Darwin Shared Path & Bicycle Lane Technical Notes

5. Crossing Alignments for Shared Paths at Road and Driveway Intersections

Objective

The objective of the *Darwin Shared Path & Bicycle Lane Technical Notes* is to provide direction and guidance for the planning and delivery of cycling facilities within the City of Darwin area. These technical notes are also intended to provide information for other stakeholders including the NT Government, cycling groups and the community.

References

Throughout this document, references have been made to the following technical standards and guidelines:

- Austroads *Guide to Road Design Part 6A: Pedestrian and Cyclist Paths* (2009)
- Department of Transport WA *Shared Path Design – Technical Guidelines* (Draft 2016)
- VicRoads *Cycle Notes No 17 Terminal Treatments for Off Road Paths* (2005)

The technical note should be read in conjunction with these documents.

Introduction

This technical note provides direction and guidance on crossing alignments for shared paths at road and driveway intersections. The information is compiled from multiple sources detailing good design practices adopted throughout Australia.

The implementation of appropriate crossing alignments is required to ensure a safe environment for cyclists. The treatment options should achieve the following:

- Provide drivers with enough room to react to oncoming/crossing cyclists
- Place cyclists in an area where they can be seen easily
- Maintain a functional path alignment for cyclists

Path Type and Function

Shared paths serve a variety of purposes which range from safe routes to school for children, access for pedestrians with impaired mobility, recreational cyclists and commuting cyclists. It is critical to first define what purposes the shared path is serving before determining the appropriate crossing treatment.

For commuter or utility cyclists, one of the major drawbacks of shared paths is the frequent road crossings where cyclists need to slow down, divert or even stop to give way. Where a shared path is intended to cater for these types of cyclists, it is important that road crossings are designed to give cyclists the opportunity to maintain a consistent speed and avoid the need to stop if there is no traffic to give way to. In order to adequately scan for traffic, straight alignments on the approach to crossings are desirable as the introduction of curves, and especially right-angle bends, require cyclists to focus on steering the bicycle rather than scanning

for traffic, increasing the risk of failing to give way.

Crossing alignments which divert pedestrians away from the desire line to make the crossing also have a negative impact on the walkability of an area as pedestrians are particularly sensitive to increases in walking distance. Sharp bends in the path alignment also increase conflicts between pedestrians and cyclists.

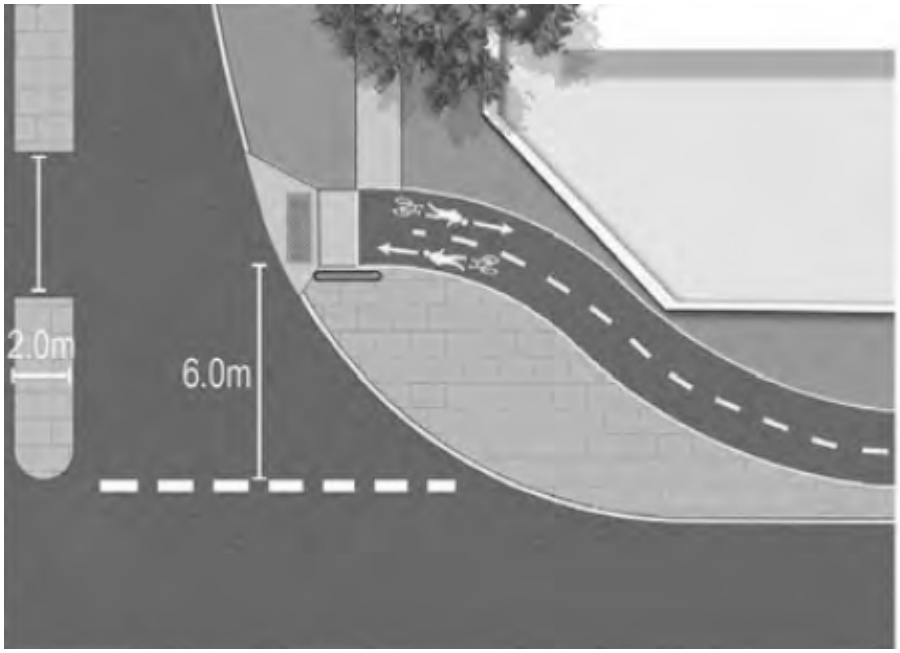
Preferred Road Crossing Alignments

The preferred crossing alignment for busy adjacent parallel roads (i.e. >5,000 vehicles per day) or roads which consistently have queued vehicles during peak periods is shown in the figure below.

This crossing alignment places the crossing point 6.0m back from the stop line, or at the tangent point, to allow cyclists to pass behind the first queued vehicle. A median island with cut through should typically be provided to allow the crossing to be staged. The width and length of the cut through median islands should be at least 2m x 2m to allow for pedestrians and cyclists to safely store in the median.

The s-curve (goose neck) on the approach to the crossing point should have a minimum of 3.0m curve radii to allow cyclists to comfortably negotiate the curves while scanning for approach traffic. For curve radii requirements refer to the '7. Horizontal and Vertical Geometry of Paths' Technical Note.

Preferred Crossing Alignment - >5,000 vehicles per day on adjacent parallel road or frequent queueing



SOURCE: DEPARTMENT OF TRANSPORT WA SHARED PATH DESIGN – TECHNICAL GUIDELINES (2016 DRAFT)

Speed Management on the approach to road crossings

On higher speed approaches to road crossings it may be desirable to adopt speed management measures which encourage cyclists to reduce speed prior to reaching the crossing. For more details refer to the '11. *Speed Management on Paths*' Technical Note.