

**Specialist Professional and Technical Services
Framework
Task Ref: 1-021**

**Task Title: Road Safety Audit - Maintain & Develop the
Road Safety Audit Database**

**QUARTERLY REPORT
April 2016 to June 2016**

***To be read in conjunction with 'QUARTERLY
REPORTING AND FACTSHEETS, GUIDANCE NOTES'
published at the front of the July 2015 to September
2015 Quarterly Report (T-TEAR Task 479(4/45/12)ATK)***



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1. Introduction

1.1. Quarterly Reporting

This report comprises the quarterly qualitative review of Road Safety Audit (RSA) reports submitted to the Highways England Safer Roads - Design Team (SRDT) inbox at roadsafetyaudit@highwaysengland.co.uk between 1st April 2016 and 30th June 2016 (inclusive).

This review should be read in conjunction with the **Quarterly Factsheet - April-June 2016 (Rev. 2)** contained in Appendix A of this report; and with '**Quarterly Reporting and Factsheets, Guidance Notes**' published at the front of the July 2015 to September 2015 Quarterly Report (T-TEAR Task: 479(4/45/12)ATK).

1.2. Scope

During this quarter, a total of 201 RSAs were submitted, of which 200 were carried out to HD 19/15. From the HD 19/15 reports, 11 sample reports were selected as suitable for review. The list below details the numbers of each stage of RSA forming the study sample together with totals submitted for the quarter. All figures in the list relate to RSAs carried out HD 19/15.

- | | |
|-----------------------------|---------------------------------------|
| • Stage 1 RSAs | 2 reports of 3 submitted in quarter |
| • Stage 2 RSAs | 1 report of 2 submitted in quarter |
| • Combined Stage 1 & 2 RSAs | 2 reports of 25 submitted in quarter |
| • Stage 3 RSAs | 2 reports of 28 submitted in quarter |
| • Stage 4 RSAs (12 months) | 2 reports of 105 submitted in quarter |
| • Stage 4 RSAs (36 months) | 2 reports of 38 submitted in quarter |

No Interim RSAs were submitted to the SRDT inbox this April 2016 to June 2016 quarter.

The principal purpose of the quarterly review, together with explanations of the sampling process; measures of HD 19/15 compliance and of the rationale behind the charting used in the corresponding quarterly factsheets are all described in the Guidance Notes in the pre-amble to the July to September 2015 report (T-TEAR Task: 479(4/45/12)ATK).

1.3. Potential Discrepancies

As the update of the Highways England's RSA Database continues there may remain some unavoidable discrepancies between data for this quarter under review and those recorded previously. Accordingly, comparisons detailed in this quarterly report should be taken as indicative only.

In order to minimise the effect of discrepancies on data comparisons, the database has been retrospectively updated as far as is practicable. For this purpose, previously entered records were updated by a previous project as far back as 1st January 2014. It is those backdated records that have been used where comparisons are made. It is expected that discrepancies between recent data and those entered previously, and any resulting errors, will lessen as the data record grows.

1.4. RSAs Submitted by Highways England Areas

Figure 1-1 below illustrates all RSAs submitted to the SRDT inbox since 1st January 2014 by each Highways England area.

Figure 1-1 RSA submitted since 1st January 2014

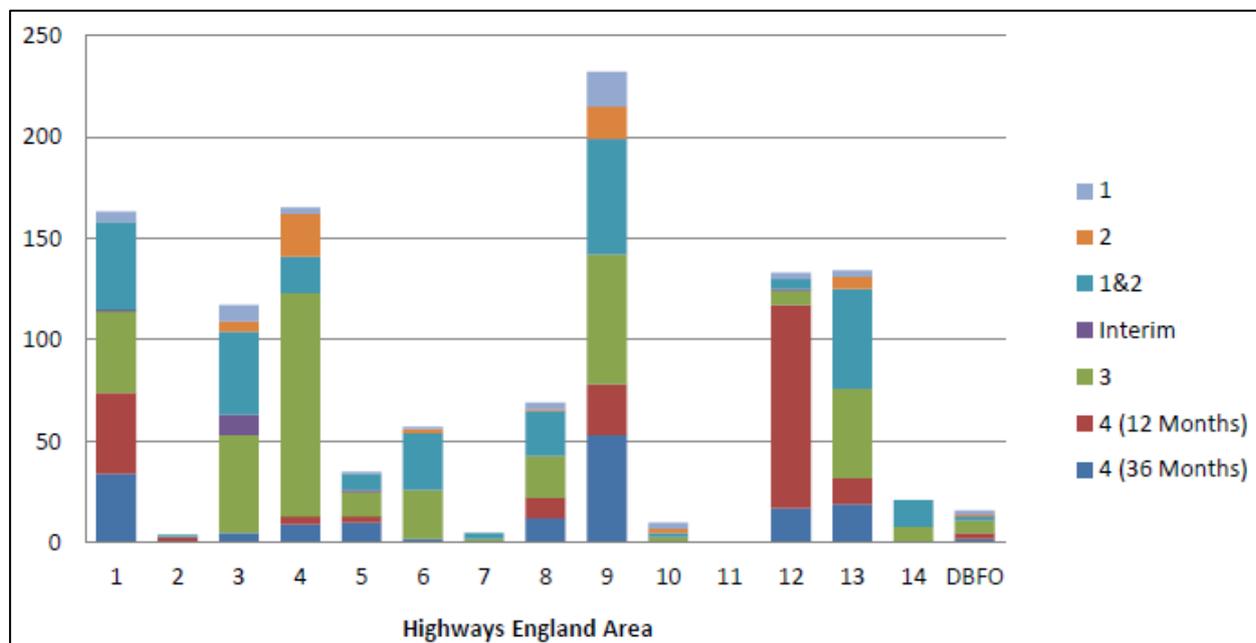
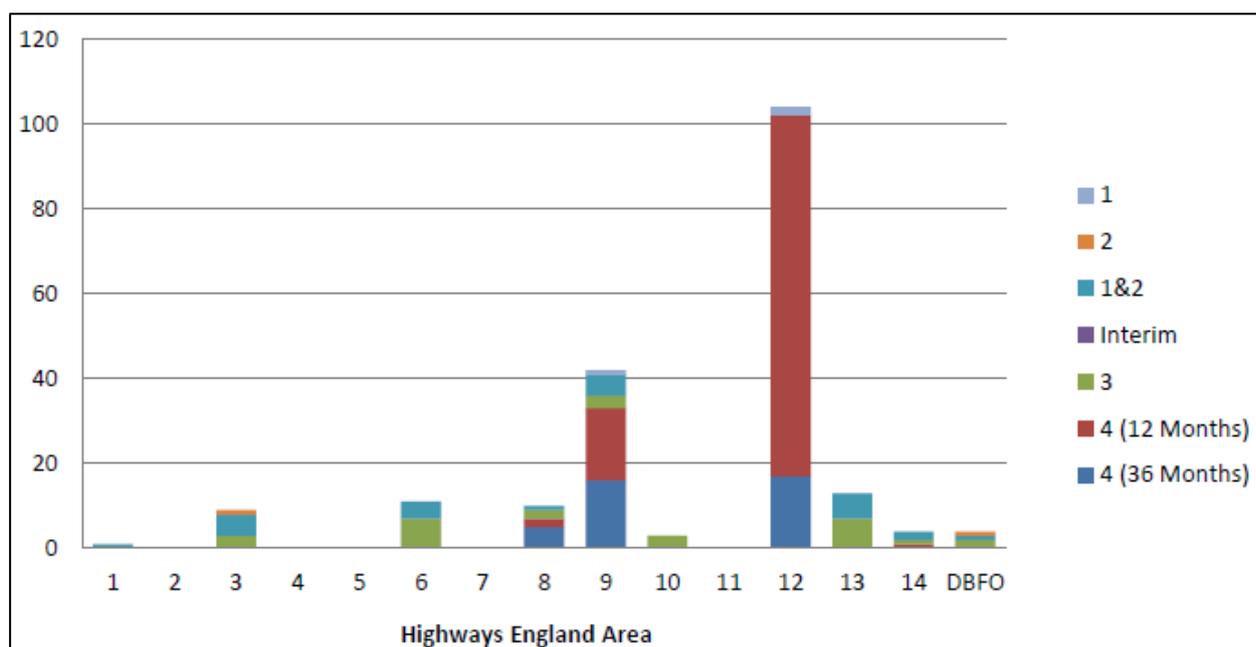


Figure 1-2 below illustrates all RSAs submitted to the SRDT inbox during this quarter, 1st April 2016 to 30th June 2016.

Figure 1-2 RSA submitted this quarter (April to June 2016)



It should be noted that, since 2009, Area 11 is no longer in use. It is retained in the database outputs however for the purpose of historical research.

2. Qualitative Review of RSA Reports

This section comprises a qualitative review of RSAs sampled from those recorded in the main database. The sample selection is described under heading 1.2 above. The sampled reports have been used as the principal source for this review but occasionally, reference is made to the database as a whole for context.

As far as is practicable, this quarterly report seeks to feed discussion on:

- Common road safety problems raised by audit teams with a view to providing information which might be used by the SRDT and others in the industry to identify and inform potential changes to Requirements and Advice Documents (RADs). This comprises a high-level categorisation of the problems raised;
- Inconsistencies between problems and recommendations raised for similar design elements; and
- Good practice and areas for potential improvement as evident from the sampled RSA reports.

2.1 Common Road Safety Problems

This section comments on common road safety problems identified by RSAs in the sample set (see details under heading 1.2).

For clarity, this section uses the following terms of reference:

- Problems – indexed text (i.e. 'Problem A') detailing road safety concerns in the standard RSA Problem/Recommendation format;
- Issues – individual elements of distinct road safety concern contained within a problem related to but different in nature to other Issues within that same problem; and
- Recommendations – remedial recommendations made by the RSA Team in relation to the problem (and related Issues) raised.

Where appearing in quoted text, the words "*problem*", "*issue*" and "*recommendation*" may have been used differently.

The sampled reports detailed a total of 48 road safety problems covering 52 Issues. These include previously raised problems not resolved at the time of each of the sample RSAs.

This gives an average of 1.08 Issues per Problem reported which represents a decrease from 1.33 recorded in the preceding quarterly report ('January 2015 to March 2015') but is similar to the averages recorded in the two reports preceding that.

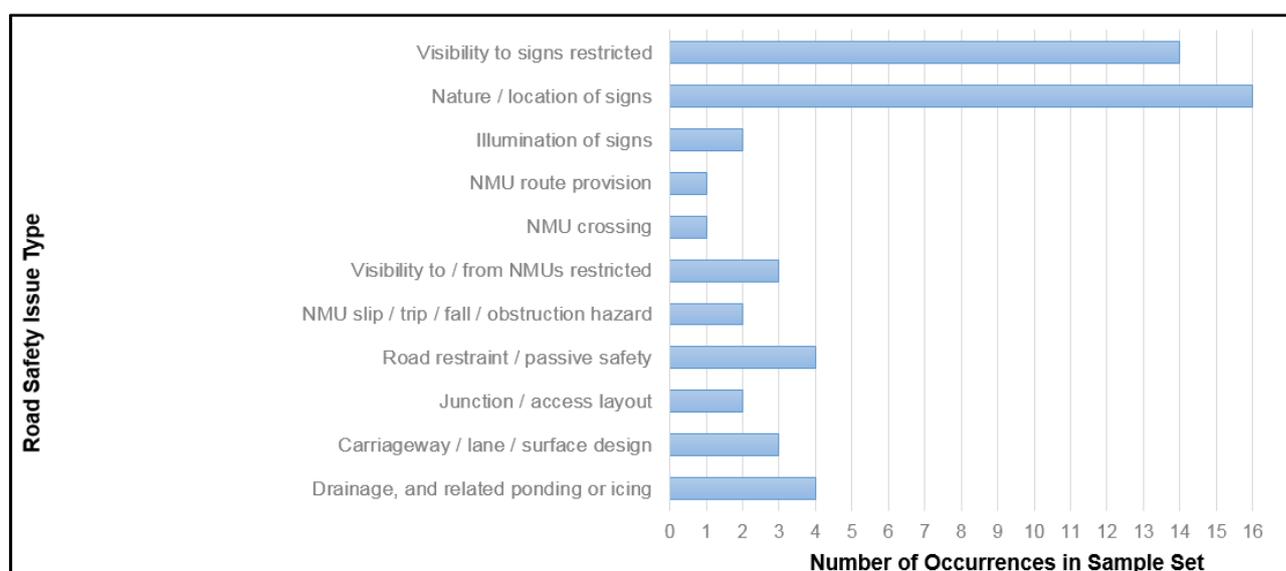
For the purpose of this quarterly report, the high level categorisation of the problems and Issues identified within the sample group have been expressed as follows:

- **Visibility to signs restricted** [by vegetation / street furniture / infrastructure / buildings]
- **Nature / location of signs** [poorly located or incorrectly mounted / inconsistent / absent / incorrect / inadequate / confusing]
- **Illumination of signs** [inadequate / absence of illumination]
- **NMU route provision** [inconsistent / inadequate / inappropriate / narrow / confusing / tactile warning surfaces]
- **NMU crossing** [inconspicuous / inconsistent / absent / inadequate / confusing / tactile paving] **Parking** [the scheme encourages, or does not sufficiently discourage, illegal / injudicious parking]

- **Visibility to / from and between NMUs restricted** [by vegetation / street furniture / infrastructure / buildings]
- **NMU slip / trip / fall / obstruction hazard** [poor surface / unprotected drops / street furniture / upstands / service and drain covers]
- **Road restraint / passive safety / kerbs** [absent / inadequate / working width compromised / risk of 'launch']
- **Junction / access layout** [design / principle / tie-ins / approach speeds / turning speeds / queuing / stacking / restricted movements]
- **Carriageway / lane/surface design** [alignment / surfacing (not including HFS) / road width / tie-ins / taper lengths / radii]
- **Drainage and related ponding and icing** [NMU crossings / carriageways / footways / cycleways / other]

The 52 Issues covered in the sampled reports are categorised in Figure 2-1 below which indicates the frequency of occurrence. The categories of these are shortened to fit the figure dimensions and the chart should be read in conjunction with the bullet list above for a fuller description.

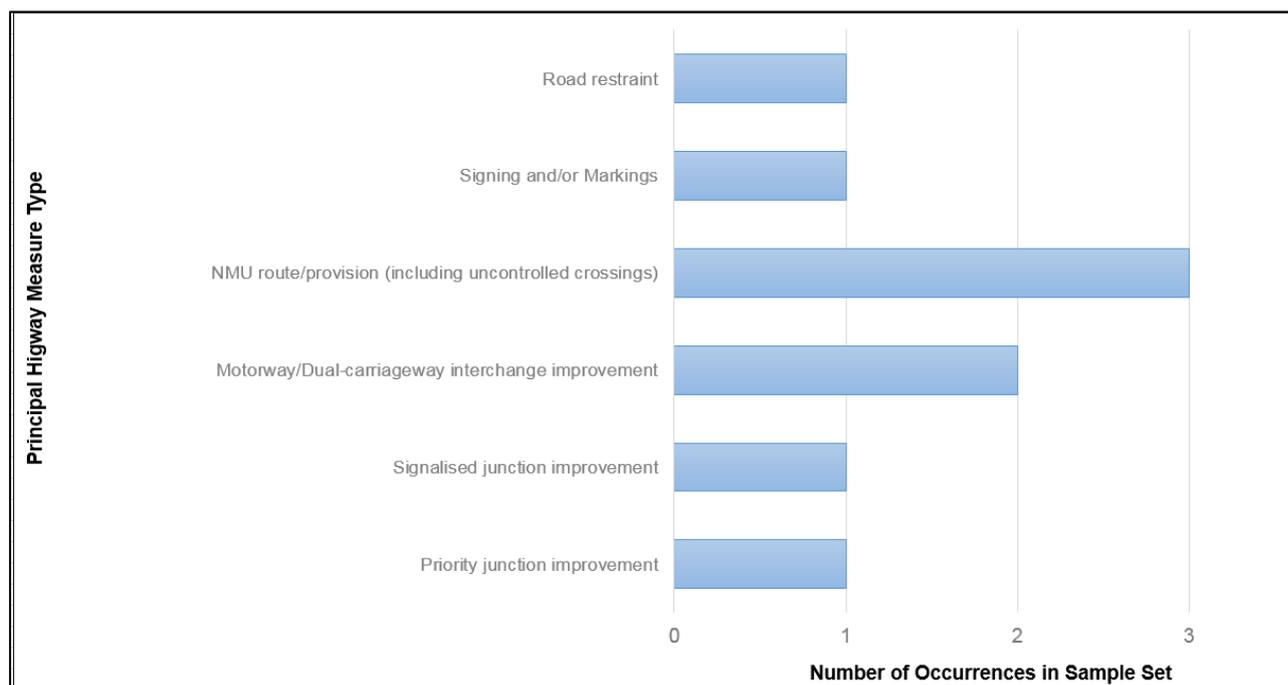
Figure 2-1 Road safety issues by number of occurrences



As context for the road safety Issues by number of occurrences given in Figure 2-1, a chart detailing the principal highway measures covered by the RSA reports by number of occurrences in the sample set is given in Figure 2-2.

It should be noted that the measures described in Figure 2-2 are considered to be the highway measures representing the principal focus of the schemes as described in the sample group report titles or in scheme descriptions therein. Some schemes may have involved more than one principal measure and an attempt has been made to represent that. However, the list is not intended to detail every single measure. For instance, the principal measure categorisation 'Signing' in Figure 2-2, means that the associated scheme was a signing scheme in the main and does not include other schemes, such as 'Roundabout improvement', which may have included signing measures.

Figure 2-2 Principal highway measures by number of occurrences



2.2 Inconsistencies

One of the project aims is to identify any inconsistencies in the way that similar RSA problems are dealt with across different RSA reports.

In the sample reports examined, there is very little commonality between specific Issues and so recommendations are not generally comparable between reports this quarter.

There are a number of differences and inconsistencies regarding the various styles of describing problems and related recommendations evident in the sampled reports. These are discussed in general under heading 2.3, 'Good Practice and Area's for Improvement' below.

2.3 Good Practice and Areas for Improvement

This section identifies areas of good practice along with other areas of potential improvement as evident from the RSAs sampled for the purpose of this quarterly report.

In addition to the identification of areas of good practice, the quarterly reports identify areas where the application of the RSA process and reporting might benefit from some improvement.

Text and other materials quoted or copied from real RSA reports have been anonymised. Accordingly, all road, scheme and location names and descriptions, together with the names of persons and organisations involved, should be taken as fictional and not associated with any actual scheme, location, organisation or person.

2.3.1 Previously Raised Areas for Improvement still Common

Some key areas, as identified by the previous quarterly reports, remain apparent in the current sample group and so are summarised here. Full descriptions can be found in the preceding reviews:

- **Combined Stage 1 & 2 RSAs**

A total of 25 Combined Stage 1 & 2 RSA were submitted to the SRDT inbox this quarter compared to only three Stage 1 and two Stage 2 RSAs submitted. Both of the sampled Combined Stage 1 & 2 reports appeared to on schemes which might have warranted

separate Stage 1 and Stage 2 RSAs. The high proportion of Combined Stage 1 & 2 reports delivered remains a concern and suggests that decisions to combine these RSA stages might be based on commercial and programming considerations contrary to HD 19/15 instruction.

- **Non-problem 'Comments'**

A number of the sampled reports include issues titled as 'Comment'. Comments vary in relevance and scope and sometimes challenge the fundamental principles of a scheme or have no specific recommendation. Such comments should be omitted from reports and dealt with in separate correspondence if necessary.

- **Information Not Provided**

A number of RSA reports refer to information 'not provided' as having not been considered or as the very basis of problems themselves. HD19/15 requires the RSA Team to request any information they feel is missing from the RSA Brief 'package'.

One report submitted this quarter states that the information provided is considered [by the RSA Team] to be adequate for the purpose of the RSA but then 75% of the Problems raised therein refer to the absence of various information.

In another of the reports, one problem relates to polished stone values (PSV) not being provided and goes on to say that, if PSVs are not high enough, collisions might occur. In the first instance, RSA is not a design compliance check and so this might be considered to lie outside of scope. However, if the RSA Team have reason to believe that appropriate provision might not be made, the missing information should be requested to verify.

- **Post-RSA Process**

There is concern is that, by repeating any unresolved (and un-expected) problem along with an RSA Team response to the designer's response (or similar) is opening a dialogue which falls outside the terms of reference of HD 19/15. This can lead to Project Sponsors expecting that designers and RSA Teams will debate the issues until 'closed out', thereby minimising the Project Sponsor's involvement.

It is also recognised that the rationale behind this approach is to preserve and document an 'Audit Trail'. This might be attractive to Project Sponsors and Overseeing Organisations but it implies a policing or adjudication role for the RSA Team and so might undermine the post-RSA process now detailed in HD 19/15.

- **Stage 4 RSAs (36 months)**

The illustrative 36 month monitoring report given in Annex H of HD 19/15 details a much more thorough analysis of collision and flow data than is evident in some of the submitted Stage 4 RSA (36 month) reports. It is recommended that the Stage 4 RSA analysis methods and outputs illustrated in Annex G and Annex H should be taken as best practice and emulated as far as is practicable. The 36 month reports should be demonstrably more detailed than the preceding 12 month reports.

- **Process Advice**

There appears to be an increasing tendency for RSA Teams to include HD 19/15 process advice in RSA reports. This has possibly arisen as a result of repeated poor practice on the part of design teams and Project Sponsors in terms of the creation and issue of RSA Briefs and the execution of the post-RSA processes.

It should be noted, however, that such advice lies outside the scope of RSAs and should not be included in the RSA report. Correspondingly, it would be considered good practice for the industry to seek opportunities to educate Project Sponsors, designers, other project managers and stakeholders with regards to their roles and, importantly, their responsibilities with regard to the initiation and management of the RSA processes.

- **Problem Descriptions, Sense-checking**

It seems sensible that the RSA Team member(s) other than the one who originally wrote

the document should carry out a thorough check of the draft RSA report to ensure that the problems are clearly and accurately described and that nothing has been missed.

From typographical errors and unclear wording in a number of the submitted reports, it is not clear that this process is being put rigorously into practice.

2.3.2 Recommending Application of Standards

When describing problems, RSAs should be clear about the link between the design and the resulting hazard in context of the proposed environment and should not rely wholly on the application of standards.

One of the sampled reports gives a useful example of where application of standards appears to have dominated the reasoning. The Problem relates to what is effectively a like-for-like speed limit signing replacement, with the addition of yellow backing boards. However, the RSA Team have cited non-compliance with Chapter 3 of The Traffic Signs Manual (TSM) but is referring to signing which is apparently not being relocated. In the quotes below, identifying locations/names have been [anonymised] in square brackets:

“It should also be noted that tables 14-3 and 14-4 of Chapter 3 of the Traffic Signs Manual advises that where the side road has a lower speed limit than the major road the first repeater should be placed within 100m of the side road. The repeater sign adjacent to the [Estate Agent] is located approximately 140m from the side road, this could result in the validity of the speed limit coming into question”

The recommendation states:

“It is recommended that the repeater sign is relocated to ensure that suitable minimum visibility in accordance to Table 14-3 of Chapter 3 of the Traffic Signs Manual is provided within 100m of the junction with [Beading Lane].”

HD 19/15 makes it quite clear that RSA is not a technical design check against standards or any other criteria. It is acknowledged that standards and guidance documents are often cited to reinforce a concern identified by an RSA Team but care should be taken when directly recommending the application of a standard or guideline.

In the first instance, the RSA team have incorrectly cited the TSM (in that it is not Tables 14-3 and 14-4 which illustrates this issue but rather Figure 14-4). Furthermore, non-compliance with a standard or guideline does not necessarily increase the risk of collision and, in this case, the RSA Team makes no attempt to explain why a collision risk would result. In fact, the problem text merely expresses concern about the enforceability of the speed limit.

Of course, non-standard provision might, indeed, increase the risk of collision but it is not enough to merely say that something is *“not to standard”*; the RSA Team should be able to clearly describe how that non-compliance increases the risks specific to the scheme location and environment.

2.3.3 Sweeping Statements

One of the RSA reports states:

*“Although the collision data has not been provided it is believed that at the point where the entry slip joins the merge on the southbound has a **high collision risk**”.*

It would be unwise to base a description of collision risk solely on a photo from GoogleMaps® so statements like this need some qualifying information such as the reasoning behind the belief or the source of information on which that belief was founded.

2.3.4 Stage 4 RSA Analysis of Previously Raised Problems

A number of Stage 4 RSAs submitted document a detailed review of previously raised Problems but mainly in terms of whether or not those Problems have been resolved. Instead, the review

of previously raised Problems should focus on, and document, whether or not the Problems appear to have manifested as collisions.

One report identifies a Problem raised originally at the Stage 3 RSA which pertained to missing or loose yellow and black hazard markings on terminal ends of safety fences. There appears to be no evidence that this has resulted in any collisions and is arguably a maintenance issue but the report asserts that:

“The lack of these markings may result in vehicles colliding with these obstructions” [sic]

In the absence of any related collisions, and with a predicted outcome that would be hard to substantiate, this should probably have been raised by covering email and not in the RSA report itself.

2.3.5 Application of the Stage 4 RSA Process

One scheme on which a Stage 4 RSA was carried was described as:

“the installation of DDA works [in a subway] consisting of re-painting with anti-graffiti paint”.

This description (which the RSA Team might have obtained directly from the RSA Brief) implies that the works comprised only the provision of anti-graffiti paint but is unclear about what other ‘DDA works’ were implemented (if any). It was just the application of paint, it seems unlikely that such work might have presented any risk of collision/injury.

Collision data for the motorway under which the subway passes was examined which might, conceivably, have been useful to identify whether or not any pedestrians were crossing away from the subway and, as a result, getting injured. Presumably no incident data existed for the subway itself.

The analysis showed a decrease in the number (from three to two) and severity of collisions on the motorway in the immediate vicinity of the subway. This would not appear to warrant a site visit (given the criteria set out in HD 19/15, paragraph 2.50) but the RSA Team visited the site nevertheless.

If RSAs are instigated without due forethought, there is a danger that they will become simply a box-ticking exercise, and that the provisions set out in HD 19/15 will not get due consideration. It is recommended that Project Sponsors and RSA Teams take care to ensure that the scheme warrants RSA and, for Stage 4s, that the criteria determining the need for a site visit are properly applied.

2.3.6 Approval of RSA Brief and RSA Team

Regardless of the process leading up to the commissioning of an RSA, compiling the RSA Brief and instructing an RSA Team, reports should clearly identify the person assuming the role and responsibilities of Project Sponsor as described in HD 19/15.

A number of RSA reports reviewed give the name of one person who issued the RSA Brief and a different person who approved the RSA Team. Whilst these different people are sometimes described as being from the same organisation (including Highways England), reports often do not say which of the people are the Project Sponsor.

2.3.7 Questionable Reasoning

Describing the hazards and collision risks which might arise from certain features of a design should be carefully thought through, sense-checked and reasonable. One of the RSA reports reviewed this quarter refers to a “speed derestriction sign” being obscured by vegetation. Apart from the somewhat inaccurate terminology, the Problem expresses concern that drivers might be unaware of a change of speed limit and continue to drive at 60mph.

It goes on to say that if such drivers sticking at 60mph are in the outside lane, they might be overtaken on the nearside. This reasoning is questionable as it is the nearside sign which is

obscured and so, if the driver is in the offside lane, they will likely see the offside sign which is unobstructed. Even if they don't see the offside sign, it seems highly unlikely that situation would, in itself, present a collision risk.

2.3.8 Problem Summaries

The illustrative Stage 2 RSA report given in Annex F of HD 19/15, précises each problem with a one or two-line summary. It is recognised that many RSA Teams seek to keep these summaries as succinct as possible but, occasionally, this appears to result in inaccuracies or shortfalls.

One report submitted this quarter includes a number of problems simply summarised as "*Inappropriate traffic sign installation proposed*". However, whilst the full descriptions involve elements relating to signing, the problems and resulting risks, together with the recommendations, pertain mainly to passive safety. Care should ideally be taken to ensure that summaries describe the problems accurately whilst remaining concise.

Appendix A

Quarterly Factsheet
1st April 2016 to 30th June 2016

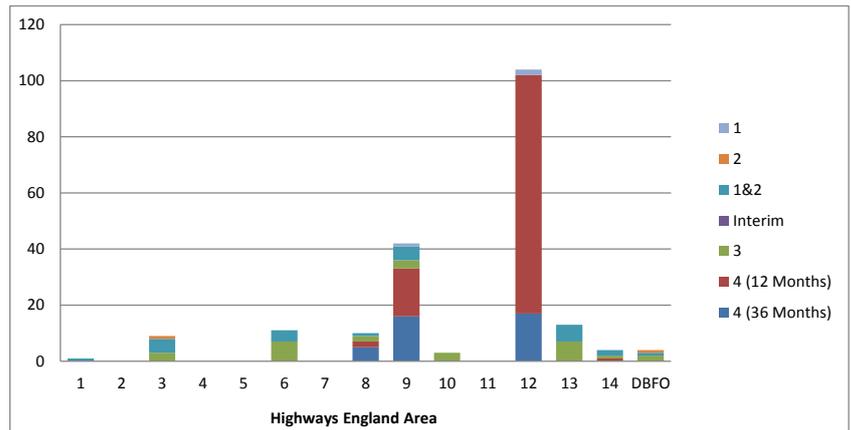
Quarterly Factsheet - 1st April 2016 to 30th June 2016 (Rev. 2)

Basic Information

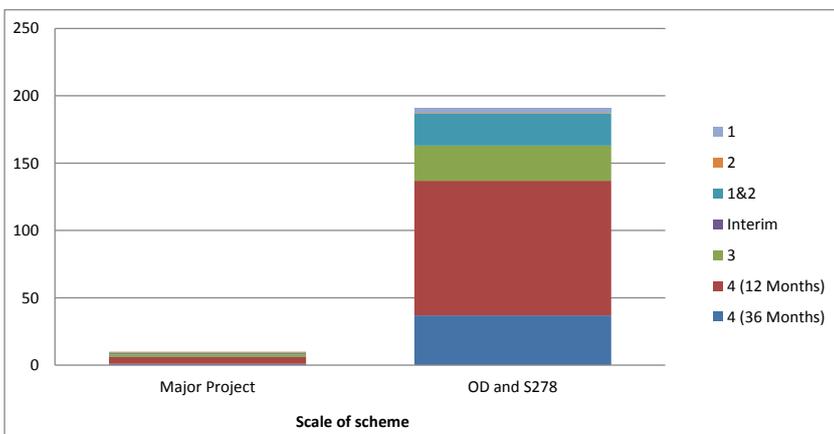
	This Quarter	Database Since Jan 2014
Number of RSAs submitted	201	1161
RSA Team Leader specifically identified	99%	92%
Project Sponsor specifically identified	100%	91%

	This Quarter	Database Since Jan 2014
Average number of problems recorded	0.5	1.5
Response Report issued	0%	2%
Exception Report issued	0%	0%

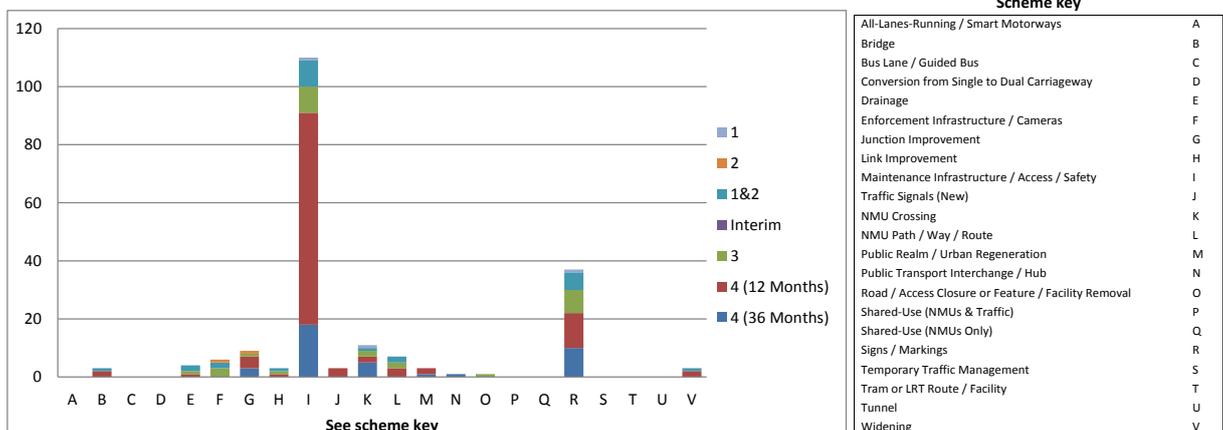
RSAs By Highways England Area - This Quarter



RSAs By Scale of Scheme - This Quarter



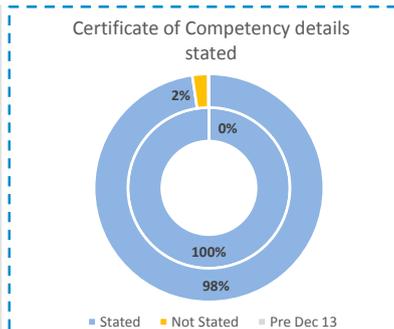
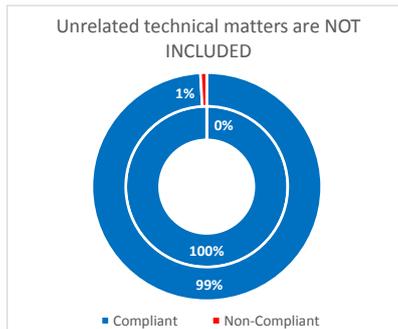
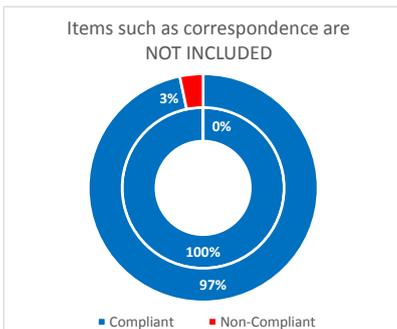
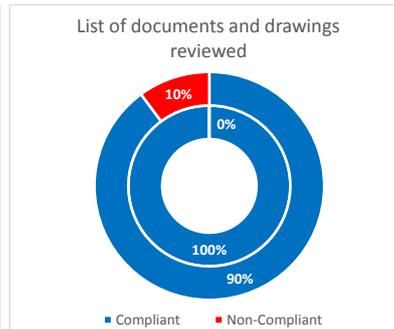
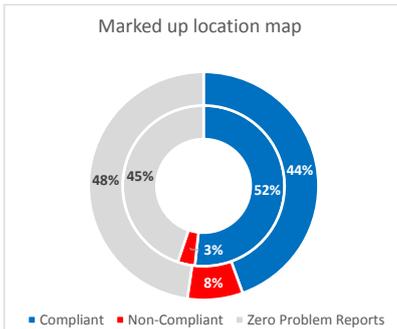
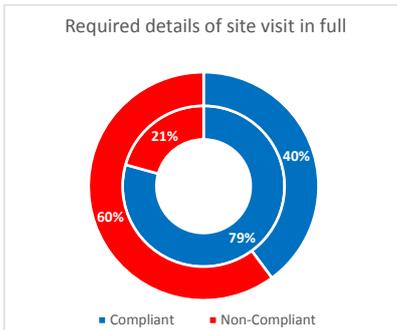
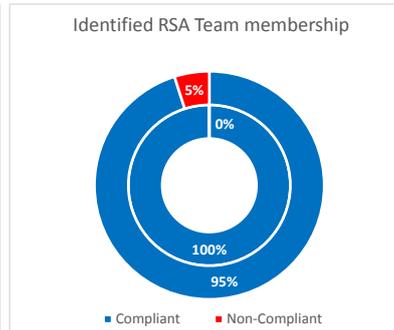
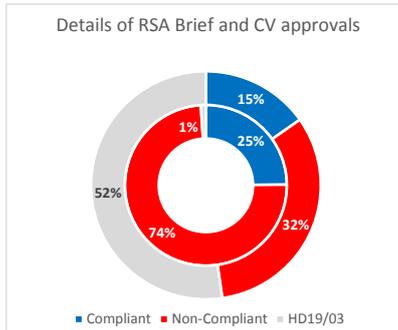
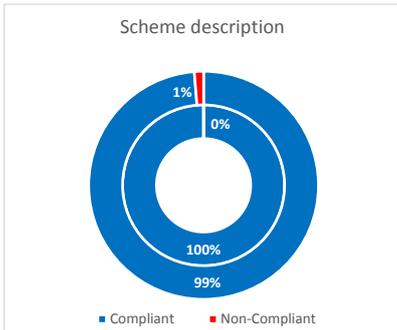
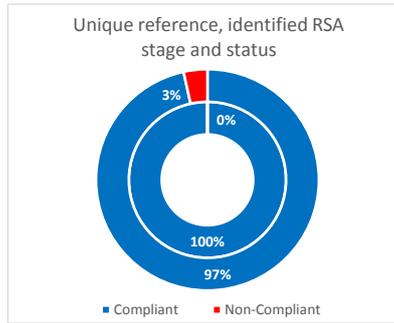
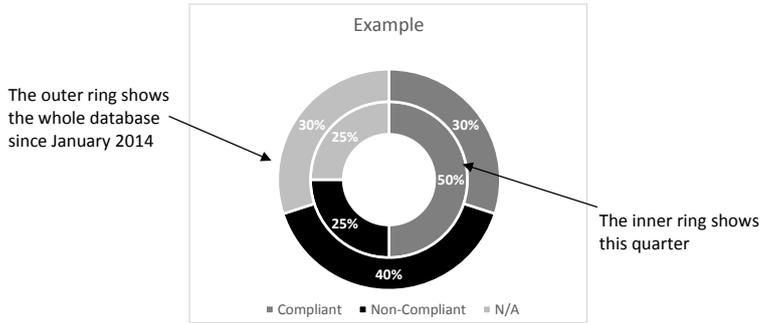
RSAs By Scheme Type - This Quarter



Scheme key	
All-Lanes-Running / Smart Motorways	A
Bridge	B
Bus Lane / Guided Bus	C
Conversion from Single to Dual Carriageway	D
Drainage	E
Enforcement Infrastructure / Cameras	F
Junction Improvement	G
Link Improvement	H
Maintenance Infrastructure / Access / Safety	I
Traffic Signals (New)	J
NMU Crossing	K
NMU Path / Way / Route	L
Public Realm / Urban Regeneration	M
Public Transport Interchange / Hub	N
Road / Access Closure or Feature / Facility Removal	O
Shared-Use (NMUs & Traffic)	P
Shared-Use (NMUs Only)	Q
Signs / Markings	R
Temporary Traffic Management	S
Tram or LRT Route / Facility	T
Tunnel	U
Widening	V

Quarterly Factsheet - 1st April 2016 to 30th June 2016 (Rev. 2)

RSAs by Compliances - This Quarter - Stage 1, 2, 1&2, 3 & Interim (Stage 4 RSAs excluded as compliances not directly comparable)



Inclusion of Certificate of Competency details is not mandatory