

# Minimising Pedestrian-Cyclist Conflict on Paths



Information Note No 6

January 2006

## Path construction and maintenance

If the functionality of a path is to meet, and continue to meet the expectation of users, it is important that it is constructed in accordance with the design and maintained in a fit condition for use throughout its life. In the absence of ongoing appropriate maintenance, a path will deteriorate.

Apparently small issues, such as construction of flush kerb ramps and maintenance of an integral path surface, can have a significant impact on path usability and the potential for conflict between users.

The main issues (see *Overview*) addressed by this Information Note are:

- design standards
- path capacity
- access and continuity
- path geometry
- path quality
- signage and information
- path safety
- path maintenance.

### Path Principles

Once the path planning and design has been done, it is essential to ensure that the intent and functionality is achieved in practice. This requires construction and maintenance of paths with due regard to matters such as path continuity, quality control, pavement markings and responsiveness to hazards.

It is important to adhere to construction and management guidelines in order to reduce the risk of public liability (Saloman 2001). Legal liability should be defined within the context of 'shared path user' definitions of the Road Traffic Code and/or Australian Road Rules (Road Safety Council 1998a).

Paths should be visually as well as physically continuous, which includes the construction of kerb ramps. Note that the existing Austroads requirements (which specify that the path continues and driveways crossing it should be interrupted) are sometimes not implemented in engineering practice. This is particularly the case at commercial or other busy driveways, due to perceived danger to

pedestrians/cyclists using the path. This creates confusion about who has right of way and increases the potential for conflict between all users.

Tactile ground surface indicator for vision impaired pedestrians can also create confusion at driveways and should not be used where the footpath is continuous unless there is good reason to do so. Consult organisations for the vision-impaired before doing so.



**Visual interruption of the path by these driveways does not conform with current Austroads requirements. Inappropriate parking such as the one above also obstructs the footpath and hence breaks its continuity.**

### Path continuity

Path continuity may also be impeded by incorrect placement of signage, bus stops, tables and chairs, benches, rubbish bins and advertising boards – and even by poorly-located bicycle parking rails. For cyclists, in particular, it is important that lateral constraints including street furniture do not unduly

counteract other operational allowances (Austroads 1999).

The issues of sight lines at driveways should also be considered, including the ability of both driveway and path users to anticipate potential conflict.



**Pedestrian-unfriendly street furniture layout (Queensland Transport 2005)**



**Pedestrian-friendly street furniture layout (Queensland Transport 2005)**

### **Path maintenance**

Poor maintenance can also reduce the effective path width. In addition, signs of neglect can discourage users and validate undesirable behaviours such as graffiti and vandalism (Queensland Transport 2004).



**Unclear markings such as these lead to confusion and hence may contribute to pedestrian-cyclist conflict.**

Maintenance activities for pedestrian facilities can be divided into three main types:

- programmed maintenance, e.g. upgrading, reconstruction, rehabilitation and resurfacing
- planned routine maintenance, e.g. weed control, grass cutting, litter collection, sign cleaning
- responsive and/or emergency maintenance which may result from inspections, complaints or in response to major events

### **D3.2 Maintenance practice**

Proactive, planned maintenance is required to ensure that pedestrian facilities continue to perform their intended purpose. Authorities should consider:

- ▶ the need for maintenance regimes and why they are important (from an organisational, liability and user needs perspective)
- ▶ cost-efficient maintenance practices and coordination with other programs, projects and maintenance activities
- ▶ the different maintenance needs of different facilities (e.g. crossings, paths, malls)
- ▶ maintenance of the different infrastructure elements (such as the pavement surface, signage, furniture, foliage)
- ▶ the role of local community groups in caring for, maintaining and monitoring the facility.

Source: Queensland Transport (2005)

Quality control should be carried out in the form of inspections during construction, reinstatement of surface after utility works, routine maintenance of surface quality and safety audits.



Poor drainage design and/or maintenance, resulting in standing water, can adversely impact the continuity and safety of cycling and walking routes.



Councils need to assess the level of risk posed by conditions such as this cracked pavement, and determine the appropriate maintenance level

### Vegetation maintenance


Well-maintained vegetation/landscaping is important, but design and management of reticulation should avoid path overspray in order to prevent users from slipping and to increase comfort. Mowing path surrounds can throw burrs and grass clippings onto paths, which should be swept after vegetation maintenance such as mowing or pruning.



Overhanging vegetation can substantially reduce the effective width of a path and should be trimmed back regularly.

### Hazard reporting

Responsiveness to hazards includes removing critical impediments, provision of temporary alternatives, and hazard reporting by pedestrians as well as cyclists. Path users should be provided with clear information on how users can contact the relevant authority about a problem. Hazards such as rubbish, sand/glass on paths, overgrown vegetation/tree roots, lighting defects and car/service vehicle parking on/over paths should be promptly dealt with.



## Hazard Report

**Location**  
 Road  Bike Path  Other

Locality or suburb \_\_\_\_\_  
 Road or street name \_\_\_\_\_  
 Intersecting street \_\_\_\_\_  
 Other landmark \_\_\_\_\_  
 Distance and direction from intersecting street or landmark \_\_\_\_\_

**Description of Hazard**

<input type="checkbox"/> Pothole	<input type="checkbox"/> Bump
<input type="checkbox"/> Grass or leaves on surface	<input type="checkbox"/> Broken Glass
<input type="checkbox"/> Grab rail	<input type="checkbox"/> Kerb ramp
<input type="checkbox"/> Signage	<input type="checkbox"/> Water ponding on surface
<input type="checkbox"/> Lighting	<input type="checkbox"/> Traffic light sensor not responding to cyclist
<input type="checkbox"/> Debris on surface	<input type="checkbox"/> Drainage grate
<input type="checkbox"/> Overhanging branches	<input type="checkbox"/> Squeeze point
<input type="checkbox"/> Other (please provide details below) _____	

**Comments or Suggestions**  
 \_\_\_\_\_

**Reported By**

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Postcode \_\_\_\_\_  
 E-mail \_\_\_\_\_  
 Date reported \_\_\_\_\_

#000000/Corporate Forms Page 1 Form F 3665 E3 (9 May 2012)

alternative route. For example, this may be a footpath on the other side of the road. In practice, this is not always complied with.



Footpath obstruction due to construction without a clear, safe and convenient alternative route for pedestrians.

Where construction works are long term, consideration should be given to more specific and fundamental treatments to maintain path user continuity during construction. For example, this may involve the reallocation of space to path users from other users such as motor vehicle traffic. Care should be taken to ensure that transitions from the footpath to the alternative space are reconfigured to provide a level ('lipless') service.



In the construction works above, space has been reallocated to the pedestrians in the form of a temporary pedestrian access and a flush ramp.

**Hazard report forms can be a simple way of getting users to identify problems with paths – but ensure that all reports are responded to or the system will lose credibility.**

Broken glass and other debris on paths are hazards that can cause users to behave unpredictably when trying to avoid them. In addition to ensuring adequate sweeping of paths, local governments can promote recycling of glass and other containers through their own recycling programs.

### Maintaining continuity during building construction

Construction next to the path reduces the effective path width available to path users and in some instances may block the path completely. The most common impediments include:

- disruption to footpaths resulting from public utility works such as telecommunications, water, gas and electricity. This is usually short term.
- building construction where there is insufficient room on site for all the necessary activities or materials. This is most common where building is up to the property boundary, with no set back. Disruption is usually long term, often for the whole period of construction, which can exceed 12 months for large buildings. The intrusion of construction sites into public space increases the risk profile while also taking risk away from the builder who would normally have to fence these areas off from the public.

It is important to ensure that signs are located in prominent locations to give path users adequate notice of and clear directions to a safe and convenient

## References

Austrroads 1999, *Guide to Traffic Engineering Practice - Part 14: Bicycles*. Austrroads: Sydney, NSW.

Queensland Transport 2004, *Reducing Conflict Between Bicycle Riders And Pedestrians*. Cycle Note State Cycle Unit, Queensland Transport, QLD.

Queensland Transport 2005, *Easy Steps: A toolkit for planning, designing and promoting safe walking*. PB and ARRB Transport Research for Queensland Transport: Brisbane, Queensland. (Yet to be released/published)

Road Safety Council 1998a, *Conflicts on Shared Paths*. Road Safety Council: Perth, WA.

Salomon, W 2001, *Improving the operating safety of shared-use pathways*. NSW Local Government Road Safety Conference.