

REPORT TO INFRASTRUCTURE SERVICES COMMITTEE – 24 AUGUST 2017

ROADS POLICIES – ROAD MARKINGS, VARIABLE MESSAGE AND VEHICLE ACTIVATED SIGNS AND REVIEW PROGRAMME

1 Recommendations

The Committee is recommended to:

- 1.1 Consider and approve the draft Road Marking policy statement appended to this report;
- 1.2 Consider and approve the draft Variable and Vehicle-Activated Signs policy statement appended to this report; and
- 1.3 Consider and endorse the appended outline programme for reviewing and updating existing policies and for developing new policies relating to the functions of roads and transportation.

2 Background/Discussion

- 2.1 Road markings can provide valuable assistance to road users in delineating the carriageway, warning of hazards and indicating priorities at junctions. This assistance is particularly useful on rural roads outwith street lighting where the incorporation of reflective material into the markings helps to delineate the road ahead in the dark. In most circumstances, there is no mandatory requirement to have road markings. However, where they are used, they must be in accordance with the specifications set out in the Traffic Signs Regulations and General Directions 2016.
- 2.2 Road markings are subject to wear and need to be refreshed periodically to keep them in good order. This is a significant element in the road maintenance budget and with the continuing pressure on Council resources it is important that this funding is deployed where it will give maximum benefit. Clear and consistent policies and procedures will help to achieve this.
- 2.3 Variable message signs are widely used outside schools to sign part time 20mph speed limits in line with Scottish Government Policy. In addition, there is now a widespread use of vehicle activated signs to warn road users of potential hazards or remind them of speed limits. Over the years, various different types of equipment and different applications have been tried out. This has led to a lack of consistency across Aberdeenshire and to reliability issues and maintenance problems with some of the equipment used.
- 2.4 The use of these signs is now sufficiently widespread that consistent policies and operating procedures are required to ensure the optimal deployment of resources and to assist in the efficient management and maintenance of the equipment.

- 2.5 The anticipated benefits arising from the adoption of the policies and procedures include the following:

Road Markings

- 1 Consistent use of road markings should make it easy for road users in Aberdeenshire to understand what to expect;
- 2 Priority will be given to providing markings at locations where they will give the greatest benefit;
- 3 Where markings are provided, they will be maintained to a good consistent standard; and
- 4 Use of budgetary resources will be optimised by concentrating on high priority locations.

Variable and Vehicle Activated Signs

- 1 A clear and consistent method of assessing sites for vehicle-activated signs taking account of accidents, speeds and vulnerable road users;
- 2 Maximum road-safety benefits for resources deployed by focusing on the high-priority sites;
- 3 Simple and consistent signing of part time 20mph limits at schools using components that can be assembled and replaced by Aberdeenshire Council staff; and
- 4 Less down time when faults occur as greater consistency in equipment types will make management and maintenance more straightforward.

- 2.6 The draft policy and procedure documents are appended to this report as **Appendix 3 and 4**. As required by the Council's Policy Development and Review Framework, both draft policies have been presented to each the six Aberdeenshire Area Committees. Their comments, and those of Police Scotland, are included in **Appendix 5** along with the authors' responses and recommendations to Committee.
- 2.7 It is proposed to implement a programme of reviewing, updating and developing other roads related policies, based on the format used for the two policies considered in this item, with a brief policy statement and an accompanying manual. In line with the Council's Policy Development and Review Framework the split between the policy statement and the manual allows the principles to be fixed by the Committee whilst permitting officers to update the technical details as necessary, to reflect changes in legislation, standards or technological advances for example. An indicative list prioritising policies for review is included in **Appendix 6**.
- 2.8 The Head of Finance and Monitoring Officer within Business Services have been consulted in the preparation of this report and had no comments to

make and are satisfied that the report complies with the Scheme of Governance and relevant legislation.

3 Scheme of Governance

- 3.1 The Committee is able to consider and take a decision on this item in terms of Sections F.1.1 of the List of Committee Powers in Part 2A of the Scheme of Governance as it relates to policy and resource matters (within agreed budgets) relating to functions of Roads, Landscape Services and Waste Management and Transportation which have not been reserved to the Full Council or specifically delegated to any other Committee of the Council.

4 Equalities, Staffing and Financial Implications

- 4.1 Equality impact assessments have been carried out as part of the development of the proposals set out above. The assessment regarding the Road Markings Policy is included as **Appendix 1** and there is a positive impact as follows:

- 1 The greater level of consistency resulting from the application of a clear policy will result in a more predictable road environment which should be of assistance to road users in general and older road users and those with certain disabilities in particular.

The assessment regarding the Variable and Vehicle-Activated Signs Policy is included as **Appendix 2** and there are positive impacts as follows:

- 1 The greater level of consistency resulting from the application of a clear policy will result in a more predictable road environment which should be of assistance to road users in general and older road users in particular; and
- 2 It is anticipated that the new policy will reduce the down time for school part-time 20mph signs.

- 4.2 There are no direct staffing and financial implications. However, the existence of clear, evidence-led policies will improve efficiency by enabling staff to determine issues covered by the policies more expeditiously and helping to ensure the consistent application of resources to maximise overall benefits to road users. The funding available for the matters covered by these policies will be as determined by the Council in its annual budgets. The policies will assist in developing programmes of work within these budgets which will be reported to Area Committees as appropriate.

Stephen Archer
Director of Infrastructure Services

APPENDIX 1
EQUALITY IMPACT ASSESSMENT
(ROAD MARKINGS POLICY)

EQUALITY IMPACT ASSESSMENT

Stage 1: Title and aims of the activity (“activity” is an umbrella term covering policies, procedures, guidance and decisions).	
Service	Infrastructure Services
Section	Transportation
Title of the activity etc.	Road Markings Policy
Aims of the activity	To achieve consistency and effectiveness in the use of road markings.
Author(s) & Title(s)	David Armitage – Roads Policy and Asset Manager John Bruce – Roads Policy Officer
Stage 2: List the evidence that has been used in this assessment.	
Internal data (customer satisfaction surveys; equality monitoring data; customer complaints).	None
Internal consultation with staff and other services affected.	Consultation through Traffic Policy Group
External consultation (partner organisations, community groups, and councils).	None
External data (census, available statistics).	SWOV Fact Sheet: The Elderly and Infrastructure
Other (general information as appropriate).	None

Stage 3: Evidence Gaps.				
Are there any gaps in the information you currently hold?	No			
Stage 4: Measures to fill the evidence gaps.				
What measures will be taken to fill the information gaps before the activity is implemented? These should be included in the action plan at the back of this form.	Measures:			Timescale:
	N/A			N/A
Stage 5: Are there potential impacts on protected groups? Please complete for each protected group by inserting "yes" in the applicable box/boxes below.				
	Positive	Negative	Neutral	Unknown
Age – Younger			Yes	
Age – Older	Yes			
Disability	Yes			
Race – (includes Gypsy Travellers)			Yes	
Religion or Belief			Yes	
Gender – male/female			Yes	
Pregnancy and maternity			Yes	
Sexual orientation – (includes Lesbian/ Gay/Bisexual)			Yes	
Gender reassignment – (includes Transgender)			Yes	
Marriage and Civil Partnership			Yes	

Stage 6: What are the positive and negative impacts?		
Impacts.	Positive (describe the impact for each of the protected characteristics affected)	Negative (describe the impact for each of the protected characteristics affected)
Please detail the potential positive and/or negative impacts on those with protected characteristics you have highlighted above. Detail the impacts and describe those affected.	Age – Older: The greater level of consistency resulting from the application of a clear policy will result in a more predictable road environment which should be of particular assistance to older road users.	
	Disability: The greater level of consistency resulting from the application of a clear policy will result in a more predictable road environment which should be of particular assistance to road users with reduced contrast sensitivity.	
Stage 7: Have any of the affected groups been consulted?		
If yes, please give details of how this was done and what the results were. If no, how have you ensured that you can make an informed decision about mitigating steps?	No – no negative impacts were identified.	
Stage 8: What mitigating steps will be taken to remove or reduce negative impacts?		
These should be included in any action plan at the back of this form.	Mitigating Steps	Timescale
	N/A	N/A
Stage 9: What steps can be taken to promote good relations between various groups?		
These should be included in the action plan.	N/A	

Stage 10: How does the policy/activity create opportunities for advancing equality of opportunity?		
N/A		
Stage 11: What equality monitoring arrangements will be put in place?		
These should be included in any action plan (for example customer satisfaction questionnaires).	N/A	
Stage 12: What is the outcome of the Assessment?		
Please complete the appropriate box/boxes	1	No negative impacts have been identified –please explain.
	Consistent and effective use of road markings should only have beneficial impacts on road users.	
	2	Negative Impacts have been identified, these can be mitigated - please explain. * Please fill in Stage 13 if this option is chosen.
	N/A	
	3	The activity will have negative impacts which cannot be mitigated fully – please explain. * Please fill in Stage 13 if this option is chosen
	N/A	
* Stage 13: Set out the justification that the activity can and should go ahead despite the negative impact.		
N/A		

Stage 14: Sign off and authorisation.			
Sign off and authorisation.	1) Service and Team	Infrastructure Services - Transportation	
	2) Title of Policy/Activity	Road Markings Policy	
	3) Authors: I/We have completed the equality impact assessment for this policy/activity.	Name: David Armitage Position: Road Policy and Asset Manager Date: 13 March 2017 Signature:	Name: John Bruce Position: Roads Policy Officer Date: 13 March 2017 Signature:
		Name: Position: Date: Signature:	Name: Position: Date: Signature:
	4) Consultation with Service Manager	Name: N/A Date:	
	5) Authorisation by Director or Head of Service	Name: Ewan Wallace Position: Head of Transportation Date: 13 March 2017	Name: Position: Date:
	6) If the EIA relates to a matter that has to go before a Committee, Committee report author sends the Committee Report and this form, and any supporting assessment documents, to the Officers responsible for monitoring and the Committee Officer of the relevant Committee. e.g. Social Work and Housing Committee.		Date: 13 March 2017
	7) EIA author sends a copy of the finalised form to: eia@abdshire		Date: 14 August 2017
(Equalities team to complete) Has the completed form been published on the website? YES/NO		Date:	

Action Plan						
Action	Start	Complete	Lead Officer	Expected Outcome	Resource Implications	
N/A						

APPENDIX 2
EQUALITY IMPACT ASSESSMENT
(VARIABLE AND VEHICLE-ACTIVATED SIGNS POLICY)

EQUALITY IMPACT ASSESSMENT

Stage 1: Title and aims of the activity (“activity” is an umbrella term covering policies, procedures, guidance and decisions).	
Service	Infrastructure Services
Section	Transportation
Title of the activity etc.	Variable and Vehicle Activated Signs Policy
Aims of the activity	To achieve consistency and effectiveness in the use of variable and vehicle-activated signs.
Author(s) & Title(s)	David Armitage – Roads Policy and Asset Manager John Bruce – Roads Policy Officer
Stage 2: List the evidence that has been used in this assessment.	
Internal data (customer satisfaction surveys; equality monitoring data; customer complaints).	None
Internal consultation with staff and other services affected.	Consultation through Traffic Policy Group
External consultation (partner organisations, community groups, and councils).	None
External data (census, available statistics).	TRL Published Project Report 314: Effectiveness of Speed Indicator Devices on reducing vehicle speeds in London
Other (general information as appropriate).	None

Stage 3: Evidence Gaps.				
Are there any gaps in the information you currently hold?	No			
Stage 4: Measures to fill the evidence gaps.				
What measures will be taken to fill the information gaps before the activity is implemented? These should be included in the action plan at the back of this form.	Measures:	Timescale:		
	N/A	N/A		
Stage 5: Are there potential impacts on protected groups? Please complete for each protected group by inserting "yes" in the applicable box/boxes below.				
	Positive	Negative	Neutral	Unknown
Age – Younger	Yes			
Age – Older	Yes			
Disability			Yes	
Race – (includes Gypsy Travellers)			Yes	
Religion or Belief			Yes	
Gender – male/female			Yes	
Pregnancy and maternity			Yes	
Sexual orientation – (includes Lesbian/ Gay/Bisexual)			Yes	
Gender reassignment – (includes Transgender)			Yes	
Marriage and Civil Partnership			Yes	

Stage 6: What are the positive and negative impacts?		
Impacts.	Positive (describe the impact for each of the protected characteristics affected)	Negative (describe the impact for each of the protected characteristics affected)
Please detail the potential positive and/or negative impacts on those with protected characteristics you have highlighted above. Detail the impacts and describe those affected.	Age – Younger: it is anticipated that the new policy will reduce the down time for school part-time 20mph signs.	
	Age – Older: The greater level of consistency resulting from the application of a clear policy will result in a more predictable road environment which should be of assistance to road users in general and older road users in particular.	
Stage 7: Have any of the affected groups been consulted?		
If yes, please give details of how this was done and what the results were. If no, how have you ensured that you can make an informed decision about mitigating steps?	No – no negative impacts were identified.	
Stage 8: What mitigating steps will be taken to remove or reduce negative impacts?		
These should be included in any action plan at the back of this form.	Mitigating Steps	Timescale
	N/A	N/A
Stage 9: What steps can be taken to promote good relations between various groups?		
These should be included in the action plan.	N/A	
Stage 10: How does the policy/activity create opportunities for advancing equality of opportunity?		
N/A		

Stage 11: What equality monitoring arrangements will be put in place?		
These should be included in any action plan (for example customer satisfaction questionnaires).	N/A	
Stage 12: What is the outcome of the Assessment?		
Please complete the appropriate box/boxes	1	No negative impacts have been identified –please explain.
	Consistent and effective use of variable and vehicle-activated signs should only have beneficial impacts on road users.	
	2	Negative Impacts have been identified, these can be mitigated - please explain. * Please fill in Stage 13 if this option is chosen.
	N/A	
	3	The activity will have negative impacts which cannot be mitigated fully – please explain. * Please fill in Stage 13 if this option is chosen
	N/A	

* Stage 13: Set out the justification that the activity can and should go ahead despite the negative impact.

N/A

Stage 14: Sign off and authorisation.			
Sign off and authorisation.	1) Service and Team	Infrastructure Services - Transportation	
	2) Title of Policy/Activity	Variable and Vehicle Activated Signs Policy	
	3) Authors: I/We have completed the equality impact assessment for this policy/activity.	Name: David Armitage Position: Road Policy and Asset Manager Date: 13 March 2017 Signature:	Name: John Bruce Position: Roads Policy Officer Date: 13 March 2013 Signature:
		Name: Position: Date: Signature:	Name: Position: Date: Signature:
	4) Consultation with Service Manager	Name: N/A Date:	
	5) Authorisation by Director or Head of Service	Name: Ewan Wallace Position: Head of Transportation Date: 13 March 2017	Name: Position: Date:
	6) If the EIA relates to a matter that has to go before a Committee, Committee report author sends the Committee Report and this form, and any supporting assessment documents, to the Officers responsible for monitoring and the Committee Officer of the relevant Committee. e.g. Social Work and Housing Committee.		Date: 13 March 2017
7) EIA author sends a copy of the finalised form to: eia@abdnshire		Date: 14 August 2017	
(Equalities team to complete) Has the completed form been published on the website? YES/NO		Date:	

Action Plan						
Action	Start	Complete	Lead Officer	Expected Outcome	Resource Implications	
N/A						

APPENDIX 3
POLICY & MANUAL
(ROAD MARKINGS)



From mountain to sea

Road markings

Manual DRAFT

26th July 2017



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1 INTRODUCTION

Legal & Policy Background

The *Road Traffic Regulation Act 1984* empowers local authorities to regulate or restrict traffic on a road in the interests of safety and Section 5 of this act allows them to place traffic signs (including lines and markings) on or near the road. All such signs and road markings used on public roads must be as prescribed in the current edition of the *Traffic Signs Regulations and General Directions* or must have been granted site approval by the Scottish Government.

This Road Markings Manual is directly referred to in Aberdeenshire Council's approved Road Marking Policy and shall be considered as mandatory guidance for all road markings in Aberdeenshire.

Use

Chapter 5 of the *Traffic Signs Manual* gives advice on the use of the prescribed markings including guidance on choosing the most appropriate size of marking from the range of variants permitted within the regulations and the recommended usage for each type of marking in various applications.

This manual should be read in conjunction with the guidance in *Chapter 5* and generally follows its layout for ease of reference. It is not intended to supersede *Chapter 5* but rather aims to promote a consistency of application across Aberdeenshire by giving specific guidance in areas where *Chapter 5* allows some discretion.

This manual furthermore seeks to promote best value in the management of our road marking assets by specifying an inspection regime, introducing a road marking inventory and requiring that:

1. only markings that will be maintained are installed and,
2. markings installed in compliance with this policy are maintained.

The requirements in this manual shall apply to all roads managed by Aberdeenshire Council and also to all roads proposed for adoption by Aberdeenshire Council.

2 APPLICATION TO ABERDEENSHIRE

Marking Groupings

To help achieve a consistency of approach across the Council's six areas, the various applications of each marking have been allocated into one of the following groups:

Division 1: markings **must** be installed in all situations identified as being Division 1 applications.

Division 2: markings in situations identified as Division 2 applications **must only** be installed (or renewed) where the engineer responsible for the design of the lining as part of new, remedial or maintenance works believes that there is a demonstrable benefit **and** the local Roads Manager agrees to accept the maintenance liability. In instances where and agreement cannot be reached the matter shall be referred to the Roads Standards Group for a decision.

Where it is felt that there is a strong justification, at a particular location, for the use of markings beyond that covered in Divisions 1 or 2, or for the omission of a marking in Division 1, the designer may apply for a departure from standard. Such applications will be considered by the council's Roads Standards Group.

All markings (both Division 1 and Division 2, and approved departures) installed under this policy must be recorded in the Road Marking Inventory and regularly inspected and maintained in accordance with this policy.

Criteria

The criteria used to determine which division a particular marking usage should be classified includes the following:

- Speed Limit
- Road Category (see below)
- Street Lighting
- Traffic Volume (see below).

Road Category

The road category shall be based on the carriageway hierarchy specified in the UK Roads Liaison Group's *Well Maintained Highways*. This is reproduced overleaf as Table 2.1.

Table 2.1 – Carriageway Hierarchy

Category	Hierarchy Description	Type of Road General Description	Description
1	Motorway	Limited access motorway regulations apply	Routes for fast moving long distance traffic. Fully grade separated and restrictions on use.
2	Strategic Route	Trunk and some Principal 'A' roads between Primary Destinations	Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
3a	Main Distributor	Major Urban Network and Inter-Primary Links. Short - medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40 mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
3b	Secondary Distributor	Classified Road (B and C class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions	In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built up areas these roads have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons
4a	Link Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions	In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two way traffic. In urban areas they are residential or industrial interconnecting roads with 30 mph speed limits random pedestrian movements and uncontrolled parking
4b	Local Access Road	Roads serving limited numbers of properties carrying only access traffic	In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.

Traffic Volume

Where criteria are based on traffic volume the two-way annual average daily traffic (AADT) typical for rural sections of the continuous length of that numbered road shall be used.

The A948 for example runs, unbroken, from Ellon to New Deer. While traffic volumes are much lower at the northern end it would be appropriate to use a typical value for the whole route to ensure that drivers are given a consistent message.

Conversely, traffic on the A980 have to turn on to the B9119 briefly before re-joining the A980. Traffic flows on the A980 to the north of the B9119 are significantly less than those on the southern section and it would be appropriate to use different typical traffic volumes for the sections either side of the break.

Non-Prescribed Markings

The use of any marking not prescribed in the *Traffic Signs Regulations and General Directions* will require special site authorisation from the Scottish Ministers.

Any proposal for a non-prescribed marking should firstly be discussed with and considered by the Roads Policy and Asset Management Team. All such applications to the Scottish Ministers must be made centrally through the Roads Policy and Asset Management Team.

DRAFT

3 STOP AND GIVE WAY MARKINGS

General

Several variants of STOP and GIVE WAY lines are included in the *Traffic Signs Regulations and General Directions*:

- **Diag. 1001** indicates the position at which a driver must not proceed when required to stop by light signals. (See Section 9)
- **Diag. 1001.1** is only to be used for tramways.
- **Diag. 1001.2** is an advanced STOP line for cyclists (See Section 16).
- **Diags. 1001.3, 1001.4 and 1001.5** are used at crossing facilities (See Section 15).
- **Diag. 1002.1** is only used at junctions controlled by STOP signs and is considered further in this section.
- **Dia. 1003A** is intended for use at junctions other than those not controlled by traffic signals or stop lines. Direction on the use of this marking is given below.
- **Diags. 1003.1 and 1003.3** are used on the approaches to roundabouts (see Section 8).
- **Diag. 1003.2** is used approaching a level crossing (see Section 19).

STOP Markings

The STOP line (Diag. 1002.1) must always be used in conjunction with the worded STOP marking (Diag. 1022) and the STOP sign (Diag. 601.1).

The criteria for the use of STOP signs are discussed in Section 3 of Chapter 3 of the *Traffic Signs Manual*. While approval in writing by the Scottish Ministers is no longer needed for STOP signs, it is expected that most junctions which would satisfy the criteria for STOP signs have already been signed accordingly. New junctions should not be constructed with very poor visibility, so the use of STOP signs and markings at new locations will be exceptional and considered as a departure from this standard.

GIVE WAY Markings

The GIVE WAY line (Diag. 1003A) may be used on its own, with an approach triangle (diag. 1023A) or with both the approach triangle and the Give WAY sign (Diag.602). Table 3.1 sets out the criteria for GIVE WAY markings in Aberdeenshire.

Table 3.1 – STOP and GIVE WAY markings

Diag. No.	Usage	Division 1	Division 2
1002.1 and 1022	At junctions with existing STOP sign and markings Junctions satisfying the national criteria for STOP signs	<ul style="list-style-type: none"> All instances⁽¹⁾ 	-
1003A	Priority junctions other than roundabouts, those with STOP markings or traffic signal control ⁽³⁾	<ul style="list-style-type: none"> All urban junctions where the major road is category 4a or above. All rural junctions. 	<ul style="list-style-type: none"> Only in exceptional circumstances as an accident-reduction measure⁽²⁾ Crossroads on urban category 4b roads. Accident-reduction measures
1003A and 1023A	Priority junctions other than roundabouts, those with STOP markings or traffic signal control ⁽³⁾	<ul style="list-style-type: none"> All junctions where the major road is category 3b or above. All junctions where the minor road is category 4a or above. 	<ul style="list-style-type: none"> Crossroads on category 4a or 4b roads. Accident-reduction measures

Notes:

- (1) If junctions with existing markings are reviewed and found to no longer meet the criteria for a stop sign then the STOP sign and markings should be replaced with the GIVE WAY equivalents.
- (2) Subject to authorisation by the Roads Standards Group.
- (3) Junction markings may be omitted as part of a larger *Naked Streets/removing-clutter* scheme but only after safety auditing and consultation with Police Scotland. The effectiveness and safety record of the scheme should be reviewed after one year's operation.

4 LONGITUDINAL LINES

General

Longitudinal lines prescribed in the *Traffic Signs Regulations and General Directions* and addressed in this section are:

- **Centre lines on single carriageway roads**
- **Lane lines**
- **Warning lines**
- **Edge of carriageway lines**
- **Hatched Markings**
- **Chevron markings**

Double white lines are considered in Section 5, cycle markings in Section 16 and waiting restrictions in Section 20.

Centre lines on single carriageway roads

100mm thick centre lines should be used except when they are used parallel to lane lines. In such circumstances the centre line should be 150mm thick and the lane line 100mm thick.

Table 4.1 contains the criteria for the use of centre lines however where warning lines (table 4.3), hatched markings (table 4.6) or double white lines (table 5.1) are required these shall be used in place of centre lines.

Centre lines should not be used for roads with 30mph speed limits. Instead, at suitable locations, consideration should be given to introducing advisory cycle lanes with one central, general traffic lane (see Section 16). Lanes of between 1.0 and 1.5m may be used along with the removal of the centre line where cycle lanes of greater than 1.5m cannot be achieved however these narrower lanes shall not have any marking or signs identifying them as cycle lanes.

Warning lines

Warning line widths shall be as specified in Chapter 5. Where warning lines are used in place of both centre lines and lane lines the warning line replacing the centre line shall be 150mm thick.

Table 4.3 contains the criteria for the use of warning lines however, where hatched markings (table 4.6) or double white lines (Section 5) are required these shall have precedence over warning lines.

Table 4.1 – Centre lines on single carriageway roads

Diag. No.	Usage	Division 1	Division 2
1008 (speed limit 40 mph or less)	Two lane roads not less than 5.5m in width	-	<ul style="list-style-type: none"> Category 4a or above roads with 40 mph speed limit
	Two-lane roads 10 m or more in width	-	<ul style="list-style-type: none"> Category 4a or above roads with 40 mph speed limit
	Three lane roads marked as two lanes in one direction and one in the other	<ul style="list-style-type: none"> All instances 	-
	Four lanes or more (see para 4.3)	<ul style="list-style-type: none"> All instances 	-
1008.1 (speed limit over 40 mph)	Two lane roads not less than 5.5m in width	<ul style="list-style-type: none"> Rural A class roads (excluding A941) Rural category 3a or above roads with AADT \geq 1000 	<ul style="list-style-type: none"> Other rural roads
	Two-lane roads 10 m or more in width	<ul style="list-style-type: none"> Rural category 3a or above roads with AADT \geq 1000 	<ul style="list-style-type: none"> Other rural roads
	Three lane roads marked as two lanes in one direction and one in the other	<ul style="list-style-type: none"> All instances 	-
	Four lanes or more (see para 4.3)	<ul style="list-style-type: none"> All instances 	-

Table 4.2 – Lane lines

Diag. No.	Usage	Division 1	Division 2
1005 (speed limit 40 mph or less)	Dividing traffic into lanes	<ul style="list-style-type: none"> All instances where traffic on either side of the line travels in the same direction 	-
1005.1 (speed limit over 40 mph)	Dividing traffic into lanes	<ul style="list-style-type: none"> All instances where traffic on either side of the line travels in the same direction 	-

Table 4.3 – Warning lines

Diag. No.	Usage	Division 1	Division 2
1004 (speed limit 40 mph or less)	Central warning line to highlight the presence of a road junction (major road)	-	<ul style="list-style-type: none"> Category 3b or above roads with 40 mph speed limit Accident-reduction measures
	Central warning line to highlight the presence of a road junction (minor road)	<ul style="list-style-type: none"> Approach to roundabout or signal-controlled junction Approach to junction with STOP or GIVE WAY markings 	-
1004.1 (speed limit over 40 mph)	Central warning line at bends and crests ⁽¹⁾	-	<ul style="list-style-type: none"> Category 3b or above roads with 40 mph speed limit Accident-reduction measures
	Central warning line to highlight the presence of other hazard ⁽²⁾	<ul style="list-style-type: none"> Roads with 40 mph speed limit 	<ul style="list-style-type: none"> Roads with 30 mph speed limit Accident-reduction measures
	Lane line on all roads on approach to roundabouts or signal-controlled junctions, and the minor road approaching a priority junction	<ul style="list-style-type: none"> All instances 	-
	Central warning line to highlight the presence of a road junction (major road)	<ul style="list-style-type: none"> Rural A class roads (excluding A941) with minor road AADT ≥ 500 Rural category 3a or above roads with AADT ≥ 1000 and minor road AADT ≥ 500 	<ul style="list-style-type: none"> Accident-reduction measures
	Central warning line to highlight the presence of a road junction (minor road)	<ul style="list-style-type: none"> Approach to roundabout or signal-controlled junction Approach to junction with STOP or GIVE WAY markings 	-
	Central warning line at bends and crests ⁽¹⁾	<ul style="list-style-type: none"> Rural A class roads (excluding A941) Rural category 3a or above roads with AADT ≥ 1000 	<ul style="list-style-type: none"> Accident-reduction measures
	Central warning line to highlight the presence of other hazard ⁽²⁾	<ul style="list-style-type: none"> All instances 	-
	Lane line on all roads on approach to roundabouts or signal controlled junctions, and the minor road approaching a priority junction	<ul style="list-style-type: none"> All instances 	-

Notes:

- (1) Based on visibility criteria in paragraph 4.16 of Chapter 5 of the *Traffic Signs Manual*
- (2) See Section 8 for approaches to roundabouts and Section 14 for traffic islands.

Edge of carriageway lines

Four types of edge marking are prescribed in the *Traffic Signs Regulations and General Directions*:

- **Diagrams 1009A and 1009B**
- **Diagram 1010**
- **Diagram 1012.1**
- **Diagrams 1012.2 and 1012.3**

Diagram 1012.2 is only for use on motorways so has no application on roads maintained by Aberdeenshire Council.

Edge of carriageway line widths shall be as specified in Table 4-5 of *Chapter 5*. Where this table gives a choice of values for line width the lower of the values appropriate to that speed limit shall be used.

Table 4.5 of this policy document lists the criteria for the use of edge of carriageway lines on Aberdeenshire's roads.

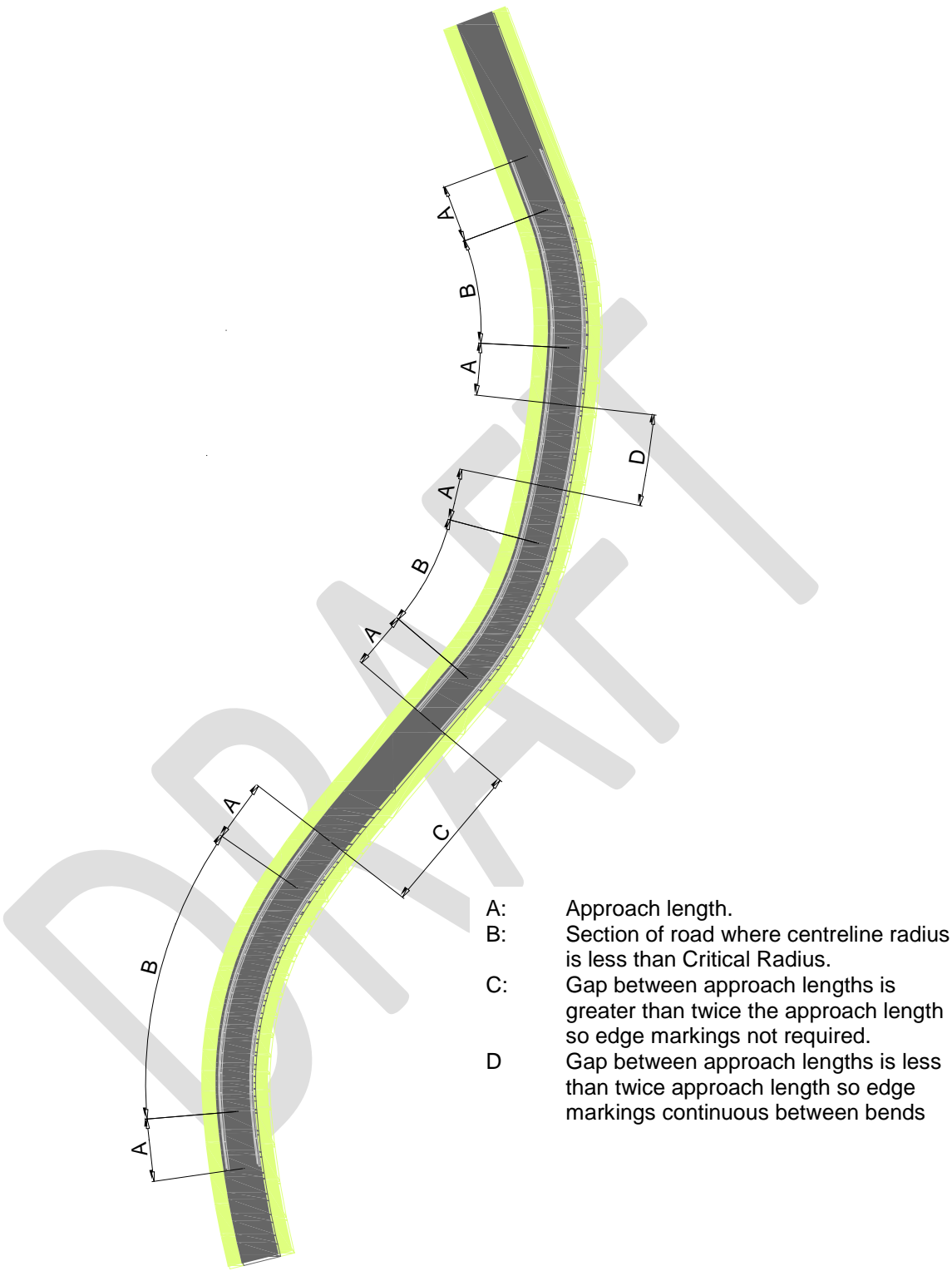
For edge of carriageway lines, a bend shall be defined as the section of road where the radius of the centre of the carriageway is less than the Critical Radius given in Table 4.4 (below) for the speed limit for that section of road.

Table 4.4 – Bend Parameters

Speed Limit (mph)	Critical Radius (m)	Approach Length (m)
30	180	30
40	320	40
50	500	50
60	720	60

Where a bend or hazard (sudden change in carriageway width/reduction in verge width due to bridge parapet, etc.) satisfies the criteria for marking 1012.1 the marking shall be applied on both sides of the carriageway over the full length of the bend/hazard and over the approach length at both ends.

Where the gap between the end of the markings for one bend/hazard and the start of the markings for the next bend/hazard is less than twice the approach length then the edge markings shall be extended to give a continuous marking through the bends/hazards. This is illustrated in Figure 4.1.



- A: Approach length.
- B: Section of road where centreline radius is less than Critical Radius.
- C: Gap between approach lengths is greater than twice the approach length so edge markings not required.
- D: Gap between approach lengths is less than twice approach length so edge markings continuous between bends

Figure 4.1

Table 4.5 – Edge of Carriageway Markings

Diag. No.	Usage	Division 1	Division 2
1009A	Edge of carriageway at a road junction when a Give Way or Stop marking is used	<ul style="list-style-type: none"> All instances⁽¹⁾ 	-
	Edge of carriageway at a field entrance or exit from a private drive onto a public road (entrance width <5.0m)	<ul style="list-style-type: none"> In all instances where Diag. No. 1012.1 is used 	<ul style="list-style-type: none"> All other instances
1009B	Diagonal marking at the start of a cycle lane	<ul style="list-style-type: none"> All instances 	-
	Edge of carriageway at a junction of a cycle track and another road	<ul style="list-style-type: none"> Two-way cycle tracks only 	-
1010	Edge of carriageway at an exit from a private drive onto a public road (entrance width \geq 5.0m)	<ul style="list-style-type: none"> In all instances where Diag. No. 1012.1 or 1012.3 is used 	All other instances
	Edge of carriageway at a lay-by	<ul style="list-style-type: none"> All instances 	-
	Start of a bus lane or interruption of a with-flow lane at a left turn (see figure 17-1). The line width will match the associated marking to diagram 1049	<ul style="list-style-type: none"> All instances 	-
	To show the most suitable path for vehicles through an arch bridge	-	All instances
	Division between the main carriageway and a traffic lane which leaves at a junction ahead (lane drop)	<ul style="list-style-type: none"> All instances 	-
	Boundary between main carriageway and either a diverging or merging traffic lane at a road junction	<ul style="list-style-type: none"> All instances 	
1012.1	Edge of carriageway available for through traffic other than at a road junction, an exit from a private drive onto a public road, lay-by or emergency refuge area;	<ul style="list-style-type: none"> At hard strips (unless 1012.3 is used) At bends and their approaches (see Sect. 4) on A Class roads with AADT \geq 1000 and without street lighting At bends (see Sect. 4) on B Class roads with AADT \geq 3000 without street lighting 	<ul style="list-style-type: none"> Accident-reduction schemes As a verge protection measure on narrow rural roads where the demarcation between the carriageway and the verge is poor along lengths prone to fog and mist, at sudden changes of carriageway width on the approaches to narrow bridges or other obstructions,
1012.3	Edge of carriageway (see TAL 2/95)	-	<ul style="list-style-type: none"> At hard strips⁽²⁾ Accident-reduction schemes⁽²⁾

Notes:

- (1) See Section 7 for narrow minor roads.
- (2) The cost of replacing ribbed markings is significant and they should only be used in preference to Diag. No .1012.1 where there is a strong justification for doing so.

Hatched Markings

The hatched markings prescribed in the *Traffic Signs Regulations and General Directions* and covered in this section are:

- **Diagram 1040**
- **Diagram 1040.3**
- **Diagram 1040.4**

The criteria for the use of these are given in Table 4.6.

Diagram 1040.5 is used to terminate full width hard shoulders and is unlikely to be applicable to roads maintained by Aberdeenshire Council.

Diagrams 1013.3 and 1013.4 are bounded by double white lines and are covered in Section 5 of Chapter 5 of the *Traffic Signs Manual*.

Table 4-6 in Chapter 5 of the *Traffic Signs Manual* gives taper requirements for ranges of speeds and for new works these should be used in preference to the values given in Table 7-3 of TD 73/95 in the *Design Manual for Roads and Bridges*.

Chevron Markings

The chevron markings prescribed in the *Traffic Signs Regulations and General Directions* and covered in this section are:

- **Diagram 1041**
- **Diagram 1042**

The criteria for the use of these are given in Table 4.7.

Table 4.6 – Hatched Markings

Diag. No.	Usage	Division 1	Division 2
1040	On approach to refuge	See Section 8 for approaches to roundabouts and Section 14 for traffic islands	
	To separate opposing flows of traffic on two way roads	-	<ul style="list-style-type: none"> Between pedestrian refuges/ splitter islands in wide carriageways As accident-reduction measures at bends or crests
1040.3	To mark an area of carriageway not available to traffic	<ul style="list-style-type: none"> On approach to a reduction in the number of lanes on a dual carriageway or slip road (see Figure 4-13 in Chapter 5) 	-
1040.4	To mark an area of carriageway which drivers should not enter unless it is safe to do so	<ul style="list-style-type: none"> Transition from dual carriageway to single carriageway (see Figure 4-16 in Chapter 5) 	-

Table 4.7 – Chevron Markings

Diag. No.	Usage	Division 1	Division 2
1041	To separate streams of traffic travelling in same direction	<ul style="list-style-type: none"> All instances (except those in Division 2 or where 1042 would be more appropriate) 	<ul style="list-style-type: none"> As accident-reduction measures at bends
1042	Separation between a high-standard all-purpose road and slip road or at the bifurcation/convergence of two high-standard all-purpose roads.	<ul style="list-style-type: none"> All instances 	-
	To indicate a segregated left-turn lane at a roundabout	<ul style="list-style-type: none"> All instances 	-

5 DOUBLE WHITE LINES

General

This section gives guidance on the use of double white lines (TSRGD Diagrams **1013.1 (A-D)**), along with the associated deflection arrow (Diagram **1014**)

Police Scotland should be consulted on any proposals to introduce double white lines.

Design

The design of double white line systems should be based on the visibility criteria described in paragraphs Chapter 5 of the Traffic Signs Manual however double white lines may not be appropriate and judgement needs to be exercised. Recognising this, all new double white line installations shall be categorised as Division 2.

Double white line systems **must** be fitted with reflecting road studs at intervals of between 3.0m and 4.5m. For new installations an interval of 4.5m shall be used.

Double white lines are generally inappropriate in built-up areas and there should be a presumption against such uses.

Deflection Arrows

Two deflection arrows to Diagram 1014 shall be provided in advance of the start of any continuous line which is on the driver's side. This may be reduced to one if the available space does not permit the provision of a second arrow.

A third arrow shall be provided in instances where the forward visibility to the second arrow is less than 6 seconds of travel time.

6 ROAD STUDS

General

This section gives guidance on the use of retroreflecting road studs associated with longitudinal markings and also the use of plain studs at crossings.

Retroreflecting Road Studs

The criteria for the provision of retroreflecting road studs is given in Table 6.1.

Note: Table 6.1 is only to be used to determine when studs shall be installed in association with markings that already meet the requirements for installing and maintaining markings. It is not intended to indicate when the associated markings are required.

Specification for Road Studs

Permanent retroreflecting road studs used on Aberdeenshire's roads network shall be of an embedded type and fully meet the requirements given in Direction 7 of the Traffic Signs Regulations and General Directions 2016. Additionally, the night-time visibility assessment class (BS EN 1463-2) shall be R1.

Road Studs with Light Source

Intelligent road studs or those with an internal light source shall only be used in accident-reduction schemes where they are intended to specifically address factors linked to the increased accident rate at that location. The use of all such studs shall be categorised as Division 2.

Pedestrian Delineation Road Studs

The use of non-retroreflecting road studs at pedestrian crossings is covered in Section 15.

Table 6.1 – Road Studs

Stud Colour	Diag. No. of Associated Marking	Usage	Division 1	Division 2
White	1013.1	Double white line system	<ul style="list-style-type: none"> All instances 	-
	1004	To indicate the centre of carriageway	<ul style="list-style-type: none"> A class roads without street lights B class roads without street lights 	<ul style="list-style-type: none"> Accident-reduction schemes
	1004.1			
	1008			
	1008.1			
	1004	To indicate a traffic lane	<ul style="list-style-type: none"> Dual carriageway with speed limit > 40mph Unlit dual carriageway with speed limit \leq 40mph In ghost island junctions where diag. no. 1013.3 is used On climbing lanes without street lights 	<ul style="list-style-type: none"> Accident-reduction schemes
	1004.1			
	1005			
	1005.1			
	1010			
Red	1040	Hatched areas	<ul style="list-style-type: none"> A class roads without street lights B class roads without street lights 	<ul style="list-style-type: none"> Accident-reduction schemes
	1012.1	Left hand edge of carriageway	<ul style="list-style-type: none"> Roads without street lights and with AADT \geq 3000 	<ul style="list-style-type: none"> Accident-reduction schemes
	1012.3			
	1040.4			
	1040.5			
Red	1041 1042	Chevron markings separating streams of traffic going in same direction	<ul style="list-style-type: none"> Roads without street lights and with AADT \geq 3000 	<ul style="list-style-type: none"> Accident-reduction schemes
Amber	1012.1	Right hand edge of carriageway	<ul style="list-style-type: none"> Dual carriageway roads without street lights 	-
	1012.3			
	1040.3			
	1040.4			
Green	1010	Edge of carriageway at a lay-by or road junction when a Give Way or Stop marking is not used	<ul style="list-style-type: none"> In all instances where the adjacent edge of carriageway markings have studs 	-
	1025.1			

7 MAJOR / MINOR JUNCTIONS

Simple Junctions

The layout of simple T-junctions shall be as shown below in Figure 7.1.

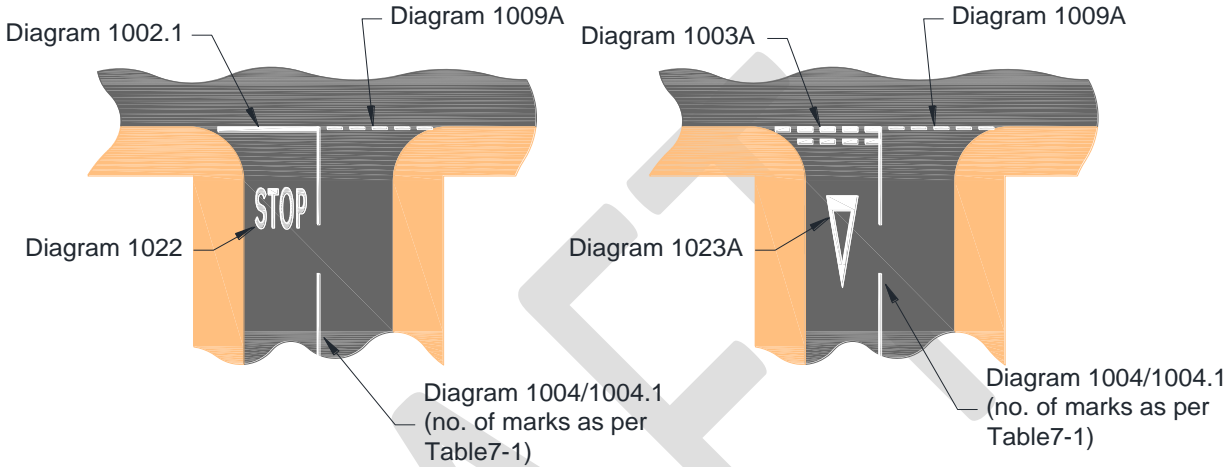


Figure 7.1

On one-way streets, and at junctions where terminating the stop or give way line (Diagram 1002.1/1003) at the centre of the carriageway would give a length of less than 2.75m, the appropriate layout shown in Figure 7.2 should be used.

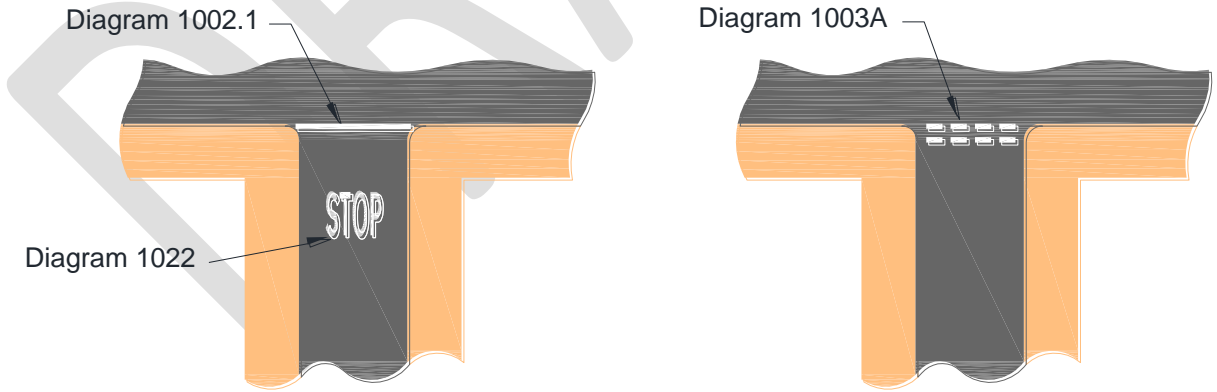


Figure 7.2

Section 3 gives advice on the use of the STOP/GIVE WAY markings (Diagrams 1002.1/1003A) and the associated STOP wording/triangle/ (Diagrams 1022/1023A).

The minimum number of marks (Diagram 1004/1004.1) on the approach to the junction is given in Table 7-1 of Chapter 5.

Where the minor road width narrows to less than 5.5m, full marks shall be provided (up to the minimum number) where the road width at the start of the mark is greater than 5.5m and the width at the end is not less than 4.8m wide. (see Figure 7.3)

If the first mark would not satisfy this criteria (i.e. the road width at the end of the first mark is less than 4.8m) then the appropriate layout in Figure 7.2 shall be used.

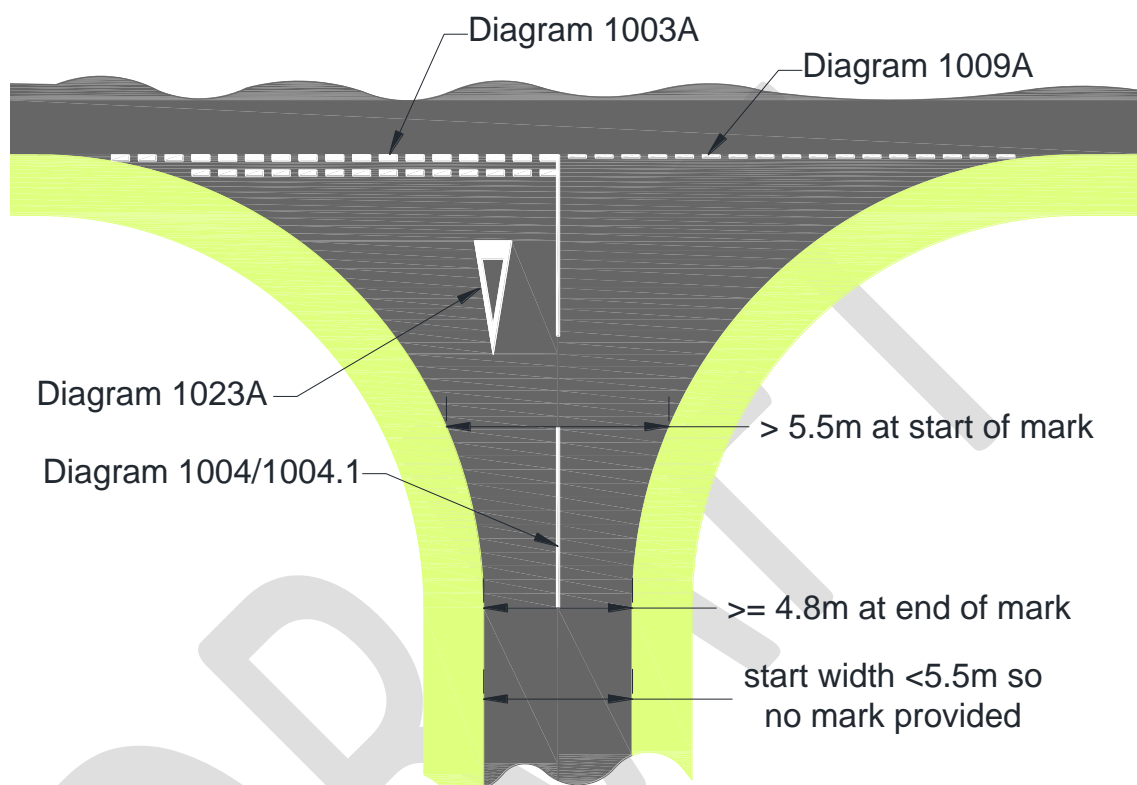


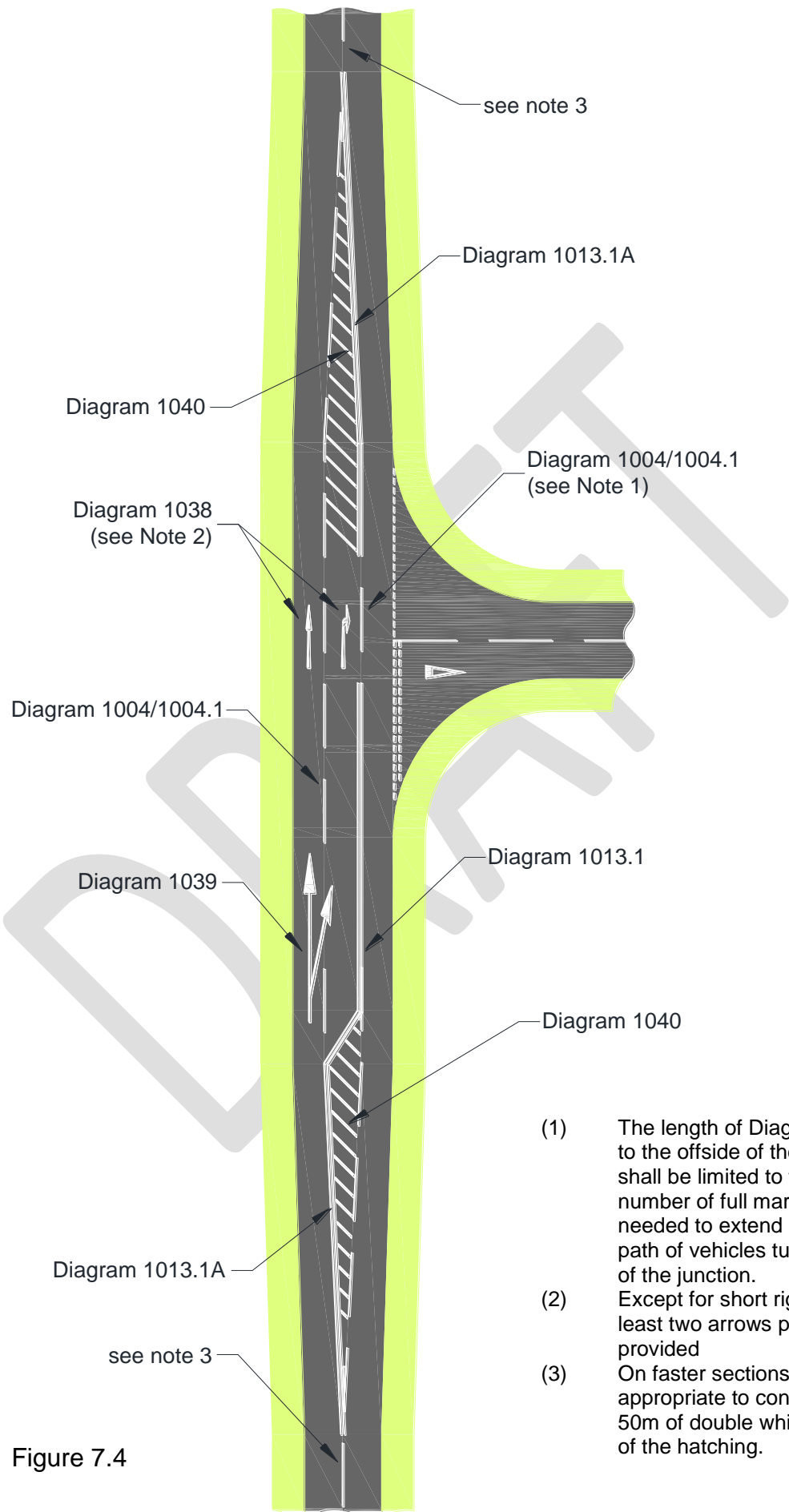
Figure 7.3

Ghost Island Junctions

The layout of markings at ghost island junctions shall generally be as shown in *Chapter 5* of the *Traffic Signs Manual*. Where existing markings are being renewed these should correspond to the existing layout (the *Design Manual for Roads and Bridges* gives different values for ghost island dimensions) however all new installations should follow the guidance given in the *Traffic Signs Manual*.

Where double lines are used to discourage overtaking on the immediate approach to the right turn lane the layout shown here in Figure 7.4 shall be used in preference to Figure 7-4 in Chapter 5 of the traffic signs manual. In lit areas, this layout may only be used in accident-reduction schemes. All usages of this layout shall be categorised as Division 2.

Coloured surfacing shall not be used.



- (1) The length of Diagram 1004/1004.1 to the offside of the turning lane shall be limited to the minimum number of full marks and gaps needed to extend beyond the swept path of vehicles turning into and out of the junction.
- (2) Except for short right turn lanes, at least two arrows per lane should be provided
- (3) On faster sections of road it may be appropriate to consider providing 50m of double white line in advance of the hatching.

Figure 7.4

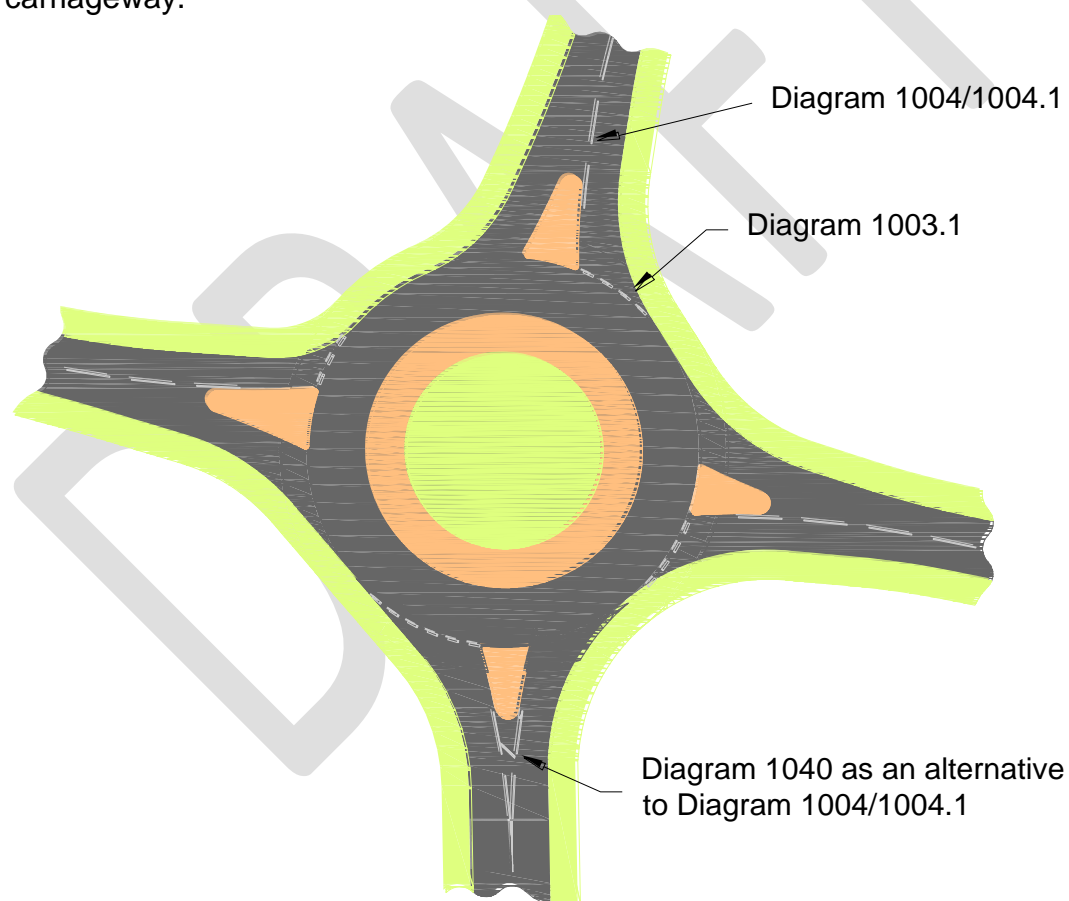
8 ROUNDABOUTS

General

This section prescribes the use of road markings at and on the approaches to roundabouts. Only simple layouts are considered here – markings needed for more complicated layouts shall be referred to the Roads Standards Group for approval before use.

Compact Roundabouts

Compact roundabouts have single lane entries and exits on each arm. The width of the circulatory carriageway is limited to prevent cars passing each other. Accordingly, there are no lane lines or markings in the circulatory carriageway.



The give way marking to diagram 1003.1 shall be used on all entries; 200mm wide lines at sites where the speed limit is 40mph or less and 300mm where the limit is greater than 40mph.

Centre lines on the approach to compact roundabouts shall be changed to warning lines (diagram 1004/ 1004.1) for the minimum number of marks specified in Table 4-3 of Chapter 5 of the Traffic Signs Manual.

Where warning lines approach splitter islands they should terminate in a position offset 300mm from the edge of the island. This offset may be reduced to 150mm when there is limited width between the island and the nearside kerb but only when the speed limit is 40mph or less and the height of the kerb in the island does not exceed 75mm. Hatching to diagram 1040 may be used on the approach to splitter islands as a more emphatic alternative to the warning line.

Mini Roundabouts

The central disc of the mini roundabout marking (diagram 1003.4) must be retroreflective and coloured white. The height of the marking must not exceed 6mm at the perimeter.

Domed markings may be used to deter light vehicles from overrunning and improve conspicuity but should be avoided for mini roundabouts likely to be regularly overrun by heavy goods vehicles or buses in residential areas. The maximum height of the dome shall be 1/40th of the dome diameter.

Both the Scottish Fire and Rescue Service and the Scottish Ambulance Service should be consulted about any proposal to introduce a mini-roundabout with a domed white circle.

Hatched markings to Diagram 1040 may be used to increase conspicuity to drivers approaching the mini-roundabout or to assist in the provision of adequate deflection of the path of vehicles. Where vehicles would encounter an easier path if they were to pass on the wrong side of the central disc however, the hatched markings must be replaced by a kerbed splitter island.

Lane Destination Markings and Arrows

The use of lane destination markings (diagram 1035) and arrows (diagram 1038) should be limited to busier roundabouts with multi-lane approaches. In such instances a minimum of two arrows in sequence per lane shall be used to ensure that the first arrow is not obscured by queuing traffic.

Right-turn arrows shall not normally be used on the approach or entry to any roundabout.

Table 8.1 –Markings at Roundabouts

Diag. No.	Usage	Division 1	Division 2
1003A	Mandatory Give Way at mini roundabout	-	<ul style="list-style-type: none"> At arm of roundabout where adequate deflection is not achieved and traffic entering roundabout might, because of its approach speed, disregard diagram 1003.3 (see para. 8.17, Ch. 5, TSM)
1003.1	Advisory Give Way at roundabout	<ul style="list-style-type: none"> All instances for compact and normal roundabouts (central island diameter \geq 4m) 	-
1003.3	Advisory Give Way at mini roundabout	<ul style="list-style-type: none"> On each arm (except where criteria for 1003 are met) 	-
	Advisory Give Way at compact or normal roundabout	<ul style="list-style-type: none"> At compact or normal roundabouts only where central island diameter < 4m 	-
1003.4	Central marking at mini roundabout	<ul style="list-style-type: none"> All mini roundabouts 	-
1004 (speed limit 40 mph or less)	Lane line on all roads on approach to roundabouts	<ul style="list-style-type: none"> On all multi-lane approaches to roundabout 	-
	Warning line on approach to roundabout splitter island	<ul style="list-style-type: none"> All instances 	-
1004.1 (speed limit over 40 mph)	Lane line on all roads on approach to roundabouts	<ul style="list-style-type: none"> On all multi-lane approaches to roundabout 	-
	Warning line on approach to roundabout splitter island	<ul style="list-style-type: none"> All instances 	-
1023A	Approach to roundabout with marking 1003	<ul style="list-style-type: none"> All instances where the major road is category 3b or above. All instances where the minor road is category 4a or above. 	<ul style="list-style-type: none"> Accident-reduction measures
	Approach to roundabout with marking 1003.3	<ul style="list-style-type: none"> On approaches to mini roundabouts on category 3b or above roads where there is an exit directly opposite. 	<ul style="list-style-type: none"> Accident-reduction measures
1035	Markings indicating appropriate traffic lane on approach to roundabout	-	<ul style="list-style-type: none"> Busy roundabouts with multi-lane approaches where lane allocation is required for capacity reasons
	Markings indicating appropriate traffic lane in circulatory carriageway of roundabout	-	<ul style="list-style-type: none"> Circulatory carriageways with 3 or more lanes.
1038	Arrows indicating appropriate traffic lane on approach to roundabout	-	<ul style="list-style-type: none"> Busy roundabouts with multi-lane approaches where lane allocation is required for capacity reasons
	Arrows indicating appropriate traffic lane in circulatory carriageway of roundabout	-	<ul style="list-style-type: none"> Circulatory carriageways with 3 or more lanes.
1040	Hatch marking on approach to mini roundabout	-	<ul style="list-style-type: none"> Where increased conspicuity or deflection is required

	Hatch marking on approach to roundabout splitter island	-	• Where increased conspicuity is required
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LEADER

9 SIGNAL-CONTROLLED JUNCTIONS

General

Table 9.1 prescribes the use of stop lines, warning lines, lane destination markings and arrows and crossing delineation studs at signal-controlled junctions.

Advance Stop Lines for Cyclists

All new signal-controlled junctions shall include advance stop lines to provide a reservoir for cyclists. The depth of the reservoir shall be 4m and coloured surfacing shall not be used.

Markings to Diagram 1001.2 shall be used where there are cycle lanes or to Diagram 1001.2B where there are no cycle lanes. (See figure 9.1)

Advance stop lines shall be provided at existing signal-controlled junctions where possible but it is recognised that this may require alterations to apparatus and their introduction may be delayed to tie-in with other works at the junction.

Stop Lines

The traffic signal stop line (Diagram 1001) is a continuous marking with permitted widths in the TSRGD of 200mm or 300mm. Traffic signal stop lines tend to wear more quickly than adjacent longitudinal lines however, so the greater width shall be used for all instances of this marking in Aberdeenshire.

The 300mm width shall also be used for both stop lines where markings to Diagram 1001.2 or 1001.2B are used.

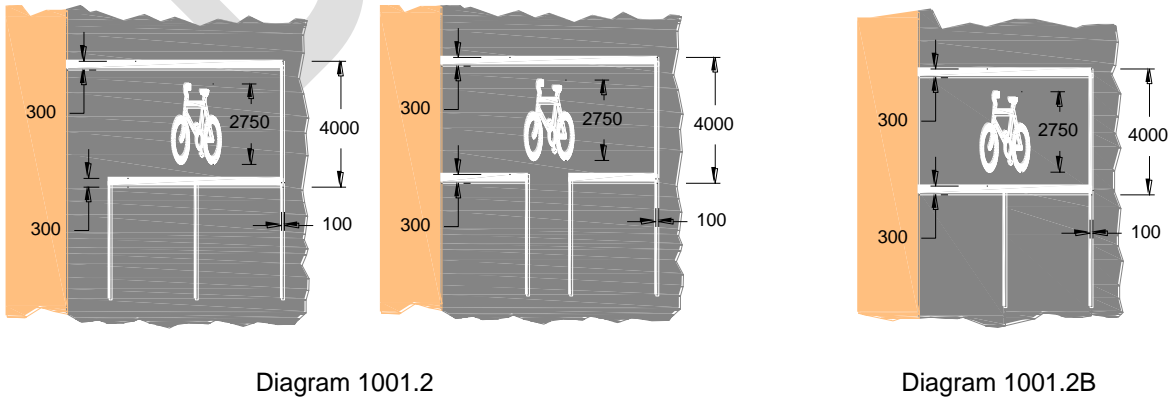


Figure 9.1

Table 9.1 –Markings at Signal-controlled Junctions

Diag. No.	Usage	Division 1	Division 2
1001	Stop line at signal-controlled junction	<ul style="list-style-type: none"> All instances where diagram 1001.2 or 10012B cannot be used 	-
1001.2	Stop line at signal-controlled junction with advanced stop line for cyclists	<ul style="list-style-type: none"> At signal-controlled junctions, where there is a cycle lane 	-
1001.2B	Stop line at signal-controlled junction with advanced stop line for cyclists	<ul style="list-style-type: none"> At signal-controlled junctions, where there is no cycle lane 	-
1004 (speed limit 40 mph or less)	Lane line on all roads on approach to signal-controlled junction	<ul style="list-style-type: none"> On all multi-lane approaches to signal-controlled junction 	-
1004.1 (speed limit over 40 mph)	Lane line on all roads on approach to signal-controlled junction	<ul style="list-style-type: none"> On all multi-lane approaches to signal-controlled junction 	<ul style="list-style-type: none"> Complex junctions where guidance to traffic would be useful
1035	Markings indicating appropriate traffic lane on approach to signal-controlled junction	-	<ul style="list-style-type: none"> Complex junctions where guidance to traffic would be useful
1038	Arrows indicating appropriate traffic lane on approach to signal-controlled junction	<ul style="list-style-type: none"> Where lanes are dedicated for left or right-turning movements only 	<ul style="list-style-type: none"> Busy signal-controlled junctions with multi-lane approaches where lane allocation is required for capacity reasons
1038.1	Arrows indicating route through signal-controlled junction	-	<ul style="list-style-type: none"> Busy signal-controlled junctions with multi-lane approaches where lane allocation is required for capacity reasons In pairs to indicate that opposing right-turning traffic should pass nearside to nearside Complex junctions where guidance to traffic would be useful
1055.1	Road studs marking pedestrian crossing ⁽¹⁾	<ul style="list-style-type: none"> At signal-controlled pedestrian crossing At crossing point within 10 metres of traffic light signals 	-

Notes:

(1) See section 15.

10 GRADE SEPARATED JUNCTIONS

General

Grade separated junctions can often be complex with complicated road marking layouts and it is not intended that this document should try and give guidance beyond that given in Chapter 5 of the Traffic Signs Manual and TD 22 in the Design Manual for Roads and Bridges. Accordingly all markings associated with grade separated junctions shall be categorised in Division 2 and require approval before use.

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11 YELLOW BAR MARKINGS

General

Yellow bar markings (diagram number 1067) may be used only on the approaches to roundabouts on dual carriageway roads subject to the national speed limit.

Yellow bar markings shall be categorised in Division 2.

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12 YELLOW BOX JUNCTION MARKINGS

General

Yellow box junction markings should be used sparingly and in accordance with the guidance in Chapter 5 of the traffic signs Manual.

The use of yellow box junction markings shall be classified as Division 2.

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13 ARROWS AND LANE DESTINATIONS

General

The use of arrows and lane destination markings at roundabouts is covered in section 8. Table 9.1 gives guidance on their usage at signal-controlled junctions. Other usages are covered in Table 13.1.

Drive-on-Left Arrow Pairs

Research suggests that “foreign drivers appear to have difficulty remembering which side of the carriageway to drive on. This may occur when no other traffic is around or when they come to the end of a single track road and re-join a two lane single carriageway, or at view points and resting places.” ⁽¹⁾

To address this, straight direction arrows may be used in pairs (as shown in Figure 13.1) to remind drivers to drive on the left.

The 4m arrow length shall be used where the speed limit is 40mph or less while the 6m length shall be used for 50mph or 60mph limits.

The use of the drive-on-left shall be categorised as Division 2. Instances where it may be considered for use are as follows:

1. Roads at junctions with access to major tourist attractions (>20,000 visitors per annum)
2. Unrestricted roads at junctions with access to minor tourist attractions where the junction is an exit only or where the access road is not of sufficient width to have a dividing centreline at the junction (Figure 13.1)
3. Where single-track sections of road widen to two lanes on the Deeside Tourist Route, the Castle Trail, the Coastal Trail or the Victorian Heritage Trail (Figure 13.2)
4. Other sites identified by the Road Safety Engineering Unit for relevant accident reduction measures.

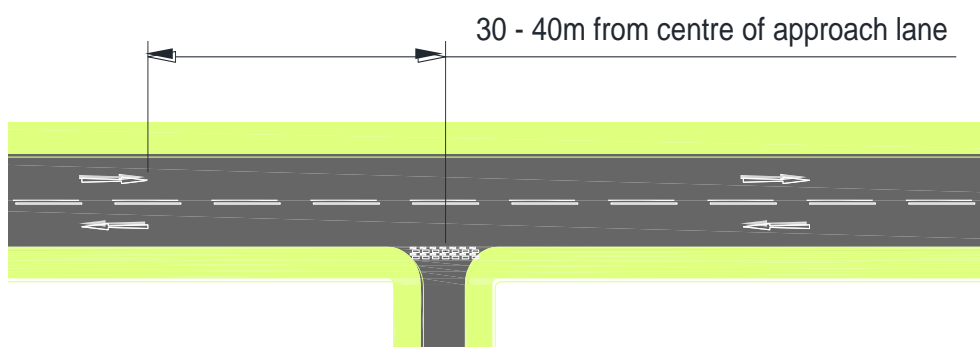


Figure 13.1

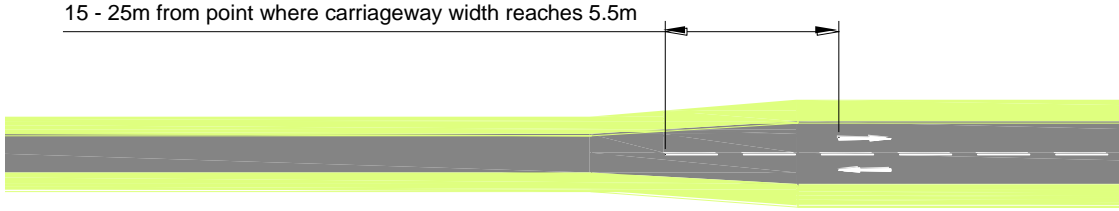


Figure 13.2

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Table 13.1 –Arrows and Lane Destinations

Diag. No.	Usage	Division 1	Division 2
1014	In advance of double white line markings ⁽¹⁾	<ul style="list-style-type: none"> All instances 	-
	In advance of hatching (1040, 1040.3 and 1040.4)	<ul style="list-style-type: none"> Where number of lanes reduce 	<ul style="list-style-type: none"> Where speed limit is 40mph or greater Accident-reduction measure
	In advance of bus lane boundaries to indicate the side on which other vehicles should pass them	<ul style="list-style-type: none"> All instances 	-
	In advance of cycle lane boundaries to indicate the side on which other vehicles should pass them	-	<ul style="list-style-type: none"> Where speed limit is 40mph or greater
	In advance of arch bridges ⁽²⁾	<ul style="list-style-type: none"> Where markings are required to guide high vehicles through the highest part of the arch 	-
1035	Markings indicating appropriate traffic lane on approach to junction	-	<ul style="list-style-type: none"> Busy junctions with multi-lane approaches where lane allocation is required for capacity reasons
1036.1	Arrow and legend indicating mandatory left turn	<ul style="list-style-type: none"> All instances where such a restriction is enforced by traffic order 	-
1036.2	Arrow and legend indicating mandatory ahead only	<ul style="list-style-type: none"> All instances where such a restriction is enforced by traffic order 	-
1037.1	Arrow and legend indicating mandatory right turn	<ul style="list-style-type: none"> All instances where such a restriction is enforced by traffic order 	-
1038	Arrows indicating appropriate traffic lane on approach to junction	<ul style="list-style-type: none"> Where lanes are dedicated for left or right-turning movements only 	<ul style="list-style-type: none"> Busy junctions with multi-lane approaches where lane allocation is required for capacity reasons
	Arrow pairs to remind drivers to drive on left	-	<ul style="list-style-type: none"> See section 13 text
1038.1	Arrows indicating route through junction	-	<ul style="list-style-type: none"> In pairs to indicate that opposing right-turning traffic should pass nearside to nearside Complex junctions where guidance to traffic would be useful
1039	Bifurcation arrow	<ul style="list-style-type: none"> At the commencement of deceleration lanes on the approach to junctions 	-

Notes:

- (1) See section 5.
(2) In conjunction with diagrams 1010 and 1024.1

14 TRAFFIC ISLANDS

General

Approaches to traffic islands shall be marked by the use of inclined warning lines to diagram 1004/ 1004.1 or hatching to diagram 1040 as detailed below and in Table 14.2.

Warning lines to diagram 1004/ 1004.1 shall only be used on the approach to an island where the taper length is no greater than or equal to that given in Table 14.1 below. Where the taper length is shorter than this minimum, hatched markings to diagram 1040 shall be used. (See figure 14.3). Chevron markings must be used on the approach to traffic islands separating flows of traffic travelling in the same direction (see Section 4).

Table 14.1 Tapers on the approach to islands
(Supersedes Table 14-1 in Ch. 5)

Speed Limit (mph)	Minimum Taper
30	1 in 40
40	1 in 45
50 or above	1 in 50

Warning lines shall be inclined over the full length of the taper.

When the length of the minimum number of marks is less than the taper length then additional marks shall be used to extend the warning line marking to the start of the taper. (See figure 14.1)

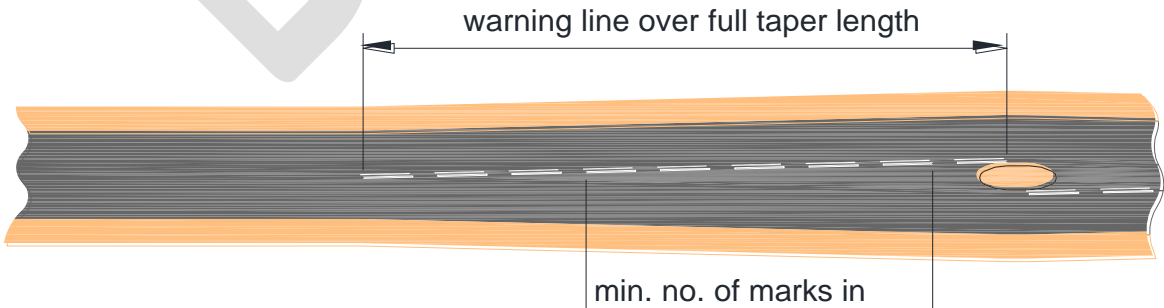


Figure 14.1

The minimum number of marks shall be provided in advance of an island even if the length is greater than the taper length. (See figure 14.2)

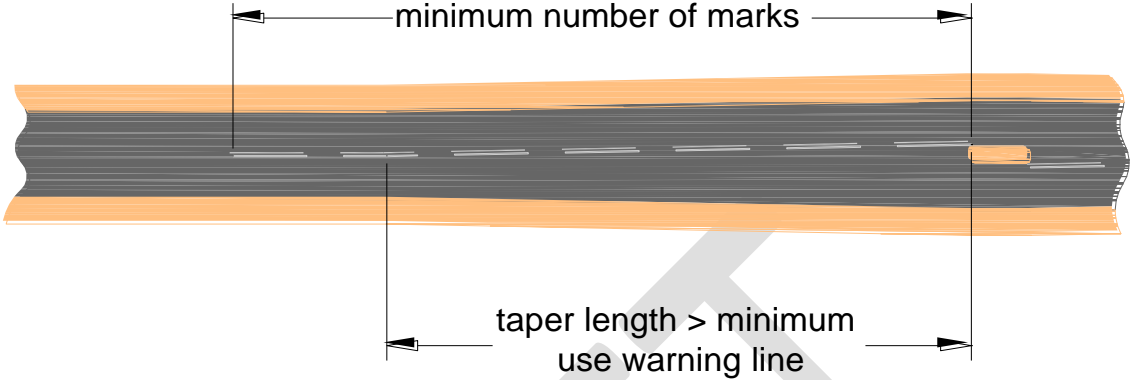


Figure 14.2

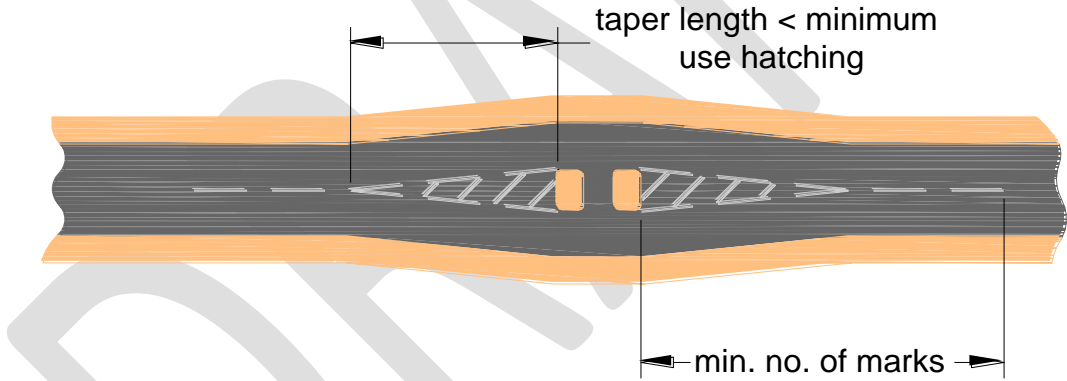


Figure 14.3

Table 14.2 –Traffic Islands

Diag. No.	Usage	Division 1	Division 2
1004 (speed limit 40 mph or less)	Central warning line to highlight the presence of a central refuge or other hazard	<ul style="list-style-type: none"> Roads with 40mph speed limit ⁽¹⁾ 	<ul style="list-style-type: none"> Roads with 30mph speed limit ⁽¹⁾ Accident-reduction measures ⁽¹⁾
1004.1 (speed limit over 40 mph)	Central warning line to highlight the presence of a central refuge or other hazard	<ul style="list-style-type: none"> All instances ⁽¹⁾ 	-
1040	Hatched marking to highlight the presence of a central refuge or other hazard	<ul style="list-style-type: none"> Central islands where the taper length is shorter than that specified in Table 14.1 Category 3a or higher roads 	<ul style="list-style-type: none"> Accident-reduction measures

Notes:

(1) Where hatched markings are required they shall have precedence over warning lines.

15 PEDESTRIAN CROSSINGS

General

Markings for Zebra, Puffin, Toucan and equestrian crossings are prescribed in *the Traffic Signs Regulations and General Directions*. Designers should note the restrictions placed on the use of other markings within the controlled area.

Any new installations of crossings or amendments to existing crossings must be referred to the Roads Standards Group for approval.

The criteria for installing pedestrian crossings is given in Aberdeenshire Council's *Pedestrian Crossing Assessment Policy*.

Parking is not permitted within the controlled area. This restriction applies to the full road, including any laybys, and not just the traffic lanes.

Zebra Crossings

Road Studs are not required to delineate the limits of zebra crossings and should not be installed.

Markings to Diagram 1001.5 shall be used at zebra crossings where a cycle path crosses the carriageway.

Puffin Crossings

New puffin crossings shall not be installed in Aberdeenshire. Instead, pedex crossings should be used.

Pedex Crossings

These are similar to signal-controlled crossings at junctions with far-side pedestrian signals and use the same sequence but in a stand-alone setting. On-crossing pedestrian detectors shall be used for new installations. Road markings to Diagram 1001.3 shall be used.

Studs

Markings to Diagrams 1055.1/1055.2 showing the limits of crossing for puffin, pedex, toucan, equestrian and cycle crossings shall be non-reflective studs 100mm square and made of aluminium with a raised profile to improve skid resistance in adverse weather conditions

Table 15.1 –Pedestrian Crossings

Diag. No.	Usage	Division 1	Division 2
1001	Stop line indicating point beyond which vehicular traffic must not proceed when required to stop by light signals.	<ul style="list-style-type: none"> • Puffin crossings • Pelican crossings • Toucan crossings • Equestrian crossings • Pedex crossing 	-
1001.3	Zig-zag lines to indicate requirements or prohibitions relating to stopping or overtaking	<ul style="list-style-type: none"> • Puffin crossings • Pelican crossings • Toucan crossings • Equestrian crossings • Pedex crossing 	-
1001.4	Zig-zag lines to indicate requirements or prohibitions relating to stopping or overtaking	<ul style="list-style-type: none"> • Zebra crossings 	-
1001.5	Give-way marking	<ul style="list-style-type: none"> • Zebra crossings • Parallel pedestrian and cyclist crossings 	-
1055.1	Marking showing suitable place to cross	<ul style="list-style-type: none"> • Puffin crossings • Pelican crossings • Toucan crossings • Equestrian only crossings • Pedex crossing 	-
1055.2	Marking showing suitable place to cross with additional crossing point for equestrians.	<ul style="list-style-type: none"> • Equestrian crossings 	-
1055.3	Marking showing route for pedal cycles to cross	<ul style="list-style-type: none"> • Parallel pedestrian and cyclist crossings 	-
-	Black and white stripes to indicate limits of crossing	<ul style="list-style-type: none"> • Zebra crossings • Parallel pedestrian and cyclist crossings 	-

16 CYCLE MARKINGS

General

Table 16.1 prescribes the use of longitudinal lines, give-way lines, raised profile markings, arrows and the cycle symbol marking at advisory cycle lanes, mandatory cycle lanes and cycle tracks.

Coloured Road Surfaces

Coloured surface treatments shall not be used in cycle lanes, cycle tracks or cycle reservoirs.

Advanced Stop Lines for Cyclists

Advance stop lines for cyclists shall be provided at signal-controlled junctions where possible. (see Section 9) .

Advisory Cycle Lanes – Removal of Centreline

In many situations the introduction of advisory cycle lanes would leave insufficient remaining carriageway width for the use of a centreline and a single centre lane would serve motorised vehicles travelling in both directions. Trials have shown that the removal of centrelines in 30mph speed limited areas led to a reduction in accident rates and vehicle speeds. The benefits were even greater when advisory cycle lanes were introduced.

For 2-way roads, the use of advisory cycle lanes with the removal of centrelines can be considered for road widths of at least 7.0 metres (two 1.5m cycle lanes and one central general-traffic lane of 4m. Wider central traffic lanes will be needed for routes with higher flows or significant numbers of buses or large goods vehicles.

The use of advisory cycle lanes with a single central general-traffic lane is not appropriate where:

- The speed limit is greater than 30mph
- The demand for on-street parking would be such that there would be frequent blocking of the cycle lane and waiting restrictions would not be appropriate
- Forward visibility is restricted, particularly due to vertical alignment.

Table 16.1 – Cycle Markings

Diag. No.	Usage	Division 1	Division 2
1001	Stop line	<ul style="list-style-type: none"> Where cycle track crosses road at signalised crossing 	-
1003B	Give way line	<ul style="list-style-type: none"> Priority junction of cycle track/mandatory cycle lane with road 	-
1004	Lane line marking (speed limit 40mph or less)	<ul style="list-style-type: none"> At edge of advisory cycle lane 	-
1004.1	Lane line marking (speed limit greater than 40mph)	<ul style="list-style-type: none"> At edge of advisory cycle lane 	-
1009A	Edge of carriageway line)	<ul style="list-style-type: none"> To mark start of cycle lane or segregated cycle track 	-
1009B	Edge of carriageway line)	<ul style="list-style-type: none"> At a junction of a two-way cycle track and another road (in conjunction with 1003B) 	-
1014	Arrow indicating direction in which vehicular traffic should pass a road marking shown in diagram 1049 ahead	<ul style="list-style-type: none"> Where diagram 1009A is used to narrow the traffic lane at the start of a mandatory cycle lane 	-
1023B	Give Way triangle on cycle way/cycle track on approach to priority junction	<ul style="list-style-type: none"> Where major road is category 3b or above Where the cycle lane/track forms part of the National Cycle Network 	<ul style="list-style-type: none"> Accident-reduction measures
1049B	Boundary of cycle lane, cycle track or route used by pedal cyclists and pedestrians only	<ul style="list-style-type: none"> Mandatory cycle lanes 	-
	Division of a route into that part reserved for pedal cycles and that part reserved for pedestrians	<ul style="list-style-type: none"> Segregated pedestrian/cycle tracks in rural areas 	-
1049.1	Division of a route into that part reserved for pedal cycles and that part reserved for pedestrians	<ul style="list-style-type: none"> Segregated pedestrian/cycle tracks in urban areas 	-
1057	Symbol indicating cycle lane, track or route	<ul style="list-style-type: none"> At start of cycle lane/track and after every break in cycle lane/track Across exit from side road at priority junctions (not at driveways nor minor accesses) on advisory cycle lanes At intervals along cycle lane not exceeding 100m At end of a cycle facility where there is a risk of cyclists riding onto a pedestrian only area 	<ul style="list-style-type: none"> Across exit from side road at priority junctions (not at driveways nor minor accesses) on advisory cycle lanes
1058	End of cycle lane or track	-	-
1058.1	SLOW marking warning cyclists of potential danger ahead	-	<ul style="list-style-type: none"> In advance of hazard in cycle facility
1059	Arrow indicating directions in which pedal cyclists should travel along a cycle lane, track or route.	-	<ul style="list-style-type: none"> At locations where vertical signing would be unsuitable on high flow cycle facilities

LEVA
RDO

17 BUS MARKINGS

General

Bus lane and bus stop markings shall be categorised as division 1.

Coloured Road Surfaces

Coloured surface treatments shall not be used in bus lanes nor bus stops.

Bus Stops

For bus stops on the main carriageway the bus stop cage (diagram number 1025.1) shall be 25 metres long and positioned as shown in relation to the raised kerbs in figure 17.1. This may be reduced to 19 metres long where the stop is served only by mini or midi buses; or where geometry or parking restrictions prevent parked vehicles from obstructing buses approaching the bay; and with the agreement of the council's Public Transport Unit.



Figure 17.1

18 TRAM MARKINGS

General

The general principles for signing and marking tramways are set out in the Office of Rail Regulation's "Railway Safety Publication 2, Guidance on tramways".

Marking schemes associated with tramways shall be classified as Division 2 and submitted for approval before use.

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19 RAILWAY LEVEL CROSSINGS

General

Level crossings exist at the following locations on the public road network in Aberdeenshire:

B977	Boat of Kintore	Automatic half barrier crossing (AHBC)
B9002	Insch	Locally monitored manually controlled barrier crossing (MCB)
C76S	Gartly	Automatic half barrier crossing (AHBC)
U61S	Oyne	Automatic half barrier crossing (AHBC)
U72K	Carmont	Locally monitored manually controlled barrier crossing (MCB)

Markings at these crossings must be as specified in the relevant level crossing order and cannot be varied without consultation with the Office of Rail and Road and Network Rail.

The responsibility for markings within the crossing (from STOP line to STOP line) rests with Network Rail however, generally, the Council is responsible for the maintenance of markings and signs on the approach to the crossing. These markings shall be classified in Division 1.

Network Rail's Highways Interface Manager

(streetworks.scotland@networkrail.co.uk

) should be notified in advance of any works near a level crossing which may affect the crossing or the traffic passing through it.

At least one deflection arrow to Diagram 1014 shall be provided on each approach to the double white line markings at crossings. The double white line system must be fitted with a single row of white bi-directional reflecting studs laid at an interval of 4.5m and any stud within 2 metres of a running rail should be made of plastic.

Insch

The centreline shall be marked with diagram 1013.1D for a distance of not less than 36 metres beyond the stop lines on each side of the crossing.

Carmont

There are no road markings required by a Level Crossing Order for Carmont.

Boat of Kintore, Gartly & Oyne

The centreline shall be marked with diagram 1013.1A for a distance of not less than 12 metres beyond the stop lines on each side of the crossing and for a further distance of not less than 24 metres with diagram 1013.1D.

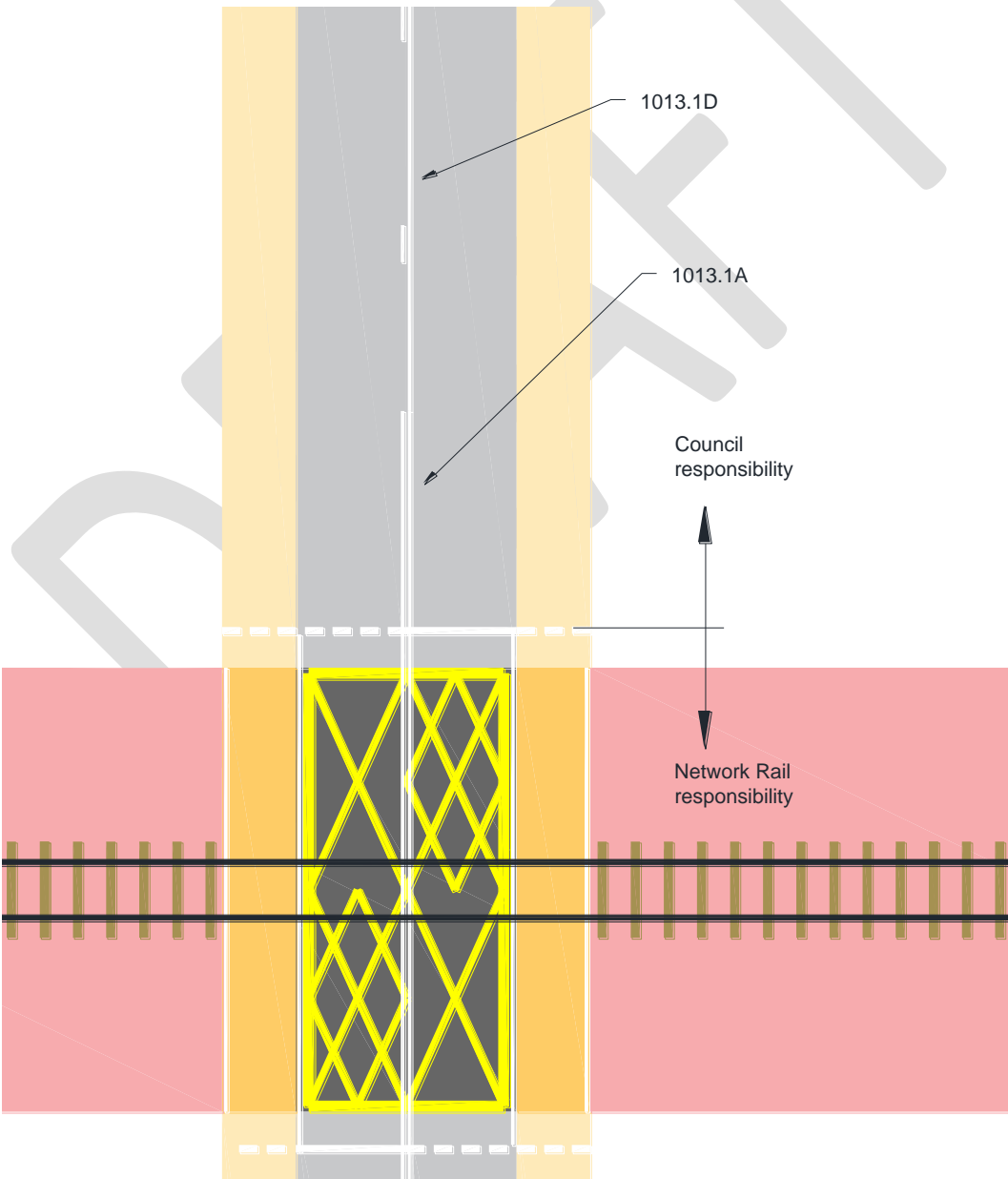


Figure 19-1

20 WAITING RESTRICTIONS

General

Waiting restriction markings are used to indicate the effect of a statutory provision so it is essential that these are installed and maintained to a high standard. Such markings shall be categorised in Division 1.

Prohibition of Waiting Markings

All waiting restriction markings with yellow lines shall be coloured lemon (BS 381C No. 355).

Roads with a speed limit greater than 40mph should have waiting restrictions marked with lines 100mm wide.

Roads in designated (and proposed designated) conservation areas with a speed limit of 40mph or less should have waiting restrictions marked with lines 50mm wide. (A list of conservation areas in Aberdeenshire can be found at <http://www.aberdeenshire.gov.uk/environment/built-heritage/conservation-areas/what-is-a-conservation-area/>).

All other roads with a speed limit of 40mph or less should have waiting restrictions marked with lines 75mm wide.

Parking Bays

The use of disabled parking spaces is covered in [Roads Policy Note 1](#). Aberdeenshire have obtained authorisation for variants to Diagram 1028.4. These are shown in figure 20.1 and may be used (on existing roads only) where site constraints would make the use of the standard marking impossible or undesirable. A space length of 6 metres should generally be used for a resident's disabled parking space but this can be shortened or extended within the permitted limits to suit particular site conditions or specific access requirements.

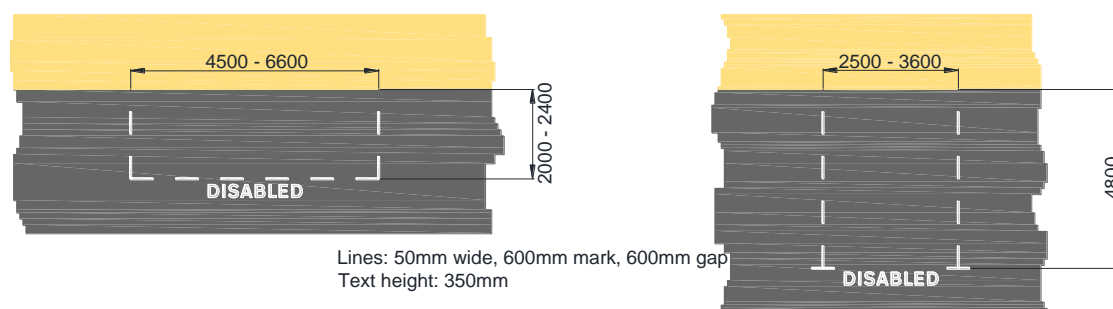


Figure 20.1

21 TRAFFIC CALMING

General

All markings used with traffic calming shall be categorised as Division 2 except for the following which shall be categorised as Division 1:

- Diagram 1062 – triangle marking on road humps, thumps humped crossings or speed cushions (excluding use in a zone identified as being a 20 miles per hour zone by a traffic sign shown in diagram 674)
- Diagrams 1012.1/ 1017/ 1018.1 over road humps with tapered ends which terminate within 300 mm of the edge of the kerb

Dragon's Teeth

Dragon's teeth markings are, officially, not road markings so do not require special authorisation to use. They have traditionally been used to enhance the conspicuity of gateways however, as they are generally not visible from a distance or in wet weather, their contribution to any speed reduction is likely to be small. Existing dragon's teeth markings shall be categorised as Division 2 but their use is not recommended for new installations.

22 WORDED AND DIAGRAMMATIC MARKINGS

General

Worded and diagrammatic markings shall be categorised as Division 2 except for the following which shall be categorised as division 1:

- Diagram 1027.1 – KEEP CLEAR marking when associated with a traffic regulation order.

Keep Clear Markings

Residents may request the provision of an elongated H marking (Diagram 1026.1) where they have difficulty accessing an entrance to off-street premises and a standard [application form](#) is available for this purpose on the website. To avoid over use, approval should only be granted where there is a demonstrable need. Applicants (with the exception of disabled badge holders) shall pay a standard fee for the installation. Any future maintenance of these markings will be carried out at the discretion of, and cost to, the Council.

The “Keep Clear” markings to Diagram No 1026.1 should only be used on the applicant’s side of the road and not to keep an area opposite the access clear. If there is a problem with getting in and out of a drive caused by vehicles parking opposite then other solutions must be considered such as widening the access.

Diagram 1026 shall not be used to keep areas of carriageway outside premises clear of parked vehicles.

23 MATERIALS AND MAINTENANCE

Register of Markings

All markings and studs installed and maintained under this policy must be recorded in a register to ensure that they continue to be maintained.

Each area office shall be responsible for maintaining the register for the roads in their area.

The register shall contain the following fields:

Markings	Road Studs
Unique Street Reference Number Name or description of road Start point (grid reference or textual description) End point (grid reference or textual description) Reason for installation If Category 2, name of Roads Manager approving initial installation Date of installation Location (left/ right/centreline etc.)	
Length Marking TSGRD reference number Width Textual description of any other variable dimensions (e.g. marking and gap length) Dates of renewal	Number of studs Colour Unidirectional or bidirectional Manufacturer and model

Maintenance and Inspection

Road Studs and edge of carriageway markings used in accordance with this note will play an important part in enabling the safe movement of vehicles on our roads. They must, therefore, be maintained in good condition.

The February or March routine safety inspection should have specific regard to road studs and carriageway markings with any missing or worn markings or studs recorded. The Principal Roads Engineer shall prepare the annual lining and stud replacement programme based on these inspection records to ensure that all studs and markings under this policy shall be maintained in a serviceable condition.

In other routine safety inspections any loose studs and failed markings must be noted. Loose studs must be made safe immediately while failed markings shall be assessed to determine the urgency of repair/renewal based on the risk to road users.

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24 HAZARD MARKER POSTS

Normal Usage

Paragraph 16.4 of Chapter 4 of the Traffic Signs Manual describes the situations where the signs may normally be used as follows:

- To indicate the edge of the carriageway on embankments, mountain roads and other points where special danger exists;
- At the edge of the carriageway in conjunction with signs to Diagram 516 or 517 (Road Narrows) to indicate the place where the carriageway suddenly narrows;
- To indicate obstructions unusually near the kerb such as a bridge parapet or abutment or an obstructing building. In these cases the marker may be fitted to the structure instead of to a separate post.

The uses of hazard markers in the situations described above shall be categorised as Division 1.

Special Usage

In addition to the situations described above, hazard marker posts may sometimes be used as part of a specific accident-reduction scheme. This will normally be in locations where the markers will assist drivers in identifying the line of the edge of the road, for instance through a series of bends. Although these locations may not have a specific hazard off the carriageway, as normally required for the use of the sign, the increased risk of leaving the carriageway would be taken to constitute the hazard.

Within Aberdeenshire, hazard marker posts should normally only be used in the non-standard situations described in this paragraph as part of a specific accident-reduction scheme promoted or approved by the Road Accident Investigation and Prevention Unit. This shall be categorised as Division 2

Installation

Hazard marker posts must always be installed in accordance with the manufacturer's instructions using the specified installation methods and tools.

Maintenance

Hazard marker posts used in accordance with this note will play an important part in enabling the safe movement of vehicles on our roads. They must, therefore, be maintained in good condition. Any missing or damaged posts should be picked up in routine safety inspections and replaced within one month using the manufacturer's specified installation methods and tools.

Avoidance of Damage during Grass Cutting

Some types of hazard marker post are designed to spring back after being accidentally overrun by stray vehicles. This does not mean that they are designed to survive repeated overrunning with a flail mower. On no account should grass-cutting equipment be driven over hazard marker posts. If necessary, the area immediately surrounding the base of a post may be treated with a contact herbicide and covered with wood or bark chippings to inhibit vegetation growth.



From mountain to sea

Road markings

Policy DRAFT

26th July 2017



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2	Policy statement	3
3	Scope	3
4	Implementation & compliance	3

1 Introduction

Well designed and maintained road markings make a vital contribution to both safety and efficiency in our road network. They give drivers continuous guidance on the alignment of the road ahead, caution against dangerous overtaking and provide information on priorities at junctions and other interfaces with road users.

British and international studies consistently show that investment in appropriate road marking delivers significant reductions in accidents and one of the highest benefit-to-cost ratios of any road-safety measure. Over use of markings can lead to clutter, which reduces the effectiveness of critical markings and can detract from the quality of the local environment.

All traffic signs including road markings must comply with the current Traffic Signs Regulations and General Directions however traffic authorities still have considerable discretion in the design of road-marking schemes.

This policy aims to achieve consistency in the use of road markings across the areas of Aberdeenshire. It furthermore seeks to achieve best value in the management and maintenance of road markings through the use of asset-management principles.

2 Policy statement

Aberdeenshire Council recognises the importance of good road markings and we will seek to manage and maintain appropriate road markings in a serviceable condition while achieving best value.

We will:

- **Only install or replace markings which comply with the guidance given in Aberdeenshire Council's "Road Markings Manual"**
- **Aim to inspect road markings annually to facilitate prioritisation of markings for renewal**
- **Create and maintain an inventory of road markings to be maintained**
- **Use appropriate materials to achieve acceptable service levels while minimising whole-life costs.**

3 Scope

This policy shall apply to:

- All works on Aberdeenshire's existing road network
- New roads constructed by or on behalf of Aberdeenshire Council
- New roads constructed by others for adoption by Aberdeenshire Council.

4 Implementation & compliance

Aberdeenshire Council's "Road Markings Manual" contains detailed guidance on the appropriate use of road markings and road-marking materials within Aberdeenshire

along with directions for inspections and for the records to be maintained in the inventory.

The Roads Policy and Asset Manager will be responsible for updating the manual to reflect changes in legislation, advances in material technology and any other improvements or amendments considered to be needed. Applications for departures from the standards set out in the manual shall be determined by the Roads Policy and Asset Manager after advice from the Roads Standards Group.

Local Roads and Landscape Managers shall be responsible for compliance within their areas, ensuring that guidance in the manual is complied with, inspections are undertaken and the inventory is maintained. The Roads Development Manager shall ensure that roads for adoption comply with the guidance and that the inventory is updated on adoption.

APPENDIX 4
POLICY & MANUAL
(VARIABLE AND VEHICLE -ACTIVATED SIGNS)



From mountain to sea

Variable & vehicle-activated signs

Manual DRAFT

26th July 2017



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1 Introduction

1.1 Legal & policy background

The *Road Traffic Regulation Act 1984* empowers local authorities to regulate or restrict traffic on a road in the interests of safety and Section 5 of this act allows them to place traffic signs (including lines and markings) on or near the road. All such signs and road markings used on public roads must be as prescribed in the current edition of the *Traffic Signs Regulations and General Directions* or must have been granted site approval by the Scottish Government.

This *Variable & Vehicle-Activated Signs Manual* is directly referred to in Aberdeenshire Council's approved *Variable & Vehicle-Activated Signs Policy* and shall be considered as mandatory guidance for all variable and vehicle-activated signs in Aberdeenshire.

1.2 General

Variable and vehicle-activated signs are used in situations where conventional signing would be inadequate.

The types of variable and vehicle-activated signs considered in this manual can be categorised as follows:

- permanent vehicle-activated signs emphasising speed limits
- temporary vehicle-activated signs emphasising speed limits
- vehicle-activated signs warning of hazards
- signs for part-time 20mph limits at schools
- other signs with flashing amber lights to warn of intermittent hazards

The use of these signs is now widespread throughout all areas of Aberdeenshire however there are concerns regarding their use or overuse: they can prove to be expensive to maintain, there is evidence that the effectiveness of some types may reduce with time and there are concerns that they can dilute the impact of other signs.

This manual aims to promote a consistency of application across Aberdeenshire by giving specific criteria for their installation and retention.

The requirements in this manual shall apply to all roads managed by Aberdeenshire Council and also to all roads proposed for adoption by Aberdeenshire Council. Any proposal which does not comply with this manual shall be considered as a departure from standards and will need specific approval by the council's Roads Standards Group.

All diagram numbers referred to in this manual are those given in the *Traffic Signs Regulations and General Directions*.

2 Permanent Vehicle-Activated Signs Emphasising Speed Limits

2.1 Type of sign to be used

New signs shall be of the type shown (see right). The LED display shall consist of the speed limit roundel with the legend “SLOW DOWN”. The roundel shall have a diameter of 600mm and the text height shall be at least 150mm high. Flashing amber lights shall not be used.

Signs shall have automatic dimming to ensure optimum visibility in varying light conditions. Loop or radar detectors shall be used to measure the speed of approaching vehicles and the sign shall only be activated by vehicles exceeding the speed limit.



2.2 Usage

New permanent vehicle-activated speed signs shall only be installed where they meet the criteria given in Section 7 or as part of specific measures in an accident reduction scheme proposed by the Road Safety Unit (RSU). Vehicle-activated signs should not be considered until the fixed signing and road markings have been checked to ensure that they comply fully with the guidance in Chapters 4 and 5 of the Traffic Signs Manual in terms of correct size, siting, visibility and condition.

Existing vehicle-activated speed signs of different designs may remain in place while operational but should be removed once they stop working. All signs should be re-assessed before being replaced to ensure that their retention is still warranted. Redundant sign posts should be removed following an unsuccessful reassessment.

3 Temporary vehicle-activated signs emphasising speed limits

3.1 Type of sign to be used

Each area shall have a speed-indicator device (SID) with a LED dot matrix display capable of displaying both the real-time measured speed (see right) and appropriate symbols or messages. These signs shall be mobile and have the capacity to record speeds of vehicles as they both enter and leave the range of radar detection along with dates and times for downloading and analysing.



3.2 Usage

SIDs shall be used in the circumstances given in the flowchart in Section 7. Where a SID is used in a rotation programme it shall be located at a site for between 2-3 weeks before being removed. A minimum period of 12 weeks should elapse before re-erection at the same location.

They may be used within roadworks to help protect the workforce by highlighting temporary speed limits and can also be used to emphasise new, reduced speed limits in the period after they have been introduced.

Police Scotland should be permitted to operate SIDs on Aberdeenshire roads but they shall consult with the local roads office on each location prior to use. We shall not permit the use of SIDs by any other body or person.

SIDs shall be mounted with a clearance to the kerb of at least 0.6m and at a minimum height of 2.3m above the ground. Each site should be risk assessed in advance of initial installation to minimise the risk during erection, operation and removal and to ensure that the installation does not impede visibility to other signs or to and from junctions. The use of demountable posts in permanent underground bases should be considered for regular rotation sites.







3.3 Messages to be displayed

SIDs should display positive messages for drivers complying with the speed limit and warnings for those who are not. Speeds above the threshold values (speed limit + 10% + 2mph) shall not be displayed as doing so may encourage irresponsible drivers to drive at even greater speeds.

Suggested messages are shown in table 3.1.

Records from the SID log should be reviewed after each installation. Police Scotland shall be notified where instances of excessive speed persist.

Table 3.1: Suggested messages for display on SIDs

vehicle speeds		
within limit	over limit and up to threshold value	over threshold value
30 mph limit		
0 - 30 mph	31 – 35 mph	>35 mph
40 mph limit		
0 - 40 mph	41 – 46 mph	>46 mph
Messages		
		
		

4 Vehicle-activated signs warning of hazards

4.1 General

Provision is made in the *Traffic Signs Regulations and General Directions* for certain junction or bend warning signs (diagrams 504.1, 505.1, 506.1, 507.1, 510, 512, 512.1, 512.2 and 513) when displayed by means of light-emitting characters or symbols also to display below the sign (and any associated plates), the legend “SLOW DOWN” in characters not less than one quarter of the height of the triangle. (eg. Diagram 512 shown right).



These signs will be triggered by vehicles exceeding a pre-determined safe speed on the approach to a junction or bend. Department for Transport guidance¹ suggests that a suitable threshold speed for activating the sign would be the 50th percentile speed measured before installation.

4.2 Location

Such signs should be installed close enough to the hazard to allow drivers to associate the sign with the hazard but also should give drivers sufficient time to respond. Depending on approach speeds, distances of 50-100m in advance of the hazard would be appropriate. Sites with limited lines of sight to the detector, such as those on curves or with encroaching vegetation, should be avoided as should locations with pedestrian crossings or other junctions, where the sign may distract drivers. Only one sign, on the left-hand side of the road, should be necessary in most instances.

4.3 Criteria for new and replacement signs

Vehicle-activated hazard signs shall only be installed as part of a casualty-reduction scheme promoted by the Road Safety Unit (RSU), when identified as the most appropriate remedial measure to deal with an accident problem associated with inappropriate speed.

Vehicle-activated hazard signs shall be used only to supplement fixed signing, and not as a substitute for it. Vehicle-activated signs should not be considered until the fixed signing and road markings have been checked to ensure that they comply fully with the guidance in Chapters 4 and 5 of the *Traffic Signs Manual* in terms of correct size, siting, visibility and condition.

The RSEU must be consulted prior to replacing any existing vehicle-activated hazard sign to ensure that its retention is still warranted.

¹ [Traffic Advisory Leaflet 1/03 - Vehicle Activated Signs](#)

5 Signs for part-time 20 mph limits at schools

5.1 General

Aberdeenshire Council policy² states that speed limits of 20 mph will be applied outside schools. These will be full-time mandatory 20 mph speed limits in locations where the appropriate criteria for such limits are met however in other locations they will be part-time limits.

All part-time 20mph limits must be covered by a traffic order prohibiting vehicles from being driven at speeds exceeding 20mph when the flashing speed-limit signs are activated. When introducing new part-time 20 mph limits at schools, consideration should be given to the location and access point of the school in relation to adjoining roads, community severance and routes used by pupils. It is, however important that drivers identify the lower limit with the school and unnecessarily long lengths of variable speed limit must be avoided.

5.2 Signs to be used

A number of non-prescribed signs have been authorised for use with part-time 20 mph limits at schools in Scotland however, in Aberdeenshire, all new and replacement signs shall be of the types shown below. This will not only give a consistent message to motorists approaching such limits but also help reduce maintenance costs and downtime.



The “flashing 20 sign” (left) shall be used as a terminal sign showing where the part-time 20 mph limit starts. These signs shall have a permanently visible retroreflective sign face with LED flashing amber lights in each corner and shall be manufactured by Aberdeenshire Council’s Sign Shop.

Signs of this type shall be used singly, on the left-hand side of the road, entering the 20 mph limit and the appropriate terminal sign (Diagram 670/671) must be provided, singly, on the opposite side of the road to indicate to drivers that they are leaving the lower limit.

A number of different designs for flashing 20 signs have been used previously, including fully electronic signs on both sides of the carriageway. When any of these other flashing 20 signs fail they should be replaced by one of the standard type. Where non-standard signs exist on both sides of the carriageway, if one fails both shall be removed but only the left-hand one replaced with a standard flashing 20 sign.

² “[Assessment of Speed Limits in Aberdeenshire](#)” - Report to Infrastructure Services Committee on 24th January 2008

Standard flashing 20 signs must be used on all routes fronting the school however, within 30mph limits only, the alternative flashing 20 sign (shown right) may be used on quiet side roads junctions (see typical layout given in Figure 5.1 below). Additional signing is not required for small cul-de-sacs (serving 20 or less houses) within the part-time 20 mph limit.

Flashing 20 signs should be programmed to ensure that they are only active at times and dates when children are going to and from school. Times will vary across the school network and should be discussed with individual schools but will typically include the period leading up to the start of the school day, lunchtimes and a period after the end of the school day. It will be appropriate to extend the periods covering when pupils are going to school by 5 minutes after the bell to include latecomers. In certain circumstances, such as at academies where pupils are allowed to leave the school premises and walk to local shops, it may be appropriate to include breaktimes.



Figure 5.1: Typical signing layout for school part-time limit in 30mph limit.



Advance warning signs shall be used where a part-time 20mph limit is on a road with a speed limit greater than 30mph (see Figure 5.2 below). These must be linked or have their timings synchronised with the terminal flashing 20 signs. A single advance warning sign should be adequate for each approach to the part-time 20mph limit.



Two standard sign types shall be used for new or replacement advance warning signs in Aberdeenshire. In both signs, the warning triangle and associated “School” plate shall be permanently visible and retroreflective while the “20 limit ahead” will only be visible when the part-time limit is in operation.



The sign with LED flashing amber lights (shown left) should normally be used however the alternative (shown right) may be used on low-flow roads

or on remote sites where it is considered that the intermittent sign will be sufficiently conspicuous without the flashing lights.

Figure 5.2: Typical signing layout for school part-time limit within limit of more than 30mph

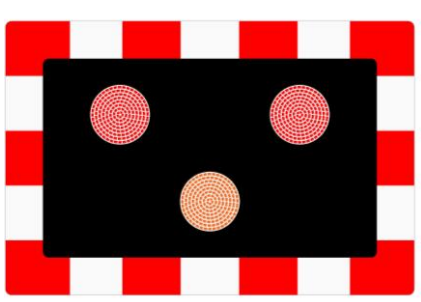


6 Other signs with flashing lights to warn of intermittent hazards

6.1 General

Other signs with flashing lights prescribed by the *Traffic Signs Regulations and General Directions* include wig-wag signals (diagram number 3014), flashing amber lights for school crossing places (diagram number 4004) and signalled cattle crossings (diagram number 4005). These shall only be installed at locations meeting the criteria below. National guidance shall be complied with for associated signage, positioning and specification.^{3 4 5}

6.2 Wig-wag signals



Wig-wag signals (left) are used to control traffic where the need for a vehicle to stop is critical but the frequency of occurrence may be difficult for road users to anticipate. Prescribed locations for use include level crossings and premises used regularly by fire, police or ambulance vehicles. Wig-wags at level crossings will be situated beyond the stop line at the crossing so shall be the responsibility of Network Rail and are not considered further in this document.

Wig-wag signals for emergency vehicles shall only be considered for full-time police, ambulance or fire stations where emergency vehicles leave the station directly on to a road with at least 10,000 vehicles per day.

6.3 Flashing amber lights for school crossing places

Twin flashing amber lights (right) are used to give added emphasis to the children going to school or playground warning sign (diagram number 545).

The Traffic Signs Regulations and General Directions state that amber lights must only be used in conjunction with this sign together with a plate bearing the legend “School”, “Patrol” or “Disabled children”. In Aberdeenshire however these shall only be used at school crossing patrol sites where the 85th percentile speed exceeds 35 mph.

Flashing amber lights must not be used to warn of children crossing at signalled or zebra crossings.



³ [Traffic Advisory Leaflet 1/08 Wig-wag Signals](#)

⁴ [TA 56/87 - Hazardous Cattle Crossing: Use of Flashing Amber Lamps](#)

⁵ [Traffic Signs Manual Chapter 4 – Warning Signs](#)

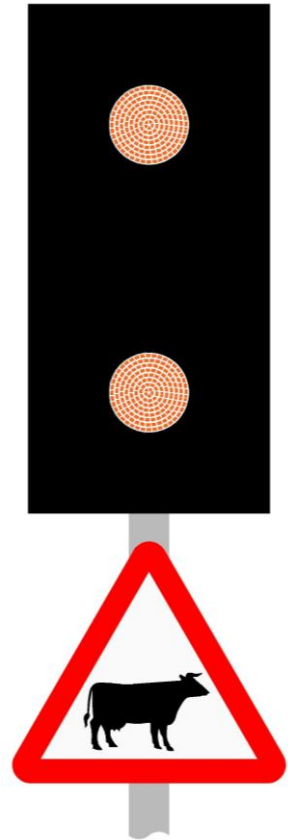
6.4 Cattle crossings

Warning lights for cattle crossings (right) may be considered where farmers need to regularly move cattle across a road and are unable to do so safely due to the speed or volume of traffic. Both of the following criteria must be met:

1. The cattle need to cross the road at least once in each direction daily on a minimum of 200 days in each year, **and**
2. The clear visibility to the crossing point is less than the distances shown in table 6-1 **or** the traffic flow exceeds 10,000 vehicles per day with 85%ile speeds between 30-60mph.

Table 6-1 Cattle crossing places

85th percentile speed (mph)	Visibility distance (m)
Up to 30	70
31 to 40	110
41 to 50	150
51 to 60	200
Over 60	Not suitable



In many sites, the fixed warning sign (diagram number 548) may give sufficient warning of cattle crossings. Remedial measures such as the cutting back of foliage or the re-siting of the crossing point should also be considered before installing flashing lights.

A cattle crossing point which does not satisfy the above criteria may be considered for the provision of flashing lights if, within half a mile on the same road, there is another cattle crossing point with flashing lights.

Flashing lights at cattle crossing points shall be operated by the farmer but shall be maintained and remain in the ownership of the council. The installation shall have key operated access to the switch and an automatic time-out sequence to ensure that they are not active unnecessarily. This should be of sufficient duration to cover the crossing operation and set to between 1 and 5 minutes. The inhibit function shall be set to prevent reactivation within 5 minutes.

7 Site assessment for vehicle-activated speed signs and SIDs

7.1 Initial considerations

While it has been shown that vehicle-activated speed signs and speed-indicator devices can be effective in reducing speeds their use is not appropriate at all locations. In accordance with the approved Variable & Vehicle-Activated Signs Policy, Aberdeenshire Council shall target their use at sites where they are most needed and will be most effective. To help achieve this the assessment procedure detailed below shall be followed.

Where there is concern about speeding in a particular location the site should be inspected to ensure that existing fixed signs and road markings:

1. comply with the guidance given in the Traffic Signs Manual for provision and size;
2. are in good condition; and
3. are not obscured by vegetation or otherwise compromised.

Any issues shall be addressed before considering the provision of vehicle-activated speed signs or speed-indicator devices.

7.2 Selecting a location

Selected sites for consideration should be located at least 100 metres into the speed limit - to give drivers sufficient time to react, the detector should be set to first detect vehicle speeds at around 100 metres before the sign and, as the warning messages should only be targeted at drivers exceeding the signed speed limit, it would be inappropriate to have the detection range extend into a higher speed limit.

Sites with limited lines of sight to the detector, such as those on curves or with encroaching vegetation, should be avoided as should locations with pedestrian crossings or junctions, where the VAS or SID may distract drivers.

Research into effectiveness of SIDs has found that speed reduction after 200m downstream of the SID was less than a quarter of the speed reduction at the SID site and suggested that any speed reduction after 400m would be negligible. This localised effect should be recognised when selecting the optimum position for installation.

7.3 Initial survey

Once a suitable site has been selected a speed survey shall be undertaken to determine the baseline 85th percentile speed of cars at the proposed sign location in the targeted direction only. This will usually be carried out with automatic vehicle detectors over a period of one week.

The results shall be reviewed to see if there are any particular times with excessive speed issues that may benefit from targeted police enforcement. If such times are identified the information shall be passed to Police Scotland.

The baseline 85th percentile speed shall be compared against the threshold values (speed limit + 10% + 2mph). Only sites where the baseline 85th percentile speed exceeds this value shall merit further consideration for the provision of vehicle-activated speed signs and speed-indicator devices.

No further action is necessary at sites where the baseline 85th percentile speed is equal to or less than the threshold values.

7.4 Scoring system

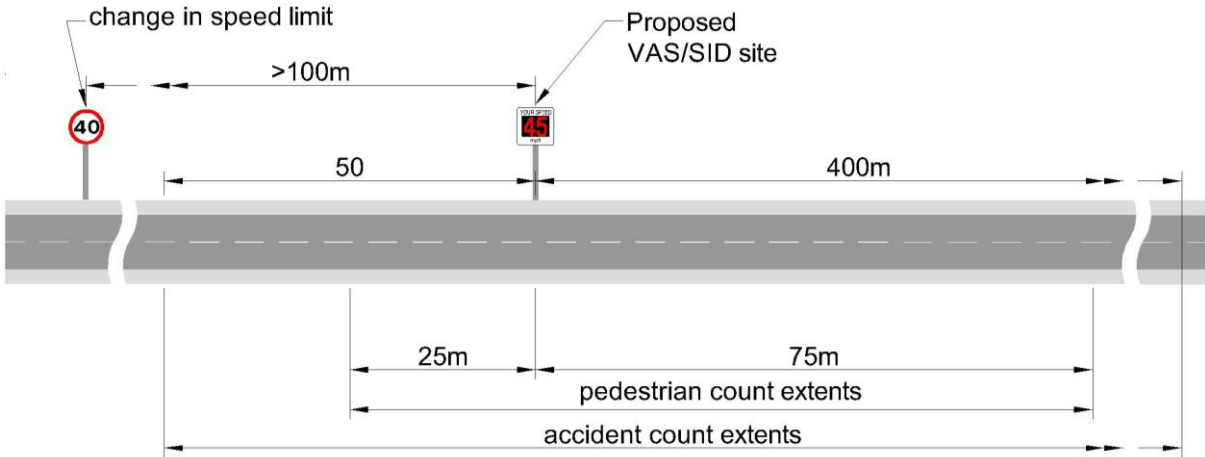
To reflect the potential for conflict between vehicles and pedestrians, the scoring system to be used is based on a version of the PV² calculation modified to reflect accident history. **(Please note that different methods are used to calculate PV² values for pedestrian crossing and school crossing patroller assessments.)**

The combined pedestrian and vehicular count shall be undertaken manually and recorded in blocks of 15 minutes. The survey period should aim to include the hour likely to score most highly and should last a minimum of 2 hours.

7.4.1 Pedestrian count

Pedestrian activity shall be recorded along a 100m stretch of road from a point 25m in advance of the proposed installation to a point 75m downstream of it (see Figure 7.1). Pedestrians crossing within survey area (P_x) shall be recorded along with pedestrians walking along either footway or verge (P_p). Pedestrians can be recorded for both parallel and crossing movements but any pedestrian shall not have more than one parallel movement and one crossing movement recorded for a single journey.

Figure 7.1: Extents for pedestrian and accident counts



7.4.2 Vehicle count

All vehicles (including cycles) shall be counted for the targeted direction only (**V**).

7.4.3 Modifying factor

The modifying factor (**m**) shall be based on the number of recorded injury accidents involving pedestrians or cyclists where the vehicle was travelling in the targeted direction, along the length of road from a point 50m in advance of the proposed sign site to a point 400m downstream of the proposed sign site, within the last 3 years. The baseline modifying factor shall be 1.0. This shall be increased by 0.2 for each accident.

7.4.4 Assessment score

The assessment score (AS_{VAS}) shall be calculated using the equation below:

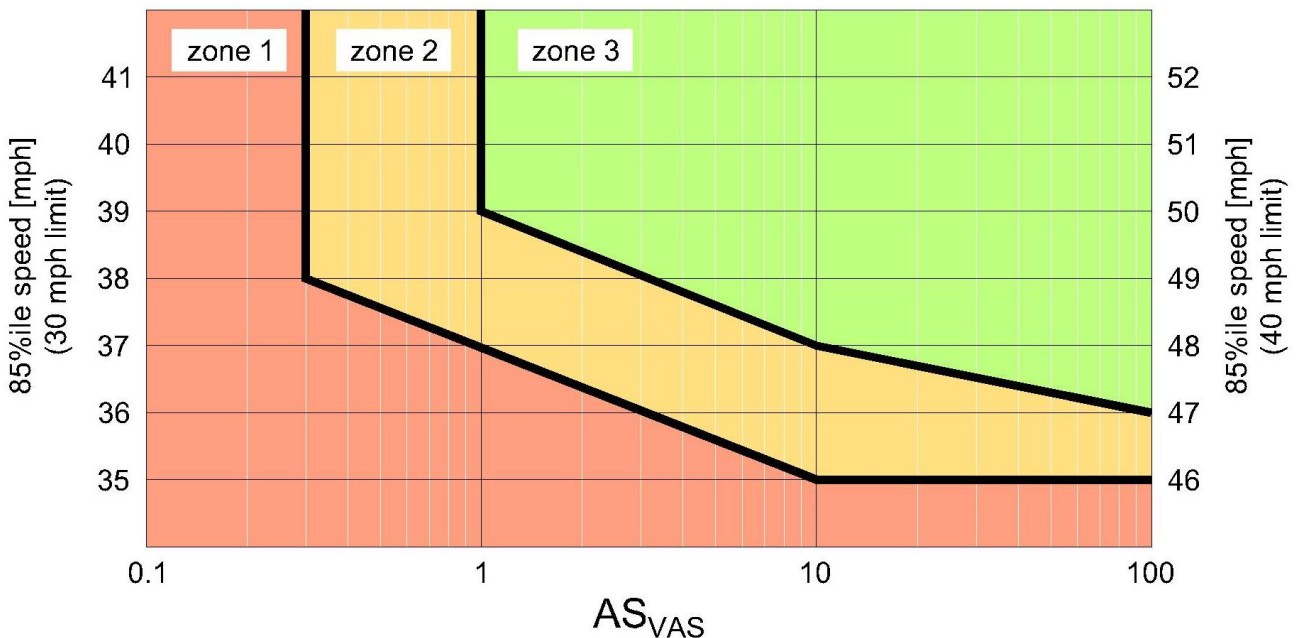
$$AS_{VAS} = m \times (P_p + 2P_x) \times V^2 / 1,000,000$$

The P_p , P_x and V values used shall be for the single contiguous 60-minute period which gives the highest score.

7.4.5 VAS/SID criteria

Once the assessment score has been calculated it, and the previously recorded baseline 85th percentile speed shall be plotted on to the chart in Figure 7.2 to determine the appropriate zone.

Figure 7.2: VAS/SID assessment chart



Zone 1 sites do not qualify for the provision of vehicle-activated speed signs or speed-indicator devices. Zone 2 & 3 sites may continue to the trial stage.

7.4.6 Trial stage

A mobile speed indicator device shall be located at zone 2 sites for one week and at zone 3 sites for 3 weeks. Speeds shall be recorded in the first and, at zone 3 sites, in the third weeks. The reduction in 85th percentile speed in the relevant direction shall be compared with the previous baseline 85th percentile measurement and the appropriate outcome determined from table 7.1.

Table 7.1: Trial outcomes

zone	week one 85 th percentile reduction	week three 85 th percentile reduction	outcome
2	< 3 mph	n/a	VAS/SID not appropriate
2	≥ 3 mph	n/a	add site to SID rotation programme
3	< 2 mph	< 2 mph	VAS/SID not appropriate
3	< 2 mph	≥ 2 mph	repeat speed measurement with SID removed and re-assess with new baseline
3	≥ 2 mph	≥ 2 mph	provision of fixed VAS may be appropriate
3	≥ 2 mph	< 2 mph	add site to SID rotation programme



From mountain to sea

Variable & vehicle-activated signs

Policy DRAFT

26th July 2017



Contents

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1 Introduction

Variable message signs are widely used outside schools to sign part-time 20 mph speed limits in line with Scottish Government Policy. In addition, there is now a widespread use of vehicle-actuated signs to warn road users of potential hazards or remind them of speed limits. Over the years, various different types of equipment and different applications have been tried out. This has led to a lack of consistency across Aberdeenshire and to reliability issues and maintenance problems with some of the equipment used.

This policy aims to achieve consistency in the provision and use of variable and vehicle-activated signs across the areas of Aberdeenshire. It furthermore seeks to achieve best value in the use of variable and vehicle-activated signs by focusing on sites where they will be most effective and by standardising on simpler units where appropriate.

2 Policy statement

Aberdeenshire Council recognises the contribution variable and vehicle-activated signs can make to road safety and will seek to use them efficiently whilst avoiding overuse and unnecessary sign clutter.

We will:

- **Only install or replace variable and vehicle-activated signs which comply with the criteria specified in Aberdeenshire Council's "Variable & Vehicle-Activated Signs Manual"**
- **Introduce a programme for the rotation of Speed Indicator Devices (SIDs) around multiple sites in collaboration with Police Scotland and local Community Safety Partnerships**
- **Minimise costs by using signs which can be manufactured and serviced in-house, where possible**

3 Scope

This policy shall apply to:

- All works on Aberdeenshire's existing road network
- New roads constructed by or on behalf of Aberdeenshire Council
- New roads constructed by others for adoption by Aberdeenshire Council.

4 Implementation & compliance

Aberdeenshire Council's "Variable & Vehicle-Activated Signs Manual" contains detailed guidance on the appropriate use of variable and vehicle activated signs within Aberdeenshire.

4 | Variable & vehicle-activated signs

The Roads Policy and Asset Manager will be responsible for updating the manual to reflect changes in legislation, advances in technology and any other improvements or amendments considered to be needed. Applications for departures from the standards set out in the manual shall be determined by the Roads Policy and Asset Manager after advice from the Roads Standards Group.

Local Roads and Landscape Managers shall be responsible for compliance within their areas, ensuring that guidance in the manual is complied with. Similarly, the Roads Development Manager shall ensure that roads for adoption also comply with the guidance in the manual.

Appendix 5 – Comments received from Area Committees and Police Scotland

Policy: Road Markings

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
BBAC1	Noted report.	Banff and Buchan Area Committee		Approve report.
MAC1	Supported proposed policy.	Marr Area Committee		Approve report.
BAC1	Agreed to welcome and recommend to Infrastructure Services Committee that the draft policy be approved as submitted.	Buchan Area Committee		Approve report.
GAC1	<p>Recommend Approval - Subject to the following comment being forwarded to Infrastructure Services Committee :-</p> <p>a) coloured road markings are helpful as they draw people's attention, but not at any cost.</p>	Garioch Area Committee	<p>Permissible road markings and their colours are prescribed in <i>The Traffic Signs Regulations and General Directions 2016</i>. Coloured road surfaces are not classed as road markings. However, they are expensive to install, maintain and remove and for that reason their use is not currently recommended under the Aberdeenshire road asset management framework.</p>	Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
FAC1	In noting that excessive road markings should be discouraged, how would this be dealt with in practice as proposals came forward.	Formartine Area Committee	The manual is primarily intended as technical guidance for designers. Compliance with the standards within the manual should ensure that only appropriate markings are proposed.	Approve report.
FAC2	Were details of road classifications required prior to consideration of road markings.	Formartine Area Committee	Yes, the level of markings provided on an A Class road would be different to that on an unclassified road.	Approve report.
FAC3	Who determined which road markings were of greatest benefit.	Formartine Area Committee	This was determined by officers in the preparation of the manual backed up by published research where applicable.	Approve report.
FAC4	Who set the priorities.	Formartine Area Committee	Priorities were set by officers in the preparation of the manual backed up by published research where applicable.	Approve report.
FAC5	How will this information get out into the public domain.	Formartine Area Committee	While the manual is primarily technical guidance intended for designers, if approved, both the manual and the policy statement will be published on the Council website.	Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
FAC6	There could be unintended consequences of the appeal process that is required for specific locations of concern to the public.	Formartine Area Committee	It is recognised that the manual cannot cover every possible road layout and that there may be situations where uses of road markings beyond those considered in the manual are justified. To accommodate this, a <i>departure from standard approval</i> process is proposed. Decisions on departures would be made by a panel of Roads and Transportation officers covering a wide range of areas of expertise.	Approve report.
FAC7	The policy sought consistency but if consideration was given to the greatest benefit and finances then this may not be achieved.	Formartine Area Committee	The level of provision in the manual is set to optimise the benefit for the current level of finance. However, there would be scope within the policy to adjust thresholds to optimise a deployment of a greater or lesser financial provision if the budget were to be changed.	Approve report.
FAC8	It would be helpful to have white lines around bus parking areas, especially where raised pavements have been installed, to deter persons from parking in these areas.	Formartine Area Committee	Yellow BUS STOP markings as prescribed in the Regulations are included in the manual.	Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
FAC9	<p>the Committee agreed to recommend that the item be deferred from going forward to Infrastructure Services Committee, to allow:-</p> <ul style="list-style-type: none"> a) public consultation, and b) a private workshop for members to go through what this policy means and how it will be implemented. 	Formartine Area Committee	<p>The policy would be implemented in an evolutionary rather than a revolutionary manner. There would be no burning off of existing markings but replacements and new works would be in accordance with the new policy. Road users should experience a gradual improvement in consistency rather than a sudden change. It is therefore felt that a public consultation and private members workshop are unnecessary.</p>	Approve report.
KMAC1	<p>Ensure that communication on the broad thinking of the policy is made accessible to the public.</p>	Kincardine and Mearns Area Committee	<p>While the manual is primarily technical guidance intended for designers, if approved, both the manual and the policy statement would be published on the Council website.</p>	Approve report.
KMAC2	<p>The Committee acknowledge that the proposed policy should offer more flexibility for dealing with local road marking requirements when need is evidenced.</p>	Kincardine and Mearns Area Committee		Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
KMAC3	The Committee acknowledged that the commitment made in the Council's budget for traffic calming at schools will be accommodated through this proposed policy.	Kincardine and Mearns Area Committee		Approve report.
PS1	We particularly note the content of the specific Policy Statement, which states that Aberdeenshire Council 'recognises the importance of good road markings'. This is a position common to both our organisations in seeking to achieve the safe use of local roads.	Police Scotland		Approve Report
PS2	The reintroduction of edge markings on bends and their approaches is also considered a particularly positive development. Although a relatively simple engineering enhancement, they provide road users with greater certainty over the delineation of the road through the bend or hazard.	Police Scotland		Approve Report

Policy: Variable and Vehicle-Activated Signs

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
BBAC1	Noted report	Banff and Buchan Area Committee		Approve report.
MAC1	Welcomed the policy which was considered to be a consistent and sensible approach and would make it easier to deal with requests in an objective way.	Marr Area Committee		Approve report.
MAC2	Welcomed use of signs manufactured and maintained in-house and suggested this could be exported to other councils in terms of best practice.	Marr Area Committee	In-house manufacture and maintenance should lead to significant reductions in costs and downtime. We do not have the capacity to offer these services to other councils however, if the expected benefits are achieved, it would be appropriate to share this information with other authorities.	Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
MAC3	Highlighted consistent demand from communities for vehicle-activated speed signs and expressed concern at the suggestion that there would only be one mobile speed indicator device per area. Suggested that there should be rigorous work to test these as soon as possible and, if successful, additional budget should be sought to secure more signs.	Marr Area Committee	The intention would be to start with one mobile speed-indicator device (SID) in each area. Further SIDs could be purchased if the number of locations satisfying the criteria for inclusion on the SID rotation programme meant that the period between repeat visits was excessively long.	Approve report.
BAC1	Agreed to recommend to Infrastructure Services Committee to approve the draft policy subject to further consideration in relation to:- (1) vehicle-activated signs warning of hazards – although having noted the comments of the presenting Officer in that these signs have proven to be ineffective, Members remained concerned with the proposal to reduce them in number in the belief that they are an effective means of alerting drivers of the need to slow down.	Buchan Area Committee	Research shows that there is a novelty effect with vehicle-activated signs emphasising speed limits and their effectiveness reduces significantly within weeks of installation. The proposals would lead to a reduction in such signs but also an increase in the use of mobile speed-indicator devices. Permanent vehicle-activated signs warning of hazards will continue to be installed as part of casualty-reduction schemes promoted by the Road Safety Unit when identified as the most appropriate remedial measure to deal with an accident problem associated with inappropriate speed.	Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
GAC1	Recommend Approval subject to the comments being forwarded to Infrastructure Services Committee.	Garioch Area Committee		Approve report.
GAC2	A variety of signs being used is helpful as it provides a degree of unexpectedness for drivers.	Garioch Area Committee	While the proposals aim to reduce the variety of different types of signs, the introduction of the mobile speed-indicator devices with variable messages will introduce a degree of unfamiliarity.	Approve report.
GAC3	The Council should have a lower tolerance level for speeding.	Garioch Area Committee	The limiting of the use of vehicle-activated signs to locations of greatest need does not indicate that the Council is tolerant of speeding elsewhere. Rather it both recognises that limited financial resources have to be targeted effectively and seeks to avoid overuse. These signs can help reduce levels of excess speed (but not eliminate it) and are only one of the tools used by the Council and Police Scotland in seeking to tackle the problem.	Approve report.
GAC4	Request that information from speed surveys be fed back to Councillors and communities.	Garioch Area Committee	This information will be available on request. We are investigating options for making it more easily accessible.	Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
FAC1	Why are we deterring communities from having their own vehicle-activated signs.	Formartine Area Committee	The proposals aim to ensure that the selection of sites for these road safety interventions is based on evidence of need rather than ability to pay. Overuse and inappropriate use of warning signs can lead to a reduction in their effectiveness.	Approve report.
FAC2	We could have stationary signs that display different messages each time, to prevent them becoming less effective over time.	Formartine Area Committee	Such signs are not prescribed in the <i>Traffic Signs Regulations and General Directions 2016</i> so would need specific authorisation from the Scottish Government. Increasing the variety of messages displayed when the speed limit is exceeded may encourage non-compliance by curious drivers.	Approve report.
FAC3	It would be helpful for officers to liaise with the Community Safety Strategic Partnership as there could be an opportunity for a joint approach in some areas.	Formartine Area Committee	It is intended that such liaison should continue.	Approve report.

Reference	Comment	By	Observations by Author	Recommendations to Infrastructure Services Committee
FAC4	The Committee agreed to recommend that the item be deferred from going forward to Infrastructure Services Committee, to allow a private workshop for members to go through what this policy means and how it will be implemented.	Formartine Area Committee	The policy would be implemented in an evolutionary rather than a revolutionary manner. There would be no removal of any serviceable existing signs but the policy would be applied to replacements and new works. Road users should experience a gradual improvement in consistency rather than a sudden change. It is therefore felt that a public consultation and private members workshop are unnecessary.	Approve report.
KMAC1	Ensure that communication on the broad thinking of the policy is made accessible to the public.	Kincardine and Mearns Area Committee	While the manual is primarily technical guidance intended for officers, if approved, both the manual and the policy statement would be published on the Council website.	Approve report.

Appendix 6 – Roads Policies Review

Priority	Policy	Last Reviewed	Proposed Approval
1	Festive Lights, Bunting, Overhead Banners and Attachments to Street-Lighting Columns	New Policy	Infrastructure Services Committee
2	Pedestrian Crossing Assessment Policy	2012	Infrastructure Services Committee
3	Tourism Signposting Policy	2003	Infrastructure Services Committee
4	Vehicle Restraint Systems	New Policy	Infrastructure Services Committee
5	Assessment of Speed Limits	2008	Infrastructure Services Committee
6	Unauthorised Signs	1997	Infrastructure Services Committee
7	Traffic Signs Policy	New Policy	Infrastructure Services Committee
8	Trading From Lay-bys	1994	Infrastructure Services Committee
9	Parking Spaces for Disabled	2012	Infrastructure Services Committee
10	Street Naming and Property Numbering	2009	Infrastructure Services Committee
11	Road Asset Management Plan	2012	Infrastructure Services Committee
12	Roadside Memorials and Floral Tributes	2004	Infrastructure Services Committee
13	Traffic Calming	New Policy	Infrastructure Services Committee

Priority	Guidance Document	Last Reviewed	Proposed Approval
1	Signing for New Housing Developments	1997	Roads Policy & Asset Manager
2	Dropped Kerbs at Vehicular Crossings of Footways	-	Roads Policy & Asset Manager
3	Use of Tactile Paving	2009	Roads Policy & Asset Manager
4	List of Public Roads – Additions and Deletions	2016	Roads Policy & Asset Manager
4	Permanent Traffic Management Orders	2014	Roads Policy & Asset Manager
5	Temporary Traffic Restrictions	2014	Roads Policy & Asset Manager
6	Disabled Persons' Parking Places	2014	Roads Policy & Asset Manager
7	Road Safety Audit	2012	Roads Policy & Asset Manager
8	Portable Light Signals	2014	Roads Policy & Asset Manager
9	Stopping-up and Redetermination Orders	2016	Roads Policy & Asset Manager