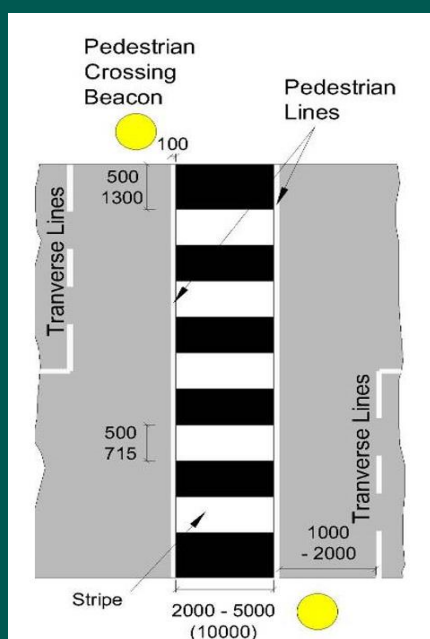


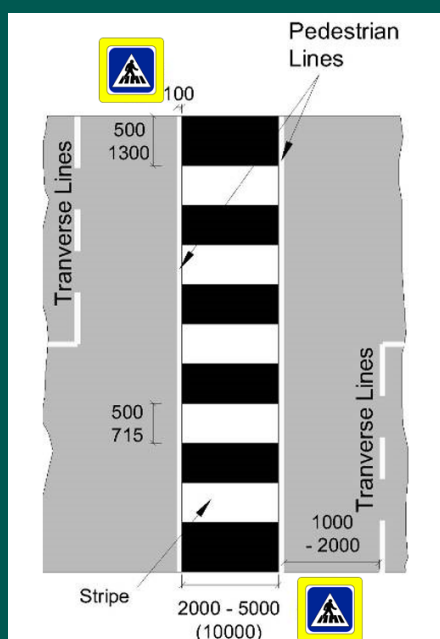


ZEBRA CROSSINGS

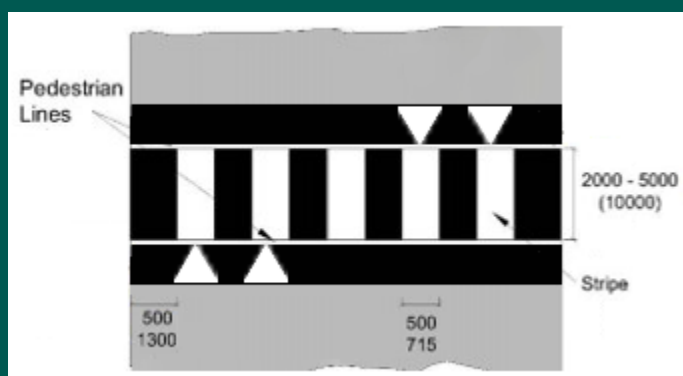
To RPC 001 and RPC 001A



TYPE A



TYPE B



TYPE C

Traffic Signs Advice Note: Zebra Pedestrian Crossings

Document Control Sheet

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Rev.	Status	Date	Author	Reviewed By	Notes	Approved By
0	DRAFT	5/9/2023	BS	DoT/DoTSO	Initial Draft	
1	DRAFT	20/9/2023	BS	DoT/DoTSO	Comments Incorporated	
2	DRAFT	9/10/2023	BS	DoT/DoTSO	Finalised.	
F	FINAL	26/1/2024 & 27/2/2024	BS	DoT/DoTSO	Additional guidance regarding 3rd Zebra type added post TII trial and report, relevant sections updated accordingly. Typographical error addressed	DoT

ABSTRACT

This Advice Note has been prepared to provide guidance to practitioners in the use of Zebra Pedestrian Crossings. This Note provides updated guidance regarding the various arrangements of Zebra Pedestrian Crossings as provided for by RPC 001 and RPC 001A and new Regulatory Sign RUS 066 (Pedestrians Crossing). It is now permissible to install Zebra Pedestrian Crossings in three different configurations;

1. Standard familiar arrangement as provided by RPC 001 (Zebra markings, flashing beacons with or without RPC 002 – Zig Zag lines)
2. New arrangement as provided by RPC 001A (Zebra markings, beacon replaced by RUS 066 with or without RPC 002 – Zig Zag lines)
3. New arrangement as provided by RPC 001A (Zebra markings only on a raised platform, with or without RPC 002 – Zig Zag lines and without all of the following; flashing beacons, sign RUS 066 and transverse lines)

This Advice Note provides typical layouts of the permitted alternative arrangements and details of signs RUS 066 (the working drawing) and relevant extracts from the Traffic Signs Manual.

The following stipulations, as they appear in the Traffic Signs Manual, also apply to this Advice Note:

- **Shall** or **must** indicates that a particular requirement is mandatory.
- **Should** indicates a recommendation; and
- **May** indicates an option.

PURPOSE

The purpose of this Advice Note is to provide guidance to practitioners in the use of Zebra Pedestrian crossings by utilising Traffic Sign RPC 001 and the new RPC 001A arrangement together with new Regulatory Sign RUS 066, whereby it is permissible in certain circumstances to omit the flashing beacons and replace them with this new sign and, in other certain limited circumstances, to omit both entirely. This Advice Note also provides typical layouts of these alternative arrangements.

WHY WAS THIS ALTERNATIVE ARRANGEMENT DEVELOPED?

The Department of Transport (DoT), with the support of the National Transport Authority (NTA), sought to investigate the provisions available in other countries where zebra crossings without flashing beacons are in use to increase the number of safe crossing locations for pedestrians and active travel use in a cost-effective and sustainable manner. By providing a fixed traffic sign (the new Regulatory Sign RUS 066) alternative to flashing beacons (the new Traffic Sign RPC 001A), new crossings may be quickly and easily implemented without the need for electricity connections thus reducing installation costs, construction time and ongoing operational costs.

By facilitating crossings in legislation without a requirement for beacons, which will provide a right of way for pedestrians to cross, it will allow Road Authorities to increase the number of crossing points and assist with active travel and pedestrian safety in urban areas where vehicle speeds are 50km/h or less (85th percentile speeds). It has not been developed to eliminate the use of flashing beacons in their entirety rather the revised arrangement may be used in certain specified situations. These are outlined in this Advice Note.

The Department of Transport also supported Transport Infrastructure Ireland (TII) in the investigation and trial of a further alternative arrangement of Zebra Pedestrian crossings whereby only the Zebra markings were provided. Legislative provision provided by RPC 001A enable the installation of such Zebra Pedestrian crossings in certain limited circumstances.

By facilitating crossings in legislation without a requirement for beacons or signs, which will provide a right of way for pedestrians to cross, it will allow Road Authorities to increase the number of crossing points and assist with active travel and pedestrian safety in urban areas where vehicle speeds are 30km/h or less (85th percentile speeds). Once again, it has not been developed to eliminate the use of flashing beacons in their entirety rather the revised arrangement may be used in certain limited circumstances. These are outlined in this Advice Note.

WHAT DO THE ALTERNATIVE ARRANGEMENTS LOOK LIKE?

A Zebra Pedestrian Crossing with flashing beacons (RPC 001) is depicted in [Figure 1](#) (Type A Zebra Pedestrian Crossing) . The elements that constitute a zebra pedestrian crossing with Belisha beacons comprise pedestrian lines, transverse lines, stripes, and fixed traffic signs mounted on a pole with black and white sleeves.

The Road Traffic (Signs) Regulations have been amended to include traffic sign number RPC 001A which indicates the Type B Zebra Pedestrian Crossing (Figure 2) where the flashing beacons have been replaced by RUS 066 ([Figure 4](#)).

The elements that constitute a Type B Zebra Pedestrian Crossing without the flashing beacons but with RUS 066 are no different to Type A with beacons i.e. they are also comprised of pedestrian lines, transverse lines, stripes, and fixed traffic signs mounted on a pole with black and white sleeves (Traffic Signs Manual – Chapter 7 – 7.16.2, Page 7/94).

RPC 001A also provides for, in certain limited circumstances, a Type C Zebra Pedestrian Crossing where only zebra markings are laid on a raised platform. See [Figure 3](#) (Type C Zebra Pedestrian Crossing). This arrangement omits the beacon and RUS 066 and the transverse line but may include RPC 002 – Zig Zag lines (Traffic Signs Manual – Chapter 7 – 7.16.2, Page 7/94).

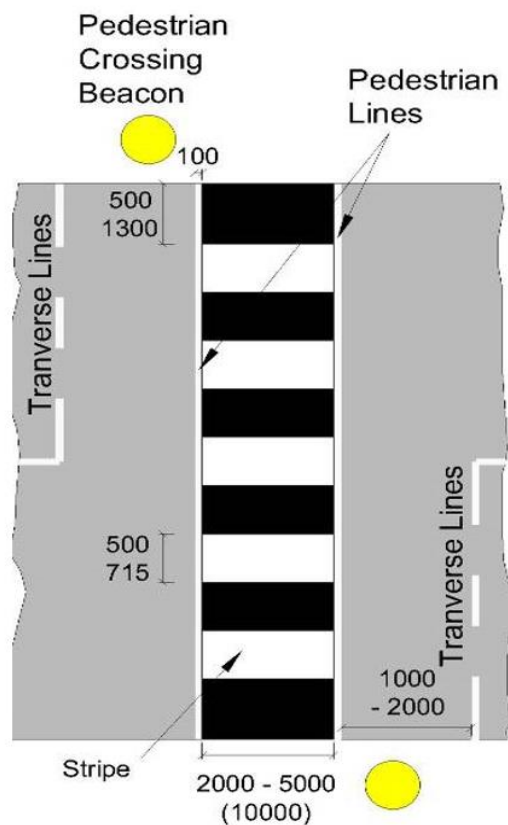


Figure 1 – 'Type A' Zebra Pedestrian Crossing to RPC 001

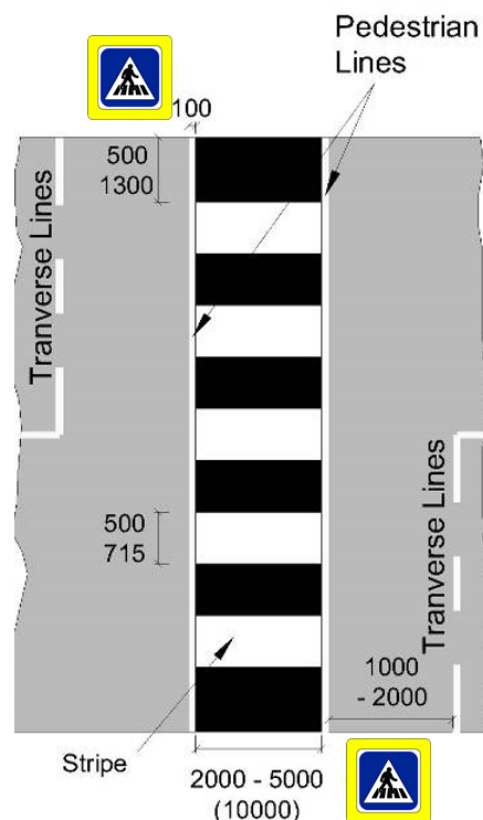
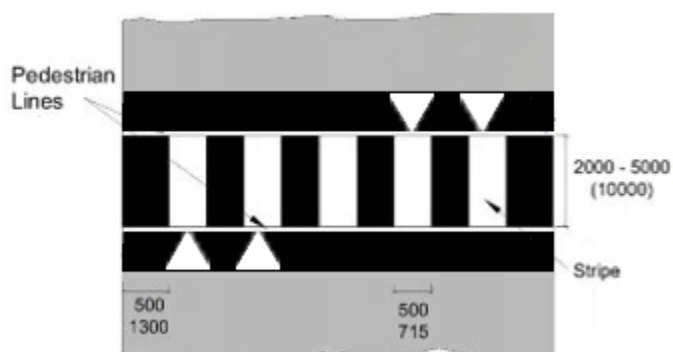


Figure 2 – 'Type B' Zebra Pedestrian Crossing to RPC 001A



Type C Zebra Pedestrian Crossing shall only be laid on a raised platform.

Figure 3 – 'Type C' Zebra Pedestrian Crossing to RPC 001A

THE SIGN

When replacing the Pedestrian Crossing Beacon, Sign No. RUS 066 must be used.

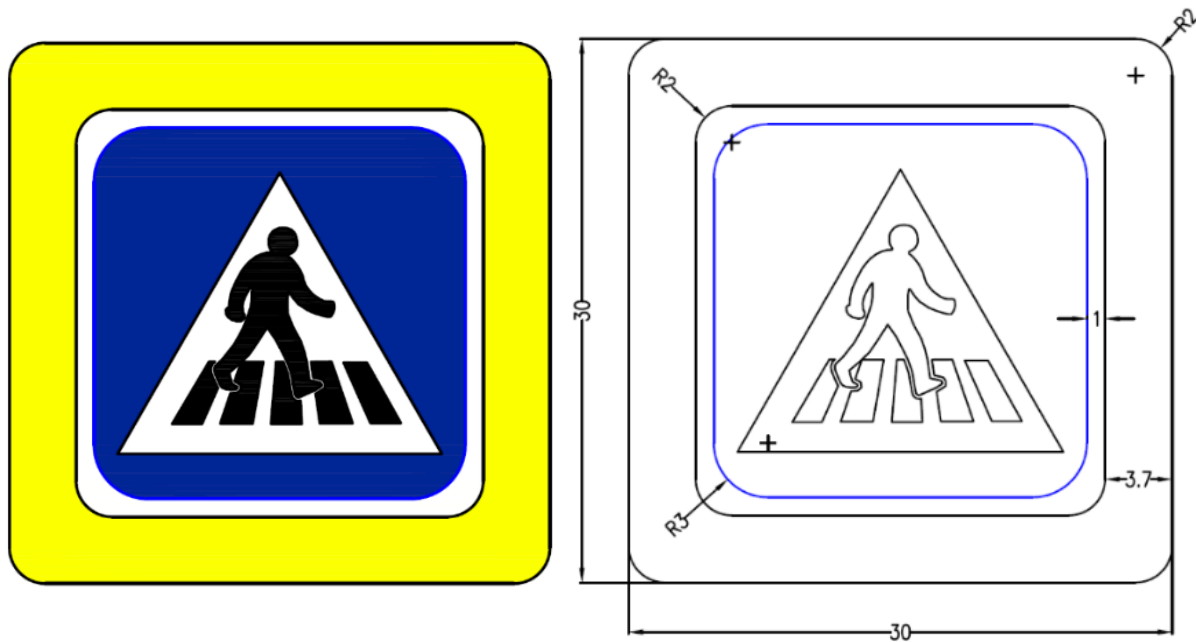


Figure 4 - RUS 066

RUS 066 – Traffic Signs Manual Chapter 5 (5.21.9)

A 600mm sign including a fluorescent yellow border which can be used in place of flashing beacons in locations where the 85th percentile speed is **less or equal to 50 km/h** on roads with a **posted speed limit not exceeding 50 km/h**. This is the only sign that may be used to replace the flashing beacons on either side, and in the refuge/central island, of the crossing. Signs must be mounted back-to-back on either side of the crossing so that they are visible to both directions of travel. It is important to note that the fluorescent border is part of the sign face for RUS 066 and **is not** to be considered as a backing board. This fluorescent border may not be used around any other sign, nor may any backing board be manufactured using this colour. Where this occurs, Local Authorities will be asked to remove them as this colour and border has been designed for a specific purpose and to use them outside of their intended purpose will dilute their effectiveness in their intended use situations and potentially compromise safety. Further, RUS 066 shall not, **under any circumstances**, be used in place of sign W 140A Pedestrians Crossing.

TYPE B ZEBRA PEDESTRIAN CROSSING

When choosing to install Type B Zebra Pedestrian Crossings, the following points apply and must be followed;

1. RUS 066 shall only be used as prescribed previously. Further, RUS 066 SHALL NOT be used in place of warning sign W 140A - Pedestrians Crossing. Where this occurs, Local Authorities will be asked to restore sign W 140A.
2. 85th percentile speed must be less than 50km/h in speed limit zones not exceeding 50 km/h.
3. Two-way traffic volumes to be less than 500 vehicles per hour without a refuge island, or 750 vehicles per hour with a refuge island.
4. The crossing must have good pedestrian-driver visibility and the crossing location to have adequate street lighting. Lighting design parameters can be found in Section 5.8.3 of TII publication DN-LHT-03038.
5. The crossing should be on a flat-top ramp or raised platform.
6. The crossing should be located on a carriageway with one traffic lane in each direction; for clarity, a dedicated cycle lane does not constitute a second trafficked lane.
7. Signs must be mounted back-to-back on each side of the crossing and poles must have black and white sleeves. Sign RUS 066 must also be erected back-to-back in the central refuge where a crossing containing a central refuge is employed.

TYPE B ZEBRA PEDESTRIAN CROSSINGS – EXAMPLES OF USE

Figures 5 to 9 show a Type B Zebra Pedestrian Crossing installed with the flashing beacon replaced by RUS 066A in five successful trial locations.



Figure 5



Figure 6

*Figure 2**Figure 8*



Figure 9

TYPE C ZEBRA PEDESTRIAN CROSSING

A mock-up of how a typical Type C Zebra Pedestrian Crossing will look is shown in Figure 10. When choosing to install Type C Zebra Pedestrian Crossings, the following points apply and must be followed;

1. In Urban, Town Centres or Built-Up areas where the road has an 85th percentile speed of less than 30 km/h in speed limit zones not exceeding 30 km/h.
2. They shall only be used in conjunction with a raised platform to TII standard detail CC-SCD-05145.
3. They shall only be used where the road has only one lane in each direction.
4. Approaching vehicles (from all directions) must have clear visibility to the pedestrian waiting to cross and to the tactile paving area of the footpath.
5. Crossing locations must have adequate street lighting to TII publication DN-LHT-03038.

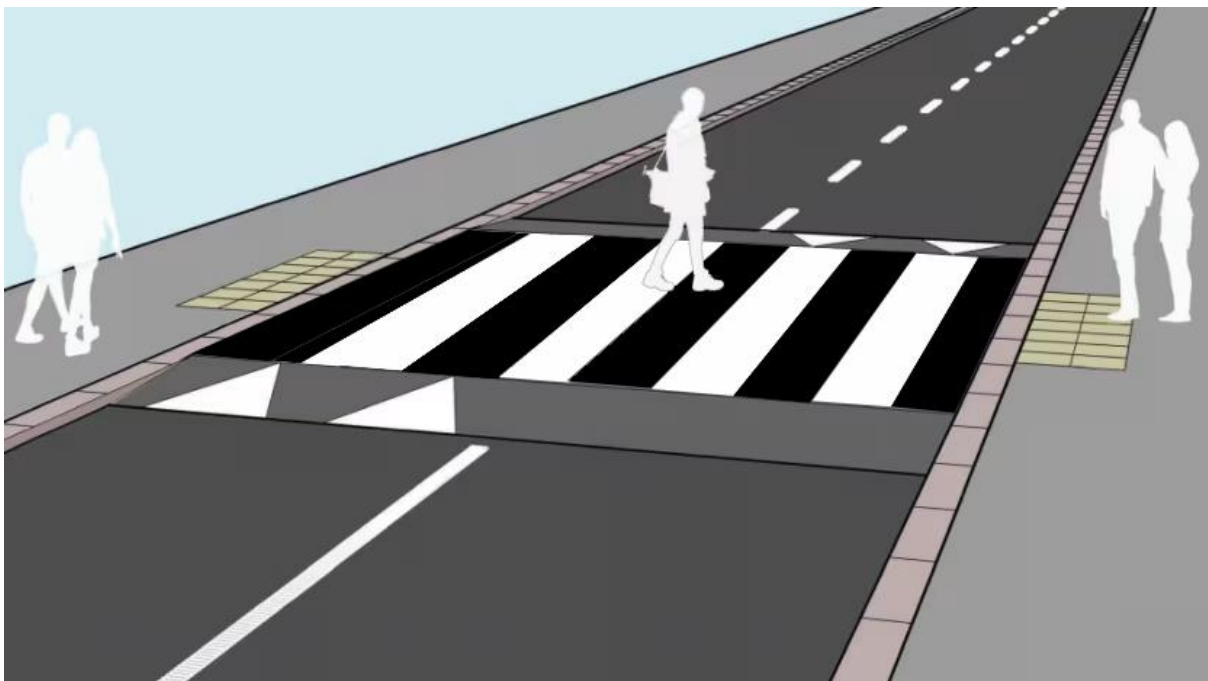


Figure 10 – Type C Zebra Pedestrian Crossing

(mock-up; base image found at <https://www.itv.com/news/channel/2021-08-03/new-pedestrian-crossings-to-improve-safety-at-havre-des-pas-in-jersey>)

SIGN SPECIFICATIONS

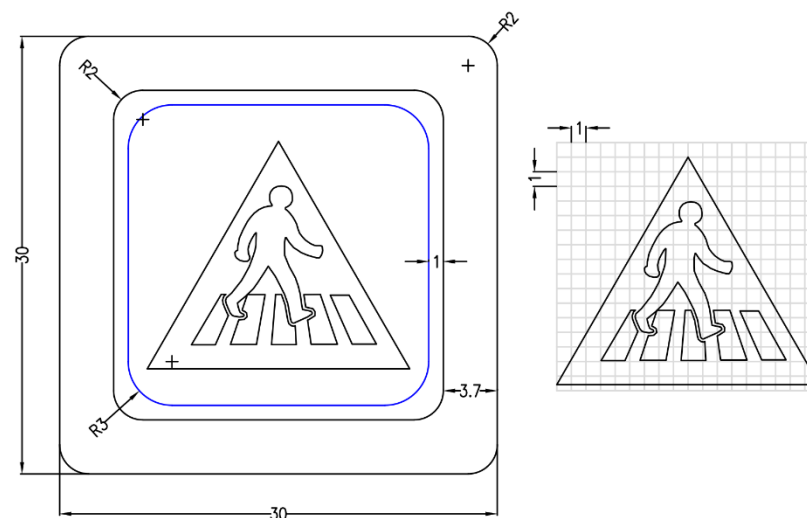
Sign No.
RUS 066

© GOVERNMENT OF IRELAND

NOTES:

- Centre line, tile marks, the grid and dimensions do not form part of the sign.
- The table shows sign sizes in millimetres, rounded to the nearest 5mm.
- Colours: Standard
 - Borders: WHITE / FLUORESCENT YELLOW (RGB 251,255,0)
 - Background: BLUE / WHITE
 - Symbol: BLACK

x-height	W (mm)	H (mm)
80	600	600

An Roinn Iompair
Department of TransportTitle: Chapter 5 – Regulatory Sign
PEDESTRIAN CROSSINGIssue: 01 08.04.22
02 07.09.23Dimensions:
STROKE WIDTHSign No.:
RUS 066

APPENDIX 1 – EXTRACTS FROM TRAFFIC SIGNS MANUAL

PLACEMENT

1.3.15 The placement of a sign is its position on the cross-section of the road. A sign should be placed so as to maintain a clearance between itself and the traffic on the carriageway.

1.3.16 A horizontal clearance between the edge of the sign and the edge of the pavement (including any hard strip or hard shoulder) of 1200mm is recommended. However, where space is limited, or there are other obstructions or constraints, the clearance may be reduced to 450mm in urban areas and 600mm in rural areas.

1.3.17 In urban areas the obstruction caused by posts located in narrow pedestrian footways should be minimised. Every effort should be made to ensure that the poles do not impede the free movement of vision or mobility impaired people, the elderly, people with pushchairs or small children, or wheelchair users. The following guidelines apply:

- Street furniture should be carefully and consistently located so as not to impede the walking area. Supports should be at the back of the footway or as close to the kerb as practicable (see Figure 1.20);
- Street furniture should be kept to a minimum;
- Street furniture should have rounded edges;
- When at low level street furniture should be detectable to assist long cane users;
- Where difficulties in placement arise, the local authority should liaise with affected local parties.

1.3.20 When designing and locating signage for cycle facilities, the designer should refer to any guidelines for cycling facilities issued by the Department of Transport.

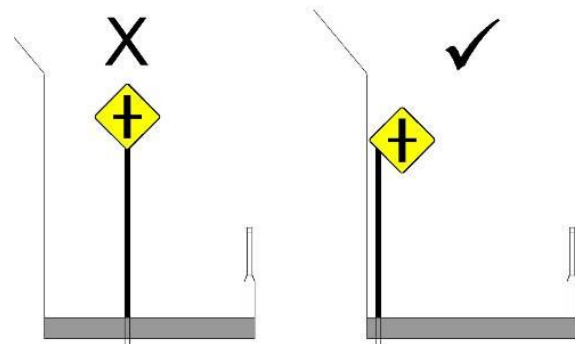


Figure 1.20: Footway to be Kept Clear

MOUNTING HEIGHT

1.3.21 Signs in rural areas should normally be erected with the lower edge of the sign or supplementary plate at the greater of 1500mm above the level of the adjacent paved surface and 1000mm above ground level below the sign. Signs should be mounted clear of any vegetation.

1.3.22 In urban areas or locations where pedestrians are likely to walk under the sign, the desirable mounting height is 2300mm. Where cyclists are likely to pass under the sign, the desirable mounting height is 2500mm. See Figure 1.22.

1.3.23 Low-level direction signs at roundabouts and junctions may be mounted at lower heights, but not less than 750mm above ground level. However, care must be taken to ensure that the signs do not obstruct sight lines.

1.3.24 In city centres where congested conditions prevail, higher mounting heights may be required if standing vehicles consistently prevent signs from being seen. Alternatively cantilever signs or gantries may need to be considered.

1.3.25 If signs are erected on structures, mounting heights less than 2300mm may be used, provided that the signs can still be seen, do not obstruct pedestrians and are out of the range of spray thrown up by passing vehicles.

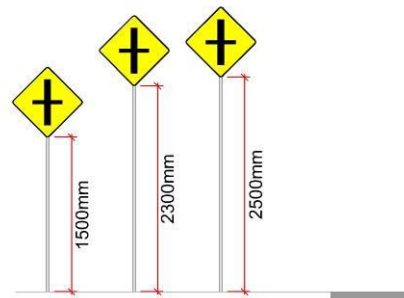
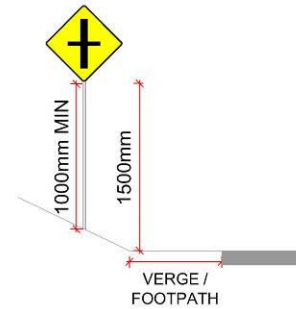
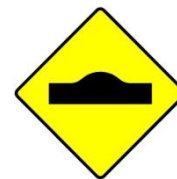


Figure 1.22: General Mounting Heights for Signs

HUMP OR DEPRESSION

6.16.1 Where there is an individual sharp rise or depression in the road surface, Sign W 130, Road Hump, or Sign W 131, Road Depression, should be provided as appropriate.

6.16.2 Sign W 130 should also be provided at the start of a road where road humps have been introduced as a traffic calming measure. The sign should not normally be required on a road with a 30km/h speed limit.



W 130: Road Hump

BACKING BOARDS

1.5.5 Backing boards **shall only** be coloured grey. Other than the exception for speed limits for specific lanes (see Paragraph 1.5.20 and Figure 1.38), and Regulatory Sign RUS 066 Pedestrian Crossing (See Paragraph 5.21.9), **no colour other than grey** is permitted without specific approval from the overseeing organisation (DoT for Regional & Local roads, TII for National roads). Backing boards shall normally be rectangular in shape but may be non-rectangular to enable a diamond shaped sign to be bracketed off a lamp column. The backing board must not be provided with an additional black border and no legend may be attached directly to the board.

PEDESTRIAN CROSSING BEACON AND SIGN

5.21.9 A Pedestrian Crossing without a flashing beacon is also available for use in certain situations. This arrangement is Sign RPC 001A where Sign RUS 066 replaces the flashing beacons. RUS 066 may only be erected back-to-back to be visible from both directions of travel. RUS 066 (RPC 001A) should only be used in the following circumstances:

- Where a road has a Posted speed limit of 50km/h or lower and a 85th percentile speed less than 50km/h;
- Where two-way traffic volumes are less than 500 vehicles per hour without a refuge island, or 750 vehicles per hour with a refuge island;
- Where the road has only one traffic lane in each direction;
- Has good pedestrian-driver visibility; and
- Crossing locations must have adequate street lighting.

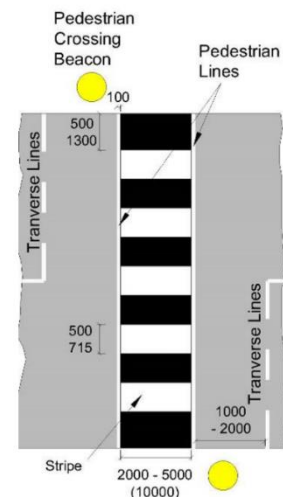
The following measures should also be considered to supplement RPC 001A

- The crossing should be on a flat-top ramp or raised platform;
- Additional localised lighting should be installed at the crossing location to provide enhanced illuminance, and
- Where a pedestrian refuge island is provided, traffic signs should be installed on the island.

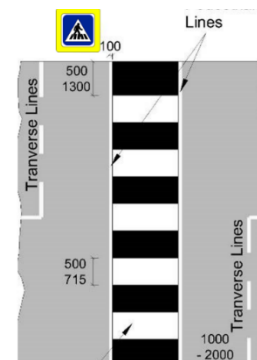
See Advice Note **TSAN-01-2023** at www.trafficsigns.ie.



RUS 066
Pedestrians Crossing



RPC 001
Zebra Pedestrian Crossing with Flashing Beacons



RPC 001A
Zebra Pedestrian Crossing with RUS 066

PEDESTRIAN CROSSING

6.17.1 Sign W 140A, Pedestrians Crossing, is available for use where the visibility to an uncontrolled pedestrian crossing or to a zebra crossing is impaired by a bend or hump in the road. At a zebra crossing, the sign will not be needed if both beacons at the crossing are visible from a distance of 45m on a 50km/h road, or 80m on a 60km/h road. If sight lines to the crossing are obscured by parked vehicles, the imposition of parking restrictions should be considered. In the case of beacon free zebra crossings that employ sign RUS 066, the foregoing advice also applies where these are installed on roads with speed limits of up to 50 km/h. RUS 066 shall not, **under any circumstances**, be used in place of W 140A

600, averaged over four peak hours, up to a maximum of 5m or, in exceptional circumstances, 10m. For arterial streets, as defined in the Design Manual for Urban Roads and Streets (DMURS), a minimum width of 4m should be used



**W 140:
Pedestrians**



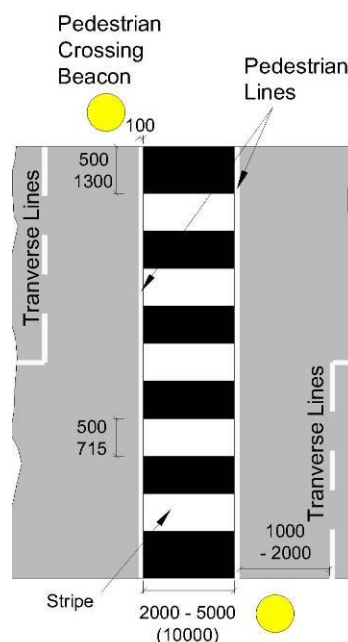
**W 140A:
Pedestrians Crossing**

ZEBRA CROSSING (RPC 001 & RPC 001a)

7.16.2 7.16.2 A set of Pedestrian Lines, Transverse Lines, Stripes, and Pedestrian Crossing Beacons (see chapter 9 for details of beacons) together form a Zebra Crossing, RPC 001. Alternative arrangements are available for use in certain situations. These alternative arrangements (RPC 001A) allow for the Pedestrian Crossing Beacons to be replaced by Sign No. RUS 066, or, in limited specific circumstances, omitted entirely. See advice note TSAN-2024-01 at www.trafficsigns.ie. The markings are laid out as follows:

7.16.3 Pedestrian Lines: Pedestrian lines indicate the limits of the pedestrian crossing area. They consist of two lines across the carriageway at a minimum distance of 2.0m apart (normally 2.4m apart). The lines are white, continuous and 100mm wide.

7.16.4 7.16.4 The width of a pedestrian crossing may be dictated by site conditions. However, where space permits, the width of 2.0m should be increased by an additional 500mm for every 125 pedestrians per hour above



**RPC 001:
Zebra Crossing**

7.16.5 The Transverse Line consists of a single white broken line comprising 500mm segment and 500mm gaps. The marks are 200mm wide. This line is normally sited 1m to 2m from and parallel to the Pedestrian Line used to indicate the limits of the crossing and should extend across the approach lanes. In the case of RPC 001A without beacons or signs, these lines may be omitted.

7.16.6 Stripes: The stripes should be laid in an alternate black and white pattern across the full width of the carriageway and positioned centrally between the two Pedestrian Lines.

7.16.7 The stripe immediately adjacent to the kerb on both sides of the road should be black and should not be less than 500mm nor more than 1300mm wide. The intermediate black and white stripes should be not less than 500mm nor more than 715mm wide and should normally be of equal width.

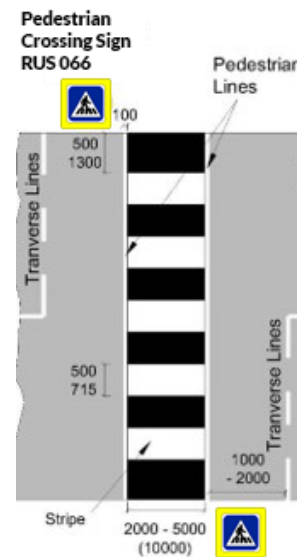
7.16.8 If the road surface is dark (e.g. bituminous macadam) between the pedestrian lines, then the surface colour itself will be sufficient to constitute the 'black' stripes. However, with the increasing use of high skid-resistant surfacing in a variety of light colours, care must be exercised to ensure that there is sufficient visual contrast between alternating stripes to indicate clearly the presence of the crossing.

7.16.9 At prescribed Zebra Crossings Pedestrian Crossing Beacons, or sign RUS 066 (erected back-to-back), must be located on either side of the road on the side of the stripes from which traffic approaches. For details of the beacons, see Chapter 9 and details of RUS 066 see Chapter 5. Prescribed Zebra crossings without a beacon or sign RUS 066 (RPC 001A) shall only be used in the following specific circumstances:

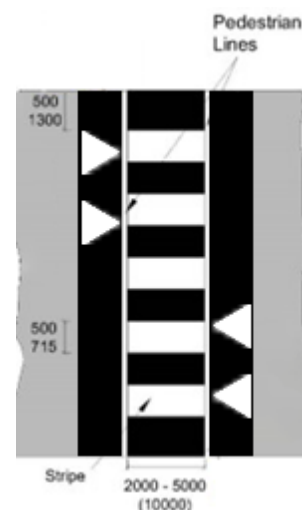
- In Urban, Town Centres or Built-Up areas where the road has an 85th percentile speed of less than 30 km/h and a posted speed limit of 30 km/h or lower.
- They shall only be used in conjunction

with a raised platform to TII standard detail CC-SCD-05145

- Where the road has only one lane in each direction
- Approaching vehicles (from all directions) must have clear visibility to the pedestrian waiting to cross and the tactile paving area of the footpath.
- Crossing locations must have adequate street lighting to TII publication DN-LHT-03038



RPC 001A: Zebra Crossing (with RUS 066)



RPC 001A: Zebra Crossing (without beacons or RUS 066)

ZEBRA CROSSING

9.8.11 Zebra Crossings, RPC 001, are pedestrian crossings marked by flashing amber beacons, alternate black and white stripes across the road, and other road markings. An alternative arrangement, RPC 001A, is available for use allowing for the replacement of the beacons with Regulatory sign RUS 066, or, in limited specific circumstances, to be installed without beacons or this sign. In all instances, vehicles must stop and yield right of way to any pedestrian who is waiting to cross or has commenced crossing the road at the zebra pedestrian crossing. These are not signalised crossings but are considered controlled crossings and are included here for completeness. Zebra crossings are not normally considered suitable for roads with a maximum speed limit greater than 50km/h, or where there is more than one lane in each direction (unless a refuge island is provided). For details of zebra crossings see Chapter 7 and Chapter 5 for sign RUS 066. See also Advice Note TSAN-2024-01 at www.trafficsigns.ie

9.8.12 The Pedestrian Crossing Beacon consists of an internally illuminated globe mounted on a post; it is used to indicate the presence of a priority-controlled (Zebra) pedestrian crossing. The beacon shall be provided on both sides of the road (and on refuges where present) in conjunction with the Pedestrian Crossing Road markings (see Chapter 7). The combination of the beacons and road markings constitute traffic Sign RPC 001.

The alternative arrangement, where the beacon is replaced with Regulatory sign RUS 066, constitutes traffic Sign RPC 001A. The beacon is replaced with RUS 066 mounted back-to-back on either side of the crossing and in the refuges where present.

Sign RUS 066 shall not be used in any other circumstance.

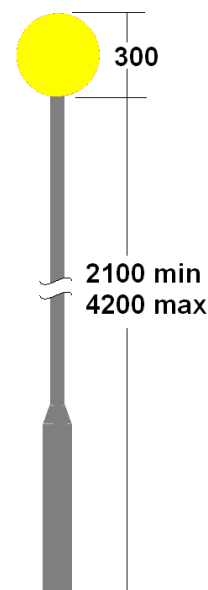


Figure 9.20:
Pedestrian Crossing Beacon



Figure 9.20A:
Pedestrian Crossing Sign
(for Pedestrian Crossings type RPC 001A)



Figure 9.20B:
RUS 066
(For Pedestrian Crossings type RPC 001A)

NOTES

[illegible]

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www.speedlimits.ie

TSAN-2024-01

FEBRUARY 2024