

16 MEASURES TO GUIDE PEDESTRIANS

MEASURES TO GUIDE PEDESTRIANS

Types of pedestrian signage and design

Other methods to guide or channel pedestrians

16.1 Introduction

All road users need helpful guidance and direction to inform and warn them of the environment ahead [46]. As pedestrians have different characteristics and routes from other road users, the following four specific measures are required [10, 117]:

- providing directional information to pedestrians
- channelling pedestrian flows
- informing other road users of the presence of pedestrians
- indicating to pedestrians and other road users who has priority at crossing points.

16.2 Pedestrian signage strategies

A planned and cohesive strategy for pedestrian signage usually reduces the number of signs and locations and minimises maintenance costs, clutter/obstruction and visual blight [46]. Signage strategies should be based on locating signs at the following specific 'decision points' on the pedestrian network [16, 144]:

- Likely trip origins, that is, places where people join the pedestrian network such as transport interchanges/stops, car parks and key city approaches.
- Likely trip destinations, as when visits to these location are over they become trip origins. Examples include tourist attractions, community facilities and retail areas.
- Locations with possible route ambiguity, including major junctions and open areas.
- On long routes where pedestrians may be uncertain that they have chosen the correct direction and need confirmation.

The strategy should include all major destinations for pedestrians. Once a destination appears on a sign, it must continue to be signed at every subsequent decision point until the destination is reached [45]. Choosing destinations can be contentious, so community involvement in the process is strongly recommended.



Photo 16.1 – Lyttelton heritage pole, Lyttelton (Photo: Wendy Everingham)

Signs should only be installed where they fulfil a need based on pedestrians' expectations. They may be located outside the roadway owing to pedestrian route flexibility and diversity.

16.3 Pedestrian signage

16.3.1 Pedestrian specific signage

There are no standard directional signs for pedestrians, therefore, a variety of non-standard versions have been developed.

Non-standard pedestrian signs include:

Fingerpost



Photo 16.2 – Fingerpost, Lyttelton (Photo: Wendy Everingham)

A thin, directional sign showing the name of, and pointing the way to walk to, a major trip destination. It is distinct in design from street name signs.

- Fingerposts to different destinations can be grouped together.
- New destinations can be added easily.
- They provide helpful directions.
- They are intuitive for users.
- They can be seen over 360°.
- Confirmatory signs can be identical.

Information board



Photo 16.3 – Information board (Photo: Tim Hughes)

Upright display panels listing key destinations, with arrows showing the way to walk to each one.

- The greater physical area allows for more destinations and symbols.
- Information can be displayed at head height, in the 'natural' line of vision.
- They are more vandal resistant.
- They can incorporate 'real time' information.
- They are easily lit.

Map

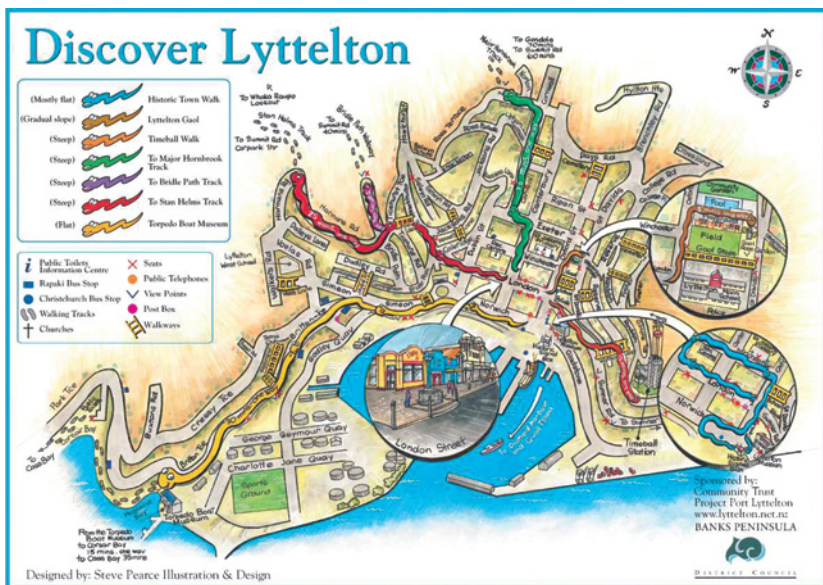


Figure 16.1 – Lyttelton map (Wendy Everingham)

An 'overhead' view of the immediate area showing pedestrian location and possible destinations.

- Maps provide the greatest amount of information.
- They can be combined with information boards and fingerposts.
- They can be either upright or flat.
- Paper maps behind transparent protection can be updated quickly, easily and cheaply.
- Key destinations and landmarks can be shown graphically, helping with direction-finding.
- Maps can be oriented according to the pedestrian's location [16].

Trail signs



Photo 16.4 – Trail sign

Markings (such as metal studs, coloured tiles or painted markings) set directly onto the footpath that pedestrians follow to reach their destination.

Trail signs:

- are intuitive to follow
- can be used to show 'walks' around an area, not just destinations
- are easily understood by most pedestrians
- are quick to install
- are less prone to being vandalised
- can be installed temporarily (for short-term routes to a destination, such as an event).

There is considerable design flexibility. However, as they can affect significantly the quality of public space, they should be designed and located sympathetically, taking into account their environment [45] and future maintenance issues.

A pedestrian seeing one type of sign is likely to seek signs of a similar style at other points on their journey. Road controlling authorities should consider a consistent theme for signface designs, colours and mounting height. This approach also helps minimise maintenance and replacement costs.

16.3.2 Outdoor recreation symbols

NZS 8603:2005: *Design and application of outdoor recreation symbols* [137] is a standard for signs with symbols and pictures that can help pedestrians to:

- locate areas, facilities, services, features and attractions
- identify safety requirements and learn about dangers
- find out about regulations that apply.

Symbols are commonly used and many people are familiar with them, so they can apply to a variety of situations to convey a message quickly and clearly. To further explain the sign, text can be included – or a circle with a line through the symbol can identify prohibited activities. The standard sets out details of symbols, legends and layouts (see figure 16.1 for some examples).



Figure 16.1 – Examples of standard recreational signs

16.3.3 Roadway signage

Signs and markings in road transport corridors are governed by the *Traffic Control Devices Rule* [111] and detailed in MOTSAM [154]. This details symbols, legends and layouts, and sign size and location/positioning.

MOTSAM [154] includes signs that inform and warn other road users of the possible presence of pedestrians, as well as signs designating pedestrian-only and no-pedestrian routes. It also has details of temporary direction signing for pedestrians. However, it does not include any permanent pedestrian direction or way-finding signs, although it does incorporate information signs.



Figure 16.2 – Examples of symbols used in a MOTSAM motorist service sign

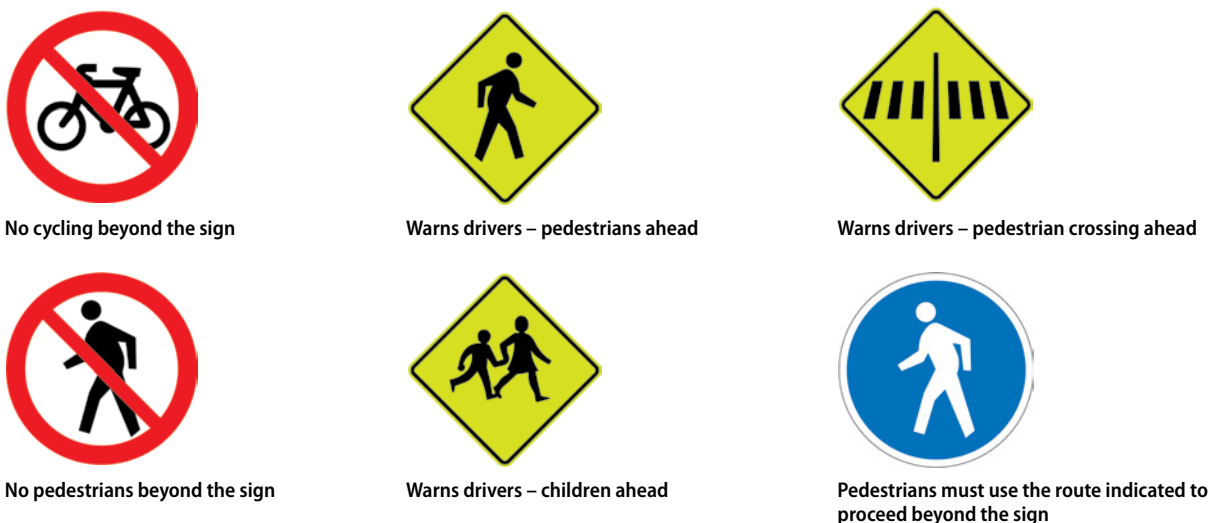


Figure 16.3 – Examples of MOTSAM regulatory and warning signs. Note: supplementary plates: school, kindergarten and aged may be used with the warning signs.

16.4 Locating signs

Signfaces should be located within the normal field of vision of their proposed users. To be most appropriate for people seated and standing, signs intended for viewing close up should be mounted on walls or other structures 0.9 m to 1.5 m above the ground [10]. Figure 16.3 shows fields of vision for different users.

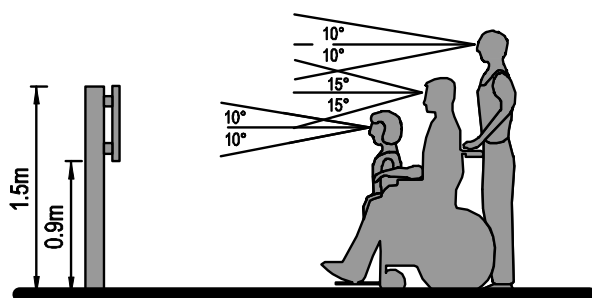


Figure 16.4 – Fields of vision of different users

If signs at such heights are not possible or practical, put them 2.4 m above the ground. Assume that the sign will be viewed from some distance away, and tailor the information accordingly.

When siting signs, it is also important to remember that:

- signfaces are most easily read when they are perpendicular to the direction of travel. Where this is not possible, the approach angle should be within 30° [10]
- the immediate area around each sign should be level, even, well lit and accessible for the mobility impaired
- signs should not be an obstacle or hazard for pedestrians (see section 14.3)
- free-standing signs should not be placed in the through route
- pedestrians reading signs should not obstruct other pedestrians, or inadvertently put themselves or other road users in danger.

A regular maintenance programme is needed to ensure signs stay in good condition, free from graffiti and unobscured by vegetation, and continue to serve a purpose [46].

16.5 Signface design

Signface legibility is affected by [7]:

- apparent character height, which relates to the distance at which the sign will be viewed [10]
- the relative height and width of characters
- character spacing
- colour contrast
- font.

These are described in more detail in Appendix 3.

It is always preferable to use recognised symbols rather than words, as this makes signfaces more accessible to the vision impaired, children and those whose first language is not English.

16.6 Signing temporary works

Section 18 covers signage for temporary works.

16.7 Additional measures to guide the vision impaired

Audible, visual and tactile cues can help in providing additional information to guide the vision impaired [20]. These are covered in more depth in *Guidelines for facilities for blind and vision-impaired pedestrians* [92].

16.8 Measures to channel pedestrian movements

Pedestrians exposed to a serious safety hazard may need channelling to areas where they are at less risk [10, 24, 72]. As signage is generally ineffective [66], pedestrian fences should be considered, particularly in the instances in table 16.1 [10, 24, 72].

Safety issue	Examples
Where it is especially dangerous for pedestrians to cross the road, because:	<ul style="list-style-type: none"> • there are high vehicle speeds and/or flows • visibility is obstructed and the obstruction cannot be removed • there are complex vehicle movement patterns • there are adjacent pedestrian crossing points where pedestrians can cross more safely and conveniently • drivers would not normally be expecting pedestrians.
Where there is a severe change of gradient next to the footpath, due to:	<ul style="list-style-type: none"> • the edge of a bridge • large open drains/ditches • a gradient higher than 25% • a vertical drop of more than 1 m • an excavation.
Where there are other hazards, such as:	<ul style="list-style-type: none"> • next to a railway • next to a watercourse or deep water.

Pedestrian fences are usually not robust enough to stop vehicles that leave the roadway from entering the footpath. Vehicle barriers perform this task and can also restrain pedestrians from crossing the roadway if modified.

Pedestrian fences are appropriate in very limited circumstances – they should only be installed if it is not possible to modify the arrangement so it is safer for pedestrians [66]. This is because pedestrian fences have a number of disadvantages [66, 72, 126, 146, 147]. They:

- may make pedestrian routes longer
- may be contrary to road user hierarchies that have pedestrians towards the top
- diminish the streetscape quality
- if installed on footpaths, reduce the available width
- create feelings of confinement for pedestrians
- are perceived to be ‘anti-pedestrian’
- impose additional maintenance costs
- if rear servicing is not possible, can cause problems for shop deliveries
- reduce on-street parking
- create a hazard for errant vehicles.
- may increase traffic speed.

There are no warrants for installing pedestrian fences, so the design team is responsible for assessing whether they are required [66]. As a general rule:

- short fences should not be used as pedestrians will walk around the ends, and they create a hazard for other road users
- where a fence is installed on one side of a roadway, another should be installed on the opposite side to prevent pedestrians crossing and then being unable to regain the footpath.

As fences can result in pedestrians deviating from their desired route, signage should be provided to direct them towards key destinations [24].

All pedestrian fences must be maintained. As well as undergoing inspection and preventive maintenance, they should be repaired or replaced as soon as possible after being damaged [66].

All pedestrian fences should comply with the following criteria [10, 58, 66, 72, 115, 126, 146]:

- They should be continuous, with no breaks that a pedestrian could pass through.
- A small child should not be able to squeeze through any gap between the bottom of the fence and the ground.
- They should be at least 1.2 m high, and higher if pedestrians may try to climb over or otherwise be in danger.

- If they are not solid, gaps between elements should be less than 100 mm to prevent small children squeezing through.
- If they are not solid, a continuous horizontal element within 150 mm of the ground will help vision impaired people using a cane to detect them.
- There should be no sharp edges or protrusions.
- They should not obscure visibility for other road users.



Photo 16.5 – Pedestrian fence, Hamilton (Photo: Shane Turner)

If a pedestrian fence is required solely between pedestrians and static hazards (such as a bridge parapet or a steep gradient), it does not have to maintain pedestrian viewing qualities. This means it can be built of concrete, brick, timber or other fabricated material [10]. However, pedestrians may enjoy a better experience if they can still see views and objects of interest beyond the fence. Natural surveillance may also be improved with such fences.



Photo 16.6 – Fence and drop, Hamilton (Photo: Shane Turner)

Chain link or welded mesh pedestrian fences can be used to stop pedestrians crossing motorways or entering rail reserves [10]. However, if there are no convenient crossing facilities and there is strong crossing demand, more robust fences may be required to limit pedestrians' ability to climb over or break through them.

Footpath fences between pedestrians and moving vehicles should be built in metal and coated to contrast with the surroundings [42].

They should be 1.2 m high and comprise vertical rails with two horizontal rails top and bottom [42, 72]. Post and chain arrangements should not be used. The barrier must not restrict visibility between pedestrians and drivers [10, 42, 58], so vertical bars should be offset [126].

Table 16.2 – Siting footpath fences

Location	Siting
In a median, including at a pedestrian island	The closest part of the barrier must be at least 0.6 m from the kerb face.
At the edge of a footpath	The closest part of the barrier must be at least 0.2 m from the kerb face.

Fences between a roadway and pedestrian route are a risk to both vehicle occupants and passing pedestrians if the fences are struck by a vehicle. It is important to ensure sufficient distance so this is less likely (see table 16.2) [126].

If fences are beside a roadway, they must be collapsible or break away without causing injury to vehicle occupants [87]. No horizontal components should be able to be dislodged and project into a vehicle if they are struck [10].



Photo 16.7 – Pedestrian fence, Christchurch



Photo 16.8 – Fencing by signals, Palmerston North (Photo: Shane Turner)



Photo 16.9 – Pedestrian railway crossing, Silverstream Station (Photo: Roy Percival)