PEDESTRIAN PLANNING
AND DESIGN GUIDE
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A special acknowledgement is owed to the late Mike Gadd, whose work on the *Guide to pedestrian crossing facilities* for TRAFINZ formed the basis of Chapter 15 and who urged to compilation of this more comprehensive guide.
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15th percentile speed  
The speed at which, or below which, 15 percent of travellers are moving.

85th percentile speed  
The speed at which, or below which, 85 percent of travellers are moving.

Arterial road  
A main road through an area that carries traffic from one area or suburb to another.

At-grade  
Where two or more routes meet at the same vertical level.

Barrier  
A physical barrier to prevent vehicles that leave the roadway from entering pedestrian areas.

Benchmarking  
Comparing the performance of an organisation, system or network with that of others, using a set of measures (indicators) that are common to each.

Blended crossing  
A crossing of the kerb where the roadway and the footpath are at the same level.

Clear zone  
An area alongside a roadway, free of potential hazards that are not frangible or breakaway.

Cognitively impaired pedestrian  
A pedestrian whose ability to negotiate the walking environment is hampered by a learning difficulty, such as difficulty in reading signs.

Collector road  
A non-arterial road that links local roads to the arterial road network, as well as serving neighbouring property.

Community walking plan  
A walking strategic plan for improving the walking environment specific to a defined community area, that identifies the area’s issues, difficulties and proposed remedial actions.

Crossfall  
The slope of the footpath perpendicular to the direction of travel.

Crossing point  
Any point on the road network that has been designed to assist pedestrians to cross the roadway.

Crossing sight distance  
The distance over which pedestrians must see approaching traffic to be able to judge a safe gap.

Cut-through  
A section of a traffic island or raised median where the height has been reduced to the level of the roadway to make an area where pedestrians can wait before crossing another part of the roadway.

Desire line  
A straight line between the origin and the destination of a potential pedestrian trip.

Downstream  
The direction along a roadway towards which the vehicle flow under consideration is moving.

Driveway  
A passageway across the footpath for motor vehicles, which enables drivers to access private property adjacent to the road.

Electric wheelchair  
A wheelchair powered by an electric motor that is used by a mobility impaired person.

Fingerpost sign  
A thin, directional sign showing the name of, and pointing the way to walk to, a major trip destination.

Footpath  
The part of road or other public place built and laid out for pedestrian use.

Frangible  
Designed to break away or deform when struck by a motor vehicle, in order to minimise injuries to occupants.

Frontage zone  
The part of the footpath that pedestrians tend not to enter, next to adjoining land or on the opposite side to the roadway.

GIS  
‘Geographic Information System’ – a computerised system used for storing, retrieving, manipulating, analysing and producing geographic data, which is referenced by map co-ordinates.

Grade separation  
The separation of pedestrians from other road users by a difference in heights, usually by use of an overpass or an underpass.

Gradient  
The slope parallel to the direction of travel.

Home zone  
See Shared zone.

Indicator  
Data collected to measure progress toward a particular goal or objective.

Information board  
An upright panel that lists key destinations, with directions showing the way to walk to each one.

Kea crossing  
A school pedestrian crossing point that is not marked as a pedestrian zebra crossing, at which a school patrol operates.

Kerb  
A raised border of rigid material formed between the roadway and the footpath.

Kerb crossing  
A place designed to facilitate convenient pedestrian access between the footpath and roadway, at a kerb ramp or, if at the same level, at a blended kerb crossing.

Kerb extension  
A localised widening of the footpath at an intersection or mid-block, which extends the footpath into and across parking lanes to the edge of the traffic lane.

Kerb ramp  
A localised area where part of the footpath is lowered to the same level as the roadway next to it to facilitate convenient entry to the roadway.

Kerb zone  
The part of the footpath next to the roadway.

Landing  
A flat area at the top or bottom of a ramp.

Latent demand  
The amount of walking that would happen if conditions were improved, but which is not happening currently.

Living streets  
A way to design and allocate road space to give priority to living and community interaction.

Living Streets Aotearoa  
An organisation that promotes walking as a healthy, environmentally friendly and universal way of transport and recreation.

Local authority  
A regional or territorial authority responsible for local government.

Local road  
A road or street used mainly for access to neighbouring properties with little through traffic.

Mall  
See Pedestrian precinct.

Manual wheelchair  
A chair on wheels used by a mobility impaired person, and propelled by the muscular energy of the user or pushed by another person.

Median  
A continuous painted or raised strip along the centre of the roadway.

Mid-block pedestrian signals  
Traffic signals that are not at intersections, that stop traffic to permit pedestrians to cross the roadway.

Mobility impaired pedestrian  
A pedestrian whose ability to walk is hampered by a temporary or permanent loss of ability. It includes those using mobility aids, those carrying difficult parcels or accompanying small children, and those with temporary conditions such as a broken limb.

Mobility scooter  
A powered vehicle designed for use in the pedestrian environment by a person with a physical or neurological impairment.

Mountable kerb  
A kerb designed to define the edge of a roadway but which may be mounted or driven across, if the need arises, with little risk of damage to a vehicle.

Natural surveillance  
The observation of people and their surrounds by others carrying out their normal activities.

New Zealand Transport Strategy (NZTS)  
Document containing the government’s position on transport.

Older pedestrian  
A pedestrian who may be physically or cognitively less able than others due to aging.

Overhead clearance  
The height above the roadway within which there should be no obstructions for pedestrians.

Passing place  
A short section of widened footpath to allow one group of pedestrians to pass another easily.

Pedestrian  
Any person on foot or who is using a powered wheelchair or mobility scooter or a wheeled means of conveyance propelled by human power, other than a cycle.
Pedestrian advisory group
A defined group of people interested in walking who are consulted as a matter of course about relevant issues.

Pedestrian crossing point
Provision at a particular place to assist pedestrians to cross the roadway.

Pedestrian fence
A fence that channels pedestrian movement. It offers no protection from vehicles that leave the roadway, but provides physical separation from a hazard.

Pedestrian island
A raised area within the roadway that provides a place for pedestrians to wait before crossing the next part of the road.

Pedestrian on small wheels
A pedestrian on a device with small wheels propelled by human power, such as a skateboard, inline-skates or a kick-scooter.

Pedestrian permeability
The extent to which pedestrians can walk by direct routes to their desired destinations.

Pedestrian platform
A raised area of roadway that slows traffic and assists pedestrians to cross the road.

Pedestrian precinct
An area set aside for pedestrians only. Some vehicles may be permitted under specified conditions, such as for deliveries, or cyclists exercising care.

Personalised journey planning plan
A plan developed on a one-to-one basis, according to the individual’s specific travel needs, to encourage them to use public transport, walking and cycling.

Personal security
Feeling safe from the risk of injury, attack or accident.

Pram crossing
See Kerb ramp.

RCA
See Road controlling authority.

Rest area
A flat area, part-way through a ramp or steps, at which pedestrians can recover from their exertions.

Road
See Road corridor

Road controlling authority
Organisations that are legally responsible for roads, including every city and district council, unitary authorities and Transit New Zealand.

Road corridor
The whole of the road corridor from one frontage to the other including footpaths. Legally roads include beaches and places to which the public have access whether as of right or not.

Roadway
The part of the road used or reasonably usable by vehicular traffic in general.

Safe routes to school
A programme that aims to improve safety and remove barriers to walking (and cycling) to and from school.

Safety audit
The process of checking a proposed design or existing road to identify features that may result in unsafe conditions.

School patrol
Older children or occasionally adults that use swing signs to stop traffic and permit children to cross free of traffic conflict at pedestrian zebra crossings or kea crossings.

School speed zone
Specially signed temporary speed limits covering the school zone for the time before and after school.

School traffic wardens
Older children or occasionally adults who choose the times at which it is safe for children to cross the road.

School travel plan
A programme that aims to encourage children to walk and cycle to school and reduce the effects of traffic near the school.

School zone
Area in the vicinity of a school where crossing assistance, safety measures and parking provision should be considered.

Segregated shared-use path
A route shared by pedestrians and cyclists where both groups use separate, designated areas of the path.

Sensory-impaired pedestrian
A pedestrian whose ability to walk is hampered by the partial or full loss of a sense, mainly sight or hearing. It may include those who are colour blind.

Severance
Separation of people from facilities and services they wish to use within their community due to obstacles to access such as busy roads.

Shared zone
A residential street that has been designed to slow traffic and signed to give priority to pedestrians. The shared zone sign means that traffic is required to give way to pedestrians but pedestrians must not unreasonably impede traffic.

Shoulder
The part of the road corridor outside the traffic lanes.

Sight distance
The distance, measured along the roadway, between a pedestrian about to enter the roadway and an approaching driver, or between two drivers, or between a driver and an object on the roadway.

Street audit
An audit using a checklist to assess a street’s safety, convenience or usability.

Street furniture
Equipment within the footpath such as signal poles, lighting columns, signs, parking meters, seats, landscaping etc.

Street furniture zone
The part of the footpath between the through route and kerb zone primarily used for street furniture.

Tactile paving
A specially profiled footpath surface that can be felt underfoot. It is provided to warn or direct vision impaired people.

Through route
The central part of the footpath designed as the place where pedestrians have a continuous and accessible path of travel.

Traffic calming
Changes to the road environment to reduce driver speeds.

Traffic reduction
Changes to the road environment to reduce the number of vehicles travelling through an area.

Trail signs
Markings (often metal studs, coloured tiles or painted markings) set directly onto the footpath that pedestrians follow to reach their destinations.

Travel plan
A package of measures targeted to particular sites, such as schools or businesses, to promote active and environmentally friendly travel choices and reduce reliance on the private motor car.

Trip destination
The place a journey ends.

Trip origin
The place a journey starts.

Unsegregated shared-use path
A path shared by pedestrians and cyclists where both groups share the same space.

Upstream
The direction along a roadway from which the vehicle flow under consideration has come.

Urban form
The overall design and structure of settlements.

Vision impaired pedestrian
A pedestrian whose vision is reduced and cannot be adequately corrected by spectacles or contact lenses, and who may use tactile, visually contrasting and audible cues when walking.

Vulnerable pedestrian
Pedestrians at greater risk than others of being involved in a crash, or more susceptible to serious injury. It includes older people, impaired people and children.

Walkability
The extent to which the built environment is walking friendly.

Walking
The act of self-propelling along a route, whether on foot or on small wheels, or with aids.

Walking advocate
An individual, or group of individuals, who encourage, support and enable pedestrian activity.

Walking strategic plan
A document setting out a strategy to promote walking and provide a walkable environment, including a programme of actions to achieve this.

Woonerf
Original Dutch name for a shared zone.

Workplace travel plan
A travel plan tailored to a particular business, workplace or group of workplaces sharing a common location, influencing travel choices of staff and visitors.

Young pedestrian
A pedestrian whose physical and cognitive development means their abilities have not reached those of normal adults.

Zebra crossing
A pedestrian crossing point with longitudinal markings, where traffic is required to give way to pedestrians on the crossing. Legally they are called pedestrian crossings.
INTRODUCTION

Walking is an essential mode of transportation – everyone is a pedestrian at some stage of each journey.

This guide aims to promote a consistent approach to the planning and design of pedestrian facilities throughout New Zealand.

This section includes an overview of the content of the whole document.
1 INTRODUCTION

INTRODUCTION TO THE PEDESTRIAN PLANNING AND DESIGN GUIDE

The purpose of this guide
The role of walking
The guide at a glance

1.1 Purpose of this guide

This guide sets out ways to improve New Zealand’s walking environment. It outlines a process for deciding on the type of provision that should be made for pedestrians and provides design advice and standards.

The guide promotes a consistent ‘world’s best practice’ approach to planning, designing, operating and maintaining walking infrastructure and networks. It supports the New Zealand Transport Strategy (NZTS) and the priorities for action in Getting there – on foot, by cycle (the national walking and cycling strategy). In doing so, it encourages walking as a viable mode of transport for short trips in and around our communities, and recognises the important role walking also plays in many car and public transport journeys. It is also a useful tool for those with an active interest in walking, such as community leaders, local councillors and advocacy groups.

As New Zealand research into walking trips increases, the guide will be updated and augmented.

Walking mostly takes place within a transport system that must work for a range of road users. This requires effectively integrating walking needs for safety and convenience into the provision for walking along and across roads. Pedestrians also use routes outside road corridors as part of a continuous network. This guide applies to all pedestrian infrastructure, whether it is alongside or across roads, through parks and recreational areas, or on private land where public presence might reasonably be expected. It also applies to new developments, facility changes and existing environments.

Photo 1.1 – Walking environment, Auckland

A broader overview of providing for walking can be found in Easy steps published by Queensland Transport (175)
1.2 Background

Walking is such a basic human activity that it has often been overlooked when planning for transport \[46\] and has been viewed as a second-class form of travel \[103, 122\]. Overall, the use of walking for transport in New Zealand is declining. Taking into account population growth, between 1990 and 1998 journeys made solely on foot in New Zealand reduced by around 400,000 per day \[112\].

Even so, walking remains a key element of a balanced transportation system. Overall, it is still the second most popular form of travel in New Zealand. Nearly one in five of all household trips is made on foot \[112\]. For the 10 percent of households that have no car, for those in households without car access for much of the day, and for those who cannot, or choose not to drive, walking is an especially vital mode of transport \[112\].

Walking is also included in most trips made by other modes. Whatever the main means of travel, walking is usually the first and last mode used, providing an important link between land use and motorised travel \[118\]. It is also healthy, inexpensive and very environmentally friendly. Although much of the guide focuses on walking for transport, people walk for pleasure on all types of infrastructure. The attractiveness and quality of our streets and public spaces is, therefore, key to getting more people to walk \[59\].

The approaches to providing for pedestrians and the interventions adopted will depend on the circumstances at each location. With this in mind, the guide does not prescribe a single approach or intervention, but presents a variety, along with their advantages, disadvantages and limitations, and the circumstances when each would be most appropriate. It recognises that financial, technical and political factors may affect what can be achieved at any particular location or time.

1.3 Methodology

The project to develop this guide was managed by Land Transport New Zealand (Land Transport NZ) as one of the Road Safety to 2010 strategy projects. Consultants were employed to develop the drafts and a stakeholder steering group guided its development and gave feedback on the drafts.

The content was guided by a review of international literature on providing and planning for pedestrian facilities and networks. A draft was released for public submissions and, after the final draft was received from the consultants, an international peer review was conducted. Land Transport NZ then undertook some final edits.

1.4 Guide and process outline

Figure 1.1 provides an outline of the sections in this guide.
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Figure 1.1 – Guide outline and process