

Agenda Item	5
Report No	BSAC/03/26

The Highland Council

Committee: **Badenoch and Strathspey**

Date: **19 January 2026**

Report Title: **PRIME Markings A939 Grantown to Nairn Route**

Report By: **Assistant Chief Executive - Place**

1 Purpose/Executive Summary

- 1.1 This report invites Members to approve the introduction of the motorcycle safety feature PRIME (*Perceptual Rider Information for Maximisation of Enjoyment and Expertise*) signage and markings at locations on the A939 Grantown to Nairn.
- 1.2 The PRIME sign and road markings have been successfully trialled however are currently not approved signs within the Traffic Signs Regulations and General Directions, they therefore require approval from Council Committee on a site-by-site basis.

2 Recommendations

- 2.1 Members are asked to:-
 - i. **Note** the background to the proposed PRIME sign and road marking's introduction; and
 - ii. **Approve** the installation of PRIME signage and road markings at 6 locations on the A939 Grantown to Nairn Road.

3 Implications

- 3.1 **Resource** - The introduction of the PRIME sign and road markings will be delivered via the Scottish Government Road Safety Improvement Fund.
- 3.2 **Legal** - None arising from this report.
- 3.3 **Risk** - No identifiable risk arising from this report.
- 3.4 **Health and Safety (risks arising from changes to plant, equipment, process, or people)** – None arising from this report.
- 3.5 **Gaelic** - None arising from this report.

4 Impacts

4.1 In Highland, all policies, strategies or service changes are subject to an integrated screening for impact for Equalities, Poverty and Human Rights, Children's Rights and Wellbeing, Climate Change, Islands and Mainland Rural Communities, and Data Protection. Where identified as required, a full impact assessment will be undertaken.

4.2 Considering impacts is a core part of the decision-making process and needs to inform the decision-making process. When taking any decision, Members must give due regard to the findings of any assessment.

4.3 Integrated Impact Assessment - Summary

4.3.1 An Integrated Impact Assessment screening has been undertaken on 28 November 2025 (**Appendix 1**). The conclusions have been subject to the relevant Manager Review and Approval.

4.3.2 The Screening process has concluded that no impact assessment was required.

Impact Assessment Area	Conclusion of Screening Assessment
Equality	<ul style="list-style-type: none">• Children and Young People – <i>No impact</i>• Children affected by disability – <i>No impact</i>• Older adults – <i>No impact</i>
Poverty and Socio-economic	<i>No impact</i>
Human Rights	<i>No impact</i>
Children's Rights and Well-being	<i>No impact</i>
Island and Mainland Rural	<i>Positive Impact</i>
Climate Change	<i>No impact</i>
Data Rights	<i>No impact</i>

5 Background

5.1 PRIME are innovative road markings and signage funded and developed by Transport Scotland, The Road Safety Trust, BEAR Scotland and Open Road Simulation Ltd. The project has undertaken pioneering, world-leading and award-winning research into new traffic signs and road markings for motorcyclists approaching bends, helping to deliver the research and provide the scientific evidence base for installing PRIMEs. Transport Scotland are encouraging Local Authorities to install PRIME markings on their networks at key locations and Highland Council wish to be one of the first Authorities to do so.

5.2 Motorcyclists account for only 2.2% of registered vehicles in Scotland but represent a disproportionately high Killed and Seriously Injured casualties. Project PRIME is the first ever large-scale investigation of dedicated road markings for motorcyclists, addressing the specific problem of motorcycle casualties on Scotland's roads and supporting interim targets in the Scottish Government Road Safety Framework to 2030. PRIMEs were installed on approach to demanding bends on the trunk road network across the West Highlands of Scotland.

5.3 The road markings were designed as a series of ‘gateways’ to encourage safer riding in relation to appropriate speed, correct position on the road and minimal braking. These are all important behaviour characteristics of safe riding. The logic was that PRIMEs represent a new and cost-effective method of engaging with motorcyclists by providing a tool for riders to adapt their behaviour on approach to a potential hazard, optimising their expertise and enjoyment while remaining safe on the road.

5.4 Phase 1 of the road trials took place between 2020 and 2022 and consisted of installations at 22 trial sites. Analysis of over 32,000 motorcycles indicated statistically significant positive behaviour change after PRIMEs were installed across all the criteria – speed, lateral position and braking. No negative effects were observed. The full results of Phase 1 of the trials were widely reported in the media and academic journals and received industry recognition via a number of awards including the prestigious Prince Michael International Road Safety Award in 2023.

5.5 Phase 2 of the project (2023 – 2025) has seen PRIMEs being installed at 35 locations on the Scottish Trunk Road network. This phase has continued to expand the knowledge base and explore further research questions including the effectiveness of PRIMEs on right hand bends and untreated roads. It is anticipated that around 47,000 motorcycles will have been individually recorded, coded and analysed during this phase. Results from the 2023 and 2024 field work indicate continued positive behaviour change. Design and data collection activities for 2025 to consider ways to achieve greater speed reductions are complete and a full report of the findings of Phase 2 will be produced at the start of 2026.

5.6 Transport Scotland has developed and published an installation toolkit intended to assist other road authorities to replicate the approach taken for Project PRIME. Since PRIMEs are not within the prescribed traffic signs and markings regulations, site installations require specific authorisation from the relevant Authority/Committee.

6 A939 Grantown to Nairn - Road Safety Improvement Proposal

6.1 Looking specifically at the collision statistics for the A939 between Grantown to Nairn. For the period 1 January 2014 – 26 May 2024 there was 1 fatal, 14 serious and 21 slight injury collisions recorded on the A939 Grantown to Nairn route, with 11 of these collisions involving motorcyclists.

6.2 On further analysis of these collisions, 6 bends on the A939 between Grantown and Nairn have been identified as locations where motorcyclists are having collisions either on the bend or in the vicinity of the bend. These are the locations we are proposing to install PRIME Signage and Markings, see **Appendix 2** for proposed locations.

6.3 An analysis of the motorcycle collision history along with how the installation of PRIME Signage and Markings will help reduce collisions can be seen in **Appendix 3**.

6.4 In addition to the collision data review the design process has also involved:

- Motorcycle Speed Survey Review - analysis of speeds on approach to the bends.
- Establishing the PRIME traffic sign position.
- Establishing the PRIME road marking position.
- Undertaking chosen PRIME Bend Site Visit.
- Undertaking a Road Condition Review.
- Consider the site in relation to the 'PRIME Characteristics' tabulated in Project PRIME Installation Toolkit.
- Assessing the approach to the PRIME Sites and any prior bends.
- Concluding the Design Process.

6.5 The proposed signage can be viewed in **Appendix 4**. This signage is what is recommended in the Guidance and has been used during the trials.

6.6 The proposed road markings can be viewed in **Appendix 5**. As per The Traffic Sign Manual Chapter 4 these road markings will be located after the PRIME Road Sign.

6.7 A Setting Out PRIME Road Markings and Signs diagram can be found in **Appendix 6**.

6.8 The Installation Toolkit can be viewed at –
<https://www.transport.gov.scot/publication/project-prime-installation-toolkit/>

7 Cost and benefits

7.1 The design, installation and site supervision costs will be fully funded by the current financial years Transport Scotland Road Safety Improvement Fund Grant.

7.2 PRIMEs offer a low-cost and low-maintenance road engineering intervention to improve rider behaviour. Although there is no legal requirement for motorcyclists to use the PRIME road markings, the research evidence demonstrates that PRIMEs are readily adopted by riders. This will lead to casualty reduction which in turn will realise its own socio and economic benefits.

7.3 The installation of the PRIME Signs and Markings at these 6 locations is the final part of the wider Road Safety Route Treatment Improvement Scheme that has been delivered in 25/26 on the A939 between Grantown and Nairn. This scheme was delivered late summer '25 and consists of bend warning signage, verge marker posts and markings. The PRIMEs add in the specific motorcyclist interventions for this route.

8 Reasoning

8.1 Evidence of Need:

In the interests of road safety and specifically motorcycle casualty reduction, The Highland Council proposes to introduce PRIME road markings and signage at 6 locations on the A939 between Grantown and Nairn.

Designation: Assistant Chief Executive - Place

Date: 3 December 2025

Author: Lisa MacKellaich, Road Safety Manager

Background Papers: None

Appendices:

- Appendix 1 – Integrated Impact Assessment Screening
- Appendix 2 – Location Plan
- Appendix 3 – Collision Analysis
- Appendix 4 – Sign Drawing
- Appendix 5 – Lining Drawing
- Appendix 6 – Setting out Road Markings and Signs Plan

Appendix 1 – Integrated Impact Assessment Screening

What does this proposal relate to?

Proposal name: PRIME Route Treatment, A939 Grantown to Nairn

High level summary of the proposal: Installation of PRIME Signage and Markings at 6 locations on the A939 Grantown to Nairn route. This is a road safety scheme specifically targeting motorcyclists with the aim of reducing the number and severity of motorcyclist collisions on this route. The road markings are designed as a series of 'gateways' to encourage safer riding in relation to appropriate speed, correct position on the road and minimal braking.

Who may be affected by the proposal? Motorcyclists using the A939 between Grantown and Nairn

Start date of proposal: (Not specified)

End date of proposal: 31/03/2026

Does this proposal result in a change or impact to one or more Council service? No

Does this relate to an existing proposal? No

Author Details

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- **Service:** Place

Responsible Officer Details

- **Name:** Nicole Wallace
- **Job title:** Service Lead - Environment /Sustainable Transport
- **Email address:** Nicole.Wallace@highland.gov.uk
- **Sign off date:** 2025-11-28

Equalities, Poverty, and Human Rights

Protected Characteristics

Select what impact the proposal will have on the following protected characteristics:

- Sex: No impact
- Age: No impact
- Disability: No impact
- Religion or belief: No impact
- Race: No impact
- Sexual orientation: No impact
- Gender reassignment: No impact
- Pregnancy and maternity: No impact
- Marriage and civil partnership: No impact

Protected characteristics impact details: (Not specified)

Poverty and Socio-economic

What impact is the proposal likely to have on the following?

- Prospects and opportunities: No impact
- Places: No impact
- Financial: No impact

Poverty and socio-economic impact details: (Not specified)

Human Rights

- Which of the below human rights will be affected by this proposal? No human rights will be affected
- What impact do you consider this proposal to have on the human rights of people? No impact

Human rights impact details: (Not specified)

Equalities, Poverty and Human Rights Screening Assessment

- What impact do you think there will be to equalities, poverty and human rights? No impact
- Is a Full Impact Assessment required? No

Children's Rights and Wellbeing

- What likely impact will the proposal have on children and young people? None.
- Which of the below children's rights will be affected by the proposal? No children's rights will be affected
- Explain how the children's rights selected above will be affected: (Not specified)

Children's rights and wellbeing screening assessment

- What impact do you think there will be to children's rights and wellbeing? No impact
- Is a Full Impact Assessment required? No

Data Protection

- Will your proposal involve processing personal data? No

Data protection screening assessment

- What change will there be to the way personal data is processed? No personal data will be processed
- Is a Full Impact Assessment required? No

Island and Mainland Rural Communities

- Does your proposal impact island and mainland rural communities? Yes
- Could people in island and mainland rural communities be affected differently? No
- Have any negative impacts been identified? No

Island and mainland rural communities screening assessment

- What impact do you think there will be to island and mainland rural communities? Minor differences
- Is a Full Impact Assessment required? No

Climate Change

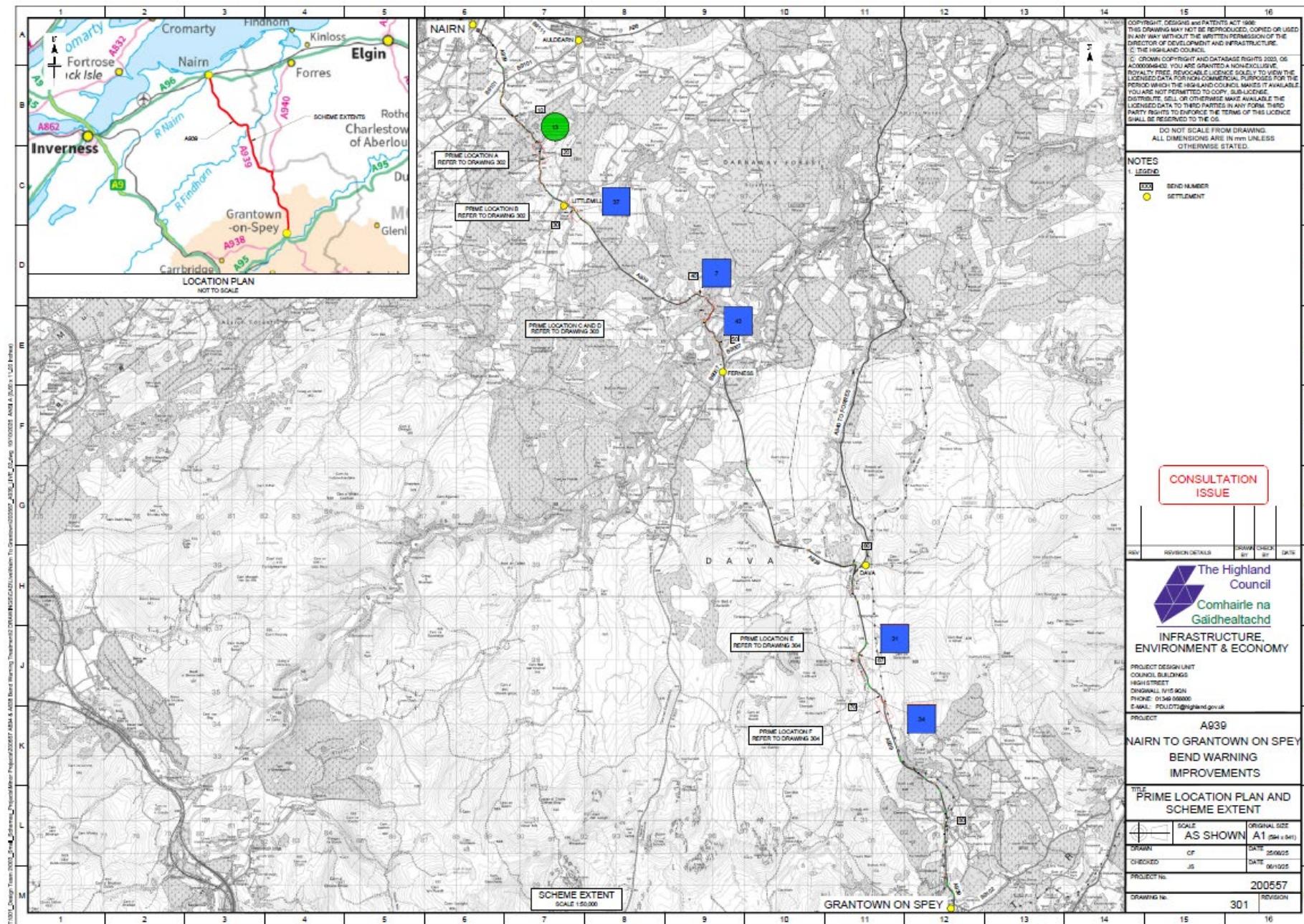
- Does the proposal involve activities that could impact on greenhouse gas emissions (CO2e)? No
- Does the proposal have the potential to affect the environment, wildlife or biodiversity? No
- Does the proposal have the potential to influence resilience to extreme weather or changing climate? No

Provide information regarding your selection above: (Not specified)

Climate change screening assessment

- Have you identified potential impact for any of the areas above or marked any as not known? No
- Is a Full Impact Assessment required? No

Appendix 2 – Location Plan _6 locations identified for PRIME signs and markings



Appendix 3 – Collision Analysis

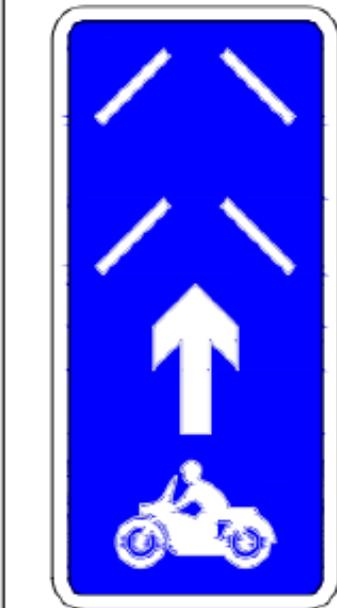
A939 Nairn to Grantown on Spey

Project PRIME Installation Toolkit – Data Summary, Overall Score and Ranking

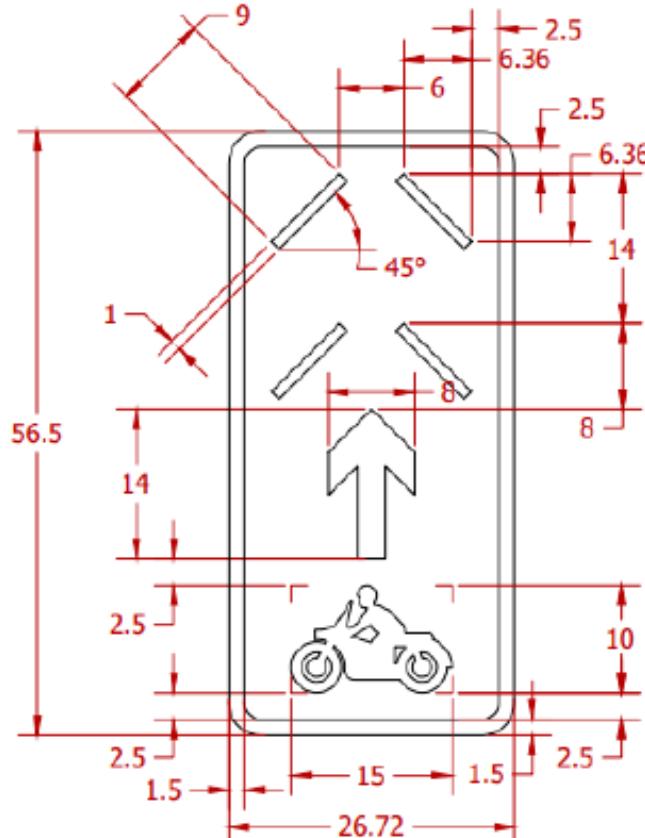
PRIME Site	Accident Severity	MC 85%ile (mph)	Bend to be treated (Left or right hand bend)	Radius Rating (1 – 9 9 tightest)	STATS19 and PRIME effectiveness correlation	Road Condition	PRIME layout issues	PRIME Behavioural Characteristics	Overall PRIME Rating	Comments	THC Ranking
A	SLIGHT	62.6	LHB	7	MC drifted close to the centreline. PRIME should help to reduce such manoeuvres.	Road condition generally good for road marking application.	Road markings can be locally adjusted to avoid field access.	Most impact on motorcyclists' behaviour	8	Strong candidate to benefit from PRIME. This bend has also been treated as part of bend improvement works.	High
B	SERIOUS	58.8	RHB	5	It would appear that it was the 3 rd bend in a series of 3 that contributed to the accident. RHB followed by LHB followed by RHB.	Road condition generally good for road marking application.	Even with reduced spacing between the PRIME road markings they would extend into previous bend. The previous bend is on the other hand.	Significant impact on motorcyclists' behaviour	3	Not recommended for PRIME given that this is the last bend in a series of 3 and the road markings would extend into bend 2.	-
C	SERIOUS	62.3	LHB	6	MC lost control even though earlier bends had just been negotiated.	Road condition generally good for road marking application. Though some worn surface dressing.	Location of the traffic sign would require further consideration on site.	Most impact on motorcyclists' behaviour	6	PRIME should contribute to MC approach behaviour. Previous bend treated as part of the bend improvement works.	Med
D	SERIOUS	61.1	LHB	6	Numerous accident contributory factors at play. However, the MC did cross the centreline.	Some fretting noted but these areas could be avoided.	Forward visibility to the road markings not the best.	Significant impact on motorcyclists' behaviour	6	Double bend sign installed as part of bend improvement work for this and the next bend. This and PRIME should contribute to MC approach behaviour	Med
E	SERIOUS	73.7	RHB	4	The MC who had the serious accident at this location may have been an inexperienced rider. High MC 85%ile speed and a sweeping bend.	Road condition generally acceptable.	No issues with installation of traffic sign and road markings.	Most impact on motorcyclists' behaviour	5	No measures were proposed at this location with the bend improvement scheme. PRIME should contribute to MC approach behaviour.	Low
F	SERIOUS	65.5	LHB	6	MC clipped the verge therefore they took a poor line through the bend.	Locally poor on the inside of the bend but this area would not have the road markings.	Generally all OK.	Most impact on motorcyclists' behaviour	7	Double bend sign installed as part of bend improvement work for this and the next bend. Chevron and verge markers on this bend. PRIME should help line through the bend.	High

MC - Motorcyclist

Appendix 4 – Signage with Dimensions



SIGN
APPEARANCE



SIGN DIMENSIONS IN
STROKE WIDTHS

SIGN COLOURS
Border = White
Lane symbols = White
Arrow = White
Motorcycle = White
Background = Blue.
No. 109
(Middle blue)
to BS 381C
Material = Reflective Class R2

Sign designed to the
requirements contained in the
TSRGD 2016, Schedule 11, Part 2.

Arrow symbol to;
TSRGD 2016, Schedule 12,
Part 5, Item 1B

Motorcycle symbol to;
TSRGD 2016, Schedule 12,
Part 11, Item 27

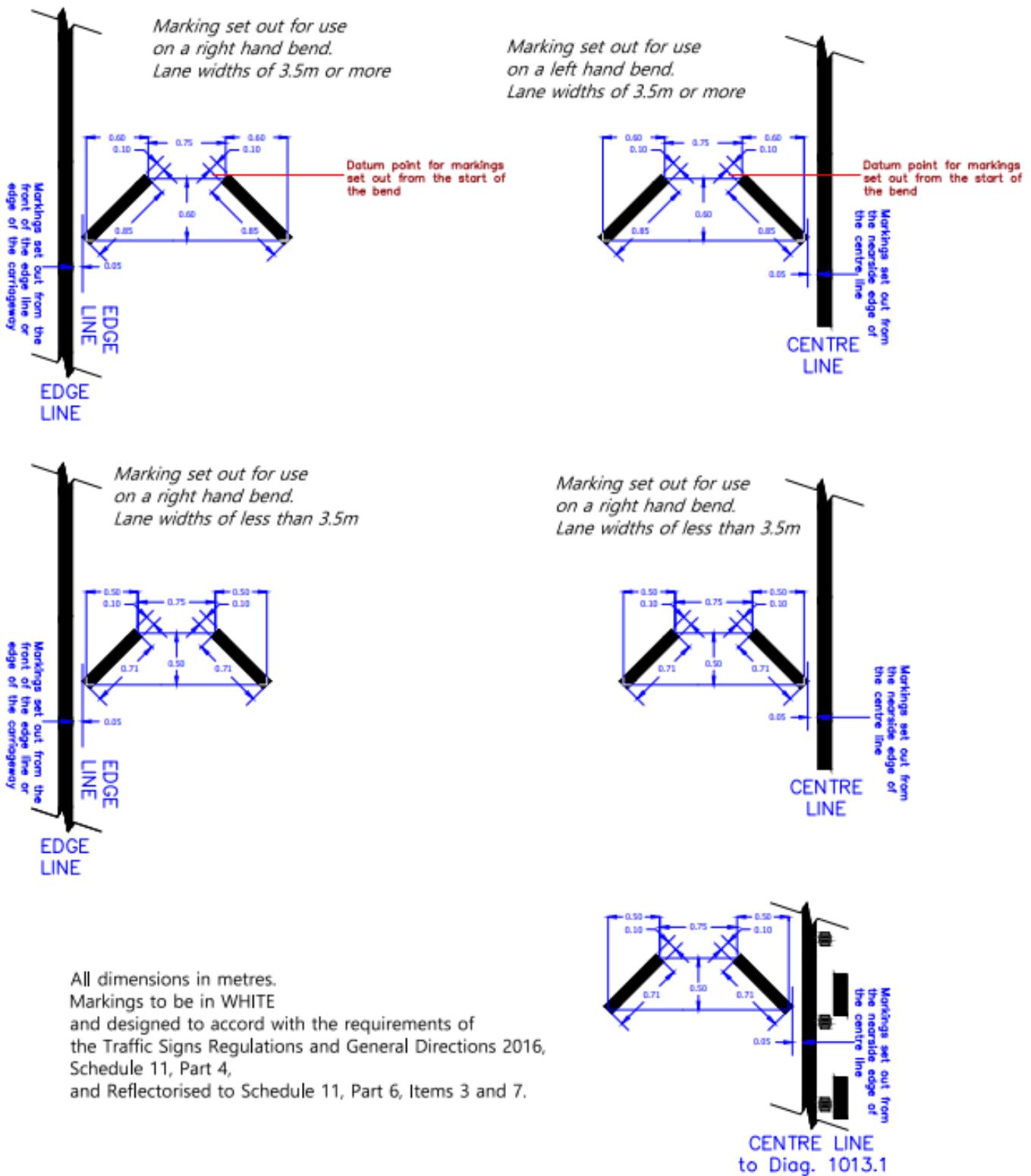
Overall sign size based on
100mm 'x' height
were 1sw = 25mm
1415mm height
670mm wide.

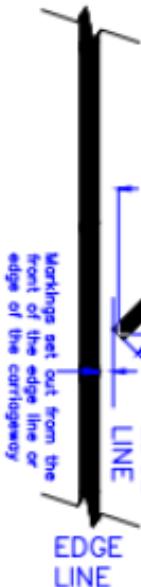


Motorcycle Project PRIME

Motorcycle bend position sign

Appendix 5 – Road Markings for Left and Right Hand Bends with Dimensions

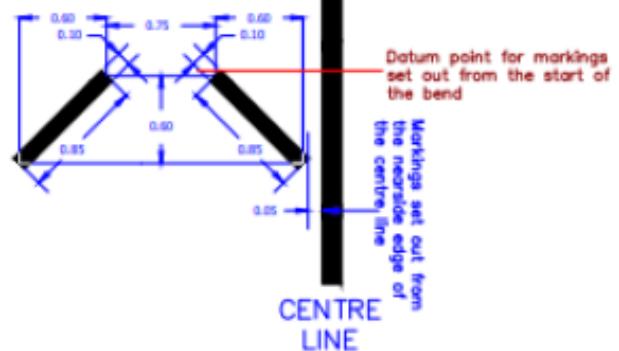




*Marking set out for use
on a right hand bend.
Lane widths of 3.5m or more*

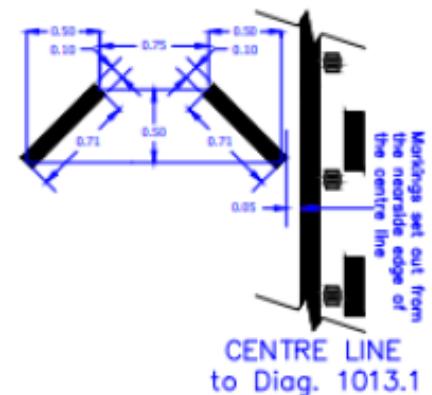
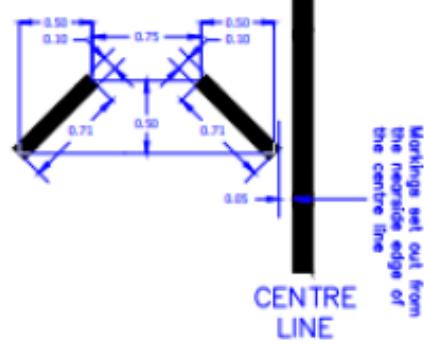
*Datum point for markings
set out from the start of
the bend*

*Marking set out for use
on a left hand bend.
Lane widths of 3.5m or more*



*Marking set out for use
on a right hand bend.
Lane widths of less than 3.5m*

*Marking set out for use
on a right hand bend.
Lane widths of less than 3.5m*



All dimensions in metres.
Markings to be in WHITE
and designed to accord with the requirements of
the Traffic Signs Regulations and General Directions 2016,
Schedule 11, Part 4,
and Reflectorised to Schedule 11, Part 6, Items 3 and 7.

Appendix 6 - Setting out PRIME Road Markings and Signs

