

# Parks Accessibility and Inclusivity Checklist

July 2023, Version 1.0



# Parks Accessibility and Inclusivity Checklist - Version 1.0

Park Name:

Date of assessment:

Assessment start time:

Assessment finish time:

Weather conditions:

Checklist undertaken by:

Peer reviewed (optional):

Item	Yes	No	N/A	Comment
<b>Online content</b>				
Is there an Auckland Council webpage for this park? <i>Provide link in comments</i>				
Are there any photos of assets? <i>A range of photos provide users with valuable information about the park (Key photos include car park, toilets and the accessible route) Remember photos for the AC website need to be landscape orientation</i>				
Do photos have captions and Alt text descriptions? <i>Alternative text must explain photos in more detail, it should not just replicate the photo caption</i>				
Is there any information on accessibility? <i>Does it list accessible park assets and how to access the park?</i>				
Are there any interactive maps with audio input for vision impaired?				
Are there any downloadable maps or brochures?				

<b>Arriving at the Park</b>				
<p>Is there public transport available within 200m of the park?  <i>How far to the nearest bus or train stop (ideal max of 200m)? Is public transport on an accessible route (4121)?</i></p>				
<p>Is the bus/train stop of a good accessible design?  <i>Is there a shelter? Accessible seat? Signage? Is the footpath in good condition? If not, raise a request with Auckland Transport <a href="https://contact.at.govt.nz/?cid=8b0a75d0-19e4-eb11-bacb-00224814efd9">https://contact.at.govt.nz/?cid=8b0a75d0-19e4-eb11-bacb-00224814efd9</a></i></p>				
<p>Is there a car park at this park?  <i>If more than one car park, list them out with references to help with comments at each one. E.g. CP1 - by the club room, CP2 - near the toilet block</i></p>				
<p>Are accessible car parks provided?  <i>How many? Is it within the park or on street? Is the yellow accessible symbol on the ground legible? Accessible car parks should be provided at the rate of 1:20 car parks or less, 2:21-50 car parks, then one accessible park for every additional 50 car parks</i></p>				
<p>Do perpendicular accessible spaces meet requirements?  <i>Minimum size of 2400 x 4800mm with additional 1200mm wide access aisles on both sides and at the end</i></p>				
<p>Do parallel parking spaces meet requirements? <i>Minimum size of 3600mm x 7000mm long. No obstructions on pavement side</i></p>				
<p>Are the accessible car parks located near the main entry?  <i>Are they located near main attractions or assets? Are they clearly visible?</i></p>				
<p>Is there accessible car park signage?  <i>Signage should be provided on poles to be easily seen. Pole signage should be positioned to ensure it does not block rear entry hoist vehicles.</i></p>				
<p>Are there appropriate kerb cuts near the accessible car park?</p>				

<p>Are surfaces of the car park and surrounding transfer area level, firm and slip resistant?  <i>Crossfalls of the car park and access aisle should not exceed 1:50 in any direction. If you notice a slope it will likely exceed 1:50</i></p>				
<p>Are there kerb cuts provided within the car park for all users?  <i>Maximum grade of kerb cuts is 1:8 but 1:12 preferred</i></p>				
<p>Are wheels stops used correctly within the car park to prevent vehicle overhangs on pathways  <i>(Note - wheel stops can also prevent rear loading hoists from reaching footpaths if used on accessible car parks)</i></p>				
<p>Are larger parking bays provided?  <i>E.g. for special needs or parents</i></p>				
<p>Is the car park or accessible car park covered?  <i>Or is there a public parking building within 200m of the park that has covered accessible car parking?</i></p>				
<p>Are drop off bays provided?  <i>Is it accessible and meets accessible car parking provisions above? The preferred length of 7m will generally accommodate vans with rear loading hoists</i></p>				
<p>Are paths around the car park barrier free?  <i>Free from hoops/pram stops, bins, bollards too close together, trees, tree pits, signposts, seats, items that are placed to prevent vehicle access to parks</i></p>				
<p>Are there bicycle parking/bike racks? Is it accessible?  <i>Are these located in areas with good passive surveillance and clear sightlines?</i></p>				
<p>Is adequate lighting provided in the car park?</p>				
<p>Has the design considered CPTED? Is there good passive surveillance from nearby homes or businesses?</p>				
<p>Is there any active surveillance provided?  <i>E.g. CCTV may be located on club buildings or other buildings in the vicinity</i></p>				

Are multiple entry and exit points provided? <i>To enhance accessibility and to provide opportunities for users to leave an area easily and quickly if they feel threatened or unsafe.</i>				
Is there emergency service access to park? <i>How would they gain access? Are there gates or padlocks?</i>				
Other comments				
<b>Toilets</b>				
<b>Location</b>				
Are there public toilets at this park? <i>If not, how far to the nearest available accessible public toilets?</i>				
Is the toilet located for CPTED?				
Is there an accessible route to the toilet? <i>To be accessible it must be 1.2m wide, max 1:12, max 2 degrees crossfall, on a firm level surface with no steps.</i>				
Is an accessible toilet provided? <i>Minimum internal dimensions of: Side door - 1800mm wide x 2500mm long Outward swing door - 1800mm wide x 2500mm long Must accommodate a 1500mm minimum wheelchair turning circle within the cubicle Access of 1.2m wide Doors must either slide or open outwards, no step entry</i>				
Is there an unobstructed turning area at least 1.5m in front of the cubicle <b>door</b> ?				
Is there toilet signage? <i>Door signage, times, grab rail symbols, way finding, council contact details for complaints. Are there after-hours contact details provided within the toilet?</i>				
Are toilets gender neutral? <i>If not, are there accessible toilets provided in both men's and women's sides?</i>				
<b>Toilet fitout</b>				

Are door automatic or do they swing outwards? <i>Required for NZS 4121</i>				
Is the weight of the door appropriate to be easily open and closed? <i>Can you open and close the toilet door using two fingers? Heavy doors are difficult for users with access issues and young children</i>				
Is the door of a contrasting colour to the exterior and interior walls? <i>Contrasting colours will assist people with low vision</i>				
Is the toilet door lock easy to use? <i>Is an accessible lock or automatic door provided? Can you operate the lock with a closed fist?</i>				
Can doors be opened from the outside in case of an emergency? (NZS 4121) <i>Small slits in locking mechanisms can be opened using a thin object</i>				
Is the floor surface non slip and a contrasting colour to vertical surfaces such as walls and doors? <i>Best practise UD to provide contrasting colours</i>				
<b>Toilet Fixtures and Fittings</b>				
Are there appropriate grab rails? <i>E.g. L shaped design, secured to wall next to pan. UD recommends a grab rail on the inside of the door to assist users with opening and closing. Building Code G1</i>				
Is there an appropriate toilet seat? <i>E.g. sturdy plastic seat with secure fastenings</i>				
Is a back rest provided?				
Are toilet fixtures easy to access? <i>Protruding flush buttons, lever taps, sensor taps, automatic soap dispensers and door handles.</i>				
Is a hand drier or paper towels provided? <i>Best UD practice is to provide both</i>				

Are sanitary bins provided as required?				
Is a baby change table provided? <i>Is this in a gender neutral cubicle or both men and women cubicles?</i>				
Are any shelves or coat hooks provided? <i>Useful for users with personal hygiene supplies as toilet floors are often wet and unhygienic</i>				
Are there any additional universal design features? <i>Accessible shower/change room? Adult change facilities? Safe needle disposal?</i>				
Is there sufficient lighting within the toilet cubical? <i>Minimum of 100 lux, even, non-glare and non-flashing</i>				
Other comments				
<i>Refer to Resources - Toilet worksheet for helpful images and links</i>				
<b>Paths, Tracks and Walkways</b>				
Are paths outside of the park boundary (within Auckland Transport responsibility) accessible? E.g. width, grades, crossfalls, lack of barriers. These AT paths provide pedestrian access to parks. Raise an AT service request if required.				
Are path <b>widths</b> accessible? These routes must be a minimum 1200mm wide <i>(1800mm recommended as best practice) What are the path width/s?</i>				
Are path <b>grades</b> accessible? <i>Maximum grade of 1:12. UD recommendation of 1:14 UD best practice to provide ramps as an alternative to stairs wherever possible</i>				
Are path <b>crossfalls</b> accessible? Maximum of 2% (1:50) as per NZS 4121?				

<p>Are tracks and paths stable, firm, even, slip resistant and obstacle free?  <i>What material are the paths? Gravel, concrete, hoggin, timber planks, concrete pavers (with gaps or interlocking). Gaps between pavers or timber planks to not exceed 10-13mm.</i></p>				
<p>Is there an accessible route within the park?  <i>This route must meet width, grade, crossfall and surfacing requirements. Where does this route go? What assets does it connect to?</i></p>				
<p>Can key features of the park be accessed from the accessible route?  <i>Outline what assets are on the accessible route? E.g. toilets, playground, viewing platform. Identify any key assets that are not on the accessible route.</i></p>				
<p>Are paths free from obstacles within the path?  <i>E.g. trees or shrubs, rubbish bins or seats that narrow the width of the path</i></p>				
<p>Are paths wide enough to allow wheelchair manoeuvring space?  <i>Maintaining minimum of 1500mm x 1500mm, with four-wheeled scooters requiring larger right angles turns. Areas outside toilets, or near assets where users may need to manoeuvre. Best practice recommended 1800mm x 1800mm</i></p>				
<p>Are paths free from overhanging objects?  <i>E.g. low hanging branches and signs. Minimum 2.1m clearance from the ground with a best practice clearance of 2.4m</i></p>				
<p>Have oxides been used to avoid glare?  <i>E.g. black oxides or colours?</i></p>				
<p>Are drop kerbs well located?  <i>Maximum gradients of 1:8, best practice is 1:12</i></p>				
<p>Are tactile indicators used in appropriate places?  <i>E.g. changes in surface levels, or when paths lead to roads with flush transitions.</i></p>				



Vertical changes in level to not exceed 5mm <i>AT standard to not exceed 5mm to minimise trip hazards. If you come across a significant change in level raise a service request to remedy.</i>				
Are bollards along the accessible route highlighted (yellow and black) or demarcated? <i>Bollards either side of pathways can have a reflective or contrasting strip on them to highlight entry/exit points</i>				
Other comments				
<b>Ramps</b>				
Are any ramps provided in the park? <i>The building code covers ramps leading up to buildings.</i>				
Do ramps have a maximum gradient of 1:14? <i>A maximum grade of 1:20 is preferred (NZS 4121)</i>				
Do ramps have maximum crossfall of 2% (1:50). <i>The crossfall should levels out at bottom of ramp to provide an even transition and to avoid trip hazards or ponding. Crossfall should not exceed 1:50 (NZS 4121)</i>				
Is the ramp at least 1500 mm wide? <i>Width of at least 1800mm is preferred (NZS 4121)</i>				
Does the ramp have a consistent incline? Or if the ramp is longer than 9m, does it have consistent pause points? <i>Where are the pause points located? Within the ramp? To the side?</i>				
Are pause points/landings at least 1200mm x 1200mm? <i>Preferred 1800mmx1800mm (NZS 4121)</i>				
Does the ramp have clear approaches?				
Does the ramp have a slip resistant surface? <i>Explain surfacing</i>				
Are Tactile Ground Surface Indicators full width at top and bottom of the ramp?				

<p>Does the ramp have handrails?  <i>Are they provided on both sides?  Do they continue 300mm beyond the top and bottom of the ramp? Are they a contrasting colour?  Height of handrails:  850-950mm for adults  450-600mm for children  *Best practice is to provide dual height handrails, especially near playgrounds</i></p>				
Are handrails of contrasting colour to the background?				
Other comments				
<b>Steps/Stairs</b>				
Does this park contain steps/stairs?				
<p>Are there single steps or 1-2 steps present in this park?  <i>Ramps are preferred over 1-2 steps</i></p>				
Do stairs have a maximum rise of 1.8m or 12 steps between level landing areas?				
Are there an equal number of steps in each sections/between landings?				
<p>Are step dimensions and profiles consistent?  <i>Steps should be between 310-450mm deep and 150-180mm high (NZS 4121/CEUD)</i></p>				
Are stair landings at least 1200mm deep and clear of doors?				
<p>Is the stairway a minimum width of 1200mm?  <i>Wide enough to accommodate users comfortably and safely (CEUD)</i></p>				
<p>Is a strong colour contrast of step edges/nosing's provided?  <i>Tip - Take a photo in black and white to see the contrast, if you can clearly see the contrast, it is likely to be sufficient</i></p>				
<p>Are handrails provided on both sides of stairs?  <i>A central handrail with splitter is required if stairs are more than 2000m wide.</i></p>				

Is the height of the handrail appropriate? <i>Height of handrails: 850-950mm for adults 450-600mm for children *Best practice is to provide dual height handrails, especially near playgrounds</i>				
Does the handrail continue 300mm beyond the top and bottom of the stairs?				
Does the handrail colour contrast to surrounding environment?				
Are the stairs slip resistant in all weather conditions? <i>Pour some water onto the surface and slide your sports shoe, if it slides this will indicate if it is likely to be slippery in wet conditions</i>				
Are tactile hazard warning surfaces full width at the top and bottom of stairs?				
Is appropriate lighting provided?				
Refer to Resources - Stair and ramps worksheet for helpful images and links				
Other comments				
<b>Park Furniture</b>				
Is there a variety of seating, connected via an accessible path with sufficient hard surface space around? <i>Surrounding hard surface is required for wheelchairs, prams, walkers etc</i>				
Is a variety of tables, connected via an accessible path? <i>Is there space and surrounding hard surface for a wheelchair/pram in and around seating and tables?</i>				
Do some seats provide arm rests and backs?				
Is the height of the seating between 450mm and 520mm?				
Are rubbish bin/s on the accessible route? <i>Ensure there is a connection from the path to the bin and the bin does not create an obstacle within the accessible path</i>				

<p>Is the drinking fountain accessible and of an inclusive design?</p> <p><i>Located on the accessible route</i></p> <p><i>Height to cater for children and adults</i></p> <p><i>Has a clear hard surface space around the unit to allow access from more than one direction.</i></p> <p><i>Is the control easy to push/operate with a closed fist?</i></p> <p><i>Is a bottle filler or tap?</i></p> <p><i>Is it located near the playground or sports field?</i></p> <p><i>* Consider dog bowls on a site by site basis, feedback from the disability community is mixed with some people concerned regarding contamination of dog bowls</i></p>				
<p>Are high colour contrasts used appropriately?</p> <p><i>E.g. bollards, light poles, entrances, furniture</i></p>				
<p>Is the space dog friendly? Are dog tie up areas provided?</p>				
<p>Is the BBQ accessible?</p> <p><i>Access to the BBQ and the design</i></p> <p><i>Is there sufficient space around the BBQ?</i></p> <p><b>Are</b> <i>there associated seating areas?</i></p>				
<p>Is the shade shelter on the accessible route and does it provide accessible seating options?</p>				
<p>Other comments</p>				
<h2>Playgrounds</h2>				
<p><b>Access</b></p>				
<p>Is there a playground at this park?</p>				
<p>Is the path connection to the playground accessible?<i>E.g. with acceptable width, slope and crossfall dimensions? Firm, even and non-slip? Has no obstructions within paths e.g. drainage grates?</i></p>				
<p>Are drop kerbs well located to provide access to the playground?</p>				
<p>Is there an accessible car park located close to the playground?</p> <p><i>How far away is it? Is the route between the two accessible?</i></p>				

Is there an accessible path connecting the playground to the toilet?				
<b>Surfacing</b>				
Is there any accessible safety surfacing? <i>E.g. flush rubber/artificial grass</i>				
Is there a gradual transition from surrounding paths/levels into any sand areas? <i>Does this transition allow accessible access? e.g. no steep drops into sand play areas, or walls to overcome</i>				
Is there a gradual transition or flush access to <b>lose safety</b> surfacing areas? <i>How is the transition from the path to <b>lose</b> safety surface e.g. woodchip? Does the playground have a raised timber edge? Is a ramp provided? Provide a comment if there is a sudden drop from the footpath to <b>lose</b> safety surface areas.</i>				
Does accessible surfacing provide access to any play items? <i>E.g. rubber surfacing to swings, monkey bars or tunnels. List all play items that are accessible via flush safety surface</i>				
<b>Play Items</b>				
Are inclusive play items provided? <i>What items are provided? E.g. basket swing, flush carousel, wide slide, sensory, music, activity tables.</i>				

<p><b>Do the inclusive play items have accessible safety surfacing provided underneath?</b></p> <p><i>An inclusive item would not be accessible without flush safety surfacing. E.g. a basket swing positioned in woodchip is not considered accessible. List inclusive items that are accessible.</i></p> <p><i>Best practice guidance:</i></p> <ul style="list-style-type: none"> <li>• Aim to provide at least 50% accessible equipment for new/refurbished playgrounds</li> <li>• Provide accessible playground equipment in all parts of a new/refurbished playground (i.e. junior and senior)</li> <li>• Provide accessible playground equipment that works for a range of abilities – physical, sensory, cognitive, neurodiverse</li> </ul>				
<p><b>Are there appropriate handrails on ramps and stairs?</b></p>				
<p><b>Are there play tables?</b></p> <p><i>E.g. raised sand tables or water tables, minimum height of 0.61m</i></p> <p><i>Ensure there is space for those with mobility equipment such as wheelchairs, to be able to access and play</i></p>				
<p><b>Are vestibular play experiences provided?</b></p> <p><i>Spinning, sliding, rocking, swinging, climbing. List items. Is there equipment where children of different needs can play together? E.g. Basket swing, caregiver and child swing, wide slides.</i></p>				
<p><b>Are backs and arms provided on any vestibular play experiences?</b></p> <p><i>E.g. backs on swings and rocker, full seat swings or seated flying foxes. List items</i></p>				
<p><b>Are visual play experiences provided?</b></p> <p><i>E.g. Coloured lights, mirrors, black and white. List items</i></p>				
<p><b>Are olfactory play experiences provided?</b></p> <p><i>E.g. plants/herbs to stimulate smell. List items</i></p>				
<p><b>Are tactile play experiences provided?</b></p> <p><i>E.g. rocks, sand, dirt, water, grass, loose parts. List items</i></p> <p><i>Can they be reached from the accessible route?</i></p>				
<p><b>Are auditory play experiences provided?</b></p> <p><i>E.g. echoes, chimes, talking tubes, drums, rain makers, music. List items</i></p>				

Are braille or communication boards (including NZSL) used within the play space? <i>Explain how they are used and where they are located</i>				
Are colours used to define areas or provide visual cues for blind/low vision? <i>E.g. bright wet pour as a pathway, or around a certain items fall zone. Path colours different from play area? Explain how they are used</i>				
Have colours been considered for neurodiverse users? <i>Some bright colours can be overwhelming for people who are neurodiverse</i>				
Is the play space fenced? <i>Partial fencing? Fully fenced? Is the gate/s functional? If fully fenced, two gates should be provided for safety to prevent entrapment. Fencing playspaces can be useful for neurodiverse children or caregivers with disabilities</i>				
Are there quiet or peaceful areas for people to relax or be less stimulated within the play area or located nearby?				
<b>Supporting infrastructure</b>				
Is there accessible seating near/within the play space? <i>Some seats to have back rests and arm rest/s, located to facilitate caregiver supervision</i>				
Is there a good sightline from the caregiver seating area to provide effective supervision of the play area?				
Is there good passive surveillance of the playground from the wider park/road? <i>Describe the level of surveillance and where it is from</i>				
Is there an accessible location for parking prams or wheelchairs which does not impede on the pathways? <i>Is this next to seating or in a different area? Explain location</i>				
Is shade provided for playground users/caregivers? <i>Shade structures, shade sails over targeted areas, shade provided by equipment, tree shade, nearby shade</i>				
Other comments				

<b>Planting</b>				
Has there been careful consideration in the choice of plants planted near the footpath? <i>Ensure mature plants do not overhang paths and reduce accessible clear width or do not interfere with park lighting</i>				
Are the footpaths free to leaf litter? <i>E.g. Leaf litter drops within the fall zone and not onto the footpath. Leaf litter is very dangerous when wet, especially for mobility equipment such as crutches.</i>				
Are plants near footpaths appropriate? <i>Do the plants near the footpath have sharp leaves? plants with sharp leaves are to be avoided; They are cross-referenced to the advice on the Urban Ngahere Strategy (2018) and further specialist advice for better choice in species of plants.</i>				
Are the branches of the trees less kept above 2.1m, if located adjacent to the accessible route? <i>Maintain clear pathways along the accessible route</i>				
Are low ground cover plantings maintained to a maximum height of 600mm? <i>Ensure that they do not exceed to maintain sightlines</i>				
Other comments				
<b>Lighting</b>				
Is lighting provided in this park? <i>Note - it is not practical or desirable to illuminate all of our parks in their entirety. However, it is possible to selectively light gates, paths, sports fields, focal points, artwork or edges, so that our major open spaces remain a positive part of Auckland's night character (ADM)</i>				
Is lighting even and free from glare or shadows?				
Is lighting sufficient to identify another person at a distance of 15m?				



Are public activity areas well lit?				
Are stairs and ramps are lit to 200 lux?				
Are toilets internally lit to 100 lux?				
Are directional signage, maps and displays lit to 200 lux.?				
Are pathways within the park well lit? <i>Note - it is not desirable to light all paths. Key commuter routes can be candidates for lighting. If paths are lit, does it meet CPTED criteria.</i>				
<b>Other comments</b>				
<b>Signage and Wayfinding</b>				
Are the signs illuminated to be visible at night and from a distance?				
Are the content such as symbols, text and directional arrows clearly contrast against the background?				
Is the information pictorial with universally acknowledged symbols as well as words? <i>Is the font large and legible for night time reading?</i>				
Is there way-finding information provided showing accessible routes and accessible public amenities?				
Does the information reveal travel distances to nearby taxi stands? bus stops? landmarks?				
Does the signage accurately depict the information instead of being exclusionary? <i>Are there alternate accessible routes marked on the map with travel time and distances? (in case of repairs or closures on the main path)</i>				
Has there been consideration of providing signage in different languages? Bilingual? Braille?				
Is there any emergency number included? Is there a number provided for maintenance?				

Is the signage easily visible? <i>Height of signage at optimum levels suited for both able bodied and wheelchair users? Is foliage growth well maintained and clear of signages?</i>				
Are there any universal design signage elements such as a communication board?				
Is there any digital information available for the park? Is it audio accompanied?				
Other comments				

The Parks Accessibility and Inclusivity Checklist is a non -statutory document which pulls together best practice design. Auckland Council is not responsible for any actions taken or not taken on the basis of such information and Auckland Council expressly excludes any liability for any such inaccuracies or errors to the fullest extent permitted by law.

This document will be updated and refined as new best practice is adopted by Auckland Council.

# References

Auckland Council (2023) Signage Manual - Puka Aratohu mō ngā Pānui Whakairi a te Kaunihera o Tāmaki Makaurau Auckland Council Signage Manual March 2023 <https://aklcouncil.sharepoint.com/sites/Kotahi/Compliance/AC%20Signage%20Manual%20March%202023.pdf>

Auckland Council (n.d.) Universal Design Hub. [https://www.aucklanddesignmanual.co.nz/design-subjects/universal\\_design](https://www.aucklanddesignmanual.co.nz/design-subjects/universal_design)

Auckland Council (n.d.) Universal Design Checklists. [https://www.aucklanddesignmanual.co.nz/design-subjects/universal\\_design/checklists](https://www.aucklanddesignmanual.co.nz/design-subjects/universal_design/checklists)

Centre for Excellence in Universal Design (n.d.) Building for everyone. <http://universaldesign.ie/Built-Environment/Building-for-Everyone/>

Copeland, E., Stringer, J. Naylor, V., and Rim Lee, S. (2022). Te Pua/Keith Park – Nau mai, Haere mai Let’s Play Together. The Journal of Public Space 7(2) [online]. View of Te Pua Keith Park – Nau mai, Haere mai Let’s Play Together.

<https://www.journalpublicspace.org/index.php/jps/article/view/1517/865>

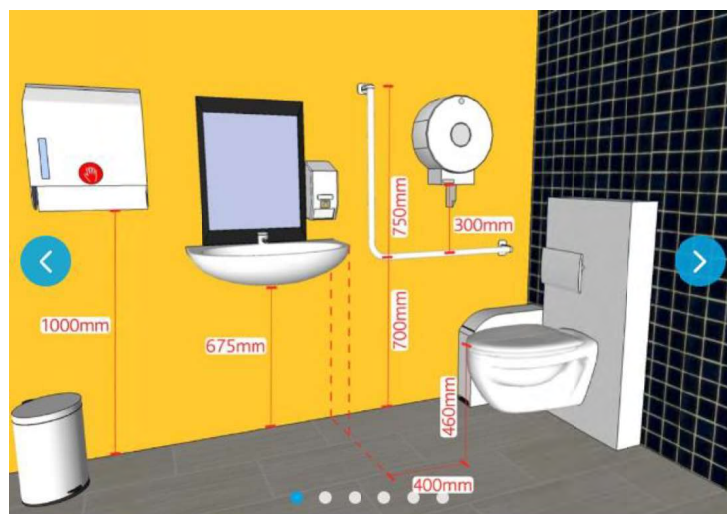
RTS14 (2015) Guidelines for facilities for blind and vision impaired pedestrians. <https://www.nzta.govt.nz/assets/resources/road-traffic-standards/docs/rts-14.pdf>

Standards New Zealand (2001). NZS: 4121 Design for access and mobility – Buildings and associated facilities. Wellington, NZ: SNZ

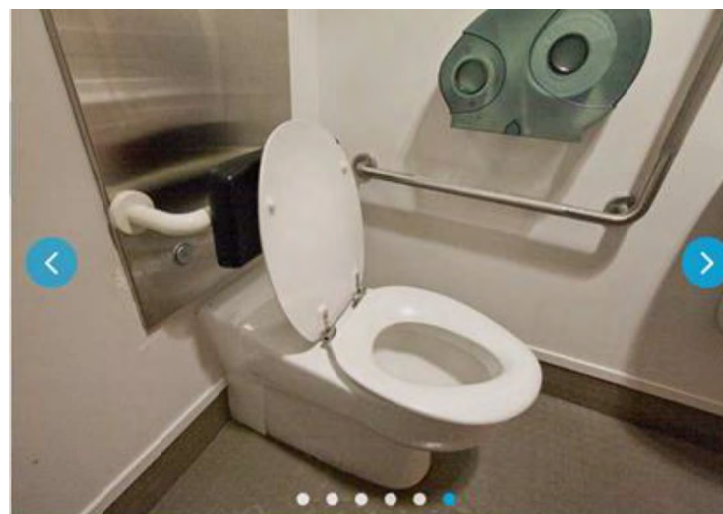
<https://www.standards.govt.nz/assets/Publication-files/NZS4121-2001.pdf>

# Checklist Quick Resources

## Toilets



This diagram demonstrates the location of fixtures including the location of an L-shaped grab rail. Grab rails provide people support when moving on and off the toilet. It is important that fixtures such as the toilet roll holder do not impede grasp of the grab rail. Accessible toilets and family rooms need to have enough space for the user, an assistant, plus mobility equipment, whether that is a wheelchair, four wheeled stroller or pram. The minimum room size of accessible toilets should be 2300 mm wide x 2500 mm long. Ensure there is at least 830 mm of clear space without fixtures or bins beside the toilet as this space is needed for wheelchairs.

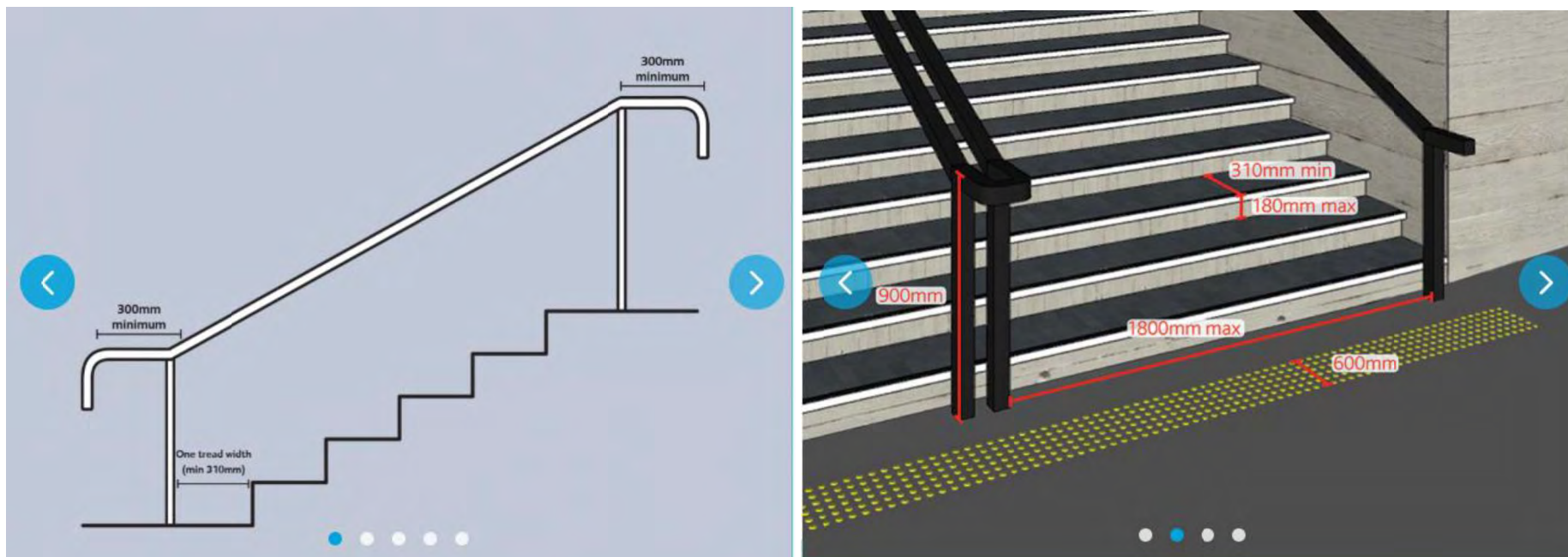


Accessible toilets should have back rests to provide additional support for users to maintain their sitting balance.

<http://universaldesigntool.co.nz/inside-the-building/toilets-and-showers/measurements-and-specs/accessible-toilets-diagrams-for-best-practise-design-2/>

<http://universaldesigntool.co.nz/outside-and-surrounds/level-changes/ramps-and-stairs/handrails-handrails-should-be-easy-to-grasp-and-provide-maximum-support/>

## Stairs



<http://universaldesigntool.co.nz/outside-and-surrounds/level-changes/ramps-and-stairs/1561-2/>

# Car parking

## Accessible Parking Design

- Perpendicular (90°) accessible parking spaces should have a minimum dimension of 2400mm x 4800mm, with additional 1200mm wide access aisles on both sides and at the end of the parking space (CEUD).<sup>2</sup>
- Parallel parking spaces should have a minimum dimension of 3600mm wide x 7000mm long. Ensure street furniture, lamp posts etc. do not obstruct the pavement side of car parks (CEUD).
- Wherever possible, accessible parking spaces should be covered to provide protection from the weather (NZS 4121).<sup>3</sup>
- Provide a minimum vertical clearance of 2600mm to accessible parking spaces (accessible vehicles such as vans require higher clearance). Provide signage to indicate any height restricted routes to parking and direct users to an alternative 2600mm accessible route (CEUD).
- Surfaces of car parks and surrounding transfer spaces should be level, firm and slip resistant (MBIE).

## Other Design Considerations

- Integrate the principles of CPTED into the design of any car parks and related accessways.
- Make sure ticket dispensers and prepay machines are accessible.
- Ticket machines should be conveniently located, highly visible, and easy for all users to understand and use.
- Include an assistance intercom and visual display for all ticket machines (CEUD).
- Apply the principles of passive surveillance and utilise CCTV coverage to provide for users' safety.
- Lighting above car parks and simple sensors are an effective way to indicate availability. Blue indicates an accessible carpark, green indicates an available carpark and red indicates that a carpark is occupied.

## Accessible Parking Provision

- Supply the following minimum number of accessibility car parks (NZS 4121):
  - 1 accessible car park for 20 car parks or less.
  - 2 accessible car parks for 21-50 car parks.
  - 1 accessible car park for every additional 50 car parks.
- Locate accessible parking spaces close to building/facility entrances and provide an accessible route from parking spaces to entrances (CEUD).

[https://content.aucklanddesignmanual.co.nz/design-subjects/universal\\_design/checklists/details/guidance/parking/sections/checklist/Documents/UD%20Parking%20Design%20Checklist.pdf](https://content.aucklanddesignmanual.co.nz/design-subjects/universal_design/checklists/details/guidance/parking/sections/checklist/Documents/UD%20Parking%20Design%20Checklist.pdf)

# Slope – Degree - Gradient

The following table covers common slopes by gradient (degrees and percentages are calculated).

GRADIENT	DEGREES	PERCENT
1:12	4.76°	8.33%
1:20	2.86°	5%
1:48	1.19°	2.08%
1:50	1.15°	2%

Next, we have some common slopes by degrees (gradient and percentage are calculated)

DEGREES	GRADIENT	PERCENT
1°	1:57.29	1.75%
5°	1:11.43	8.75%
10°	1:5.67	17.63%
15°	1:3.73	26.79%
30°	1:1.73	57.74%
45°	1:1	100%
60°	1:0.58	173.21%
90°	1:0	inf.

Finally, here is a list of some common slopes by percentage (gradient and degrees are calculated)

PERCENT	GRADIENT	DEGREES
1%	1:100	0.57°
2%	1:50	1.15°
5%	1:20	2.86°
25%	1:4	14.04°
50%	1:2	26.57°
100%	1:1	45°

<https://www.archtoolbox.com/calculating-slope/>

[https://www.engineeringtoolbox.com/slope-degrees-gradient-grade-d\\_1562.html](https://www.engineeringtoolbox.com/slope-degrees-gradient-grade-d_1562.html)

Angle (degrees)	Slope		Grade (%)
	Y	X	
0.1	1	573.0	0.17
0.2	1	286.5	0.35
0.3	1	191.0	0.52
0.4	1	143.2	0.70
0.5	1	114.6	0.87
0.57	1	100	1
0.6	1	95.49	1.05
0.7	1	81.85	1.22
0.8	1	71.62	1.40
0.9	1	63.66	1.57
1	1	57.29	1.75
2	1	28.64	3.49
3	1	19.08	5.24
4	1	14.30	6.99
5	1	11.43	8.75
5.71	1	10	10
6	1	9.514	10.5
7	1	8.144	12.3
8	1	7.115	14.1
9	1	6.314	15.8
10	1	5.671	17.6
11	1	5.145	19.4
12	1	4.705	21.3
13	1	4.331	23.1
14	1	4.011	24.9
15	1	3.732	26.8
16	1	3.487	28.7
17	1	3.271	30.6
18	1	3.078	32.5
19	1	2.904	34.4
20	1	2.747	36.4
21	1	2.605	38.4
22	1	2.475	40.4
23	1	2.356	42.4
24	1	2.246	44.5
25	1	2.145	46.6
26	1	2.050	48.8
27	1	1.963	51.0
28	1	1.881	53.2
29	1	1.804	55.4
30	1	1.732	57.7
31	1	1.664	60.1
32	1	1.600	62.5
33	1	1.540	64.9
34	1	1.483	67.5
35	1	1.428	70.0
36	1	1.376	72.7
37	1	1.327	75.4
38	1	1.280	78.1

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