical or modified adoption of ISO standards is a common practice around the world.

Pros

- Support consistency with global best practice and New Zealand's human rights obligations.
- Reduce reliance on an ageing domestic standard and the need for resource-intensive standalone updates.
- The standard offers a broader, more holistic approach to accessibility, addressing physical, sensory and cognitive needs, and provides structured flexibility for new and existing buildings.
- Adoption would give regulators, designers and industry a clearer, future-ready reference point, improve confidence and consistency in decision-making.
- Benefit New Zealand from ongoing international standards development rather than managing accessibility in relative isolation.

Cons

- ISO 21542:2021 is country-agnostic and does not fit the New Zealand regulatory environment – it is much less prescriptive, in many cases, providing guidance as opposed to requirements.
- The standard would require substantial changes in order to make it useable as an acceptable solution to the New Zealand Building Code.

In Standards New Zealand's view, this option is not viable as enforcing a design-oriented standard that does not focus on compliance with minimum requirements would present significant challenges for the New Zealand building regulatory system.

The identical adoption of ISO 21542:2021 should still be considered for New Zealand as the standard provides internationally aligned framework for accessibility and usability of the built environment, reflecting the most current research, technology and inclusive design practice.

A high-level comparison of NZS 4121:2001 and ISO 21542:2021 using a broad criteria typically applied in accessibility standards reviews (produced with assistance from an artificial intelligence application Microsoft Copilot) can be found in Appendix C.

Standards New Zealand's recommendations

Whichever option is ultimately selected from those outlined above, Standards New Zealand is well positioned to deliver a modern, fit-for-purpose accessibility standard that aligns with international good practice. However, implementing and enforcing a revised standard will require action by MBIE BSP, in its role as the New Zealand building regulator. In particular, MBIE BSP would need to cite the new standard in the building regulatory framework and update the relevant Acceptable Solutions, to ensure full alignment with the revised standard, and ensure its timely uptake by the sector. These regulatory processes sit outside Standards New Zealand's mandate and cannot be influenced directly by us.

Option 1 is Standards New Zealand's preferred option as it is more likely to deliver a modern disability access standard, incorporating good practices from international and other overseas standards, as well as catering to New Zealand unique needs where these exist. Additionally, the resulting standard is more likely to be fully aligned with the New Zealand building regulatory system.

While this option will require more resource and time, it is expected to produce a standard that is better suited to New Zealand's building users, industry, the regulator, and better meets accessibility needs. It is also more likely to be future proofed. The best parts of various standards would look to be utilised, taking the best internationally and incorporating it in New Zealand.

Following receipt of this report, we recommend that Whaikaha engage with MBIE BSP to discuss the requirements for a full revision of NZS 4121:2001 and the indicative timeframes for the revised standard to be cited in the building regulations. Standards New Zealand would be pleased to support these discussions with MBIE BSP, including organising and facilitating them.

Appendix A: Issues identified with NZS 4121:2001 during the scoping exercise

#	Identified Issue	Type of Issue	Potential Solution
1	Outdated definition of disability – doesn't include cognitive or age-related disabilities, children or parents, and some physical disabilities	Standard	- Look at international definitions that could be adopted - Lots of research, guidelines and codes that could act as a starting point FENZ Regulation 27 and UN have good definitions - Leave room for others that aren't included in the original definition ("not all disabilities look like this" "including...") and make it clear that it is not an exhaustive list - Need to be inclusive of Māori conceptualisations of disability (Whānau Hauā, tāngata whaikaha Māori), international definitions will not have this
2	Need better indicators of prevalence – current stats underestimate reality	Standard	- It can be hard to find accurate research for statistics of people that are living with some kind of disability, the common issues they face and how this standard especially will affect them - Census data excludes a lot of people so a much lower number is used which isn't really accurate (WG-SS doesn't address things like neurodivergent people) – use with caution (is good for general prevalence and is the best data we currently have, there are other data sets but accuracy is also unknown) - This also means numbers used for how many accessible facilities are needed aren't matching the actual felt need
3	Improvements to NZS 4121 meaningless unless embedded in Building Act:	Regulatory	- Have clear, consistent guidelines, in a central database - Needs to have a high "minimum standard" as that is what a lot of people will comply with - Reference to other standards for "above and beyond" guidelines

Standards New Zealand

	- Although it is mentioned in acceptable solutions, these aren't mandatory to comply with - The downside of a direct reference is that it can be difficult to adapt and evolve for changing communities		- Incorporate universal design, which helps the connection between accessibility for everyone (acknowledging that although this is a good mindset, there is priority to address what is currently inaccessible) - Encourage performance-based measures - When new acceptable solutions are produced (and approved by MBIE), there needs to be dialogue with the disabled community to ensure it actually meets accessibility needs - The easiest method of compliance is often used (AS1 vs NZS4121) so making a revision that is actually achievable and easy to implement is important to ensure that it is used by the industry - Simplifying standards for the BCA when assessing compliance
4	Push for holistic approach and integration across all legislation.	Regulatory	- Used in some international implementation
5	Require clear indication of compliance level for buildings. - It can be hard to know what to expect going to new spaces with so many acceptable solutions	Standard	- Mandatory accessibility consultant sign-off for new builds - A requirement to display (signage, website) to indicate what level of accessibility a building meets - A building WOF to ensure that buildings meet changing accessibility needs or comply to the new standard (this also has issues associated with it in terms of implications and feasibility)
6	Ensure that the disabled community is actively involved in the revision of NZS 4121.	Process	- Establish process to align the industry and disabled community's voice
7	Lack of accessibility education in architecture and design programs	Other	- Education programs attached to standards (including explaining the rationale for specific requirements) - Noted that education should be for councils as well
8	Avoid locking into outdated technology; allow flexibility for future updates	Standard	- Allow for prescriptive standards with regular updates - Going the opposite direction, performance-based measures should address this anyways
9	No consequences for non-compliance	Regulatory	- Suggestion for a national program to enforce accessibility standards with penalties for non-compliance - BWOs (shutting down buildings until they meet standards instead of letting them continue until it's convenient to fix)

Standards New Zealand

10	University education on accessibility is patchy; should be mandated in accredited programs Note: School of Built Environment (SBE) has about 200 masters students each year and in 2024 as part of a BRANZ project, they all did research on different aspects of accessibility (legislation, project management, auditing tools, etc.). SBE could also consider running a short course on building accessibility	Regulatory	- DIA and Vic Uni run a 12-week course on Web Accessibility (https://www.dia.govt.nz/Accessibility), which is a potential avenue for a similar building accessibility courses - Education is very relevant when it comes to the understanding and implementation of the standard
11	Standards should cover entire accessible route (street to building, landscaped areas) and include seating, drinking fountains, picnic tables, playgrounds	Standard	- Minimum standards for rest areas and seating. - Being accessible to a wide range of people (children vs. adults) - Must interlink with public transport/pick up services/pedestrian walkways/parking facilities - Guidelines for facilities for blind/low vision by NZ Transport Agency RTS14 should be integrated - Equally important is the opposite of all of these (i.e. pick up and drop-off, entrance and exit) - Maximum length to walk for places with no direct vehicle access
12	Ensure staff areas are accessible, not just customer spaces	Standard	- The Building Act specifies that disabled people be able to carry out the normal functions of a building as both customer and staff, the code doesn't - Having a specific reference to staff facilities like a kitchen/kitchenette and bathroom (currently mentioned in accessible accommodation only)
13	Alternatives needed to loudspeaker announcements: transport centres are the most common places to receive these (delayed/cancelled services)	Standard	- Having visual aids as well - Screens are good to show real-time updates - Clear signage needed to where people are being re-directed
14	DIA digital accessibility group offers Q&A and resources, could the same be done for building accessibility	Other	- A program of implementation is integral to the application of the standard. The standard is made with the assumption that the people using it understand what it's about

Standards New Zealand

			- NZ in general is falling behind internationally accepted standards
15	Consider intersectionality (e.g., wheelchair + low vision, parents with disabilities) Cultural needs (e.g., Muslim bathroom and parent's room requirements) Rainbow community considerations	Standard	- Reference NZS 8134 approach: Māori workstream and future-proofing standards. - Sanitary Facilities research initiated by BRANZ and conducted by WSP
16	Marae accessibility unclear; historic vs modern marae differ	Standard/ Regulatory	- Te Whakaahitanga Marae Accessibility Toolkit
17	Disabled people concentrated in smaller towns with fewer resources; design must address social isolation, bus stops, libraries, and low-cost recreation spaces critical for inclusion	Other	- This issue cannot be neither addressed by improvements to NZS 4121 nor by changes to the Building Regulations
18	Accessibility requirements scattered across multiple codes make it hard for architects to design compliant buildings	Other	- Relates back to education within the industry
19	Old MBIE "Code Words" guidance (e.g., tactile buttons for lifts) is hard to find	Other	- MBIE is aware that this needs to be update
20	Suggest creating a centralized database for accessibility-related clarifications	Other	- Could be a solution to point 19
21	Current NZS 4121 is a design solution, not a performance-based specification. - Note that this can be very subjective and prescription solutions provide much more certainty - Consistency is useful for people to know what to expect and then leaves space for performance-based when required.	Standard	- Move to performance requirements to allow multiple acceptable solutions but also requires more knowledge of application - Move from prescriptive solutions to problem-based design. - Develop overarching principles for equity and inclusion. - Using a balance of the two allows flexibilities in unique cases, encourages innovation Fire C Clauses - This standard is the opportunity to put prescriptive designs in as the minimum accessibility requirement and other "companion" guides - Not all disabilities are the same and need different requirements - Space again for disability consultants to sign off on designs

Standards New Zealand

22	Councils prefer prescriptive “cookbook” standards for enforcement Avoid overly prescriptive rules that discourage compliance Risk: Loosely worded standards require high expertise, leading to inconsistent compliance. Suggest balance between prescriptive detail and flexibility	Standard	- Avoid the use of terms like “should” and instead state “must”. - <i>Note by SNZ: In New Zealand standards, the word 'shall' refers to requirements that are essential for compliance with the standard, whereas the word 'should' refers to practices that are advised or recommended</i>
23	Risk of new technologies being accepted without proper disability input	Other	- Disabled community must be involved in assessing alternative solutions under performance-based code
24	How are dimensions (door size, toilet height) determined?	Other/standard	- Need research-based approach, not guesswork - Acknowledge that things like standard wheelchair dimensions have increased in recent years
25	Difficulty sourcing New Zealand-compliant products; reliance on Australian standards	Other	- Align with international standards for ease of supply (e.g., grab rails) - Avoid custom New Zealand-only requirements that complicate procurement
26	Increasing use of digital controls (lighting, lifts, reception) without accessible features	Other	- Braille buttons and voice announcements aren’t apart of the base models of bigger brands - Spacing requirements are key for braille when letter A and number 1 are very similar
27	Standards should address usability of digital technologies for all users	Standard	- Defining normal activities and processes - Central consoles problematic for trying to find/locate the lift that has been designated (esp. for blind and low vision users) - Acknowledge that if digital technologies are used in the function of the building (lights, lifts) they must be accessible and should be referenced (if even by other standards) in 4121 - Reference EN301549 for things like digital accessibility
28	Journey planning apps often inaccessible (poor contrast, no voice-over)	Other	- Will be covered in Web Standards (not Standards New Zealand)

Standards New Zealand

29	Digital payment systems (touchscreens, PayWave) create barriers for older and disabled users	Other	- Everyone needs to be able to participate in the normal functions of the building without “special” processes (paying for groceries, buying a train ticket, etc.)
30	Ensure standards keep pace with technology changes	Standard	Consider regular (5 yearly) updates for the high-tech areas that change quickly
31	Move from “extra for disabled” to “design for all”. Accessibility benefits everyone (e.g., prams, ESL users)	Standard	- Push for universal design principles - Use language that acknowledges that accessibility is for everyone. - Could be beneficial to note the economic benefit of making public spaces accessible?
32	Accessibility treated as an “extra” rather than integral or “too expensive”; needs cultural shift. Accessibility is a human right, not an optional extra	Regulatory/ Other	- Consider introducing an Accessibility Act similar to Australia’s Access to Premises Act
33	Some institutions (e.g., universities) have higher internal standards (living documents)	Other	- Noted
34	Need flexibility based on context	Other	- The need for variations of the standard for different building typologies such as childcare centres, schools, justice, hospital care etc
35	Wheelchair international symbol of access is outdated; consider alternatives	Standard	- Australia has better info on signage about where grab rails are, what direction to go, difference between a changing place and toilet - International Symbol of Access (ISA) is owned by Rehab International and would need to be consulted about any change, especially when altering the existing international symbol could then be unrecognisable - Need to agree NZ applicable signage for: Health NZ Fire Guide - Evacuation Lifts (positive and negative reinforcement signs) - Internal Refuges / Muster Points (Otago Uni Guide) - Wayfinding signage to Internal Refuges / Muster Points
36	Design for more than one disabled person at a time (e.g., car parks)	Standard	- When more than one disabled person is in the car, when the need to open the back door for a child or access the boot - Majority of users are the ageing population, making a larger need for increased size and quantities

Standards New Zealand

			- Ratios for disabled parking can vary (and based on lower statistics), increased number needed for hospitals/care facilities/accommodation/schools - Buildings that have no car parking need drop-off car spaces, and the accessible route should start from when someone would have to get out of a car (pedestrian only walkways also)
37	Address conflicts (e.g., bright light for low vision vs sensory overload for autistic users)	Standard	- Zone lighting, have brighter lights in some areas (ie. Office space) and lower lights in other - Conflicting access needs are a key reason why there needs to be some flexibility in standards (in other words, flashing fire alarms can set off seizures if they are not programmed to flash in a specific way, someone might need a service dog but another person in their office might have a severe allergy) - “Reasonable accommodations” can be put into place in working environments
38	Lighting and contrast have insufficient guidance; needs clear standards for glare, patterning, visual clutter Controls and fittings should contrast for visibility	Standard	- AS/NZS 1680.5:2012 (Interior and workplace lighting) provides extensive guidance and recommendations for controlling glare
39	Include tactile signage and Braille placement improvements (braille next to buttons not on them)	Standard	- Making this mandatory instead of “nice to have” - Further specification on font styles and placement so non-tactile signage is easily legible (san-serif vs serif)
40	Acoustics aren’t mentioned - Hard surfaces can create noise issues for autistic and hard of hearing users	Standard	- Classrooms emphasised here
41	Need low sensory spaces for neurodiverse users	Standard	- Can be multi-purpose but providing a space for low-light, noise softening and low-impact for people with sensory needs to reset
42	Kerb ramps initially meet standards but become hazardous after road resurfacing (steeper slopes, lips, gutters) and gutters can	Other	- Ties into the maintenance of the building, Building Warrant Of Fitness would help here as there is no real way to assess the future condition of accessibility aids

Standards New Zealand

	negate usability – dangerous for wheelchair users		
43	Current code requires channel drains even when unnecessary, which adds cost and complexity	Regulatory	- Channel drains are drains with a grate cover on paved areas. Uneven pavement and grate covers can cause additional hazards for some disabled people
44	Current manifestation designs (low height, opaque) are ineffective and fail to meet viewing zone standards. Higher balustrades must allow visibility for wheelchair users	Standard	- Clearance above disabled parking must allow for vehicles with hoists. - Transparent glass doors must have clear, contrasting marking showing “Entrance” and direction of opening
45	Balustrades and balconies in multi-storey buildings lack anti-climb features for children with special needs	Standards/ Regulatory	- Parental control
46	Motorized chairs now larger; update specs for doorways and hallways. Wider mobility devices not considered in current specs	Standard	- Current minimum (760 mm) inadequate; increase to 860 mm or more (1000 mm recommended)
47	Encourage use of sensory/automatic doors	Standard	- Mandate automatic doors. Be aware that these have auto-close function e.g. in the event of fire for smoke control. It would be good to have some signage (visual and audio) at the door indicating this state
48	Small lips at doors and steep gutters create hazards	Standard	- NZS4121 currently limits door threshold lips to max 20mm. This is the same max as Japan but they also specify that any threshold higher than 6mm must be beveled to facilitate wheelchairs
49	Heavy doors and poor handle design create barriers Fire doors too heavy; conflicts between fire safety and accessibility	Standard/ Regulations	- Automated doors, properly marked
50	Equitable/dignified entrances - avoid sending disabled users through back entrances.	Standard/ Regulations	- Consider mandatory miniature elevators e.g. LULAs (Limited Use/Limited Application) or VPLs (vertical platform lifts) at the main entrance if there is insufficient space for a ramp
51	Increase doorway height to accommodate taller population.	Standard	- Not practical to implement

Standards New Zealand

52	Corridor/hallway/walkway size should accommodate taller people.	Standard	- Not practical to implement
53	Equal focus on egress and access	Regulatory	- Single standard for both.
54	Disabled people told to wait during evacuation—unacceptable, need integrated fire safety solutions for all users	Regulatory	- Integrate accessibility into fire plans (e.g., evac chairs) and provide training - Collaborate with Fire & Emergency New Zealand for inclusive evacuation plans
55	Consider scenarios requiring evacuation to higher floors	Regulatory	- No additional comments
56	Adequate fire alarms for people with hearing disabilities who may not hear the acoustic alarm	Regulatory	- Digital signs e.g. placed next to the Exit signs in a building, or flashing Exit signs or a strobe light on Exit signs, activated by the fire alarm system
57	Current tactile designs can be hazardous for wheelchair users	Standard/ Regulations	- Suggest better overall design to reduce reliance on directional tiles, which cause the most harm
58	Size/layout often inadequate and the design included in the standard is too rigid, not allowing for multiple layout options or modern design	Standard	- The problem is budget – commercial building space costs money. It's very hard to modify existing buildings - Make clearances bigger for new builds
59	Accessible toilets are often misused as unisex toilets; disrespectful and impractical	Standard	- Not practical to change this, and people may have invisible disabilities.
60	Air dryers create sensory issues; prefer paper towels	Standard	- Have both options
61	Avoid clutter (bins, baby tables) in transfer space	Standard	- BWOFF should check that the accessible bathroom spaces are kept clear plus large fines to teach building managers to check them regularly
62	Need flexibility for different disabilities	Standard	- Non-specific comment, but perhaps just indicating that multi-mode signage is needed so the message is both visual (large enough) and aural (loud enough)
63	Visual alerting devices are misapplied; often only in accessible toilets, not benefiting	Standard	- Same as 56, with additional multi-mode signage in accessible toilets

Standards New Zealand

	d/Deaf or hard-of-hearing users during emergencies.		
64	Research needed into bathroom handrail placement and usability. Toilet paper holders above grab rails in bathrooms limit access	Other	- Does this happen because bathrooms have not been designed to comply with NZS4121 or is it a problem that arises from the specs in NZS4121? - Follow best practice dimensions e.g. from Japan - Review of the new standard by disabled people to catch this sort of error before the new standard is adopted
65	Include hooks, shelves and space for specific needs (e.g., tetraplegic users)	Standard	- NZS4121 specifies heights from 900 mm to 1100 mm for handles/controls while Japan uses 750-800 mm for switches, counters, shelves needed by wheelchair users. Japan also has strict implementation/enforcement - Use lower heights such as those in Japan - Include (in the standard) a diagram of a person in a wheelchair to show their range of movement. This will educate designers on why the heights are necessary – if they understand they are more likely to implement
66	Include assisted change facilities in standard	Standard	- Use the Japanese model for accessible bathrooms – they have adult size changing tables, ostomy care facilities, lots of space, grab rails, E-assist buttons, etc.
67	Ambulant toilets – an option for older people who avoid accessible toilets	Standard	- They have higher toilet seats and grab-bars and easy-to-open doors but not the same room as wheelchair accessible toilets. They might be a good option for older people (a lot more of those than there are people in wheelchairs) and would relieve the pressure on the fully accessible bathrooms
68	Car parks are poorly defined; lacks guidance for parallel parking	Standard	- Follow best practice e.g. Japan on directional signage and markings. - Buildings without car parks should require drop-off zones that meet accessible vehicle needs
69	Accessible car parks often too short for large vehicles (e.g., ACC supplied vans), need longer spaces (up to 9m for large vans)	Standard	- Same as 68 and 44

Standards New Zealand

70	Overseas practice: shaded safe zones around parks	Standard	- Australia guidelines recommend at least 70% shade coverage across seating and play areas
71	Underground car parks lack roof height clearance for the large vans that are often needed by disabled people.	Standard	- Same as 68 and 44
72	Current formula for accessible parking based on total parking; may reduce accessible spaces as overall parking shrinks	Other	- NZS4121 specifies 1 per 20, then 1 per 50 thereafter. Japan has various requirements depending on location but around 2% is common and 5-10% is recommended. - Perhaps this could depend on building type e.g. more at hospitals, schools, etc. but this has disadvantages (assumption that people with disability don't have the right to access other buildings).
73	Hotel/rest home rooms often lack space around beds for mobility devices	Other	- NZ is one of the countries listed as using best practice accessible bedrooms, so not sure if this is a big issue? Internet should find accessible rooms
74	Assumption that disabled people don't have families = lack of family-friendly accessible units in hotels	Other	- Presumably, can family stay in regular rooms near the accessible rooms?
75	Too few accessible hotel rooms; demand exceeds supply	Regulatory	- Increase the number of accessible rooms hotels have available - In NZ the Building Code sets this requirement at 1 accessible room for 1-20 rooms, 2 for 21-40 rooms, 3 for 41-60 rooms and 5% for anything larger. In the US, the Americans with Disabilities Act requires 1 accessible room for hotels with up to 25 room, 2 for hotels with 26-50 room, 3-4 for 51-75 rooms and 2-5% for hotels with more rooms. They must have visual fire alarms, TTY compatibility (teletype facility on phone), amplified phones, visual doorbells for guests who are d/Deaf or hard of hearing. So it looks as though NZ is at the high end of provision. Perhaps this is a reflection of more disabled people than when the standards were written - Check % of disabled people and increase the number of accessible rooms proportionately with that increase

Standards New Zealand

76	Lack of long-term accessible options beyond tourism.	Other	- Not clear what this means, long-term care facilities?
77	Lifts are often far from stairs/exits that causes extra pain for ambulatory users.	Standard/ Regulations	- Neither Japan nor NZ specify max distance to lifts, merely that they must be part of accessible routes
78	Destination-controlled touchscreen lift controls introduced without usability assessment.	Other	- This is going to cost more than standard lift control but accessibility features must be subsidized by NZ government so that the cost is shared by all taxpayers and doesn't land unfairly on the construction sector
79	Lack of audio in lifts disadvantages blind users.	Other	- Mandatory audio and visual communication in lifts
80	Swipe card systems inaccessible (timing issues, no feedback).	Standard/Other	- Look at other options or call for assistance buttons (they need to be staffed adequately and have a sign e.g. 'wait time for personal assistance is approximately 5 minutes')
81	Centralized consoles inaccessible for vision-impaired users.	Standard/Other	- Look at other options
82	Poor quality stairs (uneven risers, no handrails) ignored if alternate options exist.	Standard	- This sounds like an older building issue. NZ and Japanese requirements for stairs are similar although NZ allows min width of 900 mm between handrails for "common stairways" (with wider limits for different purpose groups) while in Japan 1200 mm is the minimum. The riser/tread dimensions and the handrail requirements are already well-specified in NZ
83	Ensure usability in lifts for blind and mobility-impaired users	Other	- See 79
84	The standard is tailored toward certain types of disabilities	Standard	- Discussed in 1
85	Playgrounds should design for disabled parents as well as children	Other	- NZS 5828:2015 Playground equipment and surfacing deals with safety in playgrounds and there are new voluntary guidelines for more inclusive parks (https://www.rnz.co.nz/news/national/556434/new-guidelines-aim-to-make-outdoors-more-accessible) so this may be outside the scope of NZS4121

Standards New Zealand

86	The standard should consider the latest in the wheelchair technology.	Standard	- Same as 24
87	Balance security requirements with accessibility (e.g., government offices, Parliament)	Regulatory/Other	- An issue is with anti-ligature points within accessibility needs, police may need to adopt an altered version
88	Accessibility often sacrificed for heritage preservation, historic buildings need proactive retrofitting	Other	- This issue is global and it may not be practical to address in the new standard, however a recommendation could be made e.g. to follow guidelines like the <i>Burra Charter</i> (Australia) to help manage physical modifications to heritage features
89	Residential buildings (ie. Apartment buildings) are exempt from accessibility requirements	Regulatory	- Public accommodation has to follow NZS4121, but not private apartments

Appendix B Scoping methodology

The following scoping methodology is generic and can be tailored to suit the needs of a specific project. For example, the number of scoping workshops can be reduced to one if the commissioner and Standards New Zealand both have a good understanding of the issues being considered.

In case of NZS 4121:2001, the scoping methodology has been adapted to incorporate the environmental scan of disability access standards discussed earlier in this report.

Standards New Zealand's scoping exercises apply a robust methodology outlined in a 14-stage framework, based on the core principles of problem solving.

After all issues have been clearly identified and worked through during one or more workshops, Standards New Zealand prepares a report (this document) outlining feedback received from the industry and their recommendations for resolving the identified issues.

Standards New Zealand analyses the feedback from the scoping workshop(s) and provides recommendations aiming to point the commissioner to an appropriate standards solution that will underpin any necessary change to the existing compliance regime.

Applying a formalised scoping methodology developed by Standards New Zealand (Figure 1) helps frame the conversation with key stakeholders during the scoping workshop.

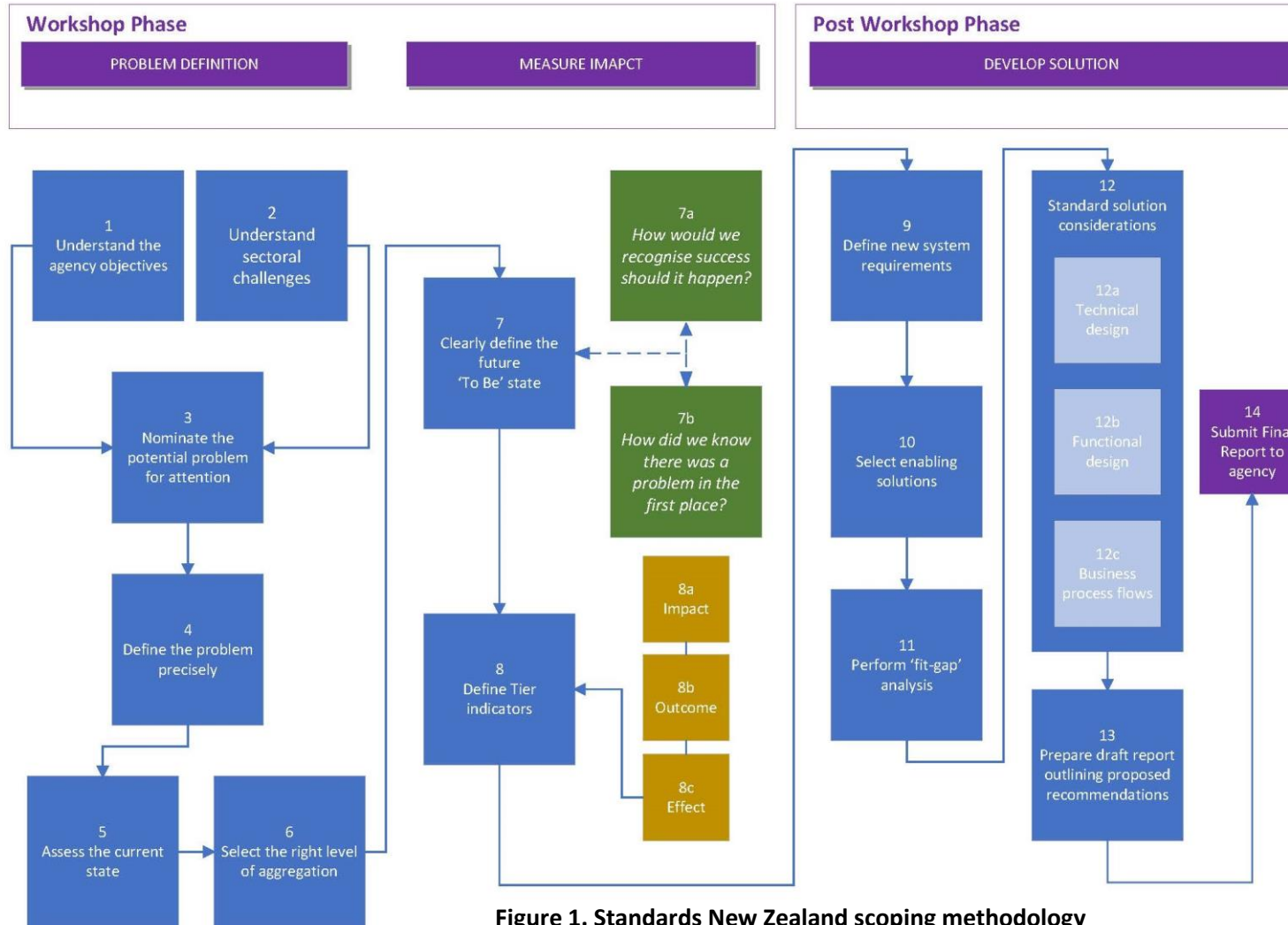


Figure 1. Standards New Zealand scoping methodology

Once the project has been initiated, Steps 1–8 (desktop research, conversations with commissioner representatives, and external stakeholder engagement) are performed by the Standards New Zealand project manager ahead of the workshop(s). This is done to ensure the project manager has a clear understanding of sectoral challenges.

All research and industry feedback is collated and used to provide a summary of the issues (Step 3). This in turn forms the basis upon which the problem definition can be precisely articulated (Step 4).

Steps 5–8 may require further conversations with the commissioner to clarify their position. Once the Standards New Zealand project manager is armed with this information, preparation for the workshop(s) can commence.

Steps 9–11 again will require further conversations, specifically with the commissioner, who will be working on their own internal mechanism to support the future ‘to be’ state.

Following the initial scoping workshop and review of stakeholder feedback, Standards New Zealand may require further research. The project manager then prepares an overview of potential standards solutions, aligned to the future ‘to be’ state. This often results in a follow-up meeting with the same group of stakeholders to further test assumptions and propose a suitable way forward.

Step 12, following the second stakeholder workshop, finetunes the proposed pathway. A report is then prepared and submitted to the commissioner, outlining a suite of recommendations for the development of a standards solution, together with a high-level timeline. All of this is covered in Steps 13–14.

Upon the commissioner’s request, Standards New Zealand can prepare a separate project proposal for the commissioner, outlining project costs and the specifics of sequencing activities (including the high-level timeline) relating to the development of the standards solution outlined in this report.

To allow sufficient time for the scoping exercise, Standards New Zealand usually recommends two 3-hour workshops, with one focusing on defining the problem, and the other identifying solutions. However, on this occasion, an additional (third) workshop had to be held to address the multitude of issues raised in the first scoping workshop.

Appendix C High-level comparisons of NZS 4121:2001 with similar standards

NZS 4121:2001 and CSA/ASC B651:23

Below is a high-level comparison of NZS 4121:2001 and CSA/ASC B651:23 using the same broad criteria typically applied in accessibility standards reviews (produced with assistance from the artificial intelligence application Microsoft Copilot).

The comparison has been aligned to scope, intent, technical prescriptiveness, and contemporary accessibility concepts, rather than clause-by-clause mapping.

1. Scope and regulatory context

NZS 4121:2001

Applies to buildings and facilities open to the public in New Zealand and is referenced primarily through the New Zealand Building Code, especially Clause D1 Access routes. The standard is clearly targeted at minimum compliance for physical access, with a strong focus on mobility impairments.

CSA/ASC B651:23

Applies to the built environment across Canada and is aligned with the Accessible Canada Act. It is a National Standard of Canada, developed for broad adoption by federal, provincial, and municipal authorities. The scope explicitly extends beyond minimum physical access to barrier prevention and removal across multiple disability types.

Key difference

CSA/ASC B651:23 has a wider social and legislative framing around accessibility, while NZS 4121:2001 is more tightly coupled to Building Code compliance.

2. Underlying philosophy and intent

NZS 4121:2001

Primarily functional and compliance driven. The intent is to ensure reasonable and practicable access for people with disabilities, particularly wheelchair users. Universal design is implicit but not explicitly articulated as a core principle.

CSA/ASC B651:23

Explicitly grounded in universal design, equity, and inclusion. The standard states that it aims to identify, prevent, and remove barriers, rather than merely meet minimum technical thresholds. Cognitive, sensory, and environmental accessibility are integral to the intent.

Key difference

CSA/ASC B651:23 moves beyond “access” toward “usability and dignity”, whereas NZS 4121:2001 remains focused on physical accommodation.

3. Level of technical prescription

NZS 4121:2001

Generally performance-based, with some dimensional requirements (for example, ramps, door widths, toilets). Many provisions rely on qualitative terms such as “adequate”, “suitable”, or “where practicable”, leaving room for interpretation.

CSA/ASC B651:23

Highly prescriptive, with extensive quantified requirements covering dimensions, forces, lighting levels, contrasts, slopes, and tolerances. This includes measurable criteria for controls, circulation, signage, surfaces, and environmental conditions.

Key difference

CSA/ASC B651:23 provides clearer compliance certainty, while NZS 4121:2001 relies more heavily on professional judgement.

4. Circulation and spatial requirements**NZS 4121:2001**

Sets minimum widths for access routes and doorways and provides guidance on turning spaces and gradients. Requirements are generally adequate for wheelchair access but do not always address passing spaces or congestion in detail.

CSA/ASC B651:23

Defines minimum route widths, passing spaces, turning dimensions, doorway clearances, and slope limits in a highly structured way. For example, minimum circulation widths, passing spaces, and turning areas are explicitly dimensioned and consistently applied throughout the standard.

Key difference

CSA/ASC B651:23 offers a more complete and internally consistent circulation model.

5. Controls, fittings, and operability**NZS 4121:2001**

Specifies mounting heights and reach ranges for controls, with general requirements for ease of use. Operating force and sensory feedback are usually described qualitatively.

CSA/ASC B651:23

Includes detailed requirements for clear floor space, approach zones, mounting heights, maximum operating forces, tactile and auditory feedback, and illumination levels at controls. These requirements are tightly defined to support independent use.

Key difference

CSA B651-23 addresses usability in a much more granular and testable way.

6. Visual contrast, lighting, and signage**NZS 4121:2001**

Requires visual contrast and legibility but gives limited numerical guidance. Lighting and signage provisions exist but are less detailed and less integrated with wayfinding and cognitive accessibility.

CSA/ASC B651:23

Sets explicit luminance contrast values, lighting levels, font characteristics, and placement rules for signage. Tactile and braille signage integration is clearly specified, along with illumination requirements for readability.

Key difference

CSA/ASC B651:23 provides stronger support for people with low vision and cognitive impairments.

7. Tactile ground surface indicators**NZS 4121:2001**

Includes tactile indicators at hazards and crossings, with general descriptions of form and placement.

CSA/ASC B651:23

Provides detailed specifications for tactile walking surface indicators, including dome or bar geometry, colour contrast, placement logic, and installation tolerances.

Key difference

CSA B651-23 reduces ambiguity and inconsistency in tactile indicator design and installation.

8. Cognitive, sensory, and environmental accessibility**NZS 4121:2001**

Largely silent on cognitive accessibility, sensory sensitivities, acoustics, and environmental intolerances. These issues are generally outside the scope of the standard.

CSA/ASC B651:23

Explicitly addresses cognitive load, logical layouts, predictability, acoustics, air quality, and sensory triggers. Information accessibility and wayfinding clarity are treated as core design considerations.

Key difference

This is one of the most significant gaps between the two standards, reflecting the age of NZS 4121:2001.

9. Currency and adaptability**NZS 4121:2001**

Published in 2001 and now over two decades old. While still functional, it does not reflect many contemporary accessibility expectations or international best practice developments.

CSA/ASC B651:23

Current (2023, with corrections made in 2025) and maintained through a structured review and update process. It reflects modern thinking on accessibility, inclusion, and human-centred design.

Overall comparison summary

In practical terms:

- NZS 4121:2001 is adequate for minimum physical access compliance but limited in scope and detail.
- CSA/ASC B651:23 is broader, more prescriptive, and more explicit about equity, usability, and diverse disability needs.
- CSA/ASC B651:23 would generally be considered a higher benchmark, particularly for cognitive, sensory, and wayfinding accessibility.
- NZS 4121:2001 would likely require substantial revision to align with the intent and technical depth seen in CSA/ASC B651:23.

NZS 4121:2001 and AS 1428.1:2021

Below is a comprehensive high-level comparison of NZS 4121:2001 with AS 1428.1:2021 (assisted by the Artificial Intelligence application Microsoft Copilot)

1. Scope and regulatory context

NZS 4121:2001:

- applies to buildings and associated facilities required to be accessible under section 47A of the New Zealand Building Act 1991
- Is explicitly framed as a means of compliance with the New Zealand Building Code
- is, in scope, tied closely to statutory obligations and territorial authority decision-making
- applies primarily to public and commercial buildings, with limited guidance for private residential use.

AS 1428.1:2021:

- applies broadly to buildings, facilities and elements where access is required under Australian building and discrimination law
- is closely aligned with the Disability Discrimination Act 1992 and the National Construction Code (NCC).
- is designed for application across public, commercial and many private contexts.
- is explicitly modular, with AS 1428.1 sitting within a wider AS 1428 suite.

Key difference

NZS 4121 is more tightly coupled to a single statutory compliance pathway, whereas AS 1428.1 operates as part of a broader, layered regulatory and standards ecosystem.

2. Underlying philosophy and intent

NZS 4121:2001:

- is strongly grounded in a building-code performance framework
- emphasises “reasonable and adequate provision” as defined in legislation
- is framed around approachability, accessibility and usability as applied to physical design
- is focused predominantly on physical mobility and safe independent use.

AS 1428.1:2021:

- is explicitly grounded in inclusive design and equitable access principles

- reflects contemporary disability rights and human-centred design thinking
- has a broader conception of disability, including sensory and cognitive dimensions
- emphasises dignity, independence and consistency of the user experience.

Key difference

NZS 4121 reflects late-1990s performance-based regulation, while AS 1428.1 reflects modern inclusive design philosophy shaped by human rights frameworks.

3. Level of technical prescription

NZS 4121:2001:

- is highly prescriptive in core areas such as ramps, stairs, toilets, car parks and lifts
- uses fixed minimum dimensions and thresholds throughout
- has an explanatory commentary but is not intended to modify requirements
- has limited use of performance alternatives within the standard itself.

AS 1428.1:2021:

- is still prescriptive, but with greater nuance and contextual flexibility
- has more frequent use of ranges, tolerances and conditional requirements
- integrates with other AS 1428 parts to avoid duplication
- better accommodates innovation through system-based references

Key difference

NZS 4121 relies on static minimums, whereas AS 1428.1 balances prescription with adaptability and cross-standard integration.

4. Circulation and spatial requirements

NZS 4121:2001:

- has a minimum accessible route and corridor width (generally 1200 mm)
- has turning spaces typically based on 1500 mm wheelchair turning circle
- has conservative ramp gradients and landing requirements
- has spatial requirements strongly influenced by manual wheelchair dimensions.

AS 1428.1:2021:

- has circulation widths often equal to or greater than NZS 4121, but more differentiated by context
- has turning spaces respond to contemporary wheelchair and scooter sizes
- has greater recognition of passing spaces, circulation complexity and user interaction
- has more explicit treatment of transitional spaces.

Key difference

AS 1428.1 better reflects contemporary mobility devices and real-world circulation behaviour, while NZS 4121 reflects earlier assumptions about users and equipment.

5. Controls, fittings and operability

NZS 4121:2001:

- has clear requirements for heights, reach ranges and forces
- has a strong focus on operability for people with limited strength or dexterity
- has limited differentiation between types of controls beyond basic usability
- has an emphasis that is primarily mechanical and physical.

AS 1428.1:2021:

- has expanded treatment of controls, interfaces and user interaction
- has greater attention to reach envelopes, approach types and task sequences
- has better alignment with contemporary fixtures and digital interfaces
- has more detailed treatment of usability across a wider user spectrum.

Key difference

AS 1428.1 addresses interaction design more comprehensively, while NZS 4121 focuses on baseline physical operability.

6. Visual contrast, lighting and signage

NZS 4121:2001:

- requires visual contrast at key elements such as doors, stairs and fittings
- references luminance contrast, but with limited quantitative guidance
- has functional but relatively basic signage requirements
- has lighting guidance that relies heavily on other referenced standards.

AS 1428.1:2021:

- has more detailed and explicit requirements for visual contrast
- has better integration of contrast, lighting and wayfinding
- has a stronger emphasis on consistency and predictability of visual cues
- aligns more closely with contemporary vision-impairment research.

Key difference

AS 1428.1 provides a more systematic and contemporary approach to visual accessibility, whereas NZS 4121 treats it as a supporting requirement.

7. Tactile ground surface indicators

NZS 4121:2001:

- recognises tactile cues and tactile ground surface indicators
- defers much technical detail to Australian standards (older AS 1428.4)
- has limited dimensional and pattern specification within the standard itself
- treats TGSIs as supplementary rather than core infrastructure.

AS 1428.1:2021:

- is designed to operate alongside current AS 1428.4 tactile standards
- has clear integration of tactile indicators into circulation and wayfinding systems
- reflects updated research on detectability and usability

- treats TGSI as a core component of accessible environments.

Key difference

AS 1428.1 embeds tactile systems more fully and coherently, while NZS 4121 treats them as an adjunct.

8. Cognitive, sensory and environmental accessibility

NZS 4121:2001:

- has limited explicit recognition of cognitive disability
- addresses sensory accessibility mainly through vision and hearing
- only lightly addresses environmental factors such as noise and complexity
- keeps focus primarily on physical access.

AS 1428.1:2021:

- has a broader recognition of cognitive and sensory diversity
- puts greater emphasis on simplicity, legibility and predictability
- better aligns with autism-friendly and dementia-inclusive principles
- reflects a more holistic understanding of accessibility.

Key difference

AS 1428.1 addresses a wider spectrum of user needs beyond physical disability, whereas NZS 4121 is, largely, mobility-centric.

9. Currency and adaptability

NZS 4121:2001:

- is now over two decades old
- is based on assumptions about users, technology and buildings that have evolved
- is still legally relevant but increasingly strained by contemporary expectations
- has limited capacity to absorb emerging accessibility concepts without revision.

AS 1428.1:2021:

- was recently updated to reflect current research, practice and regulation
- was designed to evolve alongside related standards and the NCC
- is more resilient to technological and social change
- is better positioned to support future revisions.

Key difference

AS 1428.1 is contemporary and forward-looking; NZS 4121 is functionally robust but dated.

Overall comparison summary

- NZS 4121:2001 is a strong, conservative, legally anchored access standard focused on minimum compliance.
- AS 1428.1:2021 reflects modern inclusive design, broader disability understanding and contemporary practice.

- NZS 4121 prioritises certainty and enforceability; AS 1428.1 prioritises inclusivity and adaptability.
- NZS 4121 is mobility centred; AS 1428.1 is multi-dimensional.
- AS 1428.1 provides a clearer pathway for future accessibility challenges.
- The gap between the two standards is primarily philosophical and temporal, not technical competence.

NZS 4121:2001 and ISO 21542:2021

Below is a comprehensive high-level comparison of NZS 4121:2001 with ISO 21542:2021 (assisted by the Artificial Intelligence application Microsoft Copilot)

1. Scope and regulatory context

NZS 4121:2001

- New Zealand–specific compliance standard aligned with the Building Act 1991 and the New Zealand Building Code.
- Applies to public buildings and associated facilities.

ISO 21542:2021

- International reference standard intended for adoption or adaptation by national jurisdictions.
- Applies to buildings and directly associated outdoor features, including new work in existing buildings.

Key difference

NZS 4121 is jurisdiction-specific and compliance-driven, whereas ISO 21542 is jurisdiction-agnostic and reference-based.

2. Underlying philosophy and intent

NZS 4121:2001

- Focuses on reasonable and adequate provision for people with disabilities.
- Primarily mobility-centred, with secondary consideration of vision and hearing.

ISO 21542:2021

- Grounded in universal design and human rights principles.
- Addresses physical, sensory, cognitive and intellectual impairments.

Key difference

NZS 4121 is compliance-based and sets minimum requirements; ISO 21542 reflects inclusive, rights-based design.

3. Level of technical prescription

NZS 4121:2001

- Highly prescriptive with fixed minimum dimensions and gradients.
- Limited internal flexibility.

ISO 21542:2021

- Mix of requirements and recommendations.
- Uses ranges and conditional requirements, including exceptional considerations for existing buildings.

Key difference

NZS 4121 relies on static minimums; ISO 21542 embeds structured flexibility.

4. Circulation and spatial requirements

NZS 4121:2001

- Typical minimum corridor width 1200 mm.
- Turning spaces based on 1500 mm wheelchair circle.

ISO 21542:2021

- Differentiates circulation widths by frequency and context.
- Addresses passing spaces and contemporary mobility devices.

Key difference

ISO 21542 provides more nuanced and contemporary circulation modelling.

5. Controls, fittings and operability

NZS 4121:2001

- Emphasis on reach ranges, mounting heights and operating force.
- Controls treated primarily as physical objects.

ISO 21542:2021

- Controls treated as part of interaction systems.
- Requires tactile, visual and audible feedback.

Key difference

ISO 21542 addresses usability holistically; NZS 4121 focuses on physical operability.

6. Visual contrast, lighting and signage

NZS 4121:2001

- Requires visual contrast at key elements.
- Limited quantitative detail.

ISO 21542:2021

- Detailed luminance contrast values, lighting levels and signage specifications.
- Integrated wayfinding approach.

Key difference

ISO 21542 provides a comprehensive and quantified framework for visual accessibility.

7. Tactile ground surface indicators

NZS 4121:2001

- Recognises tactile cues but provides limited specification.

- Treats tactile indicators as supplementary.

ISO 21542:2021

- Fully integrates tactile walking surface indicators into navigation systems.
- References ISO 23599.

Key difference

ISO 21542 treats tactile systems as core infrastructure.

8. Cognitive, sensory and environmental accessibility

NZS 4121:2001

- Focuses mainly on mobility, vision and hearing.
- Cognitive accessibility largely implicit.

ISO 21542:2021

- Explicitly addresses cognitive, sensory and intellectual impairments.
- Covers acoustics, information load and wayfinding clarity.

Key difference

ISO 21542 adopts a holistic accessibility model.

9. Currency and adaptability

NZS 4121:2001

- Published in 2001; reflects older assumptions.
- Limited mechanisms for incremental updating.

ISO 21542:2021

- Published in 2021; reflects contemporary research and practice.
- Designed for ongoing adaptation.

Key difference

ISO 21542 is contemporary and future-oriented; NZS 4121 is robust but dated.

Overall comparison summary

- NZS 4121:2001 is a nationally embedded, compliance-focused standard.
- ISO 21542:2021 is an international, inclusive design framework.
- NZS 4121 prioritises certainty and minimum provision.
- ISO 21542 prioritises inclusivity, usability and adaptability.
- ISO 21542 addresses a broader spectrum of human abilities.
- The key differences are philosophical and temporal rather than technical competence.