

Building in Safe Cycle Features

Observations on recent trends for building cycle safety into arterial upgrades and intersections

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Building in Safe Cycle Features

- The LTMA and GPS are bringing more focus to alternative or sustainable transport modes, including cycling
- Recent safety audits have raised concerns with some applications of cycle facilities
- There is a danger of projects including cycle features that are inappropriate, to tick off the cycle provision box
- This remit discusses some of the issues

Advanced Stop Boxes

Advanced Stop Boxes are advantageous at signals to:

- **put cycles in front of turning traffic, where they can be seen and claim the lane**
- **allow cycles a lead position so they can clear difficult situations**

Problem 1: Inaccessible Advanced Stop Box

Advanced stop boxes can become inaccessible to cyclists around traffic queues in narrow approach lanes

Can cause inappropriate cycle behaviour, such as mounting pedestrian footpaths or crossing centreline

Provide a cycle lane or shoulder for cyclists to advance past queues, or at least a 4.2m to 4.5m kerbside lane

Isolated boxes more likely to be acceptable where traffic speeds are constrained

Problem 2: Downstream Catch Ups

Advanced stop boxes with no provision for cyclists in the departure area don't provide a continuous cycle route

Cycles cannot match motor vehicle speeds, resulting in cycles getting squeezed into kerb

Important to make good provision for cycles beyond intersection

Problem 3: Turning Phases

Advance cycle boxes are not appropriate in front of lanes with conflicting phases:

- **cyclists waiting for right turn phase in front of through traffic lane**
- **cyclists waiting for through phase in front of traffic lane left turn arrow**

In such cases provide a separate kerbside cycle facility

Problem 4: Long Left Turn lanes

The cycle conflict area is increased if a carside type approach layout is used. Vehicles usually track diagonally across the left turn lane unless queuing forces early adoption of the lane

Cyclists do not like traffic moving close by up their left side, and may adopt a kerbside position with long left turn lanes in higher speed areas (incl. urban arterials)

Consider adopting a ramp solution per GTEP14 fig 4-28 if left turn lane stacking length exceeds say 30m* and speeds getting up (>55km/h)

Austrroads GTEP 14 Bicycles figure 4-28

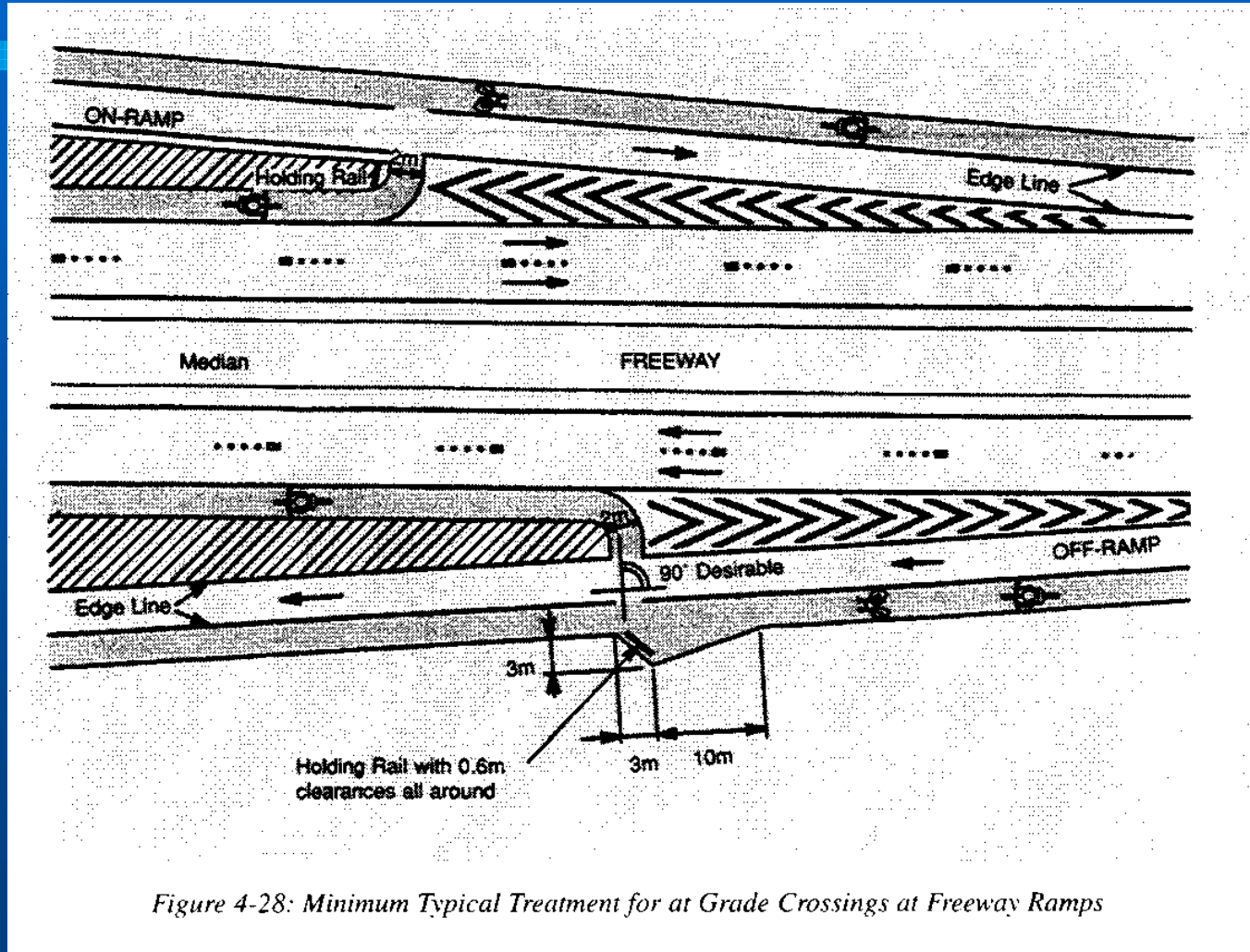


Figure 4-28: Minimum Typical Treatment for at Grade Crossings at Freeway Ramps

Problem 5: Free turn lanes

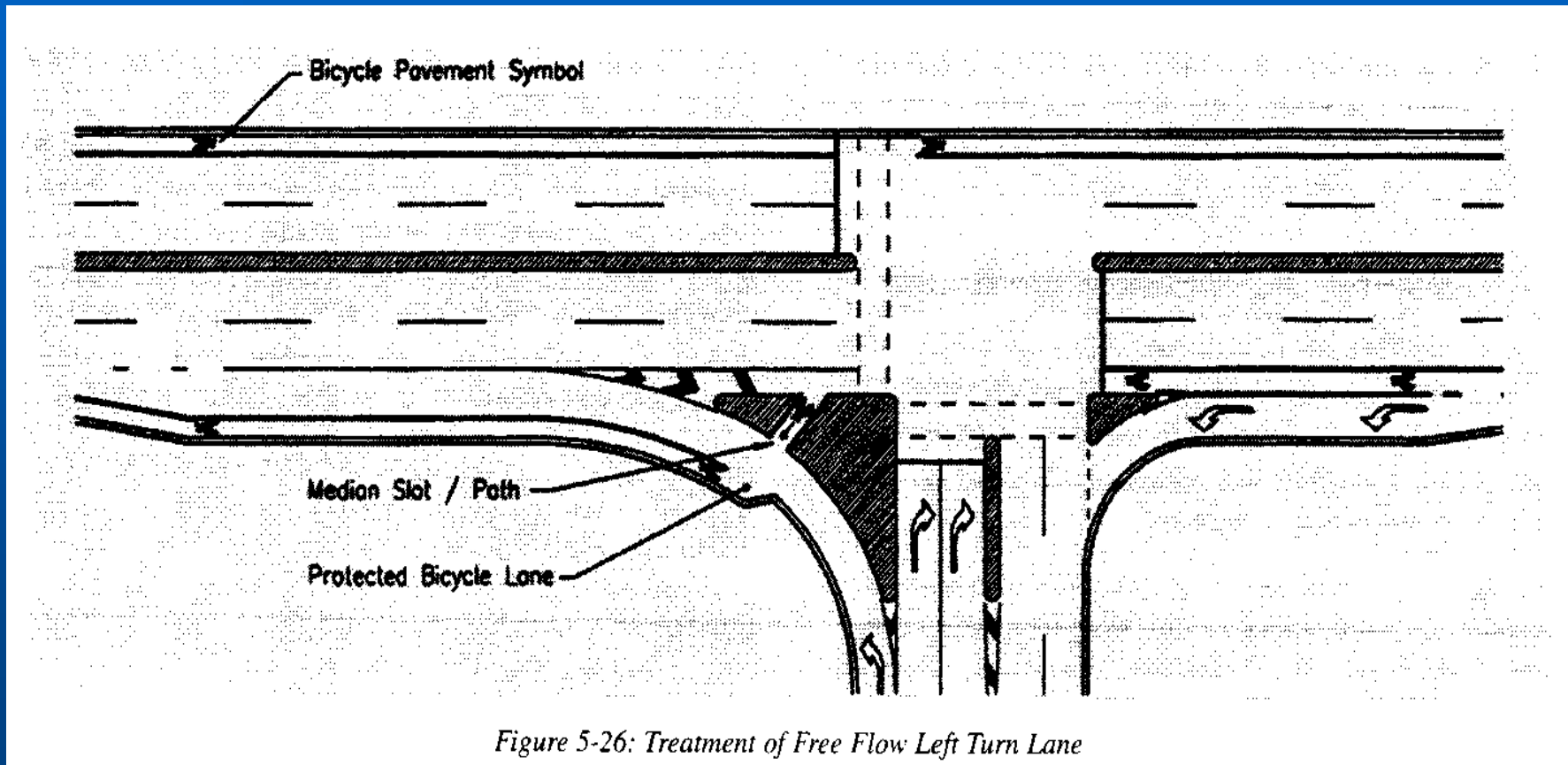
Cycles are at great risk where left turns are not under control (Free Turn Lanes) and speed differentials are high

Solution per GTEP14 fig 5-26 or consider installing control with high entry angle

Problem 5: free turn lanes



Austrroads GTEP 14 Bicycles figure 4-26



Problem 6: Seagull islands

Seagull islands create capacity benefits at expense of cycle and pedestrian safety

May be best to provide separate cycle route across seagull island, increasing its size

Should fully signalise T intersections where multiple lanes provided across head of T

Special Thanks

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