

Assessing footpaths for shared use

Purpose

This note outlines the criteria used to assess footpaths for safe, convenient and comfortable access for all users. It also advises on the signing and ancillary work required if prohibiting bicycles or wheeled-recreational devices is deemed necessary on a section of footpath.

Current legislation

Legislation to manage the use of shared and separated paths is provided under the *Transport Operations (Road Use Management - Road Rules) Regulation 1999*. Following are the highlights of the current legislation.

Bicycle specific rules

Bicycle riding is permitted on the footpath in Queensland. The legislation states that “The rider of a bicycle riding on a footpath or shared path must:

- keep to the left of the footpath or shared path unless it is impracticable to do so; and
- give way to any pedestrian on the footpath or shared path.”

Pedestrian specific rules

- A pedestrian must not be on a bicycle path or a part of a separated footpath designated for the use of bicycles, unless the pedestrian:
 - is crossing the bicycle path or separated footpath by the shortest safe route; and
 - does not stay on the bicycle path or separated footpath for longer than necessary to cross the bicycle path or separated footpath safely.
- However, a pedestrian may be on a bicycle path, or a part of a separated footpath designated for the use of bicycles, if:
 - the pedestrian is:
 - in or pushing a wheelchair or
 - on rollerblades, rollerskates or a similar wheeled recreational device; and
 - there is no traffic control device, or information on or with a traffic control device, applying to the bicycle path or separated footpath to indicate the pedestrian is not permitted to be on the bicycle path or the part of the separated footpath designated for bicycles.
- A pedestrian who is crossing a bicycle path, or a part of a separated footpath designated for bicycles, must keep out of the path of any bicycle or any pedestrian who is permitted under subsection (2) to be on the bicycle path or the part of the separated footpath designated for the use of bicycles.

Definition of wheeled recreational device (WRD)

A wheeled recreational device means a wheeled device, built to transport a person, propelled by human power or gravity, and ordinarily used for recreation or play, and:

- includes rollerblades, rollerskates, a skateboard or similar wheeled device; but
- does not include a golf buggy, pram, stroller or trolley, or a bicycle, wheelchair or wheeled toy.

A wheeled toy means a child’s pedal car, scooter or tricycle or a similar toy, but only when it is being used by a child who is under 12 years old.

Aim

This series of notes is designed to assist planners and engineers to provide for cycling in their local area.

The Cycle Notes should be read in conjunction with:

- Guide to Traffic Engineering Practice, Part 14 - Bicycles (Austroads, 1999), and
- Queensland Manual of Uniform Traffic Control Devices, Part 9 Bicycle Facilities.

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Travelling on WRDs on a bicycle path or separated footpath

- A person travelling on rollerblades, rollerskates or a similar WRD must not be on a part of a separated footpath designated for pedestrians unless the person:
 - is crossing the separated footpath by the shortest safe route; and
 - does not stay on the separated footpath for longer than necessary to cross the separated footpath safely.

- A person travelling on rollerblades, rollerskates or a similar WRD, on a bicycle path or a part of a separated footpath designated for the use of bicycles, must keep out of the path of any bicycle.



Types of problems on footpaths

Despite these rules, causes of conflict between people walking, cycling and using WRDs on busy footpaths include:

- lack of a defined space or route that is safe for people to ride bicycles and WRDs (e.g. bike lanes on roads in central business areas and skate parks)
- footpath furniture such as shop displays, cafe tables and sandwich boards which reduce the amount of space footpath users can share
- inconsiderate behaviour such as travelling too fast or not giving way to other footpath users
- the final destination of the footpath user (cyclists and pedestrians travelling through usually aim to do so quickly and are often less considerate of the needs of other footpath users)
- where footpath users are seeking destinations in the area, erratic behaviour such as sudden changes in direction creates a greater risk of conflict.

There is a strong perception of danger or discomfort caused by the presence of cyclists and skaters on footpaths, especially among older people and parents of young children. This perception seems to be much greater than the actual risk. In injury terms, cycling and the use of WRDs on footpaths is a minor problem.

About one per cent of injuries to pedestrians in Queensland each year are caused by collisions with bicycles or WRDs.¹ These injuries sometimes occur on footpaths but also on shared paths, bike paths and roads. Deaths from these collisions are extremely rare.



Footpaths must be designed to meet the diverse needs of all users. They form the backbone of the pedestrian transportation network as well as providing safe access to community facilities and destinations for people on bicycles. Footpaths provide the opportunity for spontaneous social interaction amongst members of the community at risk of isolation, including seniors and young families.

Cycling and walking are convenient door-to-door modes of transport. Any moves to ban footpath cycling must be accompanied by complementary treatments that maintain the convenience of bicycle riding.

Determining where a footpath ban is required



An audit of the area is advised where a bicycle and WRD prohibition might be considered. The following criteria must be considered:

Footpath usage

Pedestrian levels of service have been determined on a basis similar to motor traffic flow. This includes:

- freedom to select walking speed
- ability to pass slow moving people
- ease of cross and reverse flow movement at traffic concentrations.

This has led to the setting of measurable pedestrian levels of service. These are defined in *Guide to Traffic Engineering Practice: Part 13 - Pedestrians* (Austroads, 1995). It is recommended that the footpath provides a level of service of at least D (on a scale from A to F) before a bicycle and WRD prohibition is introduced. This means that the pedestrian flow rate measured in pedestrians per metre width per minute (ped/m/min) is at least 49. The example given in *Part 13* is that such a flow rate would be “found in crowded public spaces where continual alteration of walking speed and direction is required to maintain reasonable forward progress”.

Cycling level of service

Austroads’ *Part 14* claims all people on bicycles have five basic requirements in relation to path and road engineering:

- a dedicated space to ride
- a smooth surface
- speed maintenance
- network connectivity.

WRD level of service

Skateboard riders and rollerbladers require a smooth riding surface and appreciate geographic features and street furniture that provide opportunities to perform tricks. If this is causing conflict with other path users, alternative facilities may be needed. For example, Brisbane City Council has worked extensively with local skateboard riders to design and locate skateboarding facilities in areas where they enjoy high use.

Risk management

Risk management entails the identification and analysis of all safety risks likely to arise from prohibiting the riding of bicycles or WRDs on a footpath. This will include assessing the risk:

- of bike riders and users of WRDs to pedestrians on the footpath
- to bike riders of being forced to cycle on the road in the particular area
- of bike riders to themselves on the footpath, for example, injuring themselves due to poor surface conditions, gradient, obstacles or poor drainage.

The attached checklist details many of the factors to be considered in a risk assessment, including on-road conditions, traffic volume, kerb lane width and parking.

The process should be carried out by first identifying all of the safety risks likely to arise. These should be evaluated according to likelihood of occurrence and adverse consequences using historical data, experience or other means.

More detail on the management of risk is given in AS/NZS 4360.

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Solutions for managing conflict

Where conflict exists, but not of such severity to warrant a ban, conflict management strategies are available. These strategies are outlined in Cycle Note C2 for new and existing facilities.

Installation and maintenance of official traffic signs

A local council must install and maintain official traffic signs in the following instances:

- (a) at each end of a restricted footpath to indicate that the riding of bicycles, WRDs and wheeled toys are prohibited beyond the point at which the sign is installed; and
- (b) at any other junction or point at which the operator of a bicycle, WRD or wheeled toy is likely to enter the restricted footpath.

The signs to be used in accordance with the MUTCD requirements are:

- **Sign number R6-10-3:** No Bicycles sign
- **Sign number G9-60:** All Bicycles sign
- **Sign number G8-14:** Bicycle Route Marker Sign
- **Sign number R8-2:** Shared Footway
- **Sign number R8-3:** Segregated Footway
- **Sign number R7-4:** "END" Supplementary plate
- **Main Roads Drawing TC1050:** Instruction Sign - *Cycling, Wheeled Recreational Devices and Wheeled Toys Prohibited*

Other References

1. Draft Note on Safety of Sharing Footpaths, State Cycle Unit, Queensland Transport, 2000
2. Guide to Traffic Engineering Design: Part 13 - Pedestrians (Austroads, 1995)
3. Queensland Manual of Uniform Traffic Control Devices, Part 9 Bicycle Facilities

For more information

Phone: 07 3253 4437
 Fax: 07 3253 5858
 Email: cycles@transport.qld.gov.au
 Website: www.transport.qld.gov.au/cycling
 Mail: PO Box 673
 Fortitude Valley Queensland 4006

This Cycle Note is published by Queensland Transport's State Cycle Unit

CHECKLIST	YES	NO	COMMENTS	SOURCES OF INFORMATION/GUIDANCE
Surrounding land use Is the property adjoining the footpath considered a pedestrian attractor (retail, restaurants, commercial, etc.)? Are bus stops located in the area? Are there driveways and off-road car parking facilities in the area? (What is the parking turn-over frequency - high, medium, low?) Do pedestrians have safe access to and from adjacent land/property? At all times? If not, identify problem areas. Is bicycle parking provided at either end of the retail/restaurant strip to allow people arriving by bicycle to park safely out of the high use pedestrian zone?				Design drawings Town plan Site inspection
Incident History Recorded incidents - have all available records of complaints or crashes in the area been reviewed? Has a site inspection been undertaken? Review the use of the footpath and discuss any problems with a variety of users, residents, and workers in the area being assessed. They may also offer worthwhile solutions. Have the conditions on the road been reviewed? If a bicycle ban is to be imposed on the footpath, assessment of the adjacent road for suitability for bicycle riding needs to be undertaken. This includes analysis of incident history, traffic volume, composition (% of heavy vehicles) speed, parked vehicles, road dimensions, geometry and visibility of bike riders to motorists.				Local government database and files Queensland Transport's road crash database Site inspection

CHECKLIST	YES	NO	COMMENTS	SOURCES OF INFORMATION/GUIDANCE
Footpath geometry Dimensions - overall width _____m - width of travel path through the area (this may vary) _____m to _____m Does the layout of the footpath create any squeeze points (eg. indented parking bays, bus stops or outdoor dining)? Gradient - does the gradient encourage high speed cycling through the footpath area? _____% (if available)				Design/as constructed drawings Site inspection Recommended widths for shared pedestrian/bicycle facilities is provided in Figure 6.19 of <i>Guide to Traffic Engineering Practice: part 14 - Bicycles (Austroads, 1999)</i> Minimum stopping sight distance at grade for bicycles is provided in Figure 6.6
Footpath obstacles, furniture and barriers What footpath furniture is present (eg. seating, bins, bollards, bus shelter, on-street dining)? Is the arrangement of the footpath furniture conducive to the flow of pedestrian and bicycle traffic? If not, can the arrangement be altered to improve safety and flow? Are any fences or guard rails located adjacent to the footpath free of exposed vertical elements which can snag handlebars or pedals? Are any fences or guard rails located adjacent to the footpath? Are they free of sharp edges or corners to minimise the risk of injury in the event of a pedestrian or cyclist hitting them? If bollards or similar devices are provided are they effective? Do they cause cyclists to dismount or undertake dangerous manoeuvres? Are they visible during all light and weather conditions?				
Visibility Check visibility and stopping sight distances (ssd). Are there concerns with a bicycle travelling at 15km/hr? Note the effect of gradient on bicycle ssd. (See Figure 6.6 of Austroads Part 14) Are there any areas of poor lighting? Consider the level of lighting in terms of safety, visibility and security. If lighting is not feasible, would the area benefit from provision of white-lining and/or reflective signs/markers?				
Drainage Drainage and cross-fall requirements - is the footpath safe during periods of wet weather?				
Surface condition Surfacing/surface treatment - is the footpath in better condition than the adjacent road pavement, providing a preferred riding surface for bicycle riders? Is the surface skid resistant (paying particular attention to any grates or pit lids on the footpath)? Drop kerbs - have they been adequately provided for all users (eg. wheel chair user, prams, bikes, etc.)? Provision for elderly, people with disabilities, children, wheelchairs and prams (eg. holding rails, seating, ramps) - is there room on the footpath to accommodate the needs of all pedestrian types as well as bicycle riders?				
WRDs - General Do the footpath geometry, surface finish and street furniture provide an attraction to the users of WRDs? If yes, can such enjoyment be provided in a close but more appropriate location (eg. local park)? Can railings etc. be adapted to make them less attractive to skaters? What alternative routes are available to get to common skating destinations?				

CHECKLIST	YES	NO	COMMENTS	SOURCES OF INFORMATION/GUIDANCE
Pedestrian, bicycle and WRD traffic flow patterns <i>Pedestrian flow</i> What are the characteristics of the pedestrian traffic flow? (record values in comments column) 1. Composition (age mix of pedestrians and purpose of trip) 2. Time of day 3. Day of the week 4. School children (before and after school periods) <i>Bicycle flow</i> What are the characteristics of the bicycle traffic flow (this needs to include school children before and particularly after school)? (record values in comments column) 1. Composition (age mix of pedestrians and purpose of trip) 2. Time of day 3. Day of the week 4. School children (before and after school periods) <i>WRD flow</i> What are the characteristics of the WRD traffic flow? (record values in comments column) 1. Composition (age mix of pedestrians and purpose of trip) 2. Time of day 3. Day of the week 4. School children (before and after school periods)				Site investigation including a count of pedestrian, bicycle and WRD traffic flows over a number of days and evenings, if applicable
Alternative options for bicycle users <i>Can bicycle traffic be diverted onto the adjacent road?</i> What are the characteristics of the motor vehicle traffic flow? 1. Speed - can traffic speed be reduced with traffic calming or street treatments? 2. Composition (presence of heavy vehicles) Is lateral space available to provide an exclusive bicycle lane? If yes , 1. Is the road surface in good condition for cycling? 2. Are gully grates bicycle-friendly? 3. Does on-road car parking require alteration? If no , 1. Can safe provision be made for bicycle traffic in the closest parallel street considering the above road condition requirements? 2. Can traffic speed be lowered? 3. Can parking be altered to make space for bicycle lanes?				Types of on-road facilities selected according to <i>Guide to Traffic Engineering Practice: Part 14 - Bicycles (Austroads, 1999)</i>