

BICYCLE STORAGE AREAS and ADVANCED BICYCLE STOP LINES

INTRODUCTION

On 1 July 2008, new road rules came into force in NSW. The *Road Rules 2008* included rules for Bicycle Storage Areas and Bicycle Hook Turn Storage Areas at signalised intersections. Advanced Bicycle Stop Lines were already covered by the road rules, though this term is not, given that they are simply another type of stop line.

There are many different terminologies used when referring to bicycle storage areas and their associated components and/or variations. The terms commonly used are head start storage areas, bicycle reservoirs, bicycle storage areas, bicycle storage boxes or bike boxes. In NSW we will use the terms Expanded Bicycle Storage Areas, Bicycle Hook Turn Storage Areas and Advanced Bicycle Stop Lines.

The general terms, bicycle storage area, when used in this Technical Direction, refers to both Expanded Bicycle Storage Areas and Bicycle Hook Turn Storage Areas.

This technical direction covers the use of Expanded Bicycle Storage Areas, Bicycle Hook Turn Storage Areas and Advanced Bicycle Stop Lines at signalised intersection within NSW.

In general, bicycle storage areas are best suited for use on roads with high bicycle numbers and lower traffic volumes (e.g. local roads and some regional roads) while Advanced Bicycle Stop Lines are more suited to roads with both high numbers of bicycles and vehicles (e.g. major roads).

For: Director, Major Infrastructure; Director, Regional Operations & Engineering Services; Director, Business Coordination, Road Safety & Policy; Traffic Management, Road Safety and Road Design personnel; Councils

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GENERAL

Both within Australia and internationally there exists a range of treatments for signalised intersections that have the common purpose of benefiting cyclists and other road users by:

- helping cyclists to make safer turns and through movements at signalised intersections by positioning them, when waiting at a red signal, ahead of motor vehicles that are also waiting for a green signal;
- increasing the visibility of cyclists to other road users;
- encouraging cyclists to make more predictable approaches to and through a signalised intersection; and
- providing space at an intersection, in front of waiting motor vehicles, where cyclists, particularly those waiting to make a left or right turn and waiting for a green signal have both room to stand with one foot on the ground and are less exposed to motor vehicle exhaust fumes.

At signalised intersections, where bicycle lanes and routes are present on one or more approach, provision should be made for safe and convenient bicycle travel through the intersection. This can be achieved using either bicycle storage areas or Advanced Bicycle Stop Lines.

The primary options for bicycle storage areas which can be used at signalised intersections to position riders in a highly visible location so that they can proceed through the intersection in full view of other vehicles are as follows:

1) Expanded Bicycle Storage Areas

Expanded Bicycle Storage Areas assist cyclists with both left and right turning movements. These areas continue the preceding bicycle lane to a distance of 4.0 to 5.0 metres beyond the motor vehicle stop line and they vary in width to suit the number of traffic lanes that they are to be expanded in front of. A stop line truncates the bicycle lane.

2) Bicycle Hook Turn Storage Areas

Bicycle Hook Turn Storage Areas assist cyclists at large intersections, where centre turning is difficult due to large volumes of traffic. They are a linemarked 3.0 metre x 1.0 metre area between the marked footcrossing of a signalised intersection and the kerbside through lane of the adjacent, perpendicular cross-street.

PRACTICE

The guidelines for bicycle storage areas and Advanced Bicycle Stop Lines are covered in the RTA *NSW Bicycle Guidelines* (section 7.3.3) and the existing Austroads *Guide to Traffic Engineering Practice, Part 14 – Bicycles*.

NOTE: Austroads is developing new guidelines to replace the Guide to Traffic Engineering Practice series, and these facilities are considered in the new *Guide to Traffic Management, Part 6*, and the planned *Guide to Road Design, Part 4*.

Further to these guidelines, the following will apply to bicycle storage areas and Advanced Bicycle Stop Lines in NSW.

Criteria

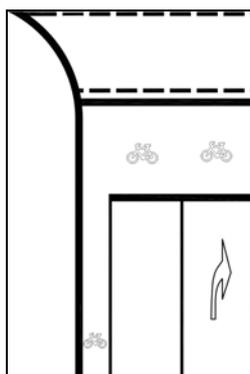
- Bicycle storage areas and Advanced Bicycle Stop Lines are only to be provided at signalised intersections.
- Bicycle storage areas are **not** to be provided on major roads, but may be provided on the side streets especially where an on-road bicycle route is required to cross a major road.
- Advanced Bicycle Stop Lines may be used on all roads.
- The criteria guiding where bicycle storage areas and Advanced Bicycle Stop Lines should be provided are generally similar to the criteria for the provision of an on-road Bicycle Lane. Therefore where a signposted on-road Bicycle Lane is provided, all signalised intersections which the Bicycle Lane passes through should be provided with either a bicycle storage area or an Advanced Bicycle Stop Line, depending on the type of road (refer to dot points above).

General Guidelines

- Bicycle storage areas and Advanced Bicycle Stop Lines **must** be preceded by a Bicycle Lane.
- The approach Bicycle Lane should be a minimum 1.5 metres wide with an overall length varied to suit each location (preferably \geq to 25 metres and an absolute minimum length of 10 metres).
- The facility is to be delineated using regulatory signage R7-1-4, PS-2 Bicycle Logos (1800mm x 1100mm) and associated TF stopping and L7 lane linemarking.
- The Stop Line associated with an Expanded Bicycle Storage Area or an Advanced Bicycle Stop Line should be 300mm from the marked footcrossing.
- Green pavement colouring is recommended for each storage area and the approach Bicycle Lane.
- Left turn on red permitted after stopping cannot be provided on approaches that are treated with bicycle storage areas or an Advanced Bicycle Stop Line.

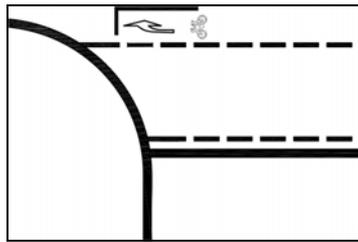
Specific Guidelines for Expanded Bicycle Storage Areas:

- Expanded Bicycle Storage Areas should be between 4.0 metres and 5.0 metres in depth.
- Expanded Bicycle Storage Areas may be varied in width to suit the number of marked lanes that the area is to be in front of.
- Multiple PS-2 Bicycle Logos should be provided within Expanded Bicycle Storage Areas and should be centred at 2.2 metre spacing.
- In instances where more than one right turn lane exists, Expanded Bicycle Storage Areas should only be expanded across the first right turn lane (ie the lane closest to the kerb).



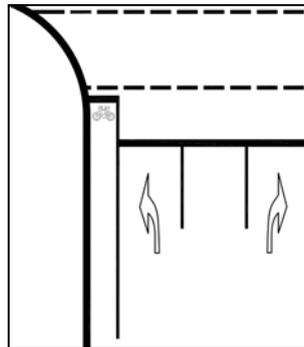
Specific Guidelines for Bicycle Hook Turn Storage Areas

- Bicycle Hook Turn Storage Areas should be up to 3.0 metres long and at least 1.0 metre wide.
- The facility is also delineated with a PA-3R right-turn pavement arrow (1000mm long).
- The Stop Line associated with a Bicycle Hook Turn Storage Area should be 300mm from the prolongation of the through kerbline and 1.3 metres on the intersection side of the marked footcrossing.
- Bicycle Hook Turn Storage Areas should not be located in front of a kerbside left turn lane with a separate left turn phase. The storage area should be located in front of the adjacent through lane if the signal phasing permits.
- Bicycle Hook Turn Storage Areas are not provided when the associated right turn bicycle movement is catered for by an expanded bicycle storage area.



Specific Guidelines for Advanced Bicycle Stop Lines:

- Advanced Bicycle Stop Lines should be 2.0 metres (minimum) in depth and preferably 1.5 metres wide.



ACCESS TO AUSTRoadS DOCUMENTS

The new Austroads documents, including the *Guide to Traffic Management* are only available in electronic form. Austroads has developed a new publications website which will provide the staff of Austroads' member and observer organisations immediate and easy access to their publications. RTA staff may access the electronic versions of Austroads' publications, using the following link.

http://home.rta.nsw.gov.au/org/directoratesandbranches/cserv/bsg/lfms/library/austroads_pubs.html

Organisations or individuals outside the RTA should contact Austroads regarding access.

ACTION

Bicycle storage areas and Advanced Bicycle Stop Lines can now be incorporated into intersection designs, where applicable.

UPDATES

To ensure that this *Technical Direction* and any related guidelines remain current and relevant, minor updates may be made from time to time. Any updates may be obtained from the RTA website using the Traffic & Transport Policies & Guidelines Register which can be found at:

www.rta.nsw.gov.au/doingbusinesswithus/guidelines/documentregister/index.html.

Printed copies of this Technical Direction are uncontrolled, therefore the Register should always be checked prior to using this *Technical Direction* or any related guidelines.

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