

**Specialist Professional and Technical Services
Framework
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Develop Road Safety Audit Database**

**QUARTERLY REPORT
January 2018 to March 2018**

***To be read in conjunction with Task 286 'QUARTERLY
REPORTING AND FACTSHEETS, GUIDANCE NOTES'***



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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 January 2018 and 31st March 2018** (inclusive).

This review should be read in conjunction with the **Quarterly Factsheet - January-March 2018 (Rev. 2)** contained in Appendix A of this report; and with the Task 286 '**Quarterly Reporting and Factsheets, Guidance Notes**'.

1.2. Scope

During this quarter, a total of 78 RSAs were submitted, of which all purport to have been carried out to HD 19/15. From these HD 19/15 RSAs, **35 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.

- Stage 1 RSAs 11 reports of 13 submitted in quarter
- Stage 2 RSAs 2 reports of 2 submitted in quarter
- Combined Stage 1 & 2 RSAs 5 reports of 35 submitted in quarter
- Stage 3 RSAs 4 reports of 15 submitted in quarter
- Stage 4 RSAs (12 months) 10 reports of 10 submitted in quarter
- Stage 4 RSAs (36 months) 3 reports of 3 submitted in quarter
- *Interim RSAs* *No Interim RSAs submitted this 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.

1.3. Limitations in Historic Comparisons

In order to minimise anomalies arising from comparisons with historical data (which might have been recorded differently), data from between 1st January 2014 and 30th June 2016 which already existed within the database were retrospectively updated as far as practicable to provide a historical baseline for comparisons.

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 by Highways England Operational Area

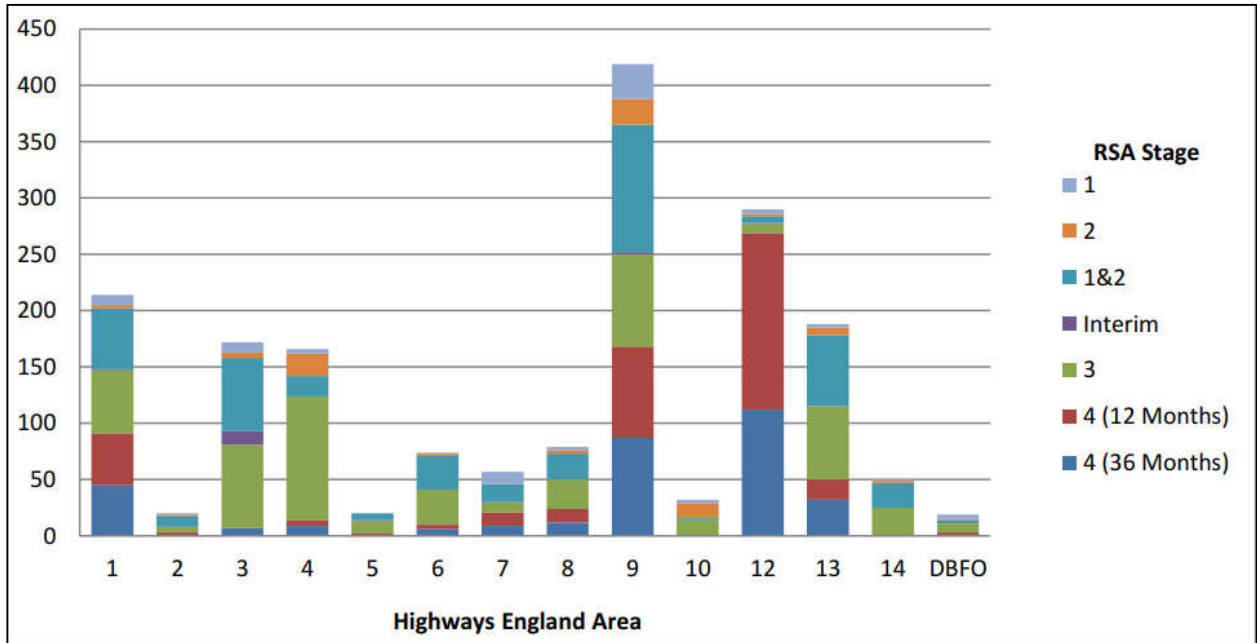
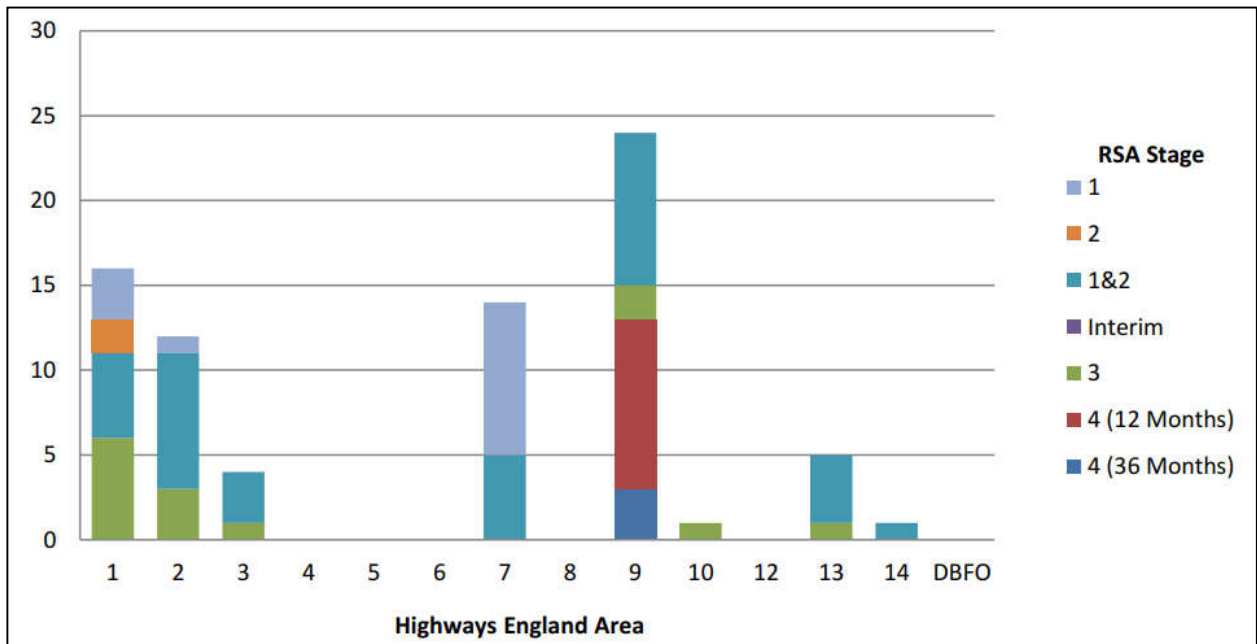


Figure 1-2 below illustrates all RSAs submitted to the SRDT inbox during this quarter, 1st January to 31st March 2018.

Figure 1-2 RSA submitted this quarter (Jan-Mar 2018) by Highways England Operational Area



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 designs 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 the frequency with which road safety Problem types appeared in RSAs within the sample set.

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 140 road safety Problems covering 157 Issues. These include previously raised Problems not resolved at the time of each of the sample RSAs.

This gives an average of 1.12 Issues per Problem reported which is comparable to 1.06 in the preceding quarterly report (October 2017 to December 2017). The Issues per Problem ratio has remained consistent around these levels in recent quarters.

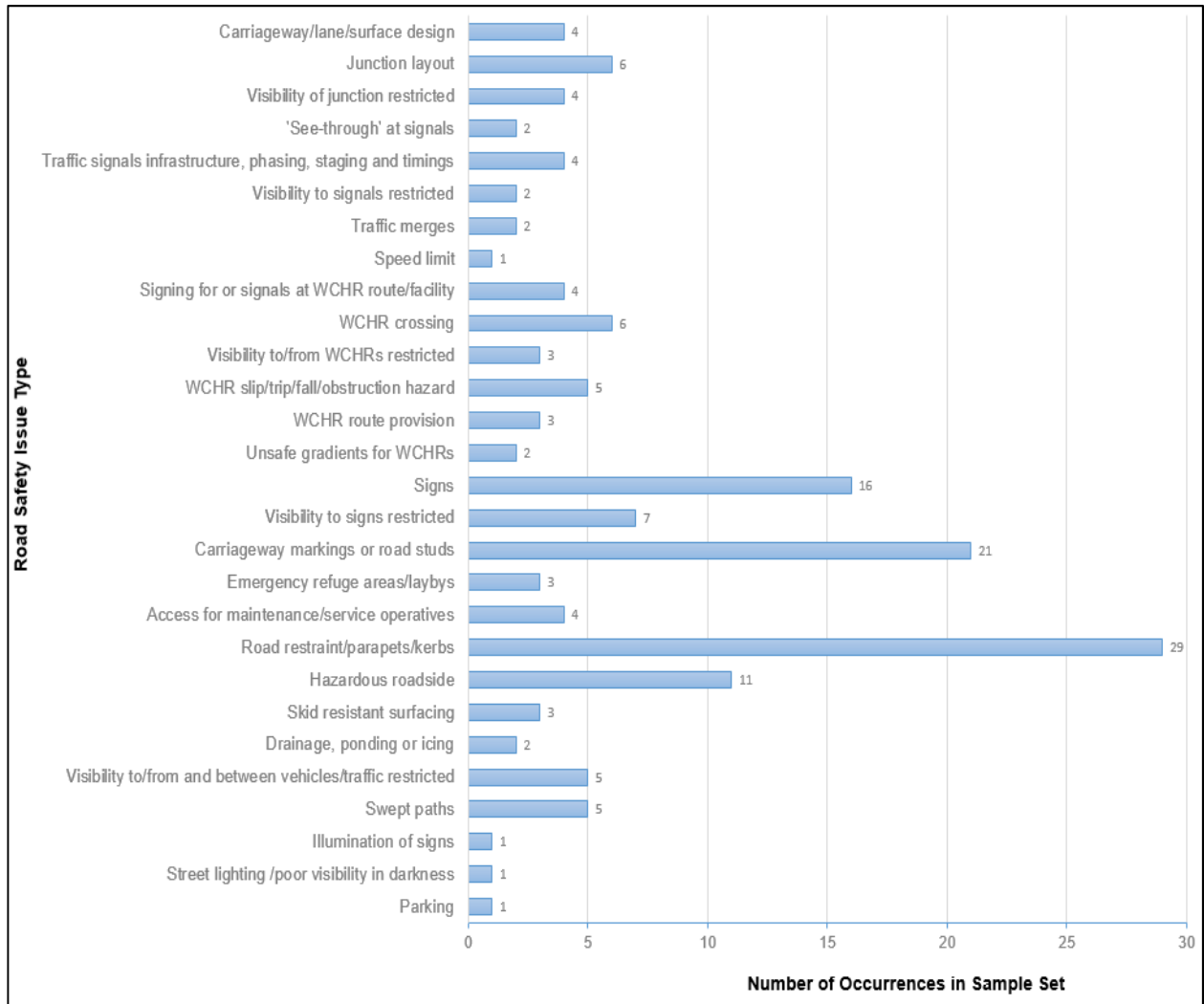
For the purpose of this quarterly report, the high-level categorisation of the Problems and Issues identified within the sample group have been expressed as follows:

- **Carriageway /lane / surface design** [alignment / width / long or cross sections]
- **Junction layout** [design / approach flows / queuing / stacking]
- **Visibility of junction restricted** [by vegetation / alignment]
- **'See-through' at signals** [contradictory signals visible]
- **Traffic signals infrastructure, phasing, staging and timings** [conflicts / location / lack of lateral clearance]

- **Visibility to traffic signals restricted** [by vegetation]
- **Traffic merges** [conflicts]
- **Speed limit** [inappropriate for environment]
- **WCHR route / facility signs or signals** [inadequate]
- **WCHR crossing** [inadequate / layout / confusing]
- **Visibility to / from and between WCHRs restricted** [by vegetation / street furniture / infrastructure]
- **WCHR slip, trip, fall or obstruction hazard** [unprotected drops / street furniture / vegetation]
- **WCHR route provision** [inadequate / narrow]
- **Unsafe gradients for WCHRs** [crossing places / routes]
- **Signs** [poorly located / incorrectly mounted / lack of lateral clearance / absent / inadequate]
- **Visibility to signs restricted** [by vegetation / other signs / alignment / other vehicles]
- **Carriageway markings or road studs** [poorly located / absent / incorrect / inadequate / confusing]
- **Emergency refuge areas / laybys** [design inappropriate / visibility to and from]
- **Access for maintenance / service operatives / emergency services** [absent / inadequate]
- **Road restraint / parapets / containment kerbs** [inadequate / inappropriate / incomplete / terminals / working width compromised / risk of 'launch' / unnecessary]
- **Hazardous roadside** [street furniture / structures / objects not passively safe]
- **Skid resistant or high friction surfacing** [confusing]
- **Drainage and related ponding and icing** [WCHR crossings]
- **Visibility to/from and between vehicles/traffic restricted** [by vegetation / street furniture / road restraint / other traffic]
- **Swept paths** [kerb-strikes / overrunning footways or cycleways / conflicts between vehicles]
- **Illumination of signs** [absence of illumination]
- **Street lighting / poor visibility in darkness** [changes in light levels]
- **Parking** [the scheme encourages, or does not sufficiently dissuade]

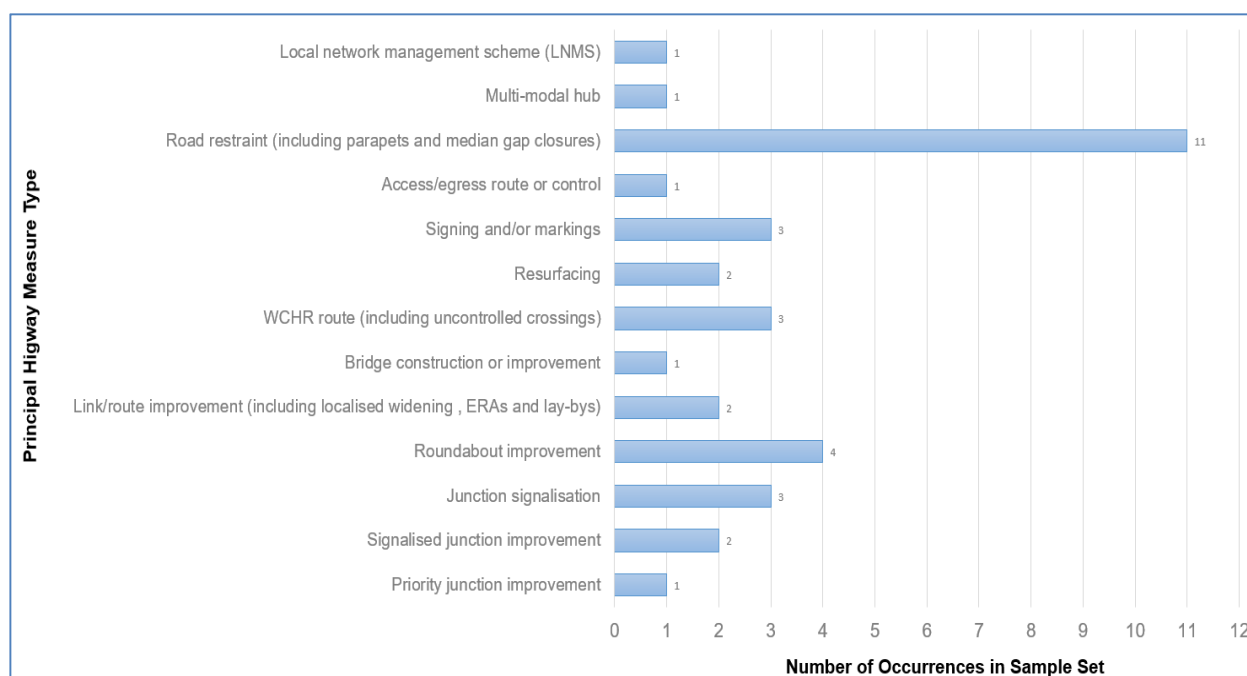
The 157 Issues covered in the sampled reports are categorised in Figure 2-1 below which indicates the frequency of occurrence. The categories of these are shortened to fit the figure dimensions and the chart should be read in conjunction with the bullet list above for a fuller description.

Figure 2-1 Road safety issues by number of occurrences



As context for the occurrences of road safety Issues given above, Figure 2-2, below, charts the principal highway measures that best describe the scheme type for each RSA report in the sample set.

Figure 2-2 Principal highway measures by number of occurrences in sample set



2.2 Good Practice and Areas for Improvement

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

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.

2.2.1 Matters Outside of Scope

There has been a marked increase in the number of reports in contravention of mandatory paragraph 2.104 of HD 19/15 which states that technical matters not having road safety implications or other matters not covered by the RSA Brief must not be included in the RSA report. Recently, the level of non-compliance in this regard has been fairly steady between 0% and 2% but, in this January to March 2018 quarter, the non-compliance is evident in 14% of the reports submitted to the SRDT inbox.

The nine non-compliant reports, all from the same supplier, contained such matters in a section entitled “*Audit Team Observations/Matters Outside the Scope*”. A further four reports by the same supplier contained this as a section heading but identified no associated issues and so were considered to be compliant with HD 19/15 in this regard.

In the sample RSAs reviewed this quarter, the issues detailed under this heading included existing maintenance issues, general design advice, and an RSA Team opinion on the preference of one design option over another.

Maintenance issues giving rise to a safety concern should be notified to the Maintaining Agent and Project Sponsor in accordance with paragraph 2.105 of HD 19/15 or, if constituting a Road Safety Matter as defined in paragraph 1.37 of the standard, should be raised in the Problem / Recommendation format. RSA Teams should avoid giving any design advice (beyond giving recommendations in general terms) to maintain their independence from the design process.

2.2.2 Blank Pages

A number of reports issued contain pages intentionally left blank. These usually include a watermark saying, *“This page has been left intentionally blank for the purpose of double sided printing”* or similar but it is not clear how blank pages would enhance double sided printing. It is acknowledged that reports might not be printed out frequently, but it would be better practice to remove these blank pages to improve readability and reduce the environmental impact should the report be printed. The report template used by one supplier usually has around 50% of its pages left blank in this way.

2.2.3 Separation between Problems and Recommendations

RSA Teams occasionally describe additional Problems under the Recommendation heading or include Recommendations within the Problem text. Care should be taken to list all pertinent collision risks in the Problem description and to keep the Recommendation clear of text describing additional Problems. Problem text should also not pre-empt or repeat Recommendations.

2.2.4 Inaccessible Areas of Site

One of the reports this quarter contained a statement saying:

“During this Road Safety Audit, the Audit Team was unable to check the proposed works within the offside verge along the slip road for Health & Safety reasons. After reviewing the drawings as listed in this report, there appeared several road safety concerns in respect this area, although as stated below the Audit Team were unable to full access the validity of these potential problems. In view of the site constraints, it is strongly recommended that the audit team be allowed access to the site towards the end of the construction period and whilst traffic management is still in place in order to review the works undertaken, as it will not be possible to check some of the works in normal traffic conditions.”

The wording of this statement is very vague but photographs throughout the report show that access to the verges might have, indeed, been hazardous without temporary traffic management (TTM) measures in place. Photographs in the report indicate that the RSA Team were able to drive past the areas of the site and the inaccessibility the report describes should not have been a major obstacle to the analysis of the design using the drawings provided. However, the report cited this inaccessibility as creating uncertainty in 62% of the Problems raised. If unable to closely approach certain areas safely and if, as a result, the RSA Team were unsure of whether or not an element of the design would be problematic (in lateral clearance for example), they should have requested clarification.

2.2.5 Monitoring as a Recommendation

One of the RSAs reviewed included a problem regarding a potential inadequacy of signing on approach to a lay-by which was being changed from general use to emergency use only. The Problem text included a statement citing a sign design, which it said would resolve the problem, but then immediately dismissed it as *“not prescribed”*. The Recommendation stated only *“It is recommended that the location be monitored through the Stage 4 Road Safety Audit process.”*

This Recommendation is contrary to paragraph 2.99 of HD 19/15 which states that *“Recommendations to “monitor” must only be made where a need to supplement the scheduled Stage 4 Road Safety Audit monitoring is specifically identified in terms of frequency and*

incidence of particular vehicle manoeuvres or collision contributory factors and the monitoring task can be specifically allocated.”

It is recognised that RSA Teams should, avoid recommending specific sign-designs but a Recommendation such as that below might have been more appropriate than simply recommending monitoring:

“A suitable sign should be provided to clearly inform road users of the presence and purpose of the converted lay-by”.

2.2.6 Location Plans

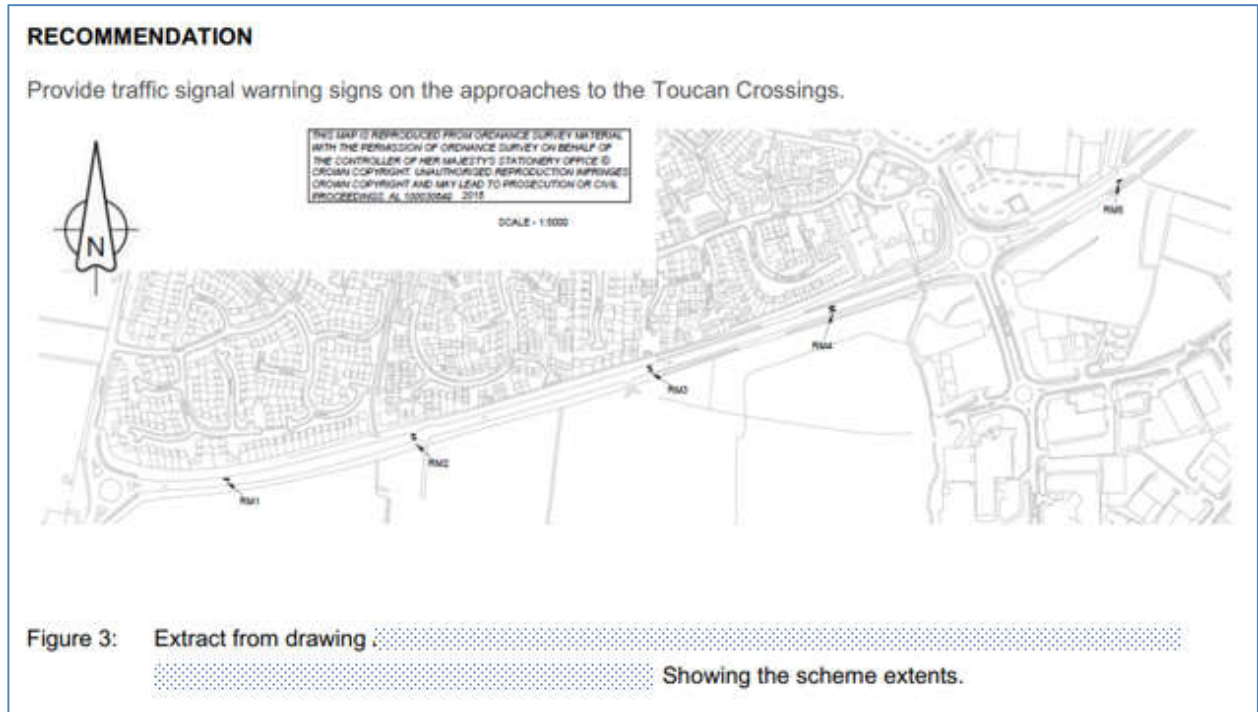
11% of the RSAs submitted to the SRDT inbox contained no Problem location plan. One of the reviewed RSAs even contained a statement saying, *“No problem location plan was produced as part of this Audit”.*

In some cases, RSA Teams might use drawing excerpts or photographs to illustrate Problem locations, but in all reports detailing Problems at specific locations a plan, or plans, clearly showing the locations in the context of the scheme as a whole shall also be included.

One of the RSAs reviewed included a general scheme-extents plan immediately after the final Problem/Recommendation but bearing no relation to the Problem location described. As such, a reader might be very likely to misinterpret that particular drawing as being specifically relevant to the final Problem/Recommendation described.

Figure 2-3 below is a screen-shot taken directly from the RSA report and shows the close association between the Recommendation text and the unrelated plan. Identifying text has been removed but this is otherwise lifted directly from the report.

Figure 2-3 Poor placement of a scheme extents plan



In addition to Problem Location Plans which sometimes focus on particular drawings or areas within a larger scheme, it is recognised that some suppliers do provide a general scheme-extents plan which does not detail problem locations. This is not a requirement of HD 19/15 but can be very useful in providing context to the scheme descriptions. Such plans would be best located within the introduction or in a separate appendix and not in the Problem/Recommendation section.

2.2.7 Strategic Decisions

Two out of the three Problems raised within one of the reviewed reports recommended the use of RRRAP and/or “*risk assessment*” to determine whether or not RRS was necessary. Whilst RSA Teams might, sometimes, challenge the principles of some scheme proposals, they should bear in mind that mandatory Paragraph 2.21 of HD 19/15 states that “*When making recommendations for dealing with identified problems, Road Safety Audit Teams must make allowance for the fact that strategic decisions on matters such as route choice, junction type, standard of provision and approved Departures from Standards already reflect an appropriate balance of a number of factors including road safety.*”

2.2.8 Stage 4 RSA Data Analysis

These quarterly reports have previously described how the expression of percentages with low collision populations can be problematic. However, one of the Stage 4 RSAs reviewed this quarter incorrectly describes a group of three out of a total of five collisions as being 66.6% instead of 60% and two out of five collisions as 33.3% instead of 40%.

Another Stage 4 RSA identified an increase in the severity ratio in the post-opening collision data but detailed no analysis to confirm statistical significance. Furthermore, no text was included to detail any further consideration of this increase by the RSA Team.

It is essential that Stage 4 RSA collision analysis is accurate, detailed and robust.

2.2.9 Recommending Removal of Features

One of the RSAs reviewed detailed a Problem regarding ‘see-through’ at signals due to high-mounted additional signal heads. The Recommendation was simply to remove the high-mounted signal heads. Such signal heads improve visibility of the signal aspects on multi-lane approaches where large vehicles might, otherwise, restrict visibility. From the photographs provided it seems likely that the removal of the high-mounted signals would increase the risk of non-compliance at the junction, and resulting collisions.

RSA Teams should make every effort to be as constructive as possible and make practicable Recommendations rather than simply recommending the removal of features.

2.2.10 Reinstatement of Pre-scheme Scenario Before RSA 4

One of the Stage 4 (12 month) RSAs reviewed detailed that, whilst undertaking the site visit, “*...it would appear that following completion this scheme has been removed in its entirety.*”

The RSA Team included a statement saying:

“It is unknown as to why this decision was taken; however, it is suspected that operational issues may have been a factor.”

In the first instance, it seems inappropriate that the RSA Team were not made aware of the removal of the scheme in advance of the RSA and it could be argued that a Stage 4 RSA was not warranted at all. However, RSA Teams should actively seek clarification regarding anything unknown or uncertain and should avoid making assumptions.

Appendix A

Quarterly Factsheet
1st January 2018 to 31st March 2018

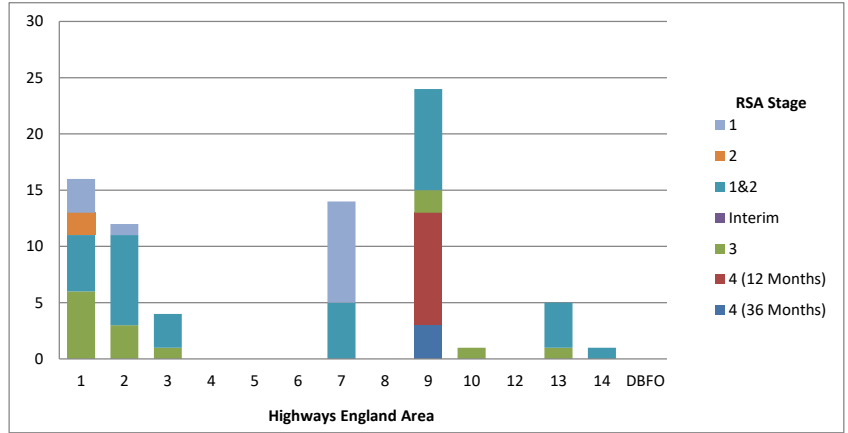
Quarterly Factsheet - 1st January 2018 - 31st March 2018 (Rev. 2)

Basic Information

	This Quarter	Database Since Jan 2014
Number of RSAs submitted	78	1794
RSA Team Leader specifically identified	96%	94%
Project Sponsor specifically identified	74%	90%

	This Quarter	Database Since Jan 2014
Average number of problems recorded	1.9	1.6
Response Report issued	1%	2%
Exception Report issued	1%	0%

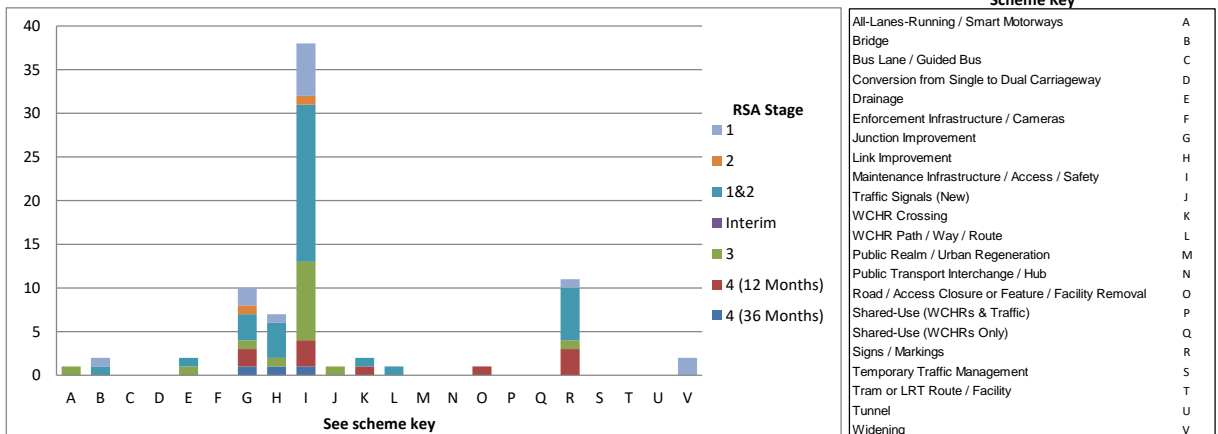
RSAs By Highways England Area - This Quarter



RSAs By Scale of Scheme - This Quarter



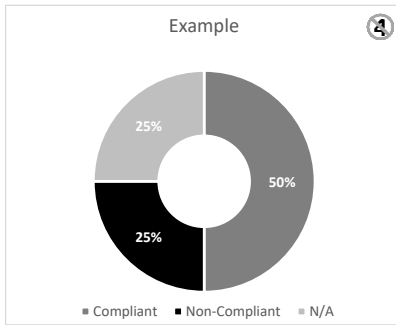
RSAs By Scheme Type - This Quarter



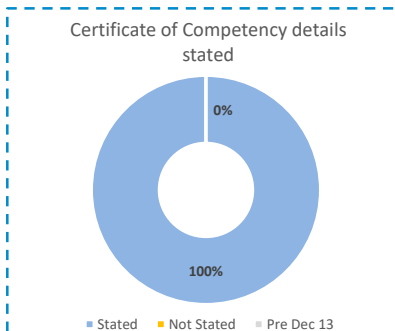
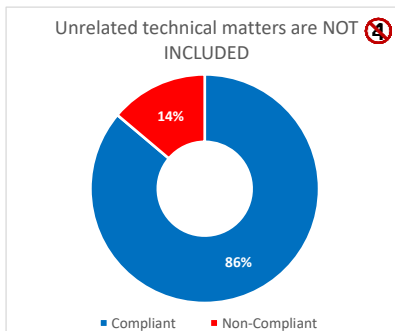
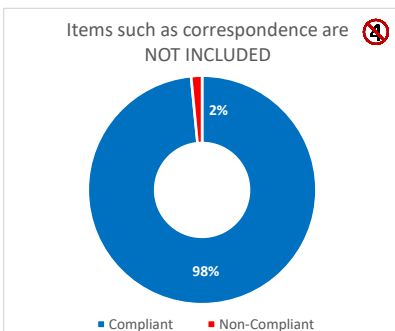
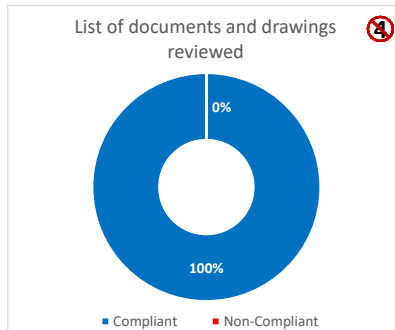
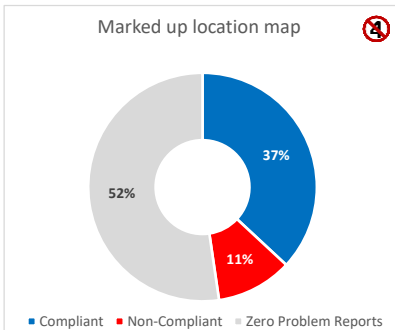
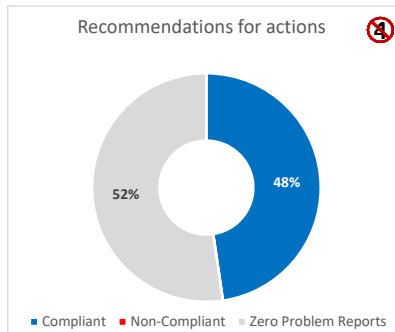
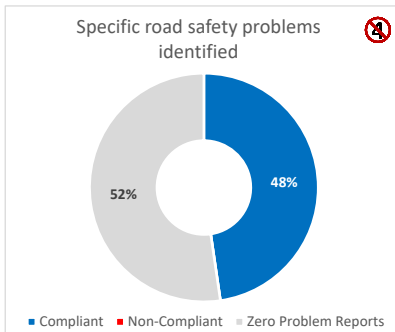
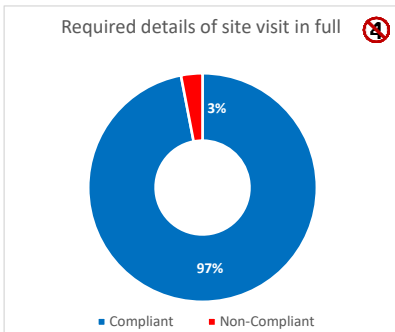
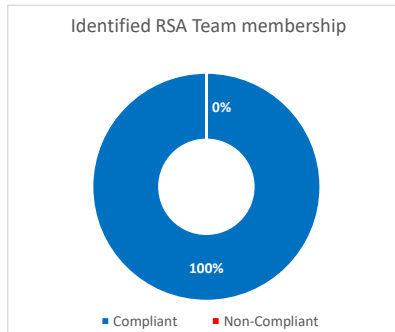
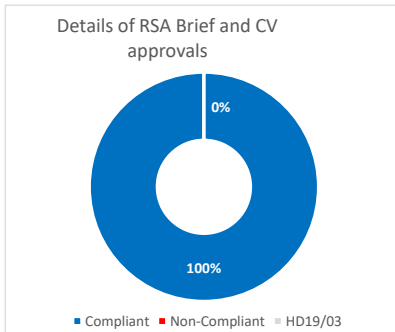
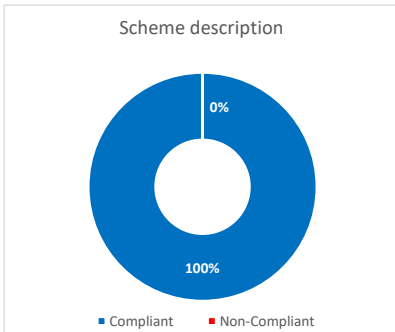
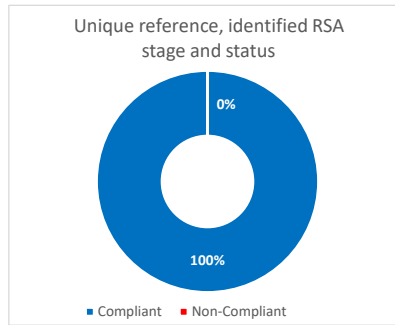
Scheme Key	
All-Lanes-Running / Smart Motorways	A
Bridge	B
Bus Lane / Guided Bus	C
Conversion from Single to Dual Carriageway	D
Drainage	E
Enforcement Infrastructure / Cameras	F
Junction Improvement	G
Link Improvement	H
Maintenance Infrastructure / Access / Safety	I
Traffic Signals (New)	J
WCHR Crossing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

Quarterly Factsheet - 1st January 2018 - 31st March 2018 (Rev. 2)

RSAs by Compliances - This Quarter - Refers to all RSA Stages unless indicated (see key)



4 Charts marked by this symbol exclude data for Stage 4 RSAs as those compliances are not directly comparable



Inclusion of Certificate of Competency details is not mandatory