

5 APPROACHES TO PROVIDING FOR PEDESTRIANS

ADOPT THE BEST APPROACH FOR EACH PLACE

Who gets considered first? – road user hierarchy

Getting it right on private land too

Consider solutions in this order

Concepts that provide for pedestrians

Living streets

Pedestrian precincts

Shared zones

Sharing the main street

5.1 Introduction

The overwhelming majority of pedestrian routes cross a mixture of land types ^[13, 139].

A fully comprehensive walking network will encompass:

- the road corridor, enabling pedestrians to travel along and across roads
- routes over land available for public use, such as along coast and river margins and through parks, transport interchanges and car parks
- private land, such as on immediate approaches to and exits from buildings and carparks.

Providing for walking should be at the heart of planning for an area, as faster modes can be more flexibly accommodated. In an integrated approach to planning for new roads or changes to existing roads, identifying, understanding and working to incorporate and balance the needs of all road users at the beginning of the process is critical. This requires an understanding of the general needs of pedestrians in the area for access along and across the road or site of interest.

5.2 Road user hierarchy

RCAs typically use a road hierarchy to manage their road according to the importance of their through traffic function in relation to other needs such as access.

Most roads must accommodate a range of users. Their often conflicting requirements require a balance to be struck in the level of service provided for each user group and the allocation of limited space to each.

To achieve an integrated approach, road controlling authorities (RCAs) internationally are increasingly using a different type of hierarchy called a 'road user hierarchy' which endeavours to:

- bring non-private motor vehicle road users to the heart of the planning process, ensuring the most vulnerable road users are considered early on and appropriately
- identify generally the importance of each travel mode for policies that impact across the various components of the roading hierarchy
- identify more specifically the importance of each travel mode in localised situations based on local understanding and needs. In some cases a user hierarchy could even potentially change at different times of the day (for instance before and after school).

This approach requires an awareness of the impacts and purpose of the wider transport network, along with a strong understanding of the interaction of the different transport modes, and the benefits and costs of different planning decisions or treatments for each road user group.

The first stage in a scheme development, therefore, would be to identify the importance of different road user groups (their relative positions in the hierarchy).

As designs are developed they can then be assessed for their benefits and costs for different road user groups, and in particular for those that have been identified as higher up the established road user hierarchy.

Figure 5.1 shows a potential user hierarchy consistent with promoting walking. It is based on one used in York, United Kingdom [22, 25, 147].

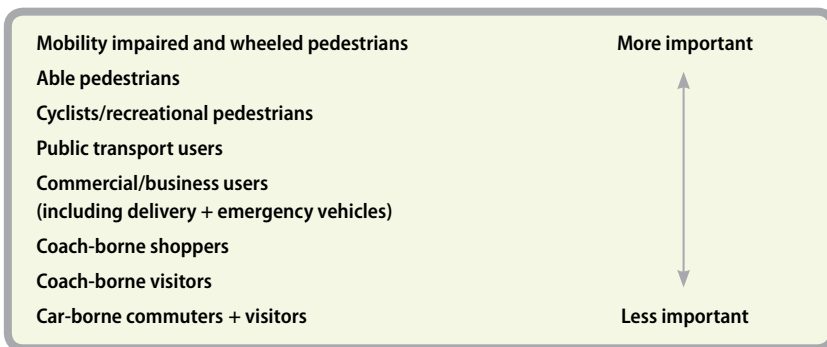


Figure 5.1 – User hierarchy that supports walking

In this example, a scheme or policy that improves conditions for car-borne commuters while creating difficulties for pedestrians would not be considered favourably, as pedestrians are higher in the hierarchy [147]. One result could be road improvements within an area to provide a continuous pedestrian network at-grade, with vehicles being slowed by platforms and other measures.

5.3 Pedestrian provision outside the road corridor

All land owners should be encouraged to provide a comparable level of service to that on public road corridors. All new and improved developments should be required to have a high-quality pedestrian environment as an integral part of all resource consent applications, unless there is good reason.

When the local authority is the land owner, such as for parks and reserves, it should lead by example by setting a high standard of provision.



Photo 5.1 – Pedestrian facilities in a car park, Nelson (Photo: Tim Hughes)

5.4 Pedestrian provision within the road corridor

A structured process is desirable when pedestrians already walk or wish to walk within a deficient road corridor. A hierarchy for considering solutions (see Figure 5.2) will help in this [147]:

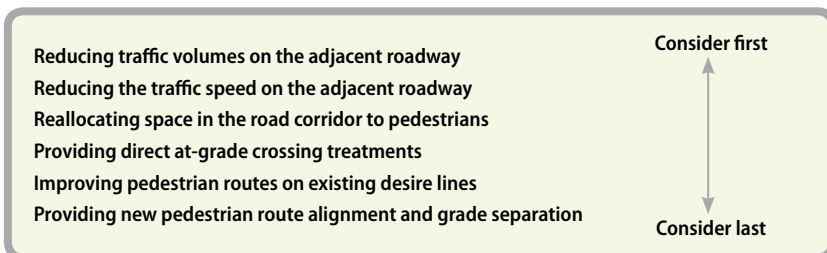


Figure 5.2 – Hierarchy for considering solutions

Reducing traffic and speed has the highest priority as it not only benefits pedestrians but can also improve road safety, air quality and noise, enhancing the environment for others in the area. It also contributes to the less quantifiable 'quality' of the streetscape.

New route alignments and grade separation are listed last, as they typically divert pedestrians from their desired path to create a better environment for motor vehicles. They may also be contrary to the road user hierarchy if they provide better access for motor vehicles at the expense of convenience for pedestrians.

In practice, it is unlikely that a scheme will need to consider only one of the six solutions. For example, reallocating road space to pedestrians may deter some drivers and reduce traffic speeds.

5.5 Pedestrian environment concepts

Sections 5.5.1 to 5.5.4 describe four concepts for improving the pedestrian environment. The four concepts are:

1. Living streets
2. Pedestrian precincts
3. Shared zones
4. Sharing the main street

5.5.1 Living streets

Description

The concept of 'living streets' recognises that, as a priority, streets should be designed with living and community interaction [20, 22, 176]. While cars are not excluded, they are designed so drivers are aware they are in an area where pedestrian and other users are important. A living street aims to balance the needs of residents, businesses, pedestrians and cyclists with cars, and thereby encourage a better quality of life and a greater range of community and street activity.

Living streets may incorporate:

- traffic-calming measures
- hard and soft landscaping areas
- places for social activities
- children's play areas
- seating
- lighting improvements
- a better interface between the street and housing
- public art.

The living streets concept can be applied in theory to any road (other than a motorway). There is no one solution; instead, the community is involved in identifying problems for which specific solutions are developed.

Advantages

The living streets concept:

- improves safety and security for pedestrians
- enhances economic vitality
- promotes quality housing
- supports community networks
- creates a sense of place and identity
- promotes cultural activities
- creates a sustainable environment
- maintains ease of access
- creates an aesthetically pleasing environment
- improves social interaction.

Disadvantages

The living streets concept can:

- delay motorised traffic
- be costly.

Recommendations

The living streets approach is recommended. The concept is particularly worth considering for all new roads where good design costs little, and for existing roads that require reconstruction or major alterations for other reasons. The concept is most useful for roads without a predominant through traffic function, but can be applied in part to a minor arterial road.

For more comprehensive guidance refer to *Manual for Streets* [176]. Sections 6.2 and 6.3 cover traffic-calming and traffic-reduction engineering measures which may be incorporated into living streets.



Photos 5.2 – Living street culvert feature, Papanui, Christchurch (Photo: Tim Hughes)

5.5.2 Pedestrian precincts

Description

Most pedestrian-only areas are created by restricting traffic access or closing roads to traffic.

There are four types of pedestrian precinct ^[66]:

1. Modified street precinct: one block is closed for pedestrian-only use.
2. Plaza: several blocks are closed but the cross-streets stay open to all traffic.
3. Continuous: several blocks and the cross-streets are closed.
4. Displaced: walkways are developed away from the usual roadside footpaths, making use of lanes and alleys.

Advantages

Pedestrian precincts:

- create the best possible conditions for pedestrian freedom of movement and road safety
- have aesthetic and social benefits as well as reducing pedestrian congestion, improving access to retail opportunities, and improving air quality and noise levels ^[66, 139]
- have economic benefits in shopping areas, as studies have shown that putting pedestrians first in shopping areas can improve retail performance and competitiveness ^[21].

Disadvantages

They may:

- inconvenience traffic movement
- be difficult to sell to retailers despite their proven benefits
- involve diverting bus routes, which can result in longer travel times; passengers may also be required to walk further to bus stops
- involve closing routes to cyclists
- become deserted during the evenings (this can be overcome with closures during set times, eg during daylight only)
- reduce on-street parking spaces, so convenient parking provision may be needed.

Recommendations

Pedestrian precincts are most beneficial where there is heavy pedestrian activity, retail or mixed development, a high number of pedestrian/vehicle conflicts, and motor traffic can be accommodated elsewhere.

Access must be maintained at all times for emergency services. Delivery vehicles can be allowed access during the early morning or evening, or be prohibited completely as long as servicing arrangements can be maintained. Public transport may also be permitted as long as vehicles operate slowly within a narrow corridor ^[66], although pedestrians may not favour this. Cyclists can usually be permitted as guests in a pedestrian space. Extra parking areas may be needed to replace on-street spaces lost.



Photos 5.3 – Pedestrian precinct with event space, Brisbane (Photo: Tim Hughes)

5.5.3 Shared zones

Description

A shared zone is a residential or retail street that has been designed to give priority to residents and pedestrians while significantly reducing the dominance of motorised vehicles [46]. In the United Kingdom, shared zones are called home zones and in The Netherlands they are referred to as a woonerf. A woonerf is often of a higher quality and more expensive than a home zone.

Motorised vehicles, including removal vans, refuse and service vehicles, still have access but must give way to pedestrians; and conversely pedestrians should not hinder vehicles. The route is physically constrained for vehicles by landscaping, structures and tight turning radii, with no delineation between the footpath and roadway. This slows vehicles to very low speeds [46].

The result is an 'environment of care' where motorised traffic has a specific reason for travelling through the street. This reduces vehicle numbers and means the drivers of the remaining vehicles take more care. Environmental conditions and road safety also improve to the benefit of residents and shoppers, and streets become open spaces for walking, sitting, playing and talking [65].

Advantages

Shared zones:

- enhance environmental conditions through better air quality, lower noise levels and visual amenity from landscaping
- have fewer crashes and less severely injured casualties
- improve social interaction and provide a greater sense of community when streets are used for walking, playing and talking
- improve security from increased natural surveillance.

Disadvantages

They:

- may be expensive to create as existing roads need to be converted
- may push traffic to adjacent roads
- can cost more to maintain.

Recommendations

Shared zones are most suitable for streets and compact areas with a low demand for through traffic movement. Their maximum size is restricted by the need to maintain response times for emergency services and to limit the extent of roadway that must be negotiated at low speeds by motorists accessing their properties [65]. Parking places should be designated.

Success requires full and active community participation and consensus. The treatment is more costly to fit to existing roads than to new developments [46].



Photo 5.4 – Shared shopping street, Napier (Photo: Celia Wade-Brown)



Photo 5.5 – Home zone, Bristol, United Kingdom (Photo: Tim Hughes)

5.5.4 Sharing the main street

Description

The main streets of rural towns, and minor arterial roads in cities that are straddled by strips of retail, commercial and community activities, have conflicting traffic and pedestrian needs that need to be managed. Pedestrian crashes cluster at such locations. The traffic function is impeded by the activities along the frontage – particularly in areas where there are high levels of parking turnover or many parking manoeuvres, turning movements and crossing pedestrians. The activities along the frontage suffer from the impact of traffic noise and air pollution, access to sites and difficulties for pedestrians who want to cross.

Sharing the main street means adapting it – or a centre along a minor arterial road – to improve the safety and the quality of the road environment for all its users.

People using these areas have a range of needs including:

- pedestrians need to be able to cross safely and conveniently
- visitors need to be able to park
- motorists and cyclists need to be able to move safely through the centre
- businesses need to attract customers
- transport operators need space for loading and unloading
- people with impairments need to be able to use the area safely and comfortably
- the community needs an attractive and safe centre to visit and to meet
- public authorities need to keep costs down.

Advantages

Main street projects:

- reduce conflict between pedestrians, cyclists and vehicles
- increase safety of all road users
- improve the quality of the road environment for all users
- maintain/enhance the economic performance of the commercial functions along the frontage.

Disadvantages

They may:

- be expensive to create as existing roads need to be converted
- create modest delays to traffic when it is slowed through the area.

Recommendations

Main street adaptations are recommended for strip shopping centres alongside existing roads. With respect to pedestrian safety they represent better value for money than residential area traffic calming.

For comprehensive guidance on adapting main streets refer to *Sharing the main street* [170] and *Cities for tomorrow: better practice guide, part C-5* [169].



Photo 5.6 – Main street treatment, Frankton, Hamilton (Photo: Tim Hughes)



Photo 5.7 – Main street treatment, Queenstown (Photo: Tim Hughes)