PEDESTRIAN REFUGES
(Supplement for narrowing or widening of roads at Pedestrian Refuges)

BACKGROUND
The provision of safe and effective pedestrian facilities is an integral component of the RTA’s commitment to facilitating and encouraging people to walk as a healthy alternative to using cars, especially for short trips.

This Technical Direction deals with pedestrian refuge design that incorporates options for road widening or road narrowing (kerb extension) at refuge islands as appropriate and can be applied consistently to a variety of road cross sections across NSW. Separate pedestrian refuge designs have been prepared for two lane two-way and four lane two-way roads.

Details of pedestrian refuges not requiring road widening or road narrowing can be found in Australian Standard AS1742 and the relevant RTA Supplement.

OBJECTIVES
The objectives of this Technical Direction are:

- To provide clear guidance for the design of pedestrian refuges with road widening or road narrowing (kerb extension) throughout NSW; and

- To improve consistency in the design and appearance of pedestrian refuges throughout NSW

SCOPE
This Technical Direction applies to the design and construction of all new Pedestrian Refuges throughout NSW requiring road widening or road narrowing (kerb extension).

Distribution List:
Director, Infrastructure Services; Director, Commercial Services; Director, NSW Centre for Road Safety; Traffic Management and Road Safety staff; and Traffic Signal design staff.

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Amendment: Usage of TD clarified. Minor corrections made to Figures 2 & 4
RTA/Pub. 11.190

UNCONTROLLED WHEN PRINTED
PRACTICE
All new pedestrian refuges should be designed and constructed in accordance with the following practice as stated:

- Pedestrian Refuges with no road widening or road narrowing use RTA supplement for Australia Standards 1742 – Manual for Uniform Traffic Control Devices (Part 10), RTA supplement for Austroads Guide to Traffic Management (Part 6) and RTA supplement for Austroads Guide to Road Design (Part 4).

- Pedestrian Refuges with road widening or road narrowing (kerb extension). Figure 1, 2, 3 & 4 illustrate options to accommodate the pedestrian refuge as appropriate and Figure 5 illustrates the Island Detail.

- It is recommended that kerb extensions be used to narrow the road at the pedestrian refuge island, whenever possible. The use of kerb extensions reduces the length of crossing for pedestrians, generating increased crossing opportunities and facilitates a reduction in the length of No Stopping zone required.

- Kerb ramps are to be constructed in accordance with the RTA’s model drawing, MD.R173.B01.A.1 – Kerb Ramps.

- The length of No Stopping zone required to maintain adequate sight distance and swept path through the refuge island may be reduced if kerb extensions and incorporated in conjunction with the pedestrian refuge, see No Stopping Signs Table in Figure 1, 2, 3 & 4.

- To maintain consistency throughout NSW, all sign posting and line marking at pedestrian refuges with road widening or road narrowing (kerb extension) must be installed strictly in accordance with this Technical Direction.

ACTION
This Technical Direction is to be adopted and applied as the standard design for pedestrian refuges with road widening or narrowing (kerb extension) across NSW.

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:


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.

Approved by:  
Authorised by:

SIGNED  
SIGNED

Craig J Moran  
General Manager  
Traffic Management

John Statton  
A/Director  
Network Services
NOTES:

1. This sketch shows kerb extensions at the refuge.
2. Refuge island minimum 2.0 metres wide at crossing, must have barrier (SM) kerb.
   For refuge island details see Figure 5.
3. Crossing gap minimum 3.0 metres, where pedestrian crossing used 3.6m.
4. Minimum $W_1=6.0$ metres (may need widening for a horizontal curve).
5. Road widening required where $W_2 < W_1 + 1/2$ island width.
6. Kerb extension required where $W_2 > W_1 + 1/2$ island width.
7. Incorporate a splayed approach with painted chevrons on both approaches to central island.
   Painted chevrons – 4.5m spacing, 1.5m width, 45 angle. Raised pavement markers at 6.0m spacing, from commencement of splay.
8. Use equal radii for kerb returns, $R = 1.707 \times B$.
9. Locate NO STOPPING signs at the TP of kerb extension and the kerbline, for kerb extensions designed in accordance with NOTE 5.
10. Painted median is preceded by a double barrier (BB) line extending for 30m minimum.
11. Optional linemarking.
12. All dimensions in metres.

**PEDESTRIAN REFUGE ISLAND**
**FOUR LANE, TWO LANE WAY**
**WITH KERB EXTENSION**

<table>
<thead>
<tr>
<th>V (km/h)</th>
<th>T (m)</th>
<th>A (m)</th>
<th>W6-1</th>
<th>W6-3</th>
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<tr>
<td>70</td>
<td>30</td>
<td>135</td>
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</table>

$B$-Width of extensions (m)  
$C$-from kerb ramp to sign (m)

<table>
<thead>
<tr>
<th>$B$</th>
<th>$C$</th>
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<tbody>
<tr>
<td>0</td>
<td>20</td>
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<tr>
<td>1.5</td>
<td>15</td>
</tr>
<tr>
<td>2.0</td>
<td>10</td>
</tr>
<tr>
<td>$&gt;2.5$</td>
<td>At Tangent point of kerb extension and kerb line or 7.5 which ever is greater.</td>
</tr>
</tbody>
</table>

Figure 1
Figure 2

NOTES:

1. This sketch shows kerb extensions at the refuge.
2. Refuge island minimum 2.0 metres wide at crossing, must have barrier (SM) kerb. For refuge island details see Figure 5.
3. Crossing gap minimum 3.0 metres, where pedestrian crossing used 3.6m.
4. Minimum $W_1 = 3.7$ metres (may need widening for a horizontal curve).
5. Road widening required where $W_2 < W_1 + 1/2$ island width.
6. Kerb extension required where $W_2 > W_1 + 1/2$ island width.
7. Incorporate a splayed approach with painted chevrons on both approaches to central island. Painted chevrons – 4.5m spacing, 1.5m width, 45°. Raised pavement markers at 6.0m spacing, from commencement of splay.
8. Use equal radii for kerb returns, $R = 1.707 \times B$.
9. Locate NO STOPPING signs at the TP of kerb extension and the kerbline, for kerb extensions designed in accordance with NOTE 5.
10. Painted median is preceded by a double barrier (BB) line extending for 30m minimum.
11. Optional linemarking.
12. All dimensions in metres.

PEDESTRIAN REFUGE ISLAND
TWO LANE, TWO WAY
WITH KERB EXTENSION
Figure 3

NOTES:
1. This sketch shows road widening at the refuge.
2. Refuge island minimum 2.0 metres wide at crossing, must have barrier (SM) kerb. For refuge island details see Figure 5.
3. Crossing gap minimum 3.0 metres, where pedestrian crossing used 3.6m.
4. Minimum $W_1 = 6.0$ metres (may need widening for a horizontal curve).
5. Road widening required where $W_2 < W_1 + 1/2$ island width.
6. Kerb extension required where $W_2 > W_1 + 1/2$ island width.
7. Incorporate a splayed approach with painted chevrons on both approaches to central island. Painted chevrons – 4.5m spacing, 1.5m width, 45 angle. Raised pavement markers at 6.0m spacing, from commencement of splay.
8. Painted median is preceded by a double barrier (BB) line extending for 30m minimum.
9. All dimensions in metres.

<table>
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<tr>
<th>$V$ (km/h)</th>
<th>$T$ (m)</th>
<th>$A$ (m)</th>
<th>$W_6-1$</th>
<th>$W_6-3$</th>
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</thead>
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<tr>
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<td>A</td>
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</tbody>
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PEDESTRIAN REFUGE ISLAND
FOUR LANE, TWO LANE WAY
WITH ROAD WIDENING

T00961
NOTES:
1. This sketch shows road widening at the refuge.
2. Refuge island minimum 2.0 metres wide at crossing, must have barrier (SM) kerb.
   For refuge island details see Figure 5.
3. Crossing gap minimum 3.0 metres, where pedestrian crossing used 3.6m.
4. Minimum $W_1 = 3.7$ metres (may need widening for a horizontal curve).
5. Road widening required where $W_2 < W_1 + 1/2$ island width.
6. Kerb extension required where $W_2 > W_1 + 1/2$ island width.
7. Incorporate a splayed approach with painted chevrons on both approaches to central island.
   Painted chevrons – 4.5m spacing, 1.5m width, 45 angle. Raised pavement markers at 6.0m spacing, from commencement of splay.
8. Painted median is preceded by a double barrier (BB) line extending for 30m minimum.
9. All dimensions in metres.

Figure 4
NOTES:

1. Refuge island at and nearest an intersection may be reduced to 2.0 metres long.
2. Holding rail may be increased up to a max. of 1500mm long for a wider refuge. Centrally fix reflective tape band on top of all holding rails. For rail widths ≥ 1050mm, use two 250mm wide red tape bands.
3. If refuge island gap is concreted, it must be brush finished across the direction of pedestrian traffic.
4. Do not use any infill within the holding rail opening.
5. Use metal wedge to secure holding rail in steel pipe sleeve.
6. All dimensions are in millimetres.

SECTION A–A

ISLAND DETAIL

Figure 5