

Living Streets Aotearoa's Submission on Standards Australia / Standards NZ's Draft Standard for Off-Street Car Parking

In the following we will refer to the page number as it appeared in the 68-page electronic pdf viewed at https://consultations.standards.govt.nz/draft-standards/as-nzs-2890-1-parking-facilities-off-street-car-pa/user_uploads/105480-asnzs-2890.1-working-draft.pdf

INTRODUCTION

- (1) As a pedestrian advocacy organisation we are most concerned about the impacts of the draft requirements and recommendations on pedestrians, including people using mobility assistance devices to overcome disability. This applies to features both inside the facility and where the facility meets public space.
- (2) We support the stated emphasis on safety of different users with different needs (p3 para 3) and the requirements in s.2.3.1 on p8 stated as
 - (a) The need for traffic to move to and from the frontage road with minimum disruption to through traffic and maximum pedestrian safety.
 - (d) A low speed environment;
 - f) Safe travel paths for pedestrians throughout the facility;
 - (g) Safe treatment of points of conflict with pedestrians and other road users;
 - (h) Parking spaces and accessible pedestrian paths for people with disabilities
- (3) We particularly believe that a low speed environment is essential for pedestrian safety.
- (4) However, we think that the Standard doesn't always measure up to the above. For example, we think that P7 s2.1 does not give the appropriate emphasis consistent with a safe systems approach to the design and management of transport facilities. We believe the safety of users should be a primary requirement in the design of off-street facilities. So we suggest the statement

'Designers should integrate the elements of the document to produce a car park layout while taking into account requirements for safe movement of pedestrians, bicycles, motorcycles and other traffic.'

should be rewritten as

'Designers shall ensure the safe movement of pedestrians, bicycle users, motorcycle riders and users of other vehicles when designing a car parking layout by integrating the elements of the document.'

- (5) As another example, in Figure 2.1 on p8, the primacy of the footpath is not made clear. The way it is drawn, with the words 'Access driveway' and the double-headed arrow going right across the footpath and the lines marking the sides of the footpath being interrupted by them, make it look like the access driveway takes priority.
- (6) We suggest the words 'Access driveway' be written elsewhere (the upper level of the carpark could be repositioned to provide clear space on the page to enable this) and then arrows be drawn to the space on each side of the footpath but not to the footpath itself. This would show that the footpath is continuous and interrupts the driveway, reinforcing the law that vehicle users must give way to people moving along the footpath when entering or leaving a property.
- (7) This would also be consistent with point 2.3.1(a) that the design of the facility should ensure maximum pedestrian safety and 2.3.1(g) that points of conflict with pedestrians and other users shall be safe. This should apply to the approach to the facility as well as inside it.

COMMENTS ON SPECIFIC ASPECTS OF THE DRAFT STANDARD

Accessways and where they meet the footpath

- (8) p25 s.3.1.1 We believe access to off-street parking facilities should always be of the access driveway type with priority for footpath users maintained rather than being regarded and designed as an intersection. Only in this way do we believe pedestrians will be offered the degree of safety that the Standard says shall be achieved. We think the reference to intersection type access should be deleted from the standard. So we recommend the first three paragraphs of s.3.1.1 be rewritten as

~~'All accesses between off-street car parks and frontage roads shall be formed in such a way as to be clearly recognized by road users as either an access driveway or as an intersection.~~

~~For access driveways, kerbs and footpaths shall be continuous along the frontage road and across the access driveway. The appearance and character of the driveway shall be such that it will be clear to vehicle drivers that pedestrians and frontage road traffic have priority of movement.~~

~~If intended as an intersection, the entry and exit shall be designed as if for a public roadway, subject to the design requirements of the relevant authority.'~~

- (9) The next best alternative that could achieve the desired safety level would be to require a raised pedestrian crossing to be marked across the roadway if the vehicle access to the off-street parking facility is of an intersection type. In that case, the first three paragraphs of s.3.1.1 should be rewritten as

'All accesses between off-street car parks and frontage roads shall be formed in such a way as to be clearly recognized by road users as either an access driveway or as an intersection.

For access driveways, kerbs and footpaths shall be continuous along the frontage road and across the access driveway. The appearance and character of the driveway shall be such that it will be clear to vehicle drivers that pedestrians and frontage road traffic have priority of movement.

If intended as an intersection, the entry and exit shall be designed as if for a public roadway, subject to the design requirements of the relevant authority but must have a raised pedestrian crossing marked across it.'

- (10) Furthermore, we recommend that stopping points be marked on the vehicle access way on both sides of the footpath to remind drivers to give way to pedestrians. It has become common for drivers to treat all such entrances / exits from off street parking as a roadway and cross the footpath irrespective of whether or not pedestrians are approaching. Sometimes they then wait at the kerb, completely blocking the footpath as they wait to enter the roadway.
- (11) In addition, we believe that accessways should never be more than two-lane in total to minimise the length of footpath (or pedestrian crossing) over which pedestrian safety is decreased. This may increase the queueing length within the facility but if that is intolerable then additional entrances/exits or separated entrances and exits should be designed in.
- (12) P26 We disagree with the widths specified in Table 3.2. They mean that up to 16m of footpath length would have a decreased level of safety for footpath users. We suggest a maximum width (combined entrance and exit) should be 7m for a commercial or public off-street parking facility.
- (13) We think that right turns out of facilities should be avoided if they increase the desire for more than one exit lane.
- (14) P31 Table 3.4 gives minimum sight distances along frontage paths from the access driveway. For a pedestrian only path, it requires a minimum of 3m sight distance along the path from 2.5m or 5m in from the footpath edge on the vehicle accessway. This is inadequate, especially when the speed of the vehicle is not minimal (as it should be as it approaches the footpath).
- (15) Appendix E (pp66-67 s.E1.1(b)) states that the sight distances in Table 3.4 are calculated assuming a vehicle speed of 5km/h or less. This is unrealistic with many vehicles approaching footpaths at >10km/h. In part, this higher speed is probably because many drivers aim to pause at the point where the accessway meets the roadway rather than before getting to the edge of the footpath.

- (16) Additionally, the distance along the path that the driver and path user have a clear view of is taken from the centre line of the access way. With the access lane being a minimum of 3m wide (p27) this provides far too short a sight distance.
- (17) It is inconsistent for the Standard (p37) to suggest that
- 'where pedestrian paths cross a parking aisle (inside an off-street parking facility), a provision of a minimum clear sight line of 10 m between vehicle and pedestrian movements shall be provided for.'
- while requiring shorter sight distances at exit points. The former are based on an assumed vehicle speed of 10km/h which is more realistic (although often still lower than the actual speeds driven in parking aisles and circulation roads). There is no good reason for a lower speed to be assumed for vehicles leaving a facility given what is observed in practice.
- (18) Further, because many footpaths are now mixed use (pedestrians, kick scooters, e-scooters, mobility scooters and, in NZ, bicycles ridden illegally often due to perceived lack of safety on the roadway) if minimum sight distances are required by the Standard they should also be based on path user speeds substantially above that of pedestrians (5km/h).
- (19) However, a more effective way to achieve safety for path users at off-street parking facility accessways than by trying to calculate the sight distances that are appropriate would be to require mandatory stops on all vehicle exit points. This would unequivocally remind drivers of their responsibility to let path users cross the access way (on the footpath or, if our suggestion for the treatment of intersection-type access ways mentioned in para (9) is adopted, raised pedestrian crossing) before the driver crosses the path or crossing. In doing so, it would support the safety of path users which is a stated intention of this Standard (see para (2)).
- (20) Mandatory stops require signs and markings but could also be supported by humps or, where the paths about to be crossed are busy, barrier arms on the access way. The stopping points and edges of the accessways should be designed to give drivers and path users clear view of each other.
- (21) On p67, in Appendix E, E1.1(c) is written as though the onus is on the path users to stop where the path crosses an accessway.
- '(c) The distance along the path (Y) is measured from the centreline of each exit lane where it crosses the path and is the safe stopping distance for path users.'
- (22) This is contrary to law, earlier statements in this Standard, and is inconsistent with E1.1(e) which acknowledges that

'some path users such as young children and those with vision or hearing impairment or cognitive difficulties may not be able to do so.'

- (23) It also doesn't seem to take into account how quiet modern cars, especially electric ones, are and especially when driven at low speeds.

Slope of footpaths

- (24) P36 Despite stating

'At entry and exit points, the access driveway grades should take into account the maximum gradient requirements of other users of the footpath and roadway'

the requirement (s.4.4(b)) that

'where the driveway crosses a footpath, the driveway grade shall be 1 in 33 (3.3 %) or less.'

means that the crossfall on the footpath could be as high as 3.3%.

- (25) The NZTA Pedestrian Network Guidance (https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance/design/paths/footpath-design-geometry/crossfall/#_ftn3) says

'NZS 4121[3] specifies a maximum crossfall of 1:50 (2 percent). Note that Austroads and the Australian Standard 1428:1:2009 both specify 2.5 percent, but the NZ standard supersedes these.'

So the draft off-street parking facility Standard is inconsistent with NZS 4121 and needs to be corrected to match it.

Gradient of exit ramps

- (26) P36-37 We are also concerned that steep accessways to/from commercial off-street parking and steep private residential driveways pose particular dangers for path users. This is especially the case if the accessway gradient is negative (taking it below path level). Drivers are typically more concerned about not stalling their vehicle or going backwards than they are when the accessway is flat and so speeds are likely to be considerably higher than 5km at the point they meet the footpath. They are especially not likely to stop before the footpath edge. Indeed at some facilities there are signs telling footpath user to beware of exiting vehicles or to stop for them, again reversing the notion that all road users should give way to pedestrians and other users using footpaths.
- (27) We believe that such exit arrangements should not be permitted. Instead a flat or low gradient minimum length of accessway should be required at

all exit points, along with mandatory stops at the point where the accessway leaves the property boundary.

Provision for pedestrians within the facility

(28) P37 We believe that pedestrian pathways within off-street parking facilities should be separated from vehicle roadways. Given this Standard is meant to influence new facilities this should always be possible.

(29) However, in the very rare cases where parking capacity must take precedence over providing separate pathways we agree with the statement

‘Within a parking aisle serving User Classes 1,2, 3 and 4, where pedestrian movements are unable to be separated from vehicle movements, the parking aisle shall be designed as a low speed environment.’

(30) But we do not support NOTE 6 on p37 which states

‘A low speed environment is considered to be less than 20 km/h.’

(31) With so many driver distractions in parking facilities and unpredictable behaviour of children and other pedestrians as well as other drivers, 20km/h should be considered a high speed. We believe there should be a maximum speed limit of 10km/h in parking modules and 15km/h on circulation roads within the facility.

Wheel stops and overhang

(32) PP5-6 Definitions – overhang, both front and rear, is defined as to the extremity of the bodywork. This should be changed to the extremity of any attachments to the bodywork such as towbars, bullbars etc as these are what obstruct pedestrians.

(33) P16 s.2.4.5 Vehicles overhanging the space meant for pedestrian use is a commonly-encountered problem and is especially serious for visually impaired pedestrians.

(34) Wheelstops, if appropriately positioned can prevent this whereas the effectiveness of kerbs depends on their height and the height above the ground of the underside of vehicles. With many SUVs and utes, the clearance is high and these vehicles are frequently found to be overhanging pedestrian pathways.

(35) Alternatively, kerbs at the end of parking spaces could be required to be sufficiently high to prevent encroachment. The trouble, though, with high kerbs is that they are likely to increase the danger of trips and falls from the pedestrian pathway to the level of the parking space. Also high kerbs are likely to be frequently hit and damaged by vehicles. So really,

wheelstops seem the only suitable method to prevent encroachment and so should be mandatory.

- (36) P17 To be consistent with the Standard's requirement (s2.3.1(f)) to provide safe pathways for pedestrians the first sentence of s.2.4.5.4

'Wheel stops may be provided where it is considered necessary to limit the travel of a vehicle into a parking space or adjacent pedestrian pathway.'

should be rewritten as

'Wheel stops ~~may~~ shall be provided to limit the travel of a vehicle into a parking space where the space abuts a pedestrian pathway.'

Large Vehicles

- (37) The draft standard has sought to provide for larger vehicles in all parts of an off-street parking facility. For example, p22 s.2.5.2 states

'Intersection areas designed for use by one vehicle at a time shall be designed for use by the B99 vehicle.'

and on p13 s.2.4.1.4 says

'The nominal length of a parking space in a parking module shall be 5.6 m minimum'.

- (38) We believe a more rational approach would be to limit larger vehicles (say above B85 or B90) to certain parts of such facilities. Economic analysis of the additional costs of providing for these larger vehicles to park anywhere in the facility as opposed to in particular areas should be carried out. Such an approach would enable facility owners to minimise the cost of the facility as well as the costs that owners of such vehicles externalise on other users. It would also enable differential parking fees to be charged.
- (39) Such parts of the facility would likely be closest to the entrance/exits so as to minimise the greater area needed by larger vehicles for parking, manouvering and turning in aisles and circulation roadways.
- (40) Technology can be used to assess the lengths and heights of vehicles at control points and then direct vehicles larger than the chosen threshold to only certain areas. Similarly vehicles below the chosen threshold could be diverted to other areas. In this way both larger and small vehicles could be prevented from parking in areas meant for the other.

SOME MINOR THINGS

- (41) P9 The words 'if necessary' should be removed from the final sentence of s2.3.1 as off-street parking facilities always require road access. So it would read
'The layout design of an off-street car park should take into consideration the entire facility, including parking modules, circulation roadways, access driveways and, if necessary, frontage road access, as an integrated and coordinated design for vehicles, pedestrians and bicycles.'
- (42) P11 The illustrations in Figure 2.2 show 90° parking and 30° parking. It would be better to separate these into different figures. Also, identifying the wheel stops in the suggested separate figures, just as the low kerb and wall or fence have been, would be helpful to understanding.
- (43) P11 Also regarding Figure 2.2, the parking module excludes the overhang beyond the wheel stops but this is not consistent with the definition of parking module given on p6 and doesn't seem to be sensible given that the overhang also uses space in the facility. We suggest the arrow demarcating the parking module be extended to the end of the parking space including the space provided for any overhang, i.e. to any kerb or wall or pedestrian pathway.
- (44) P12 Tables 2.1-2.3 The logic of the aisle width decreasing across classes 1-4 and then increasing for class 5 eludes us. We understand wider aisles are required as the parking angle θ increases but we see little logic in relating aisle width to length of permitted stay in the parking space and the logic of the aisle width decreasing as length of stay increases (i.e. classes 1-4) and then increasing for class 5 especially eludes us. Further we see no reason to vary aisle width according to whether the space is allocated to a specific user or not.
- (45) P24/68 The label for Figure 2.9 should be brought up to below the figure and above the table.
- (46) P25/68 s.2.6.1 the reference to Table 2.2 is probably meant to be to Table 2.8.

Thank you.

About Living Streets

Living Streets Aotearoa is the New Zealand organisation for people on foot, promoting walking-friendly communities. We are a nationwide organisation with members throughout New Zealand.

We want more people walking and enjoying public spaces be they young or old, fast or slow, whether walking, sitting, commuting, shopping, between appointments, or out on the streets for exercise, for leisure or for pleasure.