# SECTION 6

## PERMANENT WARNING SIGNS

March 2011

NZ TRANSPORT AGENCY
WAKA KOTAHI

# SECTION 6: PERMANENT WARNING SIGNS (DESIGN, POLICY AND LOCATION)


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| | | |
|---|---|---|
| **LEGEND*** | : | ***black*** ***(unless specified otherwise)*** |
| **BACKGROUND** | : | ***reflectorised yellow*** ***(unless specified otherwise)*** |
| **BORDER** | : | ***black*** |
| **REVERSE** | : | ***black*** |

**Refer to individual sign specifications for details of approved word legends.*

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

## GENERAL SPECIFICATION

The main component of most Permanent Warning Signs is a diamond shaped sign plate (square with one diagonal vertical), on which is displayed an approved symbol. No other symbols are to be devised. The general details and size options for the standard PW diamond sign plate are given above and details of symbols etc are given with individual sign specifications. Note that the corners of the border are rounded and it is preferable that the corners of the sign plate also be rounded to match the border.

Where indicated, rectangular matching size supplementary sign plates displaying an approved word legend are mounted 100 mm below the main diamond sign to form a ***sign combination***.

Two particular Temporary Warning Signs, PW-14 RAILWAY CROSSING and PW-15 RAILWAY "_"TRACKS are special signs (not diamond shaped) and remain unchanged from the original design with black and white colour scheme.

The PW-46 LOW OVERHEAD CLEARANCE INDICATION ON STRUCTURE OR TUNNEL sign is a special rectangular sign which is separately detailed.

**Sign Size:** Sign size is dependent on the specific application, (ie, urban or rural, two lane or multilane, etc) with particular regard given to the ***actual operating speeds*** that prevail. For most PW signs three sign sizes are detailed.

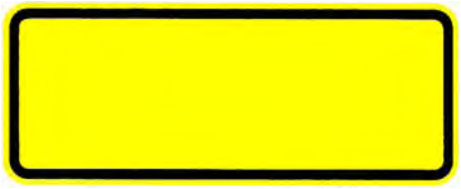
**(a)** ***Curve warning and curve advisory speed signs.*** Refer to APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS for full details of size determination and location requirements. Four sizes are detailed for these signs.

**(b)** ***For other permanent warning signs in urban situations (less than 70 km/h speed restricted)*** the normal diamond sign plate size is 600 x 600. On divided roads or where operating speeds exceed 50 km/h, 750 x 750 or larger size signs should be erected.

**(c)** ***For other permanent warning signs in rural areas (70 km/h or greater speed restricted)*** the normal diamond sign plate size is 750 x 750. On motorways or divided roads and on other roads where operating speeds are higher than normal,* **900 x 900 or larger size signs should be erected.**

******when 85 percentile speed exceeds 100 km/h*

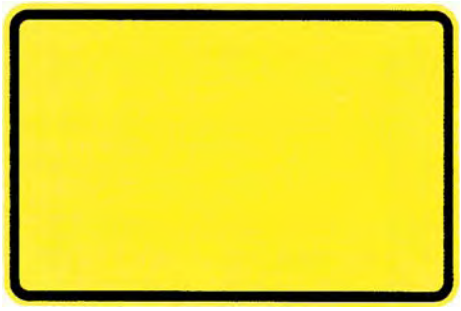
**PERMANENT WARNING SIGNS**
**STANDARD PW DIAMOND SIGN PLATE FIG. 6.1**



| | | |
|---|---|---|
| **LEGEND*** | : | ***black*** |
| **BACKGROUND** | : | ***reflectorised yellow*** |
| **BORDER** | : | ***black*** |
| **REVERSE** | : | ***black*** |

## TYPE PW / A

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/



| | | |
|---|---|---|
| **LEGEND*** | : | ***black*** |
| **BACKGROUND** | : | ***reflectorised yellow*** |
| **BORDER** | : | ***black*** |
| **REVERSE** | : | ***black*** |

**Refer to individual sign specifications for details of approved word legends*

## TYPE PW / B

*(also used for PW-25 Single line)*

### GENERAL SPECIFICATION

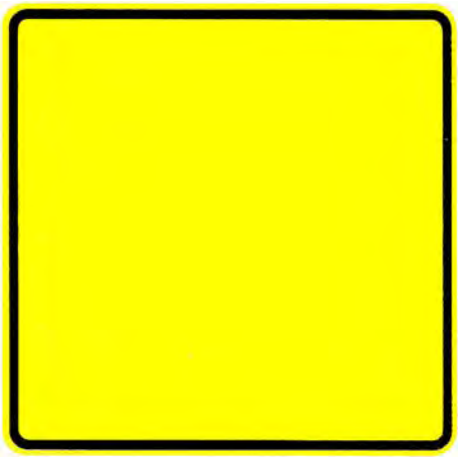
The supplementary sign component of a Permanent Warning Sign combination is a matching size rectangular shaped sign plate on which is displayed an approved word legend. Approved word legends are detailed for individual sign combinations and ***no other legends are to be devised***. The general details and size options for the standard supplementary sign plates are given herewith.

The corners of the border are to be rounded and it is preferable that the corners of the plate also be rounded to match the border.

All supplementary signs are mounted 100 mm below the main diamond sign or where indicated 100 mm below another supplementary sign in the order specified.

**PERMANENT WARNING SIGNS**

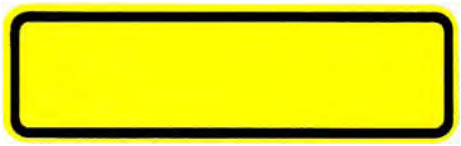
**FIG. 6.2 STANDARD PW SUPPLEMENTARY SIGN PLATES**



| | | |
|---|---|---|
| LEGEND* | : | *black* |
| BACKGROUND | : | *reflectorised yellow* |
| BORDER | : | *black* |
| REVERSE | : | *black* |

**Refer to individual sign specifications for details of approved word legends*

## TYPE PW / C



***Colour details as above***

## TYPE PW / D

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

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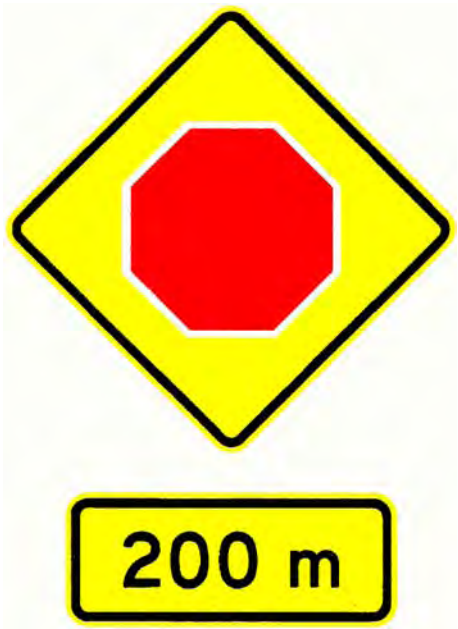


**SYMBOL BACKGROUND: reflectorised red**
**TRIANGULAR BORDER: reflectorised white**

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-1 sign combination consists of an octagonal STOP sign symbol displayed on a standard PW diamond sign plate and a supplementary sign "__" m.

PW-1 signs should be erected in advance of an RG-5 STOP sign and an RG-32 RAILWAY LEVEL CROSSING STOP SIGN COMBINATION where the sign is not clearly visible to approaching drivers over a distance of at least 120 m in rural areas and 60 m in urban areas.

PW-1 signs may also be erected for a limited educational period or where in the opinion of the controlling authority compliance with the RG-5 or RG-32 sign would be substantially improved.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The indicated distance between the PW-1 sign and an RG-5 or RG-32 sign shall be at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |


**SYMBOL BACKGROUND AND EDGING:** **reflectorised white**
**TRIANGULAR BORDER:** **reflectorised red**

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-2 sign combination consists of a triangular GIVE WAY sign symbol displayed on a standard PW diamond sign plate and a supplementary sign "__" m.

PW-2 signs should be erected in advance of an RG-6 GIVE WAY sign where the RG-6 sign is not clearly visible to approaching drivers over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

PW-2 signs may also be erected for a limited educational period or where in the opinion of the controlling authority compliance with the RG-6 sign would be substantially improved.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The indicated distance between the PW-2 sign and the RG-6 sign shall be at least that shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A W10-3 sign consists of a speed limit sign displayed on a standard PW diamond sign plate. This sign should be accompanied by a supplementary sign "__" m.

W10-3 signs may be erected in advance of an RG -1 speed limit sign where the RG -1 sign is not clearly visible to approaching drivers over a distance of at least 120m in rural areas and at least 60m in urban areas.

W10-3 signs may also be erected for a limited educational period or where in the opinion of the controlling authority compliance with the RG -1 sign would be substantially improved.

W10-3 signs may be used to indicate speed limits between 10 and 90 km/h.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120m in rural areas and at least 60m in urban areas.

The indicated distance between the PW1-3.1 sign and the RG-1 sign shall be at least that shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |

## TCD rule W10 - 3 SPEED LIMIT AHEAD

**TRAFFIC SIGNAL SYMBOL :** ***black with reflectorised red, orange and green inserts***

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-3 sign consists of a TRAFFIC SIGNAL symbol displayed on a standard PW diamond sign plate. PW-3 signs should be erected in advance of an intersection controlled by traffic signals on all approaches not subject to a 50 km/h speed restriction. PW-13 signs may also be erected within an urban area in advance of traffic signals where in the opinion of the controlling authority high approach speeds or inadequate visibility of the signal heads create a hazardous situation.

PW-3 signs should also be erected in advance of flashing red signals that are operated on roads approaching tunnels or near fire stations or airfield runways. If pre-warning signs are also warranted, then either PW-52 TUNNEL, PW-49 FIRE STATION or PW-51 AIRCRAFT signs (as appropriate) should be erected the same distance in advance of the PW-3 sign as the latter is in advance of the signals.

When the approach is a one way road signs should be erected`on both sides.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The indicated distance between the PW-3 sign and the appropriate limit line shall be at least that shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

**Markings:** Pavement markings must be installed and maintained as recommended in PART II, SECTION 2 of this manual.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-4 sign consists of a MERGING ARROW symbol (as detailed) displayed on a standard PW diamond sign plate.

PW-4 signs should be erected in advance of the point where two roadways converge at a flat angle and no turning conflict occurs. PW-4 signs ***should not be used*** at channelised intersections unless the merging area is at least 150 m beyond the intersection or where any two lanes of traffic within the same roadway are required to merge into one lane.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirement.

**Location:** The sign should normally be oriented to face traffic on the major roadway and located so as not to obstruct a driver's view of the entering roadway. Where the converging. roadways carry similar traffic volumes separate signs should be erected to face traffic on each roadway. The sign should be clearly visible to approaching drivers over a distance of at least 100 m and in addition be between 15 and 30 metres in advance of the intersection of the shoulder edges of the converging roadways.

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For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A W11-7 sign consists of an AHEAD ARROW symbol and a MERGING ARROW symbol on left displayed on a standard PW diamond sign plate.

W11-7 signs should be erected in advance of the point where two separate roadways converge at a flat angle and the road ahead has an additional lane so an entering driver does not have to merge at the entry point to the road. W11-7 signs should be used at channelised intersections where the length of the auxiliary lane is at least 500m beyond the intersection.

**Location:** The sign should normally be oriented to face traffic on the major roadway and located so as not to obstruct a driver's view of the entering roadway. Where the converging roadways carry similar traffic volumes separate signs should be erected to face traffic on each roadway. The sign should be clearly visible to approaching drivers over a distance of at least 100 m and in addition be between 15 and 30 metres in advance of the intersection of the shoulder edges of the converging roadways.

## TCD rule W11 - 7 LANE GAIN

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A W11-6.1 sign consists of a MERGING ARROW symbol (as detailed) displayed on a standard PW diamond sign plate.

W11-6.1 signs should be erected in advance of the point where two separate roadways of equal hierarchy converge at a flat angle and no turning conflict occurs. W11-6.1 signs should not be used at channelised intersections where the length of the merge is at least 150 m beyond the intersection or where any two lanes of traffic within the same roadway are required to merge into one lane.

**Location:** The sign should normally be oriented to face oncoming traffic on each roadway and located so as not to obstruct a driver's view of the entering roadway. The sign should be clearly visible to approaching drivers over a distance of at least 100 m and in addition be between 15 and 30 metres in advance of the point at which the shoulder edges of the converging roadways intersect.

## TCD rule W11 - 6.1 MERGING TRAFFIC LEFT AND RIGHT

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-5 sign consists of two arrow symbols (as detailed) displayed on a standard PW diamond sign plate.

A PW-5 sign may be erected where traffic lanes carrying traffic in the same direction diverge and pass to each side of a hazard such as a kerbed traffic island, bridge support or similar substantial obstruction. Owing to the visibility obstruction that these signs create, they should only be used where other cues have failed.

The hazard (other than kerbing) shall be painted as recommended in PART II, Section 5.03 of this Manual.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be erected about 5 m beyond the nose of the traffic island or in front of other types of hazard and so that approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas. Mounting height of the sign must be such as to not present an obstruction to driver visibility, particularly across traffic islands at intersections. In such situations the signs should not be mounted higher than 150 mm above the surface of the island. No grass or ground cover planting should be allowed to obscure signs and where necessary to avoid this the island surface should be suitably paved in the vicinity.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-6 sign consists of two arrow symbols (as detailed) displayed on a standard PW diamond sign plate..

PW-6 signs should be erected:

**(a)** On non-divided motorways.
**(b)** At the termination of median divided roadways.
**(c)** At an intersection where a two way road is directly ahead of a one way approach leg.

PW-6 signs ***should not be used*** to indicate sections of narrow two way road. In such situations PW-43 ROAD NARROWS signs should be used.

PW-7 TWO WAY AHEAD signs should be erected in advance of a PW-6 sign or the first of any series of PW-6 signs.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas. In addition it should be located:

**(a)** On non-divided motorways - at the start of the motorway and at intervals not exceeding one (1) kilometre.
**(d)** On median divided roadways - opposite the end of the median and 150 m beyond the median end.
**(d)** During reconstruction or stage construction of a divided highway where there is temporary two-way operation on one roadway - at intervals not exceeding 400 m.
**(d)** At a relevant intersection - on both sides of the two-way road and not more than 15 m beyond the intersection.


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-7 sign combination consists of a PW-6 TWO WAY sign and a supplementary sign "__" m.

PW-7 signs should be erected on a one way road in advance of a PW-6 sign or the first of any series of PW-6 signs.

**Sign Size:** The size of the supplementary sign should be increased as indicated to match the required size of the PW-6 diamond warning sign.

**Location:** PW-7 signs should be located on both sides of the one-way road and where approaching drivers have an uninterrupted view of them over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

PW-7 signs should be erected in advance of the PW-6 signs by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-8 sign consists of three curved arrow symbols (as detailed) displayed on a standard PW diamond sign plate.

PW-8 signs should be erected in advance of rotary junctions were traffic is required to circulate around a central island and an AD-5 type sign is not installed.

Where an RG-6.1 ROUNDABOUT GIVE WAY sign at the entry to a rotary junction is not clearly visible to approaching drivers, over a distance of at least 120 m in rural areas and at least 60 m in urban areas, a supplementary sign "_" m should added below the PW-8 sign, to form a sign combination similar to the PW-2 GIVE WAY AHEAD "_" sign.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

PW-7 signs should be erected in advance of the PW-6 signs by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

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For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-9 sign consists of a CROSS ROADS JUNCTION symbol (straight ahead arrow version) displayed on a standard PW diamond sign plate. The alternative PW-9.1 sign displays a right angled arrow version of the CROSS ROADS JUNCTION symbol.

Intersection warning signs indicate the legal priority which applies at an intersection. A wider stroke width with arrow head represents the roadway (on which the sign is erected) that has priority, ie. the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, then both roadways are represented by strokes of equal width without arrow heads.
However this latter convention ***should not normally be employed for cross roads situations where it is recognised that some form of priority control should be employed***.

PW-9 (PW-9.1) signs should be erected on the main road approaches to a priority controlled CROSS ROADS JUNCTION where the controlling authority considers that due to restricted sight distance combined with a large volume of turning or crossing traffic, a hazardous situation exists.

PW-9 (PW-9.1) signs are never erected on the controlled approaches to a priority road - rather PW-1 STOP AHEAD "-. m or PW-2 GIVE WAY AHEAD "_" m signs should be used if there is a sight distance problem. Neither should PW-9 (PW-9.1) signs be erected on the approaches to an intersection controlled by traffic signals nor on the approaches to a rotary junction, nor generally on an intersection approach where advance directional signing is employed. In the first situation PW-3 TRAFFIC SIGNALS AHEAD signs should be used and in the second case PW-8 ROTARY JUNCTION signs are appropriate.

**Street Name Sign:** Where necessary the name of the cross road may be attached below the PW-9 sign.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban area.

The sign should be erected in advance of the intersection by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## CROSS ROADS JUNCTION – CONTROLLED
## PW - 9 (priority route ahead)

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW - 9.1 sign consists of a CROSSROADS INTERSECTION WITH PRIORITY ARROW symbol displayed on a standard PW diamond sign plate.

PW - 9.1 signs should be erected in advance of a crossroads intersection where the left turning (or right turning) traffic have priority.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas or at least 60 m in urban areas.

The sign should be erected in advance of the crossroads by at least the distance shown in the following table.

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## PW - 9.1

## CROSS ROADS JUNCTION - CONTROLLED (priority route turns)

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-10 sign consists of a TEE JUNCTION symbol (arrow version) displayed on a standard PW diamond sign plate.

PW-10 signs should be erected on the main road approach to a priority controlled TEE JUNCTION where the controlling authority considers that due to restricted sight distance combined with a large volume of turning or crossing traffic, a hazardous situation exists.

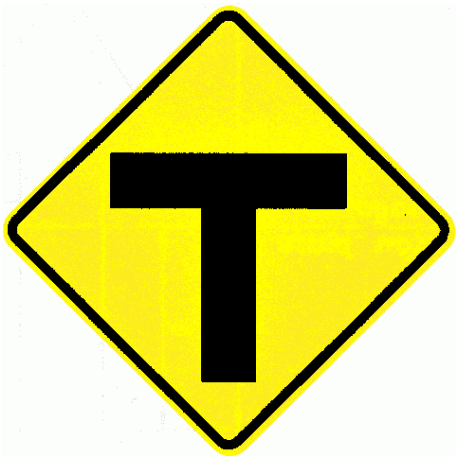
Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway (on which the sign is erected) that has priority, ie, the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, then both roadways are represented by strokes of equal width without arrow heads.
PW-10 signs ***are never erected*** on the controlled approach to a priority road - rather PW-1 STOP AHEAD "__" m or PW-2 GIVE WAY AHEAD "__" m signs should be used if there is a sight distance problem. Neither should PW-10 signs be erected on the approaches to an intersection controlled by traffic signals nor on the approaches to a rotary junction, nor generally on the approach to an intersection where advance directional signing is employed. In the first situation PW-3 TRAFFIC SIGNALS AHEAD signs should be used and in the second case PW-8 ROTARY JUNCTION signs are appropriate.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m urban areas.

The sign should be erected in advance of the intersection by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-10.1 sign consists of a TEE JUNCTION symbol (version without arrow) displayed on a standard PW diamond sign plate.

PW-10.1 signs should be erected on the approaches to a TEE JUNCTION where normal priority rules apply, and where the controlling authority considers that due to restricted sight distance combined with a large volume of turning or crossing traffic, a hazardous situation exists.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway (on which the sign is erected) that has priority, ie, the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control.

Where normal intersection priority rules apply, both roadways are represented by strokes of equal width without arrow heads.

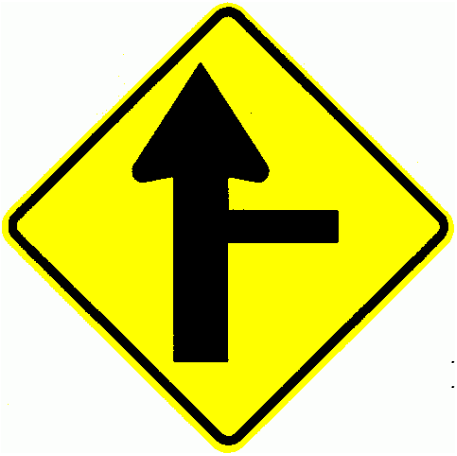
PW-10.1 signs ***should not be erected*** on the approaches to an intersection where advance directional signing is employed.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m urban areas.

The sign should be erected in advance of the intersection by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-11 sign consists of a SIDE ROAD JUNCTION symbol (arrow version) displayed on a standard PW diamond sign plate.

PW-11 signs should be erected on the main road approaches to a priority controlled SIDE ROAD JUNCTION where the controlling authority considers that due to restricted sight distance combined with a large volume of turning or crossing traffic, a hazardous situation exists.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway (on which the sign is erected) that has priority, ie, the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, then both roadways are represented by strokes of equal width without arrow heads.

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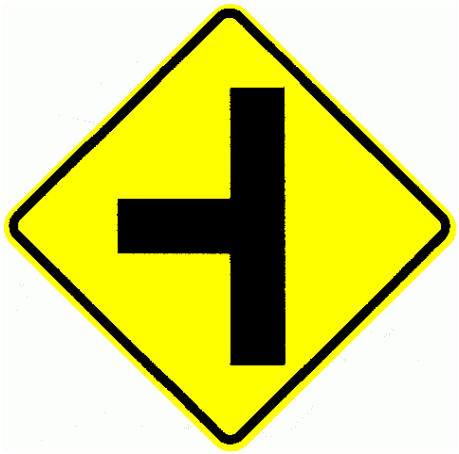
PW-11 signs ***are never erected*** on the controlled approach to a priority road - rather PW-1 STOP AHEAD "__" m or PW-2 GIVE WAY AHEAD "__" m signs should be used if there is a sight distance problem. Neither should PW-11 signs be erected on the approaches to an intersection controlled by traffic signals nor on the approaches to a rotary junction, nor generally on an intersection approach where advance directional signing is employed. In the first situation PW-3 TRAFFIC SIGNALS AHEAD signs should be used and in the second case PW-8 ROTARY JUNCTION signs are appropriate.

**Street Name Sign:** Where necessary the name of the side street may be attached below the PW-11 sign.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m urban areas.

The sign should be erected in advance of the intersection by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-11.1 sign consists of a SIDE ROAD JUNCTION symbol (version without arrow) displayed on a standard PW diamond sign plate.

PW-11.1 signs should be erected on the approaches to a SIDE ROAD JUNCTION where normal priority rules apply, and where the controlling authority considers that due to restricted sight distance combined with a large volume of turning or crossing traffic, a hazardous situation exists.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway (on which the sign is erected) that has priority, ie, the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, both roadways are represented by strokes of equal width without arrow heads.

PW-1 1.1 signs ***should not be erected*** on the approaches to an intersection where advance directional signing is employed.

**Street Name Sign:** Where necessary the name of the side street may be attached below the PW-11.1 sign.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m urban areas.

The sign should be erected in advance of the intersection by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-12 sign consists of a Y - JUNCTION symbol (arrow version) displayed on a standard PW diamond sign plate.

PW-12 signs should be erected on the main road approaches to a priority controlled Y - JUNCTION where the controlling authority considers that due to restricted sight distance combined with a large volume of turning or crossing traffic, a hazardous situation exists.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway (on which the sign is erected) that has priority, ie, the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, then both roadways are represented by strokes of equal width without arrow heads.

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PW-12 signs ***are never erected*** on the controlled approach to a priority road - rather PW-1 STOP AHEAD "__" m or PW-2 GIVE WAY AHEAD "__" m signs should be used if there is a sight distance problem. Neither should PW-12 signs be erected on the approaches to an intersection controlled by traffic signals nor on the approaches to a rotary junction, nor generally on an intersection approach where advance directional signing is employed. In the first situation PW-3 TRAFFIC SIGNALS AHEAD signs should be used and in the second case PW-8 ROTARY JUNCTION signs are appropriate.

**Street Name Sign:** Where necessary the name of the side street may be attached below the PW-12 sign.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m urban areas.

The sign should be erected in advance of the intersection by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW - 12.1 sign consists of a Y JUNCTION symbol (non-arrow version) displayed on a standard PW diamond sign plate.

PW - 12.1 signs should be erected on the approaches to a Y JUNCTION where normal priority rules apply, and the controlling authority considers that, due to restricted sight distance combined with a large volume of turning or crossing traffic, a hazardous situation exists.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway (on which the sign is erected) that has priority, ie. the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, both roadways are represented by strokes of equal width without arrow heads.

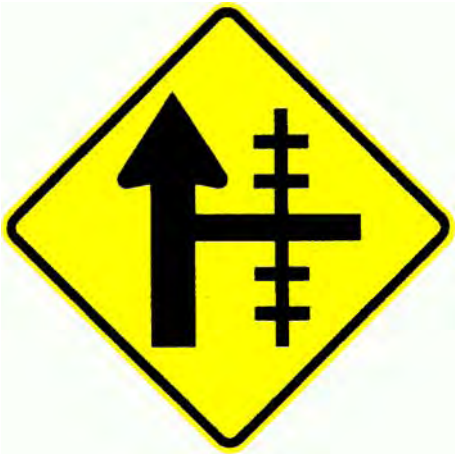
PW-12.1 signs ***should not be erected*** on the approaches to an intersection where advance directional signing is employed.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** PW-12.1 signs should be located where they are clearly visible to approaching drivers for a distance of at least 120 m on rural roads and at least 60 m on urban roads.

Signs should be erected in advance of intersections by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**Policy:** A PW-13 sign consists of a SIDE ROAD JUNCTION symbol (arrow version with railway crossing on side road) displayed on a standard PW diamond sign plate.

PW-13 signs should be erected on the main road approach to a priority controlled side road junction (or cross roads junction) where a railway level crossing is located on the side road immediately adjacent to the main road intersection.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway that has priority, ie. the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, both roadways are represented by strokes of equal width without arrow heads.

In the case of a CROSS ROADS JUNCTION the symbol should be modified by the addition of a strip (width *f* and length *h*) as indicated.

**Reflectorisation:** PW-13 signs shall use Class 1 reflective materials-refer to Section 1.14 (a) of this Manual for details of the special requirements for Railway Level Crossing signs.

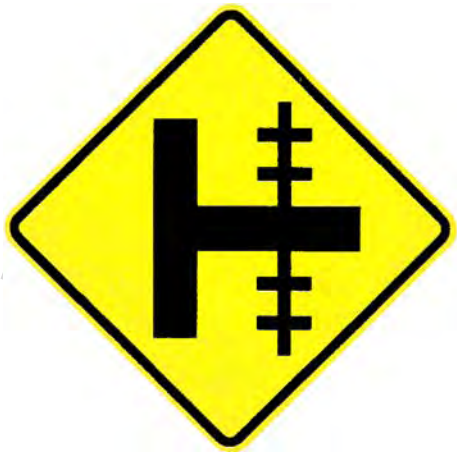
**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** PW-13 signs should be located where they are clearly visible to approaching drivers for a distance of at least 120 m on rural roads and at least 60 m on urban roads.

Signs should be erected in advance of intersections by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## PW - 13 RAILWAY CROSSING ON SIDE ROAD CONTROLLED JUNCTION



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**Policy:** A PW-13.1 sign consists of a SIDE ROAD JUNCTION symbol (non arrow version with railway crossing on side road) displayed on a standard PW diamond sign plate.

PW-13.1 signs should be erected on the approach to a side road junction (or a cross roads junction) where normal priority rules apply, where a railway level crossing is located on the side road immediately adjacent to the main road intersection.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway that has priority, ie. the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, both roadways are represented by strokes of equal width without arrow heads.

**Reflectorisation:** PW-13.1 signs shall use Class 1 reflective materials - refer to Section 1.14 (a) of this manual for details of the special requirements for Railway Level Crossing signs.

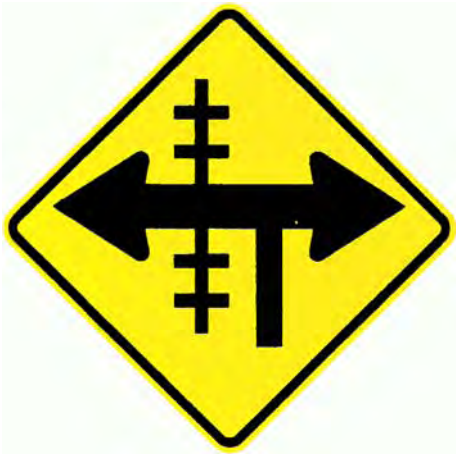
**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** PW-13.1 signs should be located where they are clearly visible to approaching drivers for a distance of at least 120 m on rural roads and at least 60 m on urban roads.

Signs should be erected in advance of intersections by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## RAILWAY CROSSING ON SIDE ROAD UNCONTROLLED JUNCTION PW - 13.1



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**Policy:** A PW-13.2 sign consists of a TEE JUNCTION symbol (arrow version with railway crossing on main road) displayed on a standard PW diamond sign plate.

PW-13.2 signs should be erected on the side road approach to a priority controlled tee junction (or side road junction) where a railway level crossing is located on the main road immediately adjacent to the side road intersection.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway that has priority, ie. the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, then both roadways are represented by strokes of equal width without arrow heads.

**Reflectorisation:** PW-13.2 signs shall use Class 1 reflective materials - refer to SECTION 1.14 (a) of this Manual for details of the special requirements for Railway Level Crossing signs.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** PW-13.2 signs should be located where they are clearly visible to approaching drivers for a distance of at least 120 m on rural roads and at least 60 m on urban roads.

Sign should be erected in advance of intersections by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## PW - 13.2 RAILWAY CROSSING AT T - JUNCTION CONTROLLED JUNCTION

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**Policy:** A PW-13.3 sign consists of a TEE JUNCTION symbol (non-arrow version with railway crossing on main road) displayed on a standard PW diamond sign plate.

PW-13.3 signs should be erected on the side road approach to a Tee junction (or a cross roads junction) where normal priority rules apply, where a railway level crossing is located on the main road immediately adjacent to the side road intersection.

Intersection warning signs indicate the legal priority which applies at an intersection. Thus a wider stroke width with arrow head represents the roadway that has priority, ie. the intersecting roadway shown by the narrower stroke width is under STOP or GIVE WAY control. Where normal intersection priority rules apply, both roadways are represented by strokes of equal width without arrow heads.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Reflectorisation:** PW-13.3 signs shall use Class 1 reflective materials — refer to SECTION 1.14 (a) of this Manual for details of the special requirements for Railway Level Crossing signs.

**Location:** PW-13.3 signs should be located where they are clearly visible to approaching drivers for a distance of at least 120 m on rural roads and at least 60 m on urban roads.

Signs should be erected in advance of intersections by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

This section has been replaced with Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

## PW - 14 RAILWAY LEVEL CROSSING POSITION INDICATOR *(Crossbuck)*

This section has been replaced with Part 9 of the Traffic Control Devices Manual which can be viewed at
http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-16 sign consists of a RIGHT ANGLED ARROW symbol (as illustrated) displayed on a standard PIN diamond sign plate.

PW-16 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to sharp horizontal curves where the curve radius is less than 15 m, a change in direction of approximately 90° occurs and where the warrant for curve advisory speed signing given in APPENDIX A3 is met.

When advisory speed signing is not warranted, PW-16 signs alone may be erected in advance of sharp, nearly right angled curves where, in the opinion of the controlling authority, the curve is deceptive, not obvious to approaching drivers and constitutes a hazard.

It is permissible to modify the standard curve warning sign detail in order to accommodate minor roads that intersect the main road within a horizontal curve (and effectively create a hazardous *CONCEALED EXIT*) by adding an appropriately oriented strip to the arrow symbol. The width of this strip should be 0.6 x *f* (where *f* is the specified shaft width of the type A arrow) and it should extend at least 100 mm but not more than 150 mm beyond the shaft of the main arrow.

In some cases, the position of the overall symbol within the border may be altered but a minimum clearance of 50 mm between the symbol and the border must be retained. As the wider main arrow shaft representing the major road indicates priority route status, the establishment of appropriate side road priority control must be considered in order to avoid driver confusion. When the hazard is mainly due to turning or crossing conflicts at such an intersection, the appropriate intersection warning sign should be used in preference to a curve warning sign.

No sign other than a PW-25 CURVE ADVISORY SPEED sign and/or a PW-26 CONCEALED EXIT sign may be attached to a PW-16 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location

requirements, (particularly in respect of curves in close proximity), are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.

The symbol shall be oriented left or right to match the direction of the curve.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-17 sign consists of a CURVED ARROW symbol (as illustrated) displayed on a standard PW diamond sign plate.

PW-17 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to horizontal curves where a change in direction of between 15° and 90° occurs and where the warrant for advisory speed signing given in APPENDIX A3 is met.

When advisory speed signing is not warranted, PW-17 signs alone may be erected in advance of curves where, in the opinion of the controlling authority, the curve is deceptive, not obvious to approaching drivers and constitutes a hazard.

It is permissible to modify the standard curve warning sign detail in order to accommodate minor roads that intersect the main road within a horizontal curve (and effectively create a hazardous CONCEALED EXIT) by adding an appropriately oriented strip to the arrow symbol. The width of this strip should be 0.6 x d (where d is the specified shaft width of the type A arrow) and it should extend at least 100 mm but not more than 150 mm beyond the shaft of the main arrow.

In some cases, the position of the overall symbol within the border may be altered but a minimum clearance of 50 mm between the symbol and the border must be retained. As the wider main arrow shaft representing the major road indicates priority route status, the establishment of appropriate side road priority control must be considered in order to avoid driver confusion. When the hazard is mainly due to turning or crossing conflicts at such an intersection, the appropriate intersection warning sign should be used in preference to a curve warning sign.

No sign other than a PW-25 CURVE ADVISORY SPEED sign and/or a PW-26 CONCEALED EXIT sign may be attached to a PW-17 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location requirements (particularly in respect of curves in close proximity) are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.

The symbol shall be oriented left or right to match the direction of the curve.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-18 sign consists of a CURVED ARROW symbol (as illustrated) displayed on a standard PW diamond sign plate.

PW-18 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to horizontal curves where a change in direction of between 90° and 120° occurs and where the warrant for advisory speed signing given in APPENDIX A3 is met.

When advisory speed signing is not warranted, PW-18 signs alone may be erected in advance of curves where, in the opinion of the controlling authority, the curve is deceptive, not obvious to approaching drivers and constitutes a hazard.

It is permissible to modify the standard curve warning sign detail in order to accommodate minor roads that intersect the main road within a horizontal curve (and effectively create a hazardous CONCEALED EXIT) by adding an appropriately oriented strip to the arrow symbol. The width of this strip should be 0.6 x b (where b is the specified shaft width of the type A arrow) and it should extend at least 100 mm but not more than 150 mm beyond the shaft of the main arrow. In some cases, the position of the overall symbol within the border may be altered but a minimum clearance of 50 mm between the symbol and the border must be retained.

As the wider main arrow shaft representing the major road indicates priority route status, the establishment of appropriate side road priority control must be considered in order to avoid driver confusion. When the hazard is mainly due to turning or crossing conflicts at such an intersection, the appropriate intersection warning sign should be used in preference to a curve warning sign.

No sign other than a PW-25 CURVE ADVISORY SPEED sign and/or a PW-26 CONCEALED EXIT sign may be attached to a PW-18 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location

requirements (particularly in respect of curves in close proximity) are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.

The symbol shall be oriented left or right to match the direction of the curve.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-19 sign consists of a CURVED ARROW symbol (as illustrated) displayed on a standard PW diamond sign plate.

PW-19 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to horizontal curves where a change in direction greater than 120° occurs and where the warrant for advisory speed signing given in APPENDIX A3 is met.

When advisory speed signing is not warranted, PW-19 signs alone may be erected in advance of curves where, in the opinion of the controlling authority, the curve is deceptive, not obvious to approaching drivers and constitutes a hazard.

It is permissible to modify the standard curve warning sign detail in order to accommodate minor roads that intersect the main road within a horizontal curve (and effectively create a hazardous CONCEALED EXIT ) by adding an appropriately oriented strip to the arrow symbol. The width of this strip should be 0.6 x c (where c is the specified shaft width of the type A arrow) and it should extend at least 100 mm but not more than 150 mm beyond the shaft of the main arrow. In some cases, the position of the overall symbol within the border may be altered but a minimum clearance of 50 mm between the symbol and the border must be retained. As the wider main arrow shaft representing the major road indicates priority route status, the establishment of appropriate side road priority control must be considered in order to avoid driver confusion. When the hazard is mainly due to turning or crossing conflicts at such an intersection, the appropriate intersection warning sign should be used in preference to a curve warning sign.

No sign other than a PW-25 CURVE ADVISORY SPEED sign and/or a PW-26 CONCEALED EXIT sign may be attached to a PW-19 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location requirements (particularly in respect of curves in close proximity) are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.

The symbol shall be oriented left or right to match the direction of the curve.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-20 sign consists of a REVERSE CURVE ARROW symbol (as illustrated) displayed on a standard PW diamond sign plate.

PW-20 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to reverse horizontal curves where the warrant for curve advisory speed signing given in APPENDIX A3 is met, both curves have equal advisory speed values, a direction change less than 60° and where there is insufficient distance between the curves for separate signing. ***The common advisory speed is displayed on the sign.***

Where advisory speed signing is not warranted, PW-20 signs alone may be erected in advance of reverse curves where, in the opinion of the controlling authority, the curve is deceptive, not obvious to approaching drivers and constitutes a hazard.

It is permissible to modify the standard curve warning sign detail in order to accommodate minor roads that intersect the main road within a horizontal curve (and effectively create a hazardous CONCEALED EXIT ) by adding an appropriately oriented strip to the arrow symbol. The width of this strip should be 0.6 x h (where h is the specified shaft width of the Type A arrow) and it should extend at least 100 mm but not more than 150 mm beyond the shaft of the main arrow.

In some cases, the position of the overall symbol within the border may be altered but a minimum clearance of 50 mm between the symbol and the border must be retained. As the wider main arrow shaft representing the major road indicates priority route status, the establishment of appropriate side road priority control must be considered in order to avoid driver confusion. When the hazard is mainly due to turning or crossing conflicts at such an intersection, the appropriate intersection warning sign should be used in preference to a curve warning sign.

No sign other than a PW-25 CURVE ADVISORY SPEED sign and/or a PW-26 CONCEALED EXIT sign may be attached to a PW-20 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location requirements (particularly in respect of curves in close proximity) are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.

The symbol shall be oriented left or right to match the direction of the curves.

## PW - 20 REVERSE CURVE – LESS THAN 60°

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-21 sign consists of a REVERSE CURVE ARROW symbol (as illustrated) displayed on a standard PW diamond sign plate.

PW-21 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to reverse horizontal curves where the warrant for curve advisory speed signing given in APPENDIX A3 is met, both curves have equal advisory speed values, a direction change greater than 60° and where there is insufficient istance between the curves for separate signing. The common advisory speed value is displayed on the sign.

Where advisory speed signing is not warranted, PW-21 signs alone may be erected in advance of reverse curves where, in the opinion of the controlling authority, the curve is deceptive, not obvious to approaching drivers and constitutes a hazard.

It is permissible to modify the standard curve warning sign detail in order to accommodate minor roads that intersect the main road within a horizontal curve ( and effectively create a hazardous CONCEALED EXIT) by adding an appropriately oriented strip to the arrow symbol. The width of this strip should be 0.6 x a (where a is the specified shaft width of the type A arrow) and it should extend at least 100 mm but not more than 150 mm beyond the shaft of the main arrow. In some cases, the position of the overall symbol within the border may be altered but a minimum clearance of 50 mm between the symbol and the border must be retained. As the wider main arrow shaft representing the major road indicates priority route status, the establishment of appropriate side road priority control must be considered in order to avoid driver confusion. When the hazard is mainly due to turning or crossing conflicts at such an intersection, the appropriate intersection warning sign should be used in preference to a curve warning sign.

No sign other than a PW-25 CURVE ADVISORY SPEED sign and/or a PW-26 CONCEALED EXIT sign may be attached to a PW-21 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location

requirements (particularly in respect of curves in close proximity) are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.

The symbol shall be oriented left or right to match the direction of the curves.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-22 sign consists of a REVERSE CURVE ARROW symbol (decreasing radii - as illustrated) displayed on a standard PW diamond sign plate.

PW-22 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to reverse horizontal curves where:

**(a)** both curves meet the warrant for curve advisory speed signing given in APPENDIX A3, Curve 1 has a greater advisory speed value than Curve 2 and there is insufficient distance between the curves for separate signing, or

**(b)** the first curve is an "easy" curve that does not meet the warrant but is followed immediately by a slower curve in the opposite direction that meets the warrant and there is insufficient distance between the curves for separate signing.

***The advisory speed value displayed should be that of the second curve.***

Where advisory speed signing is not warranted, PW-22 signs alone may be erected in advance of reverse curves where, in the opinion of the controlling authority, the curve is deceptive, not obvious to approaching drivers and constitutes a hazard.

The symbol shall be oriented left or right to match the direction of the curves.

It is permissible to modify the standard curve warning sign detail in order to accommodate minor roads that intersect the main road within a horizontal curve (and effectively create a hazardous CONCEALED EXIT) by adding an appropriately oriented strip to the arrow symbol. The width of this strip should be 0.6 x a (where a is the specified shaft width of the Type A arrow) and it should extend at least 100 mm but not more than 150 mm beyond the shaft of the main arrow. In some cases, the position of the overall symbol within the border may be altered but a minimum clearance of 50 mm between the symbol and the border must be retained. As the wider main arrow shaft representing the major road indicates priority route status, the establishment of appropriate side road priority control must be considered in order to avoid driver confusion. When the hazard is mainly due to turning or crossing conflicts at such an intersection, the appropriate intersection warning sign should be used in preference to a curve warning sign.

No sign other than a PW-25 CURVE ADVISORY SPEED sign and/or a PW-26 CONCEALED EXIT sign may be attached to a PW-22 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location requirements (particularly in respect of curves in close proximity) are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy**: A PW-23 sign consists of a MULTIPLE REVERSE CURVE ARROW symbol (as illustrated)

displayed on a standard PW diamond sign plate.

PW-23 signs should be erected in combination with PW-25 CURVE ADVISORY SPEED signs on the approaches to sections of road 1 km or less in length where there are a succession of three or more curves of varying advisory speed value, these warrant advisory speed signing in accordance with APPENDIX A3 and there is insufficient distance between the curves for separate signing. The advisory speed value displayed should be that of the first curve.

The symbol shall be oriented left or right to match the direction of the curves.

Where advisory speed signing is not warranted, PW-23 signs alone may be erected in advance of the winding section of road where, in the opinion of the controlling authority, the curves are generally deceptive, not obvious to approaching drivers and constitute a hazard.

No sign other than a PW-25 CURVE ADVISORY SPEED sign may be attached to a PW-23 sign or its support.

Full details of the procedure for curve advisory speed value assessment, and sign size and location

requirements (particularly in respect of curves in close proximity) are given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-24 sign combination consists of a PW-23 REVERSE CURVES sign and a supplementary sign NEXT "__" km.

PW-24 signs should be erected where, in the opinion of the controlling authority, a winding section of road exceeding 1 km in length has (due to horizontal alignment factors) an operating speed considerably below that of the remainder of the highway - normally where the 85 percentile speed drops to below 50 km/h and the remainder of the road has an 85 percentile speed in excess of 70 km/h. Where the hazardous section of road is less than 1 km in length, the PW-23 REVERSE CURVES sign alone (together with a PW-25 CURVE ADVISORY SPEED sign as necessary) should be used in preference.

PW-24 signs should be preceeded by a curve warning/advisory speed sign combination that refers to the first curve of the section (see Location).

The sign should indicate the extent of the hazardous section to the nearest even kilometre.

The symbol shall be oriented left or right to match the direction of the initial curves.

**Sign Size:** The size of the PW-23 sign component should be increased as the degree of hazard increases and should match the size determined for the curve warning sign to be erected in advance of the first curve of the section. The size of the supplementary sign remains constant at 950 x 300 for all sizes of diamond sign.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m. The sign should be sited at the beginning or end of the first curve which should be separately signed with the appropriate PW-16 SHARP CURVE sign; PW-17, PW-18 or PW-19 CURVE sign; PW-20, PW-21 or PW-22 REVERSE CURVE sign; PW-23 REVERSE CURVES sign; together with a PW-25 ADVISORY SPEED sign displaying the ***curve advisory speed value of the first curve.***

If the length of hazardous section is greater than 8 km, additional PW-24 signs may be erected within the section as required.


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-25 sign consists of a standard PW/B supplementary sign plate displaying an assessed ***curve advisory speed $V_S$.***

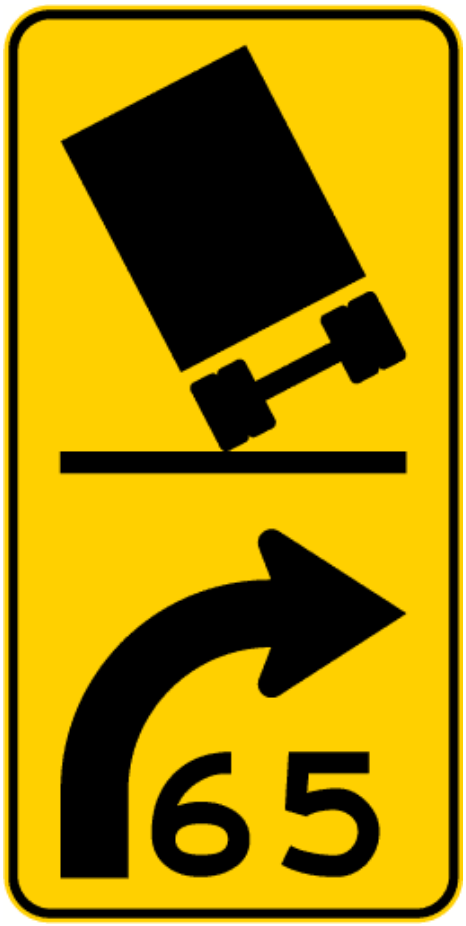
PW-25 signs should be erected in combination with and below PW-16 SHARP CURVE signs; PW-17, PW-18, PW-19 CURVE signs; PW-20, PW-21, PW-22 REVERSE CURVE signs, or PW-23 REVERSE CURVES sign. ***The displayed curve advisory speed*** should be determined by following the advisory speed assessment procedure given in APPENDIX A3 - GUIDELINES FOR THE INSTALLATION OF CURVE WARNING AND ADVISORY SPEED SIGNS.

PW-25 signs should also be erected with PW-39 HUMP signs with displayed ***advisory speeds*** determined to suit individual situations.

No sign other than any one of the above signs (PW-16 to PW-23) and a PW-26 CONCEALED EXIT sign or a PW-39 HUMP sign may be erected on the same support as a PW-25 sign. ***PW-25 signs are never erected separately.***

**Sign Size:** The size of the PW-25 sign should be increased as indicated to match the required size of the diamond curve warning sign.

**Location:** The sign should be erected 100 mm below the diamond curve warning sign.




For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A W12 - 4 sign consists of a TIPPING TRUCK symbol and a DIRECTIONAL ARROW symbol with ADVISORY SPEED text displayed on a rectangular plate.

W12 - 4 signs may be erected in advance of a horizontal curve which, in the opinion of the road controlling authority, is deemed to be a significant hazard to trucks if driven at the posted speed limit.

Advice on the advisory speed value should be taken from a traffic engineering research group (such as TERNZ Ltd) who are able to recommend an appropriate speed value following evaluation of the existing curve geometry and heavy vehicle characteristics and behaviour there.

The tipping truck and arrow symbols shall be oriented left or right to match the direction of the curve.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas or at least 60 m in urban areas.

The sign should be erected in advance of the curve by at least the distance shown in the following table.

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## TCD rule W12 - 4

# TRUCK ADVISORY SPEED - CURVE TO THE LEFT OR RIGHT


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-26 sign consists of a standard PW/D supplementary sign plate displaying the word legend CONCEALED.

PW-26 signs should be erected in combination with and below ***modified*** PW-16 SHARP CURVE signs, W-17, PW-18, PW-19 CURVE signs or PW-20, PW-21, PW-22 REVERSE CURVE signs, where a minor road intersects the main route within a horizontal curve in such a location that makes it unsafe* to enter the main route.

The method of modifying the curve warning sign detail is given with the individual sign specifications.

No sign other than any one of the above signs (PW-16 to PW-22) and a PW-25 CURVE ADVISORY SPEED sign may be erected on the same support as a PW-26 sign. ***PW-26 signs are never erected separately.***

**Sign Size:** The size of the PW-26 sign should be increased as indicated to match the required size of the diamond curve warning sign.

**Location:** The sign should be erected 100 mm below the diamond curve warning sign, or 100 mm below a PW-25 CURVE ADVISORY SPEED sign, and on the same support.

* *NOTE: An unsafe condition is considered to exist when, from a point 3 m back from the edge of the nearest traffic lane, a side road driver cannot observe an approaching vehicle on the main route at a distance of at least 180 m in rural situations and at least 90 m in urban situations.*


PW - 27


PW - 28


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** PW-27 signs consist of a DOWNGRADE ON A SLOPE symbol with PERCENTAGE GRADIENT displayed on a standard PW diamond sign plate.

The percentage shall be shown to the nearest whole number.

The steep downgrade sign shall be used in advance of downgrades where vehicle speeds are likely to increase to an extent which would make a vehicle difficult to control.

A PW-28 "TRUCKS USE LOW GEAR" sign or a "USE LOW GEAR" sign, as appropriate, may be used in conjunction with this sign, either on the same post or separately between the Steep Downgrade sign and the start of the descent.

When the length of the downgrade exceeds 1km, a "NEXT x km:" sign should be used in conjunction with the Steep Downgrade sign at 1km intervals. Refer to TCD rule sign W12-3.1 for details.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas or at least 60 m in urban areas. The sign should be erected in advance of the start of a grade by 90 m in rural areas and by 30 m in urban areas.

**Further Guidance:**

Refer to Australian standard AS 1742.2 - 1994 but note that not all the signs shown in that document are legally acceptable in New Zealand.

## PW - 27 (& PW - 28) STEEP DOWNGRADE x%


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** PW - 27.1 sign consists of an UPGRADE ON A SLOPE symbol with PERCENTAGE GRADIENT displayed on a standard PW diamond sign plate.

PW-27.1 signs should be erected in advance of upgrades of 10% or more, and generally at least 100m in length.

Where the length of the gradient exceeds 1km a supplementary NEXT "_"km sign should be erected 100mm below the PW-27.1 sign. Refer to TCD rule sign W12-3.1 for details.

No signs other than the supplementary signs NEXT "-" km may be attached to the PW-27.1 sign or its support.

The percentage shall be shown to the nearest whole number.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas or at least 60 m in urban areas. The sign should be erected in advance of the start of a grade by 90 m in rural areas and by 30 m in urban areas.

## PW - 27.1 STEEP UPGRADE x%

**Policy:** A PW-29 sign consists of a PEDESTRIAN symbol displayed on a standard PW diamond sign plate.

PW-29 signs should be erected where in the opinion of the controlling authority, roadway conditions and the likely presence of considerable numbers of pedestrians create a hazard - in particular in advance of sections of road in areas not subject to a 50 km/h speed restriction where no footpaths are available or where considerable numbers of pedestrians cross a roadway where no pedestrian crossing is provided. Where the pedestrians are predominantly children, the PW-31 CHILDREN sign should be used.

Where the pedestrians are predominantly aged, a supplementary sign AGED may be added.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the hazard area by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

**LEGEND*** : ***black***
**BACKGROUND** : ***reflectorised fluorescent yellow green***
**BORDER** : ***black***

The symbol shall be oriented such that the pedestrian appears to be walking towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

| | | |
|---|---|---|
| **LEGEND*** | : | ***black*** |
| **BACKGROUND** | : | ***reflectorised fluorescent yellow green*** |
| **BORDER** | : | ***black*** |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-30 sign consists of a PEDESTRIAN CROSSING symbol displayed on a standard PW diamond sign plate.

PW-30 signs should be erected in advance of all legally authorised marked pedestrian crossings located in areas not subject to a 50 km/h speed restriction. PW-30 signs may also be erected in advance of crossings in an urban area where in the opinion of the controlling authority, advance warning by means of pavement markings recommended in PART II, SECTION 2, of this Manual are inadequate. Crossings should be provided with delineation devices that comply with AS/NZS 1158 : 1997 Road Lighting - Parts 1-3. PW-30 signs ***must not be used*** where traffic signals control pedestrian movements on the crossing.

No sign other than a supplementary sign SCHOOL may be attached to the PW-30 sign or its support.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 min rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the hazard area by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

**Policy:** A PW-31 sign consists of a CHILDREN symbol displayed on a standard PW diamond sign plate.

PW-31 signs should be erected where in the opinion of the controlling authority, roadway conditions and the likely presence of considerable numbers of pedestrians under 16 years of age create a hazard. In particular where children often congregate on sections of road without footpaths or where recreation reserves provided with special facilities for children abut the road in areas not subject to a 50 km/h speed restriction.

No sign other than a supplementary sign SCHOOL may be attached to a PW-31 sign or its support.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the hazard area by not less than the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

**LEGEND*** : ***black***
**BACKGROUND** : ***reflectorised fluorescent yellow green***
**BORDER** : ***black***

The symbol shall be oriented such that the pedestrians appear to be walking towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/


**LEGEND** : ***black***
**BACKGROUND** : ***reflectorised fluorescent yellow green***
**BORDER** : ***black***

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-32 sign combination consists of a PW-31 sign and a supplementary sign SCHOOL or KINDERGARTEN.

PW-32 signs should be erected where school buildings or grounds are adjacent to the road and where in the opinion of the controlling authority, passing traffic creates a hazard to pupils. The signs ***should not be used*** when a PW-33 SCHOOL CROSSING sign is erected or where a PW-31 CHILDREN sign would be more appropriate.

An additional supplementary sign no larger than 600 x 250, of the same colour and format as the SCHOOL supplementary sign, and displaying the name of the school, may be erected on the same support and 100 mm below the PW-32 sign combination.

The symbol shall be oriented such that the pedestrians appear to be walking towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** Locations for PW-32 signs should be selected such that drivers do not pass more than one SCHOOL sign before reaching the school. The sign should be clearly visible to approaching drivers over a distance of at least 120 m in rural areas and at least 60 m in urban areas, and where possible without causing confusion, be in advance of the school grounds by 100 m in rural areas and 30 m in urban areas.


| | | |
|---|---|---|
| **LEGEND*** | : | ***black*** |
| **BACKGROUND** | : | ***reflectorised fluorescent yellow green*** |
| **BORDER** | : | ***black*** |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-33 sign combination consists of a PW-30 PEDESTRIAN CROSSING sign and a supplementary sign SCHOOL. (Refer to PW-32 sign specification for full details of the latter).

A PW-33 sign should be erected in advance of a legally authorised marked pedestrian crossing at which a school patrol may be in attendance and on those crossings immediately adjacent to the school property which in the opinion of the controlling authority are used extensively by school children.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements of the PW-30 sign. The size of the supplementary SCHOOL sign should be increased as indicated for the PW-32 sign combination to match the required size of the PW-30 sign.

The supplementary sign should be erected 100 mm below the PW-30 sign.

**Location:** The location of the PW-33 sign combination should be as required for the PW-30 sign.


**LEGEND** : ***black***
**BACKGROUND** : ***reflectorised fluorescent yellow green***
**BORDER** : ***black***

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-34 sign combination consists of a CHILDREN ALIGHTING FROM BUS symbol displayed on a standard PW diamond sign plate and a supplementary sign SCHOOL BUS ROUTE or (TURNS).

PW-34 signs may be warranted on roads in rural areas where in the opinion of the controlling authority, roadway conditions and the presence of school buses could create a hazard - in particular where the road is narrow and winding and the buses stop to allow children to board and alight. The signs should not be erected in urban areas.

The word TURNS should replace the word ROUTE on any PW-34 sign which is erected at the terminal points of a school bus route.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements for the PW diamond sign component.

**Location:** Signs should be erected at each end of a section of a school bus route where signing is warranted and may be erected near important intersections within that length.

The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m.

**Policy:** A PW -35 sign consists of a CYCLE sy mbol displayed on a standard PW diamond sign plate.

PW-35 signs should be erected inareas not subject to a50 km/h speed limit w here, in the opini on of the road controlling authority, a consi derable volume cy cle traffic shares the roadway with motor vehicles (ie. is not provided with phy sically separated cy cle lanes) and constitutes a hazard. Normally, a PW -35 sign should not be erected where the PW-34 SCHOOL sign is warranted.

**Sign Size:** Refer to F ig 6. 1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition, be erected either in advance of the hazardous section of roadway or in advance of a particular hazard (eg. w here cy cle routes cross major roads) by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

**LEGEND* :** ***black***
**BACKGROUND :** ***reflectorised fluorescent yellow green***
**BORDER :** ***black***

The symbol shall be oriented such that the cycle appears to be coming towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-36 sign consists of a HORSE WITH RIDER symbol displayed on a standard PW diamond sign plate.

PW-36 signs should be erected where, in the opinion of the road controlling authority, frequent use of the areas within the road reserve and adjacent to the roadway by horses with riders constitutes a hazard.

**Sign Size:** Refer to Fig 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected either in advance of the hazardous section of roadway or in advance of a particular hazard (eg. at the point where ridden horses regularly cross the road) by at least the distance shown in the following table:

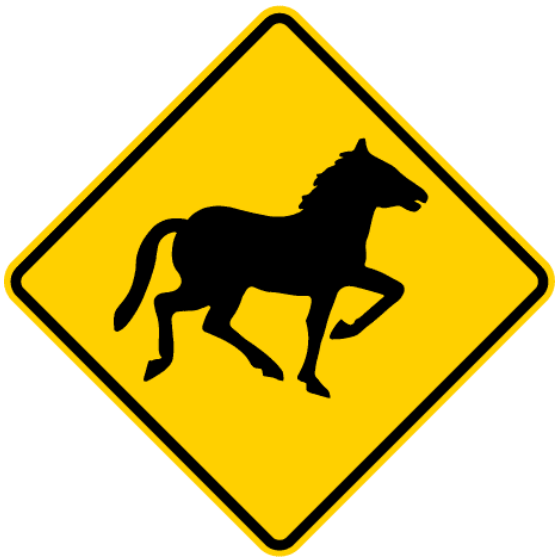
| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

**LEGEND*** : ***black***
**BACKGROUND** : ***reflectorised fluorescent yellow green***

**BORDER** : ***black***

The symbol shall be oriented such that the horse appears to be walking towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** This sign consists of a WILD HORSE symbol displayed on a standard PW diamond sign plate.

These signs may be erected where, in the opinion of the road controlling authority, the presence of wild horses within the road reserve and adjacent to the roadway constitutes a hazard.

The symbol shall be oriented such that the horse appears to be coming towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the hazardous section of roadway by at least the distance shown in the following table.

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

# WILD HORSES

**PW - 37**

**PW - 37.1**

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-37 sign consists of a COW symbol displayed on a standard PW diamond sign plate. The alternative PW-37.1 sign displays a SHEEP symbol instead.* The particular sign used should reflect the predominant stock type involved.

PW-37 (PW-37.1) signs should be erected at such locations where in the opinion of the controlling authority, roadway conditions such as lack of visibility coupled with a high frequency of driven stock movements (say on a regular daily basis - often perhaps several times a day) either crossing or travelling short distances along a fenced roadway between parts of the same property, create a traffic hazard.

PW-37 (PW-37.1) signs should also be erected where the lack of fences, walls, etc along the road reserve results in the continual presence of wandering stock on the road. The signs ***should not be erected*** within a 50 km/h, 60 km/h, or 70 km/h area.

Consideration should be given to covering or removing the signs during seasons when there are neither stock movements nor wandering stock. When the frequency of driven stock movements is lower (say at greater than two day intervals) then TW-32 or TW-32.1 STOCK - TEMPORARY signs should be used.

*Note that a WILD HORSES symbol is also available.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m. The sign should be erected in advance of the hazard area by at least the distance shown in the following table. In the WANDERING STOCK situation, signs should be erected along the affected section of road at intervals of between 8 and 15 kilometres.

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

The symbol shall be oriented such that the animal appears to be facing towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A W15-11 sign consists of a FALLING CYCLIST ON RAILWAY TRACKS symbol displayed on a standard PW diamond sign plate.

W15-11 signs should be erected where, in the opinion of the road controlling authority, cyclists are known to cross railway tracks which could constitute a hazard to them.

**Location:** W15-11 signs may be located on cycleways or cycle routes which cross railway tracks, at least 30m in advance of the rail level crossing where cyclists have an unobstructed view of the sign for at least 30m.

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

## TCD rule W15 - 11 RAILWAY TRACKS - CYCLISTS TAKE CARE

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-38 sign consists of a DIP symbol displayed on a standard PW diamond sign plate.

PW-38 signs should be erected where in the opinion of the controlling authority, a sharp dip in the profile of the road is likely to cause considerable discomfort to car passengers, to cause shifting of a load, or to deflect a vehicle from its course and cause loss of control when crossed at speed. The sign ***should not be used*** to warn of inadequate sight distance for overtaking manoeuvres

**Sign Size:** Refer to Fig. 6.1 for detailed requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition be in advance of the hazard by 90 m.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-39 sign consists of a HUMP symbol displayed on a standard PW diamond sign plate.

PW-39 signs should be erected in situations where in the opinion of the controlling authority, a sharp rise in the profile of the road is likely to cause considerable discomfort to car passengers, to cause shifting of a load, or to deflect a vehicle from its course and cause loss of control when crossed at speed. The sign ***should not be used*** to warn of inadequate sight distance for overtaking manoeuvres.

PW-39 signs, together with a PW-25 ADVISORY SPEED sign displaying an appropriate advisory speed value, should also be erected at any site where the controlling authority has installed a road hump (*Watts Profile* or similar) as a means of controlling traffic speed, usually in an urban situation.

Where a series of humps are installed, then each hump should be separately signed.

No sign other than a PW-25 ADVISORY SPEED sign may be attached to the PW-39 sign or its support.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** In the first situation, the sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition be in advance of the hazard by 90 m.

When used in conjunction with speed control road humps, the sign should be located adjacent to the hump and located where approaching drivers have an uninterrupted view of it over a distance of at least 60 m.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-40 sign consists of an UNEVEN SURFACE symbol displayed on a standard PW diamond sign plate.

PW-40 signs should be erected where, in the opinion of the controlling authority, pavement surface deformation caused by unstable foundations constitutes a hazard.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition be in advance of the hazard by 90 m.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-41 sign consists of a SKIDDING CAR symbol displayed on a standard PW diamond sign plate. PW-41 signs are only erected in combination with approved supplementary signs that indicate in words, certain specific hazards that could lead to loss of vehicle control.

The only approved sign combinations are PW-41.1 SLIPPERY SURFACE - WHEN FROSTY (ICE situations), PW-41.2 SLIPPERY SURFACE - WHEN WET, and PW-41.3 SLIPPERY SURFACE - GRAVEL ROAD (end of seal situations). ***PW-41 signs are never erected separately.***


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-41.1 sign combination consists of a PW-41 SLIPPERY SURFACE sign and a supplementary sign WHEN FROSTY.

PW-41.1 signs should be erected in advance of short sections of road where in the opinion of the controlling authority, "local climatic conditions" cause ice to form on the road at greater frequencies or to remain for longer periods than is general in the locality.

Where several such sections of road occur in close proximity resulting in the erection of an unreasonable number of PW-41.1 signs, the overall length (or series of sections) may be signed with PW-41.1 signs augmented with additional supplementary signs NEXT "__" km.

Separate PW-41.1 signs may be used within the overall length to highlight particularly hazardous local areas. Refer to PW-24 sign specification for details of the NEXT "__" km sign.

No sign other than the supplementary sign NEXT "__" km may be attached to the PW-41.1 sign combination or its support. The NEXT "__ " km sign is erected 100 mm below the WHEN FROSTY sign.

Consideration should be given to covering or removing the signs during the summer months.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements for the PW-41 sign component. Note that the minimum size should be 750 x 750 when combined with the supplementary sign NEXT "__" km and that the size of the latter remains constant at 950 x 300 for all sizes of diamond sign.

**Location:** The basic PW-41.1 sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the hazardous ***section*** by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

The augmented PW-41.1 signs for signing overall lengths should be erected at the start of the hazardous section of road, at intervals of 5 km along the section and at major intersecting roads.


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-41.2 sign combination consists of a PW-41 SLIPPERY SURFACE sign and a supplementary sign WHEN WET.

PW-41.2 signs should be erected in advance of sections of road where in the opinion of the controlling authority, the nature of the road surface is such that when wet, it is unsafe to travel at a speed more than 10 km/h below dry weather operating speeds. The signs should be removed as soon as the road surface defect is remedied. Where the hazard is of a temporary nature or due to road works in the vicinity, the TW-17 SLIPPERY SURFACE sign should be used.

No other sign may be attached to the PW-41.2 sign or its support.

**Sign Size:** Refer to requirements.

**Location:** The sign approaching drivers have a distance of at least 120 m in urban areas.

Fig. 6.1 for details of size should be located where an uninterrupted view of it over m in rural areas and at least 60 The sign should be erected in advance of the hazardous section by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-41.3 sign consists of a FLYING STONES/BROKEN WINDSCREEN symbol displayed on a standard PW sign plate.

PW-41.3 signs should be erected in rural areas in advance of permanent unsealed sections of a main route where in the opinion of the controlling authority it is unsafe to travel on the gravel surface at the operating speed of the sealed section.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120m and in addition in advance of the end of the sealed section by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## PW - 41.3 GRAVEL SURFACE (end of seal)

**Policy:** A PW-42 sign consists of a SLIPS / FALLING DEBRIS symbol displayed on a standard PW diamond sign plate.

PW-42 signs should be erected in advance of sections of road where experience has shown that a slip or slips occur at unusually high frequencies. When slipping occurs only occasionally then the TW-16 SLIPS sign should be used.

PW-42 signs should be also erected in advance of sections of road where in the opinion of the controlling authority loose stones, vegetation, or other debris may be expected to be encountered on the roadway following adverse weather.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be placed in advance of the hazardous section by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

The symbol shall be oriented such that the rocks appear to be falling towards the roadway; eg where the sign is installed on the right hand side of the road, the symbol must be reversed.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**PW - 43**

**PW - 43.1**

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications

**Policy:** A PW-43 sign consists of a ROAD NARROWS (left or right side of narrowing) symbol displayed on a standard PW diamond sign plate. The alternative PW-43.1 sign displays a ROAD NARROWS (both sides narrowing symbol).

PW-43 (PW-43.1) signs should be erected on two-lane sections of rural road where, in the opinion of the controlling authority, a sudden reduction in the width of pavement makes it unsafe for two opposing cars to pass without reducing speed. The sign is not normally required on minor roads carrying low volumes of traffic, but a reduction below 5.5 m in width, which still allows two cars to pass, should always be signed.

PW-43 (PW-43.1) signs should also be erected in combination with special regulatory signs where the controlling authority considers it necessary to indicate priorities on single-lane * sections of road. Such GIVE WAY and PRIORITY signing indicates the required actions of drivers when vehicles are simultaneously approaching a single lane section of road from each direction. The special combination of signs are similar to those specified for RG-19 and RG-20 sign combinations.

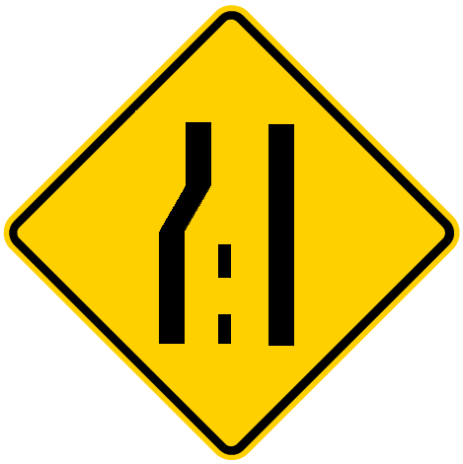
*A single lane situation is considered to exist when the trafficable width is 5 m or less.

No sign other than either the special regulatory signs, indicating GIVE WAY or PRIORITY, or the PW-43.2 supplementary sign plate may be attached to the PW-43 sign or its support.

**Sign Size:** Refer to Fig 6.1 for detailed size requirements of PW diamond sign plate.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

| | |
|---|---|
| **PW - 43** | **ROAD NARROWS (left or right side narrowing)** |
| **PW - 43.1** | **ROAD NARROWS (both sides narrowing)** |



PW - 43.3

PW - 43.4

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications

**Policy:** A PW-43.3 sign consists of a LANE REDUCTION (2 lanes to 1 lane) symbol displayed on a standard PW diamond sign plate. A PW-43.4 sign displays a LANE REDUCTION (3 lanes to 2 lanes) symbol on a standard PW diamond sign plate.

PW-43.3 signs should be erected on both sides of the road at the commencement of the merge taper on passing lanes or in other situations where two lanes in one direction are being reduced to one lane.

PW-43.4 signs should be erected on both sides of the road at the commencement of the merge taper in situations where three lanes in one direction are being reduced to two lanes. Refer also to Part 3 Section 11.2 of this Manual.

In all cases PW-43.2 LANE REDUCTION 200 m AHEAD signs should be erected in advance of PW-43.3 and PW-43.4 signs.

No sign other than the PW-43.2 supplementary sign plate may be attached to the 43.3 or 43.4 sign or its support.

**Sign Size:** Refer to Fig 6.1 for detailed size requirements of PW diamond sign plate.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

**Markings:** Pavement markings for passing lanes should be installed and maintained as recommended in Part 2, Section 2 of this Manual.

**PW - 43.3 LANE REDUCTION (2 lanes to 1 lane)**
**PW - 43.4 LANE REDUCTION (3 lanes to 2 lanes)**


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications

**Policy:** A PW-43.2 sign combination consists of a PW-43.3 or a PW-43.4 LANE REDUCTION sign and a supplementary plate "__" m.

PW-43.2 signs should be erected in advance of PW-43.3 and PW-43.4 LANE REDUCTION signs as appropriate.

Generally, in rural areas the supplementary plates should be 200 m. Where distances between the signs vary through visibility or location restraints or where there are lower approach speeds, supplementary distances should be rounded to the nearest whole 100 m.

**Sign Size:** The size of the supplementary sign should be increased as indicated to match the required size of the PW-43.3 or PW-43.4 diamond warning sign.

**Location:** PW-43.2 signs should be located on both sides of the roadway where approaching drivers have an uninterrupted view of them over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

PW-43.2 signs should be erected in advance of the PW-43.3 or PW-43.4 signs by at least the distance shown below.

| Operating Speed | Distance |
|---|---|
| <75 km/h** | 60–120 m** |
| 75–90 km/h | 120–180 m |
| >90 km/h | 180–250 m |

** *Signs may not be necessary in urban areas or where operating speeds are low.*

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-44 sign combination consists of a NARROW BRIDGE symbol displayed on a standard PW diamond sign plate.

PW-44 signs should be erected on two lane two way roads in advance of narrow bridges where the clear trafficable width between kerbs, barrier rails or wheel guards is 6.1 m or less, or where the trafficable bridge width is less than the width of approach seal (including sealed shoulders).

PW-44 signs should be erected in combination with special ***Regulatory*** signs to indicate priorities on single lane* bridges. Such GIVE WAY and PRIORITY signing indicates the required actions of drivers when vehicles are simultaneously approaching a single lane bridge from each direction. For full details of these special sign combinations (including usage policy) refer to RG-19 and RG-20 sign combinations.

No other sign other than either of the special regulatory signs indicating GIVE WAY and PRIORITY may be attached to the PW-44 sign or its support.

* *A single lane situation is considered to exist when the trafficable bridge width is 5 m or less.*

**Sign Size:** Refer to Fig 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the nearest bridge abutment or approach guardrail end by at least 90 m in rural areas and at least 45 m in urban areas.

**Markings:** Where the ends of the bridge parapets or handrails are not protected by guardrails bridge end markers should be installed and maintained as recommended in PART II, SECTION 5 of this manual.


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-44.1 sign combination consists of a PW-44 NARROW BRIDGE sign displayed on a standard PW diamond sign plate and a supplementary message sign CAUTION WIDE VEHICLES on a rectangular plate below.

The supplementary message CAUTION WIDE VEHICLES is to be displayed in black lettering on a reflective yellow background and surrounded by a black border on a rectangular plate as detailed above.

PW-44.1 sign combinations should be erected on two lane two way roads in advance of narrow bridges where the clear trafficable width between kerbs, barrier rails or wheel guards is 6.1 m or less, but greater than 5.0 m.

**Sign Size:** Refer to Fig 6.1 for detailed size requirements.

The supplementary message is displayed on a rectangular 750 mm × 600 mm plate. Refer to the table for detailed sign dimensions.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the nearest bridge abutment or approach guardrail end by at least 90 m in rural areas and at least 45 m in urban areas.

**Markings:** Where the ends of the bridge parapets or handrails are not protected by guardrails bridge end markers should be installed and maintained as recommended in PART II, SECTION 5 of this manual.

## PW - 44.1 NARROW BRIDGE – CAUTION WIDE VEHICLES


*NOTE: The indicated clearance shall be shown rounded down to two decimal places of a metre, eg. if the actual clearance is 3.826 metres, the indicated clearance shown is 382 m.*

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-45 sign consists of a VERTICAL CLEARANCE symbol (with clearance measurement) displayed on a standard PW diamond sign plate.

PW-45 signs should be erected in advance of overhead structures or tunnels where an overhead soffit clearance is less than 4.4 m. The sign should display the actual clearance to the nearest 1 cm as determined by site measurement. In the case of a single two way roadway the measurement should indicate the minimum lane soffit clearance available over a width of 3 metres about the centre of the roadway. In the case of multilane roadways the measurement should indicate the minimum soffit clearance available over the full width of the trafficable roadway.

PW-46 LOW OVERHEAD CLEARANCE INDICATION ON STRUCTURE OR TUNNEL signs should be erected on the structure in question.

**Sign Size:** Refer to Fig 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas. Additional PW-45 signs should be placed near an intersecting road or wider part of the approach so that affected vehicles may detour or turn around.

**Markings:** Markings on the structure should be installed and maintained as recommended in PART II, SECTION 5.03 of this manual.

**Policy:** A PW-46 sign consists of a standard PW/B supplementary sign plate (size 900×600) displaying a measured minimum soffit clearance dimension and a downward pointing indicator arrow.

PW-46 signs should be erected on the superstructure of an overhead structure or tunnel where an overhead soffit clearance is less than 4.4 m. The sign should display the actual clearance to the nearest 1 cm as determined by site measurement. In the case of a single two way roadway the measurement should indicate the minimum lane soffit clearance available over a width of 3 metres about the centre of the roadway. Where the soffit clearance varies over the 3 metre width, as at an arched underpass or tunnel, the PW-46 sign is to be augmented by supplementary reflectorised markings as shown in Fig. 6.3 to indicate the locations of the displayed clearance. In the case of multilane roadways the measurement should indicate the minimum soffit clearance available over the full width of the trafficable roadway.

PW-45 LOW OVERHEAD CLEARANCE - ADVANCE WARNING signs should be erected in advance of a low clearance situation where PW-46 signs are erected.


**LEGEND** : ***black***
**BACKGROUND** : ***reflectorised yellow***
**BORDER** : ***black***

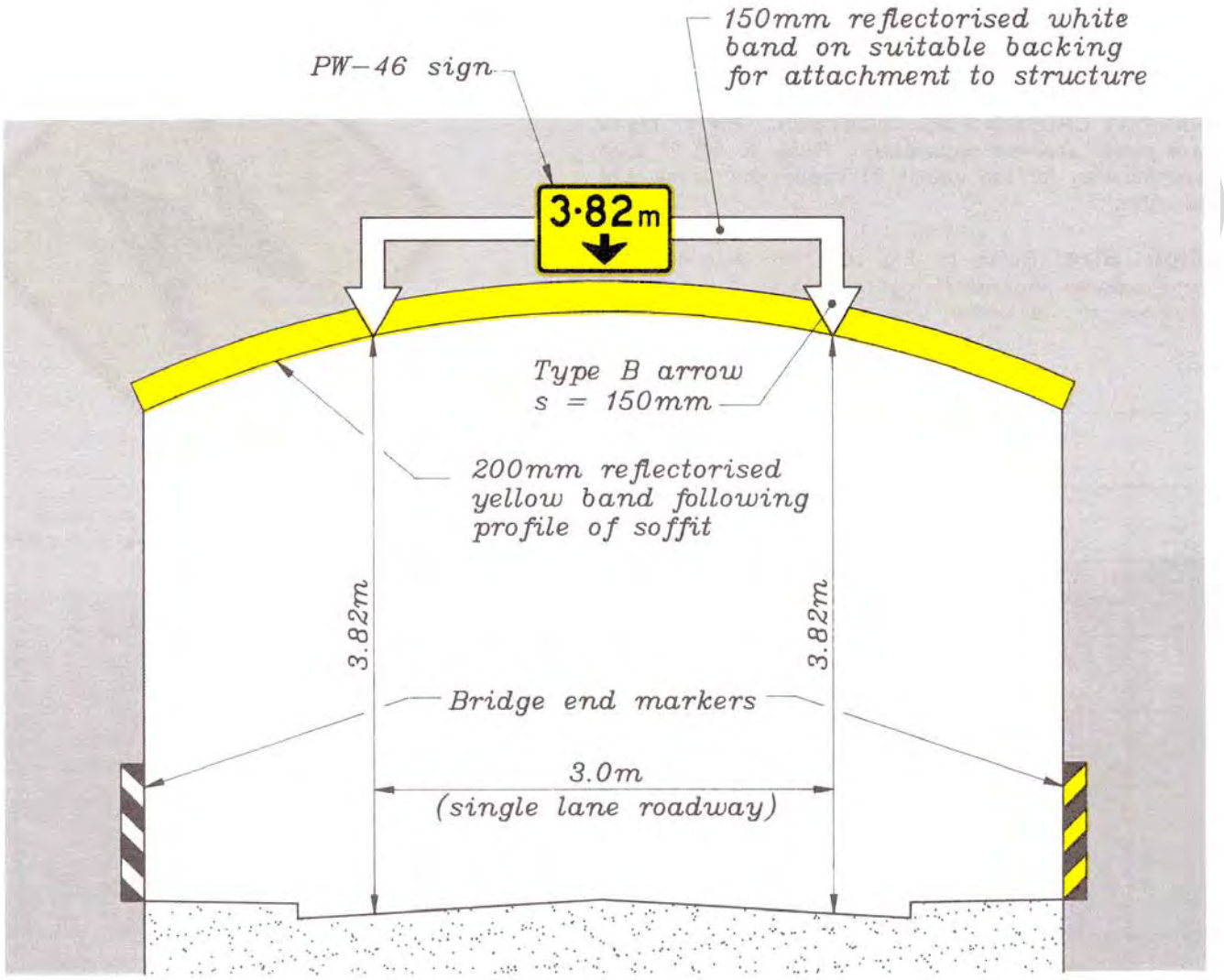
**Location:** A pair of signs should be located overhead on the structure immediately above the soffit line to face approaching traffic from each direction and:

**(a)** in a single lane situation (one way or two way) - directly above the centre of the road, or
**(b)** in a two lane two way situation where there is a marked centreline -directly above the respective lane for each direction, or
**(c)** in a multilane situation - directly above the centre of the combination of lanes provided for each direction.

**Markings:** Delineation markings on the structure (in addition to those required for structures with varying soffit clearances) should be installed and maintained as recommended in PART II, SECTION 5.03 of this manual.

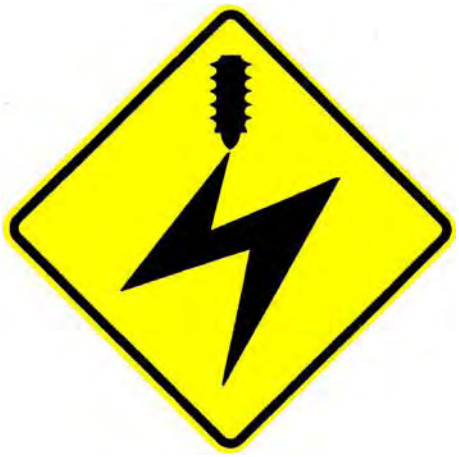
For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**PW - 46** **LOW OVERHEAD CLEARANCE INDICATION ON STRUCTURE OR TUNNEL**




*NOTE: Additional delineation markings should be installed and maintained as recommended in PART II, SECTION 3 of this manual.*

**SIGNING AND SUPPLEMENTARY MARKINGS ON STRUCTURE OR TUNNEL WITH VARYING SOFFIT HEIGHT (single lane roadway) FIG. 6.3**



For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-47 sign consists of an OVERHEAD ELECTRIC CABLE symbol displayed on a standard permanent diamond sign plate.

A PW-47 sign is always erected in combination with and above a circular vertical clearance sign to form an RG-21 LOW OVERHEAD CLEARANCE AT ELECTRIFIED RAILWAY CROSSING sign combination. ***PW-47 signs are never erected separately.*** Refer to RG-21 sign specification for full details of application policy and location.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements and RG-21 sign specification for size of matching circular vertical clearance sign.

See also Part 9 of the Traffic Control Devices Manual which can be viewed at
http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**PW - 47**

**OVERHEAD ELECTRIC CABLE**
**(never erected separately)**

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-48 sign consists of a WIND SOCK symbol displayed on a standard PW diamond sign plate.

PW-48 signs should be erected in rural areas in advance of short sections of road that are subject to sudden unexpected wind gusts in excess of 70 km/h (caused by local topographical conditions) and which the controlling authority considers may cause a vehicle to be deflected from its intended course.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition be in advance of the hazardous section of road by at least 60 m.

**Policy:** A PW-49 sign consists of a FIRE ENGINE symbol displayed on a standard PW diamond sign plate. PW-49 signs should be erected in advance of an entrance from a fire station where lack of visibility makes it unsafe for the fire appliances to enter the road or highway. It is unsafe to enter the road or highway when from a point 3 m back from the edge of the nearest traffic lane the fire appliance driver cannot observe an approaching vehicle on the main route at a distance of at least 180 m in rural areas at least 90 m in urban areas.

The signs should also be used in conjunction with PW-3 TRAFFIC SIGNALS signs in situations where flashing red signals operate in the vicinity of the fire station and where approaching drivers do not have a clear view of the PW-3 sign over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas. The sign should be erected in advance of the entrance (or PW-3 sign if erected) by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-50 sign consists of a TRUCK symbol displayed on a standard PW diamond sign plate.

PW-50 signs should be erected where in the opinion of the controlling authority roadway conditions and the presence of heavy commercial vehicles and buses create a hazard - in particular where narrow roadways on tortuous alignments carry considerable volumes of laden trucks during most of the year. ***The signs should not be erected in urban areas.***

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The signs should be located at each end of the hazardous section of road. Additional signs may be erected following important intersections within the section. The sign should be located so that approaching drivers have an uninterrupted view of it over a distance of at least 120 m.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A W18-6 sign consists of a FORK-LIFT symbol displayed on a standard PW diamond sign plate.

W18-6 signs should be erected where, in the opinion of the road controlling authority, there is the frequent use of the areas within the road reserve and adjacent to the roadway by fork-lifts which constitutes a hazard.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the hazardous section of roadway by at least the distance shown in the following table.

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## TCD rule W18 - 6 VEHICLE CROSSING - FORK-LIFTS

**Policy:** A PW-51 sign consists of an AIRCRAFT symbol displayed on a standard PW diamond sign plate.

PW-51 signs should be erected on the approaches to an airfield where low flying aircraft cross the roadway at heights below 60 m. The sign is intended to warn drivers of the sudden, unexpected high pitched noise produced by aircraft taking off under full throttle and crossing the roadway almost at right angles, or, as advance warning of flashing red signals which control road traffic when aircraft are operating.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas. The sign should be erected in advance of the hazard by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** This sign consists of a HELICOPTER symbol displayed on a standard PW diamond sign plate.

These signs should be erected where a helicopter pad is located near the road and helicopters fly over the roadway at low altitude. These signs may also be erected where, in the opinion of the road controlling authority, the presence of helicopters operating within the area could be a surprise or distraction to road users.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120m in rural areas and at least 60m in urban areas. The sign should be erected in advance of the hazard by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

## HELICOPTERS

**Policy:** A PW-52 sign consists of a TUNNEL symbol displayed on a standard PW diamond sign plate.

PW-52 signs should be erected on those approaches to a road tunnel where the portal is not visible for a distance of at least 120 m. The sign is not normally necessary in urban areas.

Where the tunnel is of restricted width or height either PW-43 (PW-43.1) ROAD NARROWS and / or PW-45 LOW OVERHEAD CLEARANCE - ADVANCE WARNING signs should be used in preference to the PW-52 sign.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas. The sign should be erected in advance of the tunnel portal by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-53 sign consists of an OTHER HAZARD symbol displayed on a standard PW diamond sign plate. requirements.

***PW-53 sig ns are o nly erected in co mbination with approved supplementary signs that indicate in words certain specific permanent hazards.*** The only approved sign combinations are PW-54 FORD, PW-55 CATTLE STOP and PW-56 GATE. ***PW-53 signs are never erected separately.***

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

## OTHER HAZARD – BASIC DESIGN
## PW - 53 (never erected separately)


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

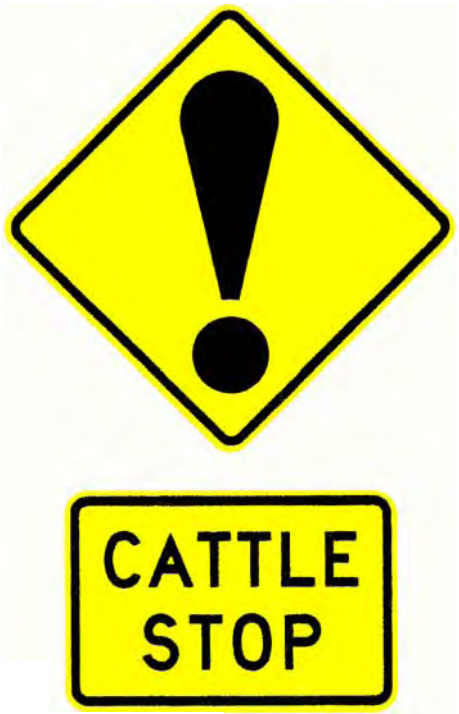
**Policy:** A PW-54 sign combination consists of a PW-53 OTHER HAZARD sign and a supplementary sign FORD.

PW-54 signs should be erected in advance of a section of road where vehicles are required to negotiate a ford. Where the crossing is of a temporary nature the TW-8 OTHER HAZARD - FLOODING sign should be used.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition be in advance of the ford by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |




For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-55 sign combination consists of a PW-53 OTHER HAZARD sign and a supplementary sign CATTLE STOP.

PW-55 signs should be erected in advance of cattle stops (consisting of open grids) that are installed across public roads, where, in the opinion of the controlling authority the grid cannot be crossed safely at the normal traffic operating speeds prevailing in the vicinity. The sign should not be used when the cattle stop is within an entrance to private land or in an urban area.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition be in advance of the hazard by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |


For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-56 sign consists of a PW-53 OTHER HAZARD sign and a supplementary sign GATE.

PW-56 signs should be erected in rural areas in advance gates that are erected across public (legal) roads.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m and in addition be in advance of the of the gate by at least the distance shown in the following table:

| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

**PW - 57** ***(left)***

**PW - 57** ***(right)***

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-57 RAILWAY LEVEL CROSSING AHEAD sign consists of the *"Steam Train"* symbol displayed on a standard PW diamond sign plate. The PW-57 sign is erected separately and also as part of the PW-57.1 and PW-62 sign combinations.

A PW-57 (left) sign must be erected on the left-hand side of the road on the approaches to railway level crossings.

A PW-62 (left) sign should be used instead of a PW-57 (left) sign where a railway level crossing controlled by RG-6 GIVE WAY signs is on a side road and is located within 100 metres of a main road intersection, or is too close to an intersection, to allow the installation of the standard treatment shown on Figures 4.9 and 4.10 in Part II of this manual.

For added emphasis it is strongly recommended that a PW-57/PW-62 (right) sign is erected on the right hand-side of the road on:

**(a)** roads with an AADT greater than 2000 vpd, and
**(b)** state highways.

**Reflectorisation:** PW-57 signs shall use Class 1 reflective materials - refer to SECTION 1.14 (a) of this Manual for details of the special requirements for Railway Level Crossing signs.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** PW-57 signs should be located where they are clearly visible to approaching drivers for a distance of at least 120 m on rural roads and 60 m on urban roads.

At railway level crossings ***where intermediate signs ARE NOT required*** PW-57 signs should be erected in advance of the crossings by not less than the distance "A" in the following table.

At railway level crossings ***where PW-1, PW-58 or PW-62 intermediate warning signs are required*** PW-57 signs should be erected in advance of the intermediate warning signs by not less than the distance "B" in the following table.

| Operating Speed (km/h) | Distance (m) | |
|---|---|---|
| | A | B |
| < 70 | 65–85 | 50 |
| 70 – 100 | 100–160 | 60 |
| > 100 | 180–250 | 70 |

See also Part 9 of the Traffic Control Devices Manual which can be viewed at
http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**PW - 57** **RAILWAY LEVEL CROSSING ("Steam Train")**

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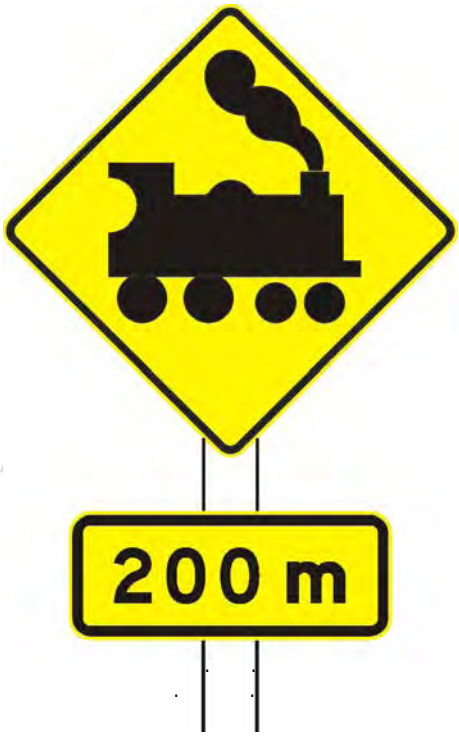



Note: Distances should be rounded to the nearest 50 m.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-57.1 sign combination consists of a PW-57 RAILWAY LEVEL CROSSING AHEAD sign and a supplementary sign "__" m.

PW-57.1 signs may be erected on the left-hand side of the road in advance of PW-57 signs, where the PW-57 signs are not clearly visible to approaching drivers for a distance of least 120 m on rural roads and at least 60 m on urban roads.

**Reflectorisation:** PW-57.1 signs shall use Class 1 reflective materials - refer to SECTION 1.14 (a) of this Manual for details of the special requirements for Railway Level Crossing signs.

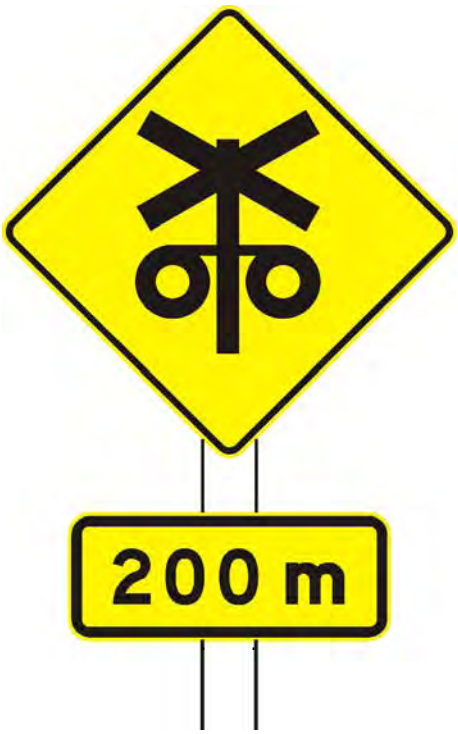
**Sign Size:** The supplementary plate should match the size of the PW-57 diamond warning sign.

**Location:** PW-57.1 signs should be located where they are clearly visible to approaching drivers over a distance of at least 120 m on rural roads and at least 60 m on rural roads.

The distance to the railway level crossing shown on a supplementary "__" plate is determined by the location of the associated PW-57 sign(s) and the minimum clear visibility distance required for the PW-57.1 sign, and is likely to be in the range shown in the following table:

| Operating Speed ($V_{85}$ - km/h) | Distance from PW-57.1 sign to railway level crossing (m) | |
|---|---|---|
| | PW-57 sign only | PW-57.1 sign |
| > 70 | 65–85 | 130–150 |
| 70–100 | 100–160 | 160–280 |
| > 100 | 180–250 | 300–370 |

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html




Note: Distances should be rounded to the nearest 50 m.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-58 sign combination consists of a RAILWAY CROSSING/FLASHING LIGHT symbol displayed on a standard PW diamond sign plate and a supplementary sign "__" m.

PW-58 signs should be erected on the left-hand side of the road on approaches to railway level crossings equipped with flashing lights and bells where the RG-33 sign combinations are not clearly visible to approaching drivers for a distance of least 120 m on rural roads and at least 60 m on urban roads.

On multi-lane approaches to railway level crossings a second PW-58 sign should be erected on the right-hand side of the road.

**Reflectorisation:** PW-58 signs shall use Class 1 reflective materials - refer to SECTION 1.14 (a) of this manual for details of the special requirements for Railway Level Crossing signs.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** PW-58 signs should be located where they are clearly visible to approaching drivers over a distance of at least 120 m on rural roads and at least 60 m on urban roads.

PW-58 signs should be erected in advance of railway level crossings by not less than the distance shown in the following table:

| Operating Speed ($V_{85}$ - km/h) | Distance (m) |
|---|---|
| < 70 | 65–85 |
| 70–100 | 100–150 |
| > 100 | 180–250 |

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

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For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW-59 sign consists of a standard rectangular PW/C supplementary sign plate containing the word message "LOOK FOR TRAINS" and two horizontal arrows indicating the directions in which drivers should look.

***The PW-59 sign is used on RG-32, PW-61 and PW-62 sign combinations. It may also be erected separately at a pedestrian maze - refer to "Section 8: Pedestrian and cycleway treatmen ts" an d "Ap pendix C" in th e Land Transport Safety Authority May 2000 publication "RTS 10: Road Signs and Markings for Railway Level Crossings".***

**Reflectorisation:** PW-59 signs shall use Class 1 reflective materials - refer to SECTION 1.14 (a) of this Manual for details of the special requirements for Railway Level Crossing signs.

**Sign Size:** PW-59 sign sizes should be matched to the standard PW diamond sign plates used on RG-32, PW-61 and PW-62 sign combinations.

Refer to the RG-32, PW-61 and PW-62 sign combination details for the appropriate PW-59 sign sizes.

See also Part 9 of the Traffic Control Devices Manual which can be viewed at
http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**PW - 60**

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**PW - 60.1**

**PW - 60.2**

**Policy:** A PW-60 sign contains a railway line symbol superimposed onto a stripe, to diagrammatically represent a road crossing a railway line.

PW-60 signs should be used to when a road crosses a railway line substantially at right angles.

PW-60.1 and PW-60.2 signs should be used when a road crosses a railway line at an oblique angle.

***The PW-60 sign is used on PW-61, PW-61.1 and PW-61.2 sign combination and is never erected separately.***

**Reflectorisation:** PW-60 signs shall use Class 1 reflective materials – refer to SECTION 1.14 (a) of this manual for details of the special requirements for Railway Level Crossing signs.

**Sign Size:** PW-60 sign sizes should be matched to the size of the standard PW/C standard sign plates used on PW-61, PW-61.1 and PW-61.2 sign combinations.

Refer to the PW-61, PW-60.1 and PW-60.2 sign combination details for the appropriate PW-60 sign sizes.

See also Part 9 of the Traffic Control Devices Manual which can be viewed at
http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**PW - 60**
**PW - 60.1, PW - 60.2**

**RAILWAY LEVEL CROSSING**
**SUBSTANTIALLY AT A RIGHT ANGLE**
**AT AN OBLIQUE ANGLE**

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**Policy:** A PW-61 RAILWAY LEVEL CROSSING INTERMEDIATE ADVANCE WARNING sign combination consists of a PW-59 LOOK FOR TRAINS sign and a PW-60, PW-60.1 or PW-60.2 diagrammatic railway level crossing sign mounted on the same support.

PW-61 sign combinations should be erected on the left-hand side of the road on approaches to railway level crossings where:

**(a)** RG-31 GIVE WAY sign combinations are not clearly visible to an approaching driver from at least:
- 65 m when operating speeds are less than 70 km/h, and
- 120 m in all other situations, or

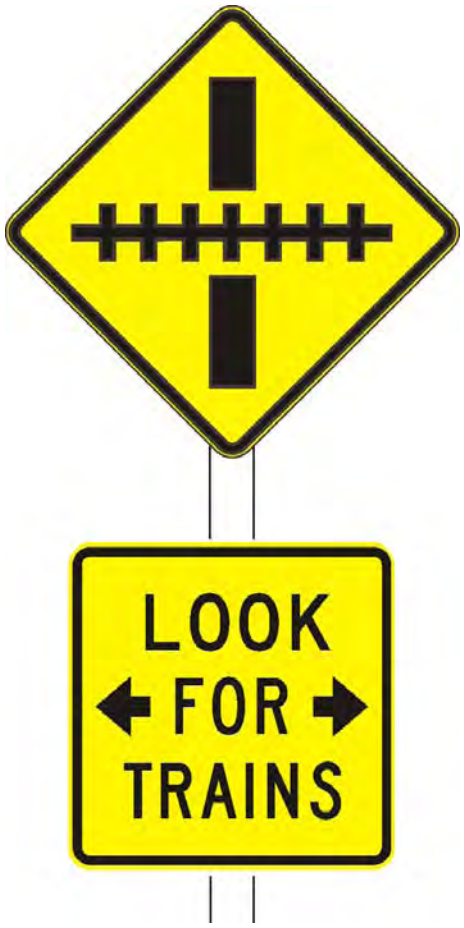
**(b)** STOP sign controls are not required but:
- sight distance in both directions along the railway line for an approaching driver is restricted by topography, development, vegetation, etc, to less than those specified in Table A4.2 APPENDIX A4 of the Manual of Traffic Signs and Markings, Part 1: Signs, and
- it is not practical to improve sight distances, or
- to install active level crossing controls, or

**(c)** it desirable to provide an additional prompt to drivers in circumstances such as multi-track crossings, infrequent line use, abrupt skew situations, etc.

**Reflectorisation:** PW-59 and PW-60 signs for PW-61 sign combinations shall use Class 1 reflective materials – refer to SECTION 1.14 (a) of this manual for details of the special requirements for Railway Level Crossing signs.

**Sign Size:** The minimum sizes for signs on PW-61 sign combinations are given in the table below.

**Location:** PW-61 signs should be erected in advance of RG-31 sign combinations by at least the distance shown in the following table:




*NOTE: A gap of at least 100 mm shall be left between individual signs on P W-61 sign combinations.*

| Operating Speed ($V_{85}$ - km/h) | Minimum sign sizes (mm) | | Minimum distance in advance of an RG-31 sign combination (m) |
|---|---|---|---|
| | PW-60<br>PW-60.1<br>PW-60.2 | PW-59 | |
| < 70 | 600 × 600 | 600 × 600 | 65 |
| 70–100 | 750 × 750 | 750 × 750 | 100 |
| > 100 | 900 × 900 | 900 × 900 | 180 |

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**Policy:** A PW-62 RAILWAY LEVEL CROSSING ON A SIDE ROAD ADVANCE WARNING sign combination consists of a PW-57 STEAM TRAIN sign and a PW-59 LOOK FOR TRAINS sign mounted on the same support.

PW-62 signs should be erected on the left-hand side of the road on the approaches to side road railway level crossings that are:

**(a)** controlled by RG-31 GIVE WAY signs and located less than 100 m from a main road intersection, or

**(b)** located too close to a main road intersection to allow the installation of one of the standard railway level crossing GIVE WAY control treatments shown in Figures 4.8, 4.9 and 4.10 of the Manual of Traffic Signs and Markings, Part II: Markings.

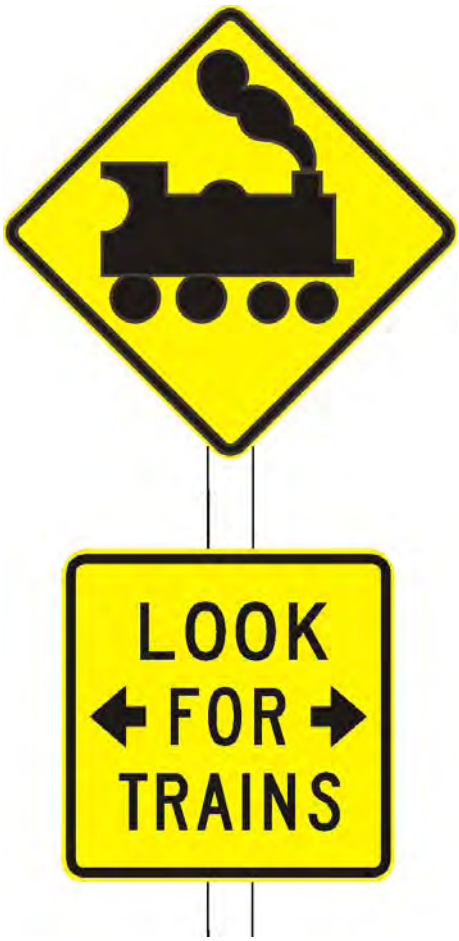
**Reflectorisation:** PW-57 and PW-59 signs for PW-62 sign combinations shall use Class 1 reflective materials – refer to SECTION 1.14 (a) of this manual for details of the special requirements for Railway Level Crossing signs.

**Sign Size:** The minimum sizes for signs on PW-62 sign combinations are given in the following table:

| Operating Speed ($V_{85}$ - km/h) | Minimum sign sizes (mm) | |
|---|---|---|
| | PW-57 | PW-59 |
| < 70 | 600 × 600 | 600 × 600 |
| 70–100 | 750 × 750 | 750 × 750 |
| > 100 | 900 × 900 | 900 × 900 |

**Location:** PW-62 sign combinations should be located to be clearly visible to approaching drivers and erected 0.67 D in advance of RG-31 sign combination(s). D is normally be less than 100 m and is the distance from the RG-31 sign combination(s) and the main road intersection.

PW-62 sign combination location is illustrated and fully detailed in the Manual of Traffic Signs and Markings, Part II: Markings, Figure 4.16.




*NOTE: A gap of at least 100 mm shall be left between individual signs on P W-61 sign combinations.*

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**Policy:** A PW-63 sign consists of a TRAM symbol displayed on a standard PW diamond sign plate.

PW-63 signs should be erected where, in the opinion of the controlling authority, tram traffic sharing the roadway with motor vehicles constitutes a hazard.

**Sign Size:** Refer to Fig. 6.1 for detailed size requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be erected in advance of the hazardous section of roadway or in advance of a particular hazard, eg. at intersections where trams enter, cross or leave the roadway. Additional signs may also be erected following important intersections within the section.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

See also Part 9 of the Traffic Control Devices Manual which can be viewed at http://www.nzta.govt.nz/resources/traffic-control-devices-manual/part-09-level-crossings/index.html

**Policy:** A PW-64 sign combination consists of a PW-3 sign or a PW-8 sign, with the supplementary sign PREPARE TO STOP, HIDDEN QUEUE or QUEUED VEHICLES and two alternately flashing yellow traffic signal lights. The lights should be activated by a suitable controller so that they flash at appropriate times to provide the necessary warning for approaching drivers, having regard to the likely length of queues or the presence of a red signal.

PW-64 signs may be erected in advance of an intersection controlled by traffic signals or roundabout where in the opinion of the controlling authority the road alignment does not:

- provide sufficient stopping sight distance to the end of the likely maximum length queue,
- the existing road alignment cannot reasonably be altered to overcome the deficiency, and
- standard warning signs have proven insufficient to address a safety problem there.

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No other sign may be attached to a PW-64 sign or its support.

**Sign Size:** Refer to Fig. 6.1 for detailed PW diamond sign plate requirements.

**Location:** The sign should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120 m in rural areas and at least 60 m in urban areas.

The sign should be normally erected on the left-hand side of the road but where approaching drivers sight distance is restricted, the sign may be erected on the right-hand side of the road. Where two approach lanes exist, signs should be gated.

The sign should be erected in advance of the end of the likely maximum length queue by at least the distance shown in the following table:

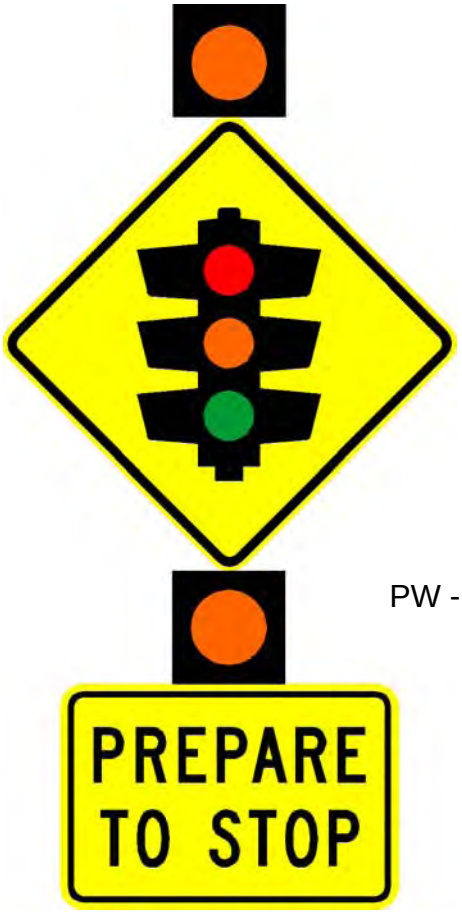
| Operating Speed | Distance |
|---|---|
| 50 km/h | 65 m |
| 70 km/h | 100 m |
| 90 km/h | 140 m |
| 100 km/h | 160 m |

When these signs are installed both left and right, ie gated, then the lights must be arranged to flash in synchronization top lights together then bottom lights together.

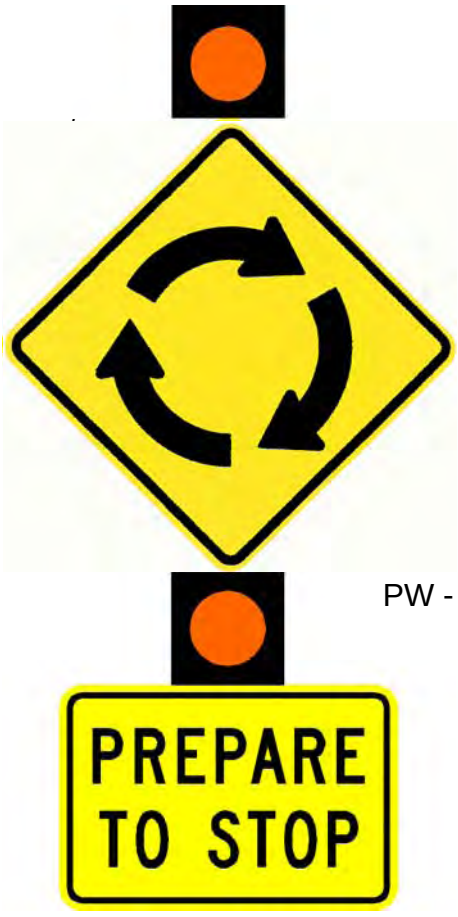
For dimensions refer to http://www.nzta.govt.nz/resources/

traffic-control-devices-manual/sign-specifications/

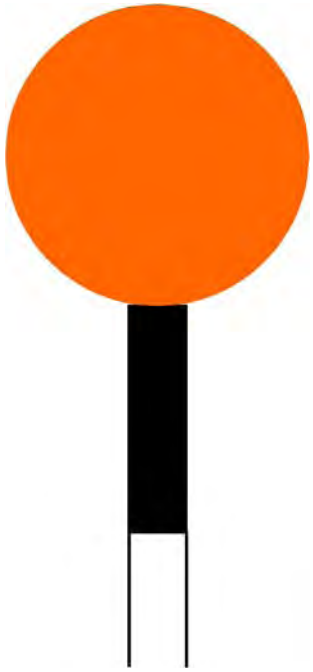
Alternative legends: HIDDEN QUEUE
QUEUED VEHICLES




PW - 64




PW - 64.1



**Policy:** A controlling authority must erect on each pole indicating the presence and position of a pedestrian crossing:

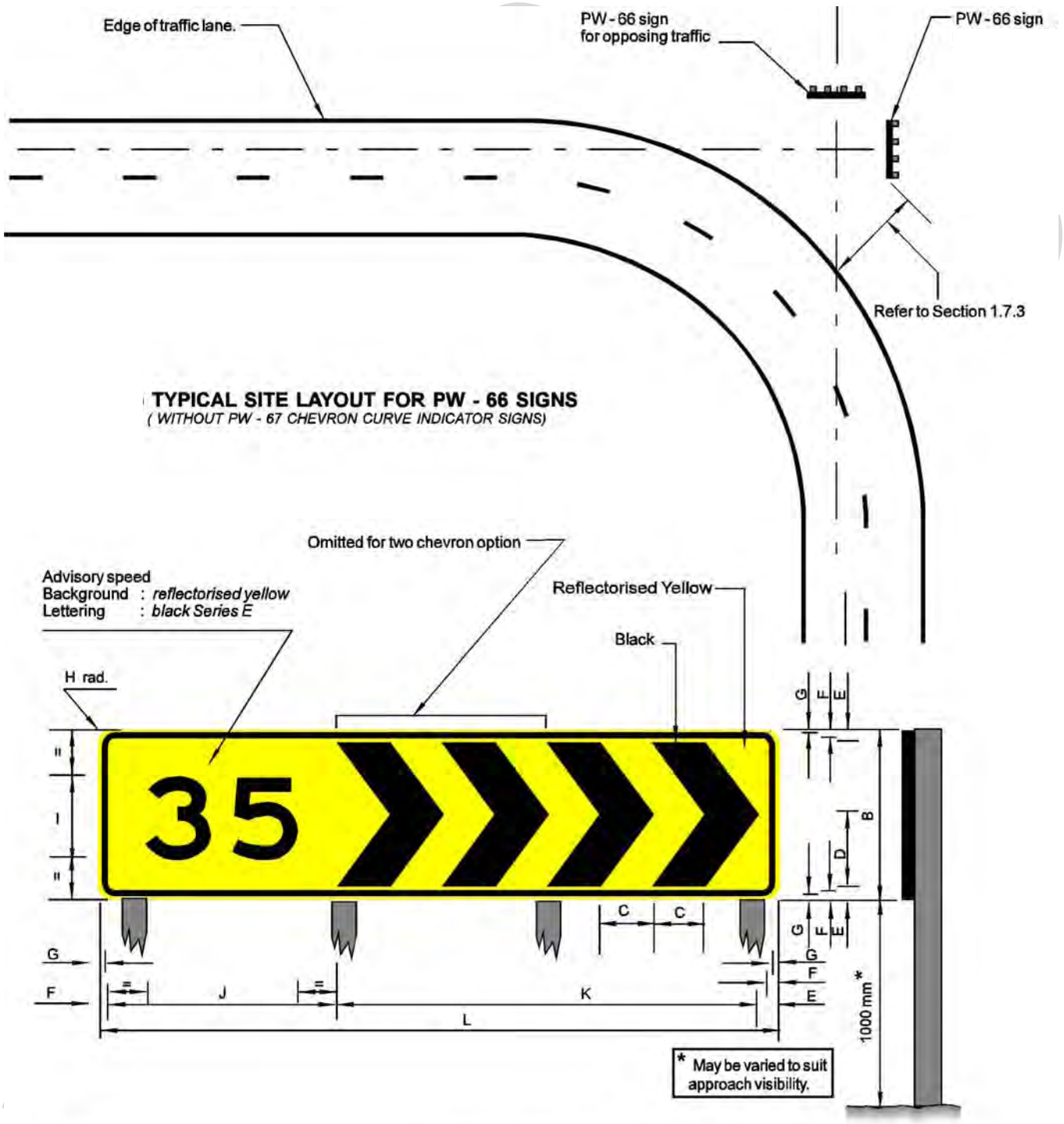
**(a)** an internally illuminated amber globe, not less than 300 mm in diameter, which has a lamp that provides 40 to 60 flashes per minute, or

**(b)** a 400 mm diameter Belisha Beacon Disk.

The Land Transport Rule: Traffic Control Devices 2004 sets out the requirements for indicating the presence and position of pedestrian crossings, including the need for controlling authorities to erect and maintain a pole or post within 2 m of each end of a crossing. These posts must be not less than 75 mm in diameter or cross-section, not less than 2 m in height and clearly painted with alternate parallel bands of black and of white, each having a width of approximately 300 mm.

It is helpful at night if the white bands are reflectorised.

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/




For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/

**Policy:** A PW - 66 HORIZONTAL CURVE CHEVRON BOARD sign shall have black chevrons on a rectangular reflectorised yellow background plate.

PW - 66 signs may be used at horizontal curves that require a high level of delineation and guidance for approaching drivers.

PW - 66 signs can be effective in emphasising horizontal curves which the road controlling authority considers to be deceptive or dangerous.

PW-66 signs should, however, normally be used where:

**(i)** the curve advisory speed is 15km/h, or

**(ii)** the advisory speed is higher than 15 km/h ***and*** Size D PW curve warning advisory signs are warranted.

Refer to Appendix A3: *Guidelines for the Installation of Curve Warning and Advisory Speed Signs* of this manual for signing warrants and sign size determination.

An appropriate PW curve warning advisory sign combination must be erected in advance of a PW - 66 sign which in turn should for long curves be followed by a series of PW - 67 Chevron Curve Indicator signs to further delineate the curve.
However for short length horizontal curves, the PW - 67 Chevron Curve Indicator signs may not be able to be installed in an effective manner and they may be omitted.

The speed shown on the PW curve warning advisory sign combination must also be shown on the PW - 66 sign, as illustrated in diagram PW - 66(b).

**Reflectorisation:** PW -66 signs must be fully reflectorised - refer to SECTION 1.12 of this manual for details of requirements.

When Class 1 material is used for these signs, it is critical that the orientation of the sign be in accordance with the requirements under Location on this page.

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**Sign Size:** PW - 66 sign size is dependent on the application, i.e. whether it is rural or urban application.

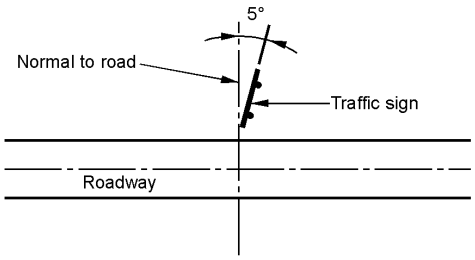
The minimum dimensions for urban and rural situations are shown on the Land Transport website.

In urban areas, and in other low speed situations, where the space available to erect a standard PW - 66 sign is restricted, the road controlling authority may approve the shortening of the PW - 66 signs to show only two chevrons.

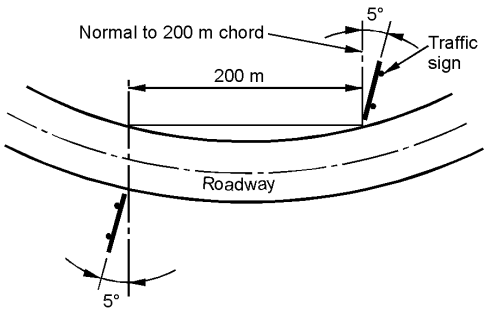
**Location:** The PW-66 sign should be located in line with approaching traffic as shown on page 6-91 but it MUST be turned away from approaching driver's line of sight by an absolute minimum of 5 degrees as shown below, but **preferably by 10 degrees**. Refer SECTION 1.10 for sign orientation requirements. The lateral clearance from the edge of the PW - 66 sign to the edge of the traffic lane, the edge of the shoulder, the kerb line or the face of the guard rail must comply with maximum and minimum lateral offset dimensions specified in SECTION 1.7.3 of this manual.

The PW - 66 signs should normally be mounted so that the underside of the signs are at least 1.0 m above the adjacent sealed road surface. When the sight distances are restricted mounting heights may be increased.

***NOTE: Where there is a risk of vehicles colliding with PW - 66 signs the supports for them must be of a breakaway or yielding design.***



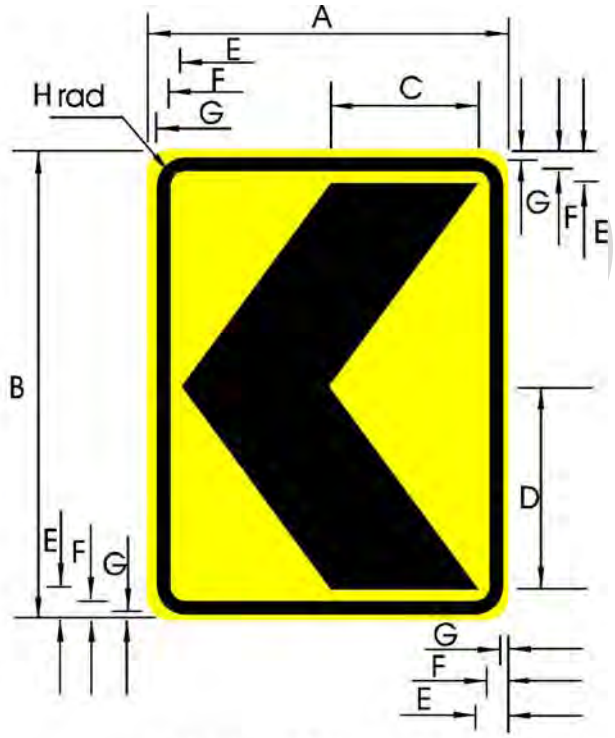

(a)



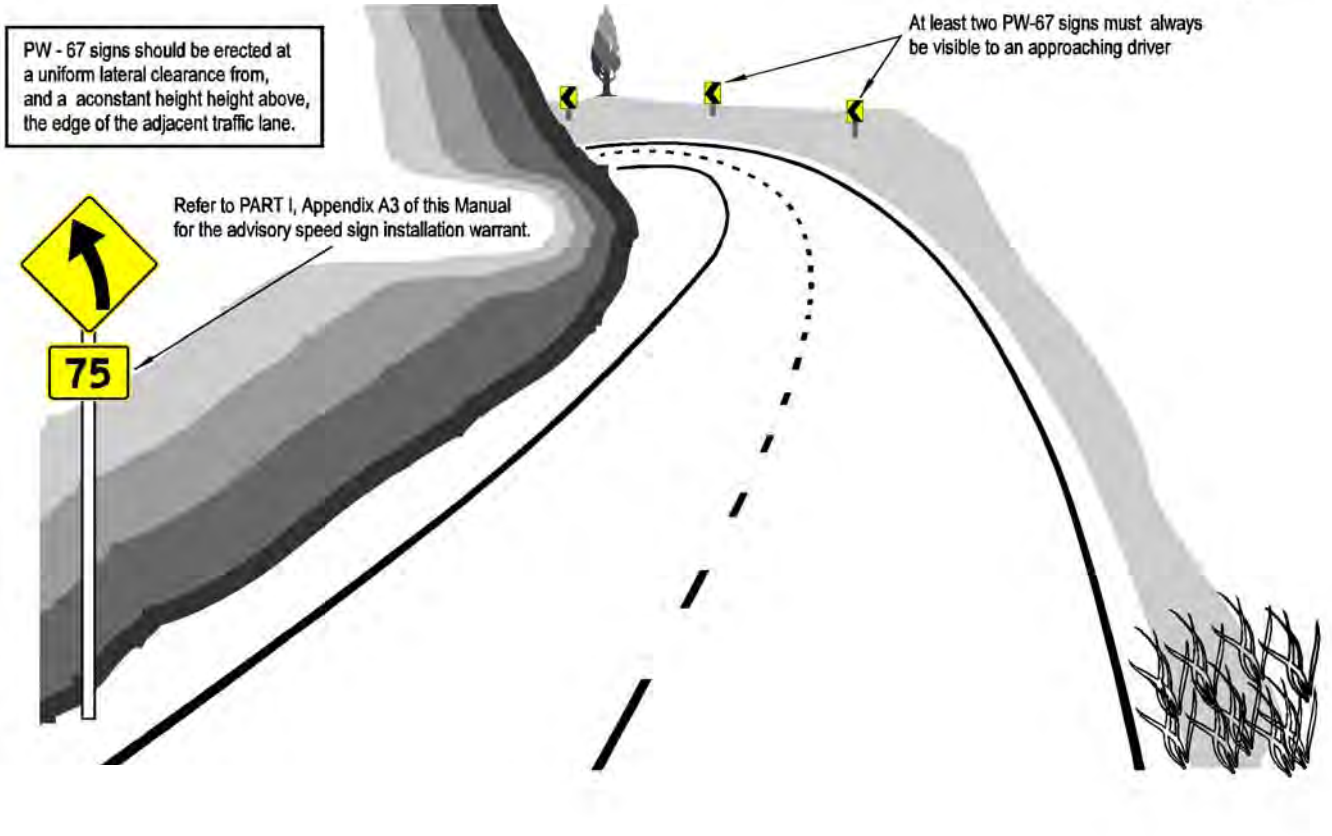

(b)

## PW - 66 HORIZONTAL CURVE CHEVRON BOARD

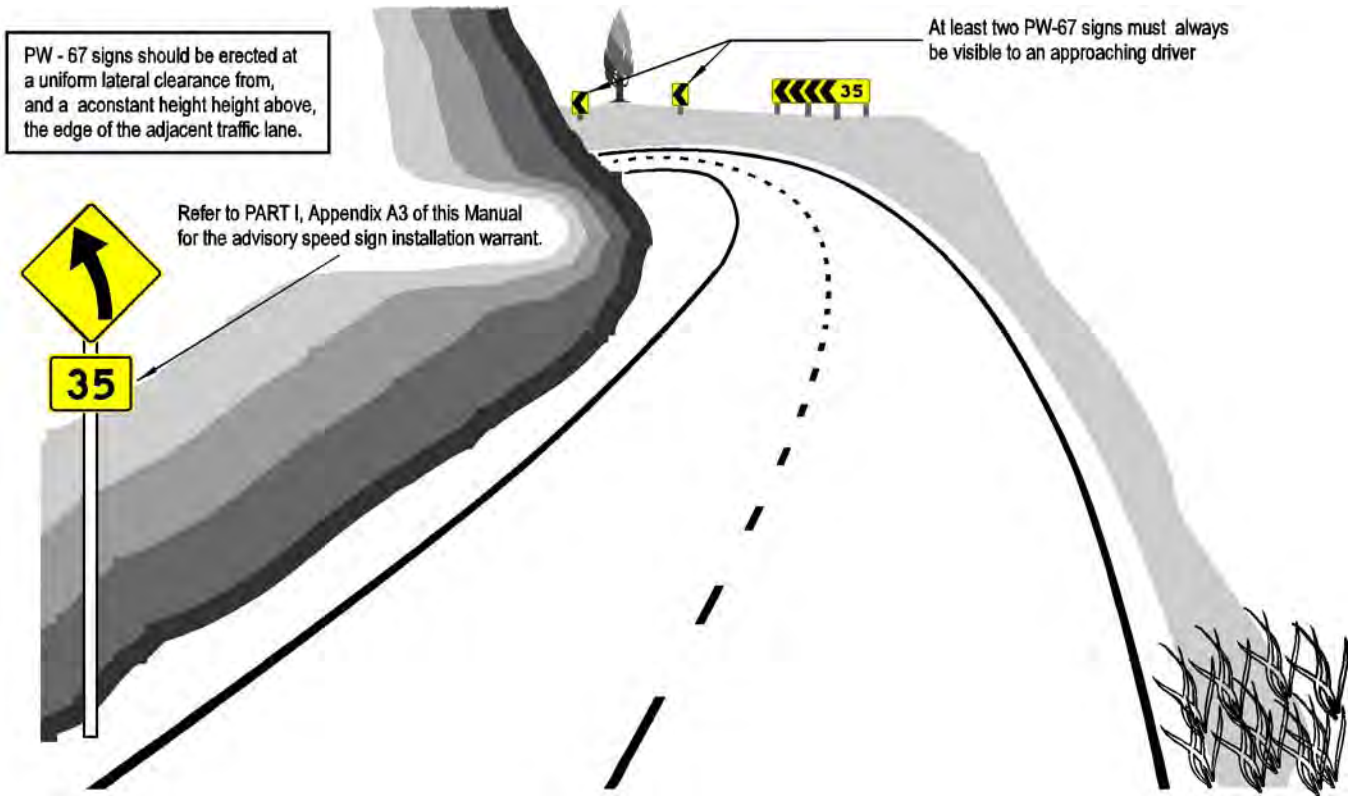
For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/




**Background :** yellow.
**Chevron :** black.




**A TYPICAL PW - 67 SIGN INSTALLATION**




**TYPICAL INSTALLATION USING BOTH PW - 66 AND PW - 67 SIGNS**

## PW - 67 (cont.) HORIZONTAL CURVE - CHEVRON CURVE BOARD SUPPLEMENTED WITH CHEVRON CURVE INDICATORS

**Policy:** A PW - 67 CHEVRON CURVE INDICATOR sign shall have a black chevron on a rectangular reflectorised yellow background plate.

A series of PW - 67 signs may be used on horizontal curves where the installation of a PW - 66 sign is not warranted but, in the opinion of the road controlling authority, some additional delineation is required throughout the curve to supplement the PW curve warning sign or sign combination. A typical example situation is a long, large deflection angle, horizontal curve.

***NOTE: PW - 67 signs must not be used unless an appropriate PW curve warning sign or sign combination is erected.***

A series of PW - 67 signs may also be used to further delineate horizontal curves which are signed with both a PW curve warning / advisory speed sign combination ***and*** a PW-66 Horizontal Curve Chevron Sight Board sign.

**Reflectorisation:** PW -67 signs must be fully reflectorised - refer to SECTION 1.12 of this manual for details of requirements.

**Orientation:** PW-67 signs MUST be turned away from approaching driver's line of sight by an absolute minimum of 5 degrees as shown in the diagram on page 6-92 but **preferably by 10 degrees.** This is especially critical when Class 1 reflective sheeting is used.

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**Sign Size:** PW -67 sign size is dependent on the application, i.e. whether it is rural or urban application.

The minimum sizes for urban and rural situations are shown in the Traffic Control Devices Specifications.

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**Location:** Wherever possible PW - 67 signs should be mounted at a constant height so that the underside of the signs are at least 1.0 m above the adjacent sealed road surface, and at a constant lateral distance from the edge of the adjacent traffic lane, to ensure approaching drivers are given the best possible visual indication of the curve's horizontal and vertical alignment.

The lateral clearance from the edge of the PW - 67 sign to the edge of the traffic lane, the edge of the shoulder, the kerb line or the face of the guard rail must also comply with maximum and minimum lateral offset dimensions specified in SECTION 1.7.3 of this manual.

At least three PW -67 signs should be provided for each direction of travel. They must be erected at equal spacings on the outside of horizontal curves and in such a manner that approaching drivers will always have at least two in view at all times. When the sight distances are restricted mounting heights may be increased to have two in view.

PW - 67 signs must be located in the following manner:

**(a)** The first PW - 67 sign on the approach to a horizontal curve:

**(i) Left Hand Curves**
- **Two-way two-lane roads:** On the prolongation of the centre of the road.
- **One-way roads:** On the prolongation of the right hand edge line or the right hand edge of the sealed road surface if the edge line is not marked.

**(ii) Right Hand Curves**
- On the prolongation of the left hand edge line or the left hand edge of the sealed road surface if the edge line is not marked.

**(b)** The last PW - 67 sign at the end of a horizontal curve must be located at the tangentpoint of the curve, regardless of whether it is a transition curve or a simple circular curve.

**(c)** Intermediate PW - 67 signs must be equally spaced between the first and last PW - 67 signs located as specified in (a) and (b) above.

**(d)** When a PW - 66 sign is warranted it will replace the first PW - 67 sign described in (a) above and it must be located as illustrated in the diagram PW - 66(a). Wherever possible the intermediate PW - 67 signs used to further delineate the curve must be located:

**(i)** on the outside of the horizontal curve,
**(ii)** at equal spacings between the PW - 66 sign and the last PW - 67 sign located as specified (b) above at the end of the curve, and
**(iii)** in such a manner that approaching drivers will always have at least two in view at all times.

***NOTE: Where there is a risk of vehicles colliding with PW - 67 signs the supports for them must be of a breakaway or yielding design.***

# Curve Warning Signs – New Hierarchy



**1. First level warning:**

PW-16…23

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**2. If advisory speed warranted (MOTSAM Pt 2 App 3) add PW-25:**

Can be gated to give greater emphasis.


PW-25

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**3. If required speed reduction is large (ie C or D size advisory sign warranted) or for demonstrated safety reasons, add PW-66 chevron board:**



PW-66

Note: Pursuant to TCD Rule, PW-66 signs must include advisory speed.

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**4. If level 3 applies and a long curve then add PW-67s as necessary:**



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**Alternative to 3. If required speed reduction is small and PW-66 chevron board is not justified, but curve needs additional guidance (eg it is long or hidden over a crest) then use PW-67s as necessary:**

PW-25 if needed

PW-67

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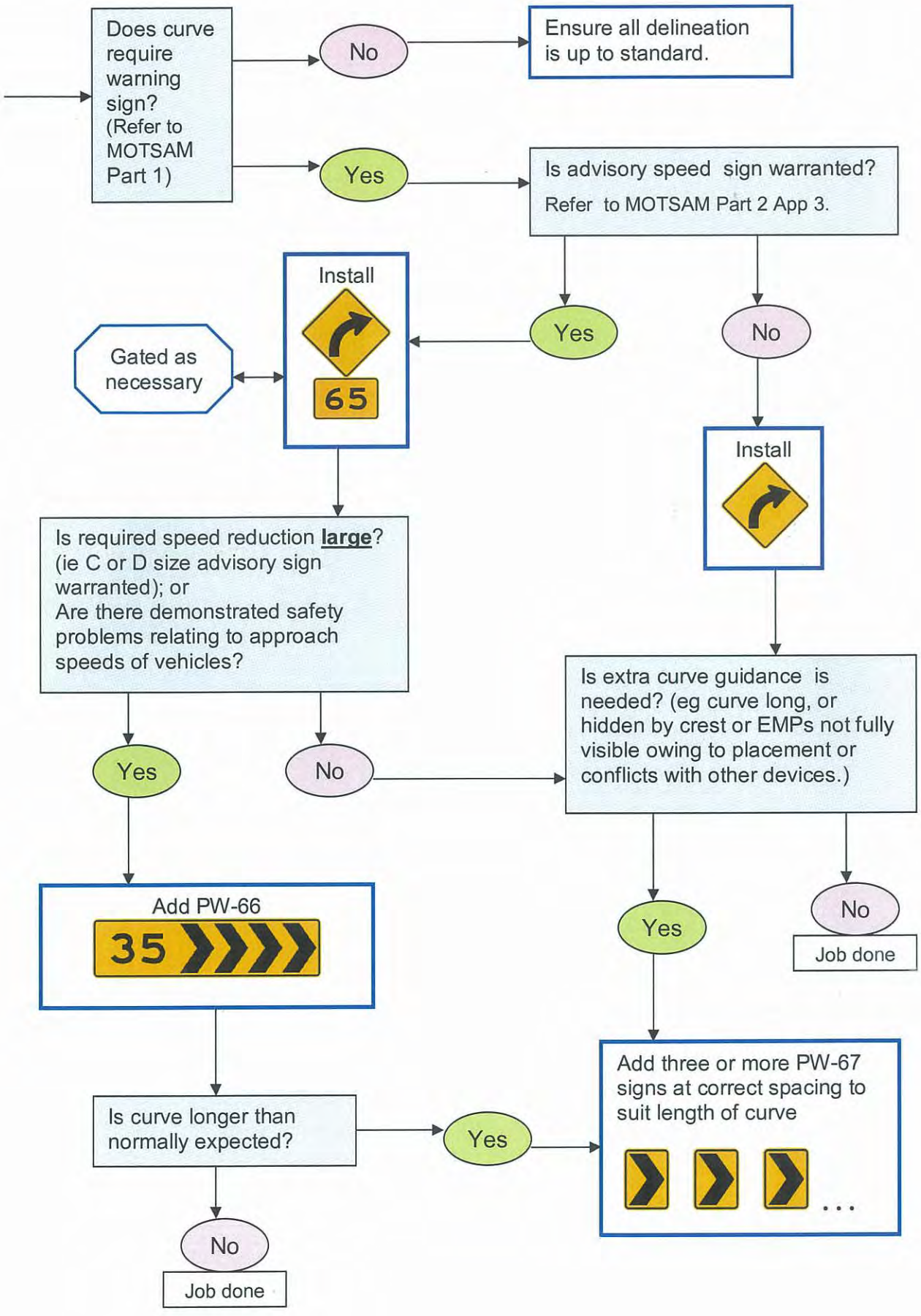
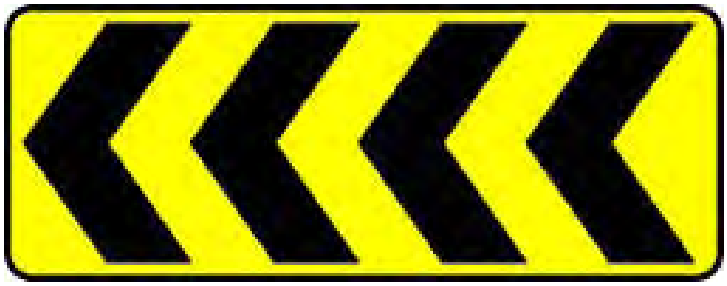
# Curve Warning Signs - Decision Flowchart





**PW68 - CHEVRON BOARD DETAIL**
**"T INTERSECTIONS"**

For dimensions refer to http://www.nzta.govt.nz/resources/traffic-control-devices-manual/sign-specifications/



**PW69 - CHEVRON BOARD DETAIL**
**"ROUNDABOUTS"**

## CHEVRON BOARDS AT 'T' INTERSECTIONS & ROUNDABOUTS

## PW68 & PW69

January 2010

## CHEVRON BOARDS AT 'T' INTERSECTIONS AND AT ROUNDABOUTS

### POLICY

Chevron boards maybe used at T intersections that require a high level of delineation and guidance for approaching drivers. Special smaller chevron boards are used to delineate roundabouts.

PW - 68 Chevron Boards for 'T' intersections and
PW - 69 Chevron Boards for roundabouts shall have

Black chevrons on a rectangular reflectorised yellow background plate.

### PW - 68 'T' INTERSECTIONS

Chevron boards should be installed at the head of 'T' intersections where the intersection is not clearly visible to approaching drivers and/or other warning devices are failing to prevent over-running the intersection. Not usually needed if an ID-5 sign installed.

A 4.8 m long board should normally be used. It should be installed 3.0 m clear of the left edge of the main road traffic lane and should be with its centre offset 2.0 m to the left of the side road centreline, or in a position to provide maximum impact for drivers approaching the intersection on the side road.

In urban areas the board length may be reduced to 2.4 m long.

### PW - 69 ROUNDABOUTS

Refer also to Section 3.13 of this part of the Manual: *Approaches to Roundabouts*.

Chevron boards are desirable at roundabouts because they emphasise both the central island and the change in travel direction drivers are required to make to enter the roundabout.

The one-way chevron boards used at roundabouts should be placed on the central island in the direct projected vision of an approaching driver. At least one chevron board should be provided for each approach lane. Mounting height may be varied to suit the location.

### Orientation of PW-68 and PW-69

PW-68 and PW-69 signs should be located in line with approaching traffic as appropriate, but they MUST be turned away from the approaching driver's line of sight by an absolute minimum of 5 degrees and **preferably by 10 degrees** to avoid specular reflection. This is especially critical when Class 1 reflective material is used.

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## WOODEN SIGHT RAILS

In situations where guard rails are uneconomic, or conventional delineation devices are not considered appropriate or do not provide the visual guidance expected, wooden sight rails can be constructed as described in RTS 5 *Guidelines for rural road markings and delineation.* This can be viewed at http://www.landtransport.govt.nz/roads/rts/rts-05.pdf

Figure 3: Sight rail construction details