

Making New Zealand's built environment inclusive and accessible for Everyone



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Introduction

- Person with disability (PWD): someone who has one/more impairments e.g. mobility, vision, hearing, cognitive, etc. (often elderly).
- WHO (2023)¹: 16% of population are PWDs.
- New Zealand: 24% of population are PWDs and 59% are 65+ years old².
- UNCRPD (2006): PWDs have the right to ‘live independently and be included in the community’³.
- PWDs should be able to access a wide range of buildings: shops, restaurants, offices, theatres, churches, libraries, etc.

Research Aim: to investigate the accessibility of New Zealand’s public buildings for PWDs from a range of perspectives.

Methodology

1. Review literature to find the perspective of PWDs in accessing the Built Environment (BE).
2. Comparison between accessibility legislation internationally and in New Zealand to identify ways to improve accessibility.
3. Questionnaire to assess the perspective of 61 New Zealand building professionals (quantity surveyors, engineers, project managers, architects) on aspects of building accessibility.
4. Assess the accessibility of three types of public buildings in New Zealand
 - a. Using case studies on 10 shops, 10 libraries and 11 restaurants (comparing access features against NZS4121:2001⁴)
 - b. Getting the perspective of people working in those buildings on their interaction with PWDs

Literature review:

Perspective of people with disability/impairment



- Smooth, wide paths
- Gentle transitions (ramps, kerb cuts)
- Automatic doors

- Tactile changes
- Distinct transitions
- Signs: large, high-contrast text
- Bright lighting
- No body-level or head-level features
- Braille
- Sound signals



Bad Attitude



- Visual signals for public announcements
- Non-verbal assistance
- Sign language

- Dim lights
- Muted colours
- No loud noises
- No crowds/touch
- No smells



Literature review: Building accessibility legislation internationally and in New Zealand

Equitable access is achieved with good accessibility legislation and enforcement (e.g., USA, UK). This is not the case in New Zealand:

- Building Act 2004: building's access must be 'reasonable and have adequate provision' for people with disability.
- The New Zealand Building Code (NZBC), Clause D1: outlines the minimum requirements for access facilities in public buildings but:
 - It only applies to places with more than 10 employees.
 - There are differing requirements for new buildings vs modifications.
 - The language is hard to understand.
- New Zealand standard NZS4121:2001 'Design for Access and Mobility – Buildings and Associated Facilities' comprehensive specifications on accessible features (also AS/NZS 1428.4.1 for vision impairment, NZS 4512/4514 for hearing impairment fire alarms), but these standards are **not** mandatory and exceed the minimum requirements in the NZBC.
- NZ legislation is confusing, has many loopholes and minimal enforcement.

Results:

61 New Zealand Building Professionals

(quantity surveyors, site managers/engineers, project managers, architects, building managers)

Perception of NZ building accessibility for PWDs	%
NZ legislation sufficiently mandates accessible requirements	59
Do not know how NZ legislation compares with international legislation	54
NZ buildings cater to those with mobility impairments	71
NZ buildings cater to those with vision/hearing impairments	23
NZ buildings cater to those with cognitive/age-related impairments	35
Accessibility features significantly better in newer NZ buildings	75
Did not receive training on building accessibility for PWDs	54

- Do not know much about the access problems for PWDs.
- Do not have training in design for access or maintaining access.
- Do not know where to find information.
- Do not want to bear the cost.

Results:

Building assessment (NZS4121:2001): 10 shops

Feature	Large Shops				Small Shops					
	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗
Car parks: location; signage; number; dimensions; surface	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗
Footpaths: clear width; transverse gradient; longitudinal gradient	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗
Ramps: clear width; transverse gradient; longitudinal gradient; edge-rail; safety rail; handrail; landing	✗	-	-	-	✗	-	-	-	-	-
Kerb ramps: gradient; dimensions; distance from top of ramp to any obstruction	-	✗	✓	✗	✗	✓	-	✗	✗	✗
Entrances	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
Doorways	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Passing space	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗
Shelf	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Checkout counter	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Lifts	-	-	-	-	-	✓	✓	-	-	-
Toilets	✓	-	✓	✓	-	-	-	-	-	-
Compliance (%)	56	13	67	44	33	56	38	25	25	25

Large shop



Source: Johnstone (2020)

Small shops



Source: ter Ellen (2019)



Source: Capper (2006)

Results: Shop assessment and employee perspectives

- 100% met standard for doorways, lifts (when required), toilets; 90% met entrance requirements.
- None met ramps, shelf height, counter height requirements.
- Car parks, footpaths, kerbs, aisle widths were poor.
- Large shops had more accessible features than small shops.
- Employees in shops:
 - Most shops only consider access requirements for mobility impairment. Large shops also consider sensory impairment (weekly quiet periods) and the elderly (seating).
 - Staff in large shops were aware of and trained in inclusive access for PWDs.
 - Small shops: cost of better accessibility is the biggest problem – wider aisles = less merchandise.
 - Most employees would assist a shopper if asked to.
 - Some 'ableist' attitudes e.g., use the delivery service.

Results: Building assessment (NZS4121:2001): 10 libraries

Feature	Assessment
Car parks	Number (100%); Length (40%); Width (40%) ; Slope (60%); Average (60%)
Footpaths	Clear route (100%)
Ramps	Width (100%); Transverse gradient (100%); Longitudinal gradient (90%)
Kerb ramps	Length (100%); Width (100%); Slope (100%)
Entrances	Level approach space (90%)
Doorways	Clear opening (100%)
Passing space	Aisle width (70% - furniture obstruction in 30%)
Counter	Height (100%); Width (100%)
Lifts	Interior space (100%); Door width (100%)
Toilets	Clear area (toilets and washbasins) (100%)

- Average compliance: 92%. Improve parking, keep aisles clear, other impairments
- Libraries have municipal funding

Results: Building assessment (NZS4121:2001): 11 restaurants and employee perspectives

Impairment	Feature	%
Vision	Pathway marking, braille signage, braille menus	0
Hearing	Visual display of special menu items	0
Mobility	Accessible parking	100
	Accessible ramps	73
	Accessible entrances	100
	Accessible dining tables	82
	Accessible toilets	91*

* In one of the eleven restaurants the accessible toilet was elsewhere in the same building.

- Focus on mobility impairment, ignoring others (vision, hearing).
- Need better communication for people with vision and hearing impairment.
- Staff: little knowledge/training about the needs of PWDs, or where to find it.
- Staff: cost and space are the main barriers to improving accessibility.
- Staff: hard, smooth floors are easiest to clean but can be a slip hazard.
- 64% of staff had never encountered a PWD in their restaurant.

Conclusions

- NZ public buildings do not provide inclusive and equitable access for everyone.
- The best access is for people with mobility impairment. More is needed for those with vision, hearing, cognitive impairment.
- PWDs experience the accessibility problems firsthand and are frustrated by the inefficient and dilatory attitude of legislators.
- NZ accessibility legislation is vague, has many loopholes and little enforcement.
- Legislators need to know what should be improved and how it should be enforced.
- Building professionals and employees are passive.
 - They are willing to improve but know little about problems faced by PWDs, how/where to get information.
 - They do not want to bear the cost of improvement.

Recommendations

- Improve/expand the mandatory NZ accessibility legislation to address the main problems experienced by PWDs (all types).
- Monitor and enforce the legislation.
- NZ government provides many excellent schemes (pensions, healthcare, winter heating subsidy to pensioners, etc.) – all funded from taxes, all supported by New Zealanders.
- If people more aware of the problems faced by PWDs in trying to access buildings, and more aware that as they age, they will probably become PWDs themselves, they would support taxpayer funded improvements.
- Government-subsidized funding of building access features would spread the cost amongst everyone.
- Building professionals and employees would be less passive.
- Compliance could be handled through the BWOF system, with accessibility features listed alongside other features such as fire protections, emergency lighting, etc.
- Equitable access is a collective problem and needs a collective solution.



References:

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- Full research article: c.l.flemmer@massey.ac.nz

Thank you!

Questions?