

Scottish Trunk Road Network Management Contract

Schedule 2 - Scope - Appendix 5 Traffic Scotland

Attachments

North West Unit

Table of Contents

Attachment 5.1 Contact List of Network Operations Service Provider 3

Attachment 5.2 Coding for Estimated Traffic Delays 5

**Attachment 5.3 Notification of Planned Operation, Works Contracts & Work in Vicinity
of Network Operations Equipment 7**

Attachment 5.4 Notification of Proposed New Network Operations Service Site..... 10

**Attachment 5.5 Notice to Network Operations Service Provided of Damage or
Suspected Damage to Network Operations Equipment..... 12**

Attachment 5.6 Network Access Form 14

Attachment 5.7 Overview of Delay Modelling Tool 21

Attachment 5.1 Contact List of Network Operations Service Provider

Table 5.1.1 Contact List of Network Operations Service Providers

Legal entity	Address	Supplier Representative	Role & Scope
Amey OW Ltd	REDACTED REDACTED REDACTEDREDACTED	N: REDACTED T: REDACTED M: REDACTED E: REDACTED	Traffic Scotland Operations and Infrastructure Service Contractor responsible for operating the following systems: <ul style="list-style-type: none"> - Closed Circuit Television - Journey Time - Traffic Scotland Information - Incident Management - IP Communication - National Traffic Data - Other Traffic Scotland Systems
Cubic ITMS Ltd	REDACTEDREDACTED REDACTEDREDACTED REDACTEDREDACTED	N: REDACTED T: REDACTED M: TBC E: TBC	Traffic Scotland Systems Contractor responsible for implementing and maintaining following systems: <ul style="list-style-type: none"> - Closed Circuit Television

**Scottish Trunk Road Network Management Contract
North West Unit**

			<ul style="list-style-type: none">- Journey Time- Traffic Scotland Information- Incident Management- IP Communication- National Traffic Data- Other Traffic Scotland Systems
--	--	--	---

Attachment 5.2 Coding for Estimated Traffic Delays

Table 5.2.1 Coding for Estimated Traffic Delays

Number code	Description	Time
1	Little or no delay	Up to 4 minutes
2	Slight delay	More than 4 minutes but less than 8 minutes
3	Moderate delay	More than 8 minutes but less than 12 minutes
4	Serious delay	More than 12 minutes

Escalation of Delays

Base Level – code 1

The base level is ascribed to any roadworks (as defined) on the Trunk Road network of the Unit, or in adjacent unit or units, or off the Trunk Road.

First Level – code 2

The first escalation is to slight delay as defined above. The notification requirements specified within Schedule 2 – Scope, Section 5 – Network Operations – Traffic Scotland shall apply.

Second Escalation – code 3

The second escalation is to moderate delay as defined above. The notification requirements specified within within Schedule 2 – Scope, Section 5 – Network Operations – Traffic Scotland shall apply.

Third Escalation – code 4

The third escalation is to serious delay as defined above. The Operating Company shall determine this escalation level and then seek agreement with the Traffic Scotland

**Scottish Trunk Road Network Management Contract
North West Unit**

Operations and Infrastructure Services Contractor. Notification requirements specified within within Schedule 2 – Scope, Section 5 – Network Operations – Traffic Scotland shall apply in such circumstances.

Attachment 5.3 Notification of Planned Operation, Works Contracts & Work in Vicinity of Network Operations Equipment

Table 5.3.1 Notification of Planned Operations

Reference:

.....

Date:

.....

Name:

.....

Unit:

.....

Site reference	Date (from)	Date (to)	Provisional or Confirmed	Event Details	Actions	Acknowledged	Other information
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)

**Scottish Trunk Road Network Management Contract
North West Unit**

Notes:

- (a) = References shall be those contained within the inventory information.
- (b) = If the Operations, Works Contract or work takes place on a single day then insert that date here, otherwise start of event.
- (c) = If B does not reflect a single day then insert finish date here.
- (d) = Indicate if dates are provisional or confirmed.
- (e) = Type of Operations, Works Contract or work to be derived from the digits set:

Digit 1

- 1. Operations or Works Contracts.
- 2. Accident or Incident.
- 3. Other events.

Digit 2

- A: Works by Works Contractor.
- B: Work by authorised contractor.
- C: Work by Undertaker.
- D: Work by other.

**Scottish Trunk Road Network Management Contract
North West Unit**

(f) = To include any Operations, Works Contract or work carried out to make situation safe and proposals for any necessary repairs or modifications to, or at, the Network Operations sites.

(g) = Network Operations service provider to acknowledge receipt of this form.

(h) = Any additional comments as appropriate.

Attachment 5.4 Notification of Proposed New Network Operations Service Site

Table 5.4.1 Notification of Proposed New Network Operations Service Site

Reference:

.....

Date:

.....

Name:

.....

Unit:

.....

Route	Scheme	Start	Finish	Estimate value	Description	Site location	Site type
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)

**Scottish Trunk Road Network Management Contract
North West Unit**

Notes

(1) Use this form to record any proposals for the creation of new Network Operations services sites.

(2) Use one line for each proposed site.

(a) = For example, M90.

(b) = The name by which the Operations or Works Contract is known within this Contract.

(c) = Dates can be approximate.

(d) = Dates can be approximate.

(e) = For example, whether resurfacing or road realignment, etcetera. If appropriate, sketches may be supplied to make Scheme type clear.

(f) = This can be either by description or by Ordnance Survey Grid Reference - if appropriate, sketches may be supplied.

(g) = This should specify the equipment type, for example, with traffic counting sites, whether volumetric or classifier.

Attachment 5.5 Notice to Network Operations Service Provided of Damage or Suspected Damage to Network Operations Equipment

Table 5.5.1 Notice of Damage to Network Operations Equipment

Reference:

.....

Date:

.....

Name:

.....

Unit:

.....

Site reference	Date	Details	Operations Type	Responsibility	Other information
(a)	(b)	(c)	(d)	(e)	(f)

**Scottish Trunk Road Network Management Contract
North West Unit**

--	--	--	--	--	--

Notes

(a) = References must be those contained within the inventory information.

(b) = Insert the date when the damage occurred or the date the damage was identified – indicate which is applicable.

(c) = Details of the damage and effects of the damage.

(d) = Insert details of the cause of the damage (if known).

(e) = Name and contact details of organisation that caused the damage (if known).

(f) = To include all relevant details not covered elsewhere in the form – to include contact details in all cases.

Use separate additional sheets if required, but make reference to them here.

Attachment 5.6 Network Access Form

Document:	Network Access Request (NW)	Insert Operating Company Name / Logo
Issue:		
Related to:		
Page No. 14 of 24		

Note: Before completing this form please read the Conditions of approval for carrying out works on the trunk road network at Appendix A.

SRWR /LA Reference:		Traffic Scotland ADF No:	
--------------------------------	--	-------------------------------------	--

Route:		Location of Works:	
Start Eastings/Northings:		End Easting/Northings:	
Description of the Works:			

Timing of the Works – see attached Table 1/17 for restrictions

Start Date	Start Time	End Date	End Time	M	T	W	T	F	S	S	M	DAY
												NIGHT
												CONTINUOUS

1. Organisation Undertaking the Works

Company Name	
Company Address	

Scottish Trunk Road Network Management Contract
North West Unit

Contact Name		Email Address:	
Contact Telephone		Mobile:	

2. Contractor for the Works

Company Name			
Company Address			
Contact Name		Email Address:	
Contact Telephone		Mobile:	

3. Traffic Management Contractor for the Works

Company Name			
Company Address			
Contact Name		Email Address:	
Contact Telephone		Mobile:	

4. Site Traffic Liaison Officer (STLO) for the Works

Name:		Contact Number:	
-------	--	-----------------	--

Proposed Traffic Management for the Works (Tick requirement)

Road Closure	Contra-flow		Lane Closure		Mobile Lane Closure		Portable Light Signals		Convoy	Stop/Go	Verge Works	Single Vehicle Works
	2 + 2		Lane 1		Lane 1		2-way					

Scottish Trunk Road Network Management Contract
North West Unit

Layby Closure	2 + 1	Lane	2	Lane	2	3-way	
	1 + 1					4-way	

Temporary Traffic Restriction Order Required (Tick requirement)

Road Closure		Turning Movement	xx	Contra-flow	x	50 mph	xx	40mph	xx	30m ph	xx	10m ph	xx
---------------------	--	-------------------------	----	--------------------	---	---------------	----	--------------	----	---------------	----	---------------	----

Operating Company Use Only

Further Info Required:			
Events affecting application:			
Events affecting application:			
Restriction's to be applied:			
JTRC Delay estimate:			
Roadspace Approved by Journey Time	Signed	Print Name	Date

Scottish Trunk Road Network Management Contract
North West Unit

Reliability Coordinator				
Yes	NO			
<i>If No – reason for refusal:</i>				
Approval by Network Manager / OCR if required:	Signed	Print Name	Date	
Comments:				

Acceptance of Conditions by the Organisation Undertaking the Works

We agree to comply with the conditions and restrictions in respect of this application.

Name:

Position:

Signature:

Date:

Return of Completed Forms: Completed forms should be returned to the North West Unit Network team as follows:

Journey Time Reliability Coordinator

Operating Company

Insert Address

Telephone:

JTRC North: **REDACTED**

JTRC Central: **REDACTED**

JTRC South: **REDACTED**

**Scottish Trunk Road Network Management Contract
North West Unit**

4. Where the work(s) affect road(s) other than the trunk road(s) the applicant will be responsible for all consultation with the relevant Local Authority. A record of the consultation will be provided with the application.
5. The applicant will be responsible for all consultation with the Police Scotland force. A record of the consultation will be provided with the application.
6. A minimum notice period of eight weeks will be required for works that require a Temporary Traffic Regulation Order for a road closure, turning movement, contra-flow or speed limit reduction.
7. Applications for emergency work(s) will be treated on their individual merits.
8. Confirmation that network access has been granted will be provided through the issue of a copy of the application form signed by the Operating Company Journey Time Reliability Coordinator.
9. The applicant's traffic management contractor will receive by e-mail by noon on the Thursday before the works are due to commence the unique Traffic Scotland reference number for the work(s). This unique reference number is for use only on the date(s) and time(s) applied for.
10. The traffic management contractor **must** notify Traffic Scotland 15 minutes prior to placing the first cone of the traffic management for the works and again when all traffic management is removed by telephoning -- **REDACTED** ----- and quoting the unique Traffic Scotland reference number for the work(s) given on the weekly Programme of Intent.
11. For portable light signals the organisation undertaking the work(s) by making this application agrees to meet all reasonable costs incurred by Operating Company in respect of giving emergency attention in the event that the emergency contact(s) cannot be reached or are unable to rectify any fault within 2 hours of the first notification that the signals or associated signing are faulty. It should be noted that Operating Company and its employees accept no responsibility for any claim(s) or demands which may be brought against it by third parties in any way by virtue of the installation operation or emergency rectification of these signals.
12. For portable light signals the conditions set out in Form PLS-A of Advice Note 8: Portable Light Signals (Version 1.2/December 2006) issued by the Roads Authorities and Utilities Committee (Scotland) will apply unless superseded by these conditions.
13. Appropriately sized sign(s) must be erected to display the name and telephone number of the organisation undertaking the work(s).
14. The organisation undertaking the work(s) will appoint a Site Traffic Liaison Officer who will be on site throughout the work(s).

**Scottish Trunk Road Network Management Contract
North West Unit**

15. The organisation undertaking the works will put in place a system for determining the actual delays to the traffic as a result of the traffic management for the works. The system must be robust enough to determine a delay of 10 minutes with an accuracy of plus or minus 2 minutes at all times.
16. The Site Traffic Liaison Officer (STLO) will be responsible for immediately notifying Traffic Scotland by telephoning --- **REDACTED**--- and quoting the unique Traffic Scotland reference number for the works when delays to traffic exceed 10 minutes. The STLO will continue to notify Traffic Scotland at no more than 30 minute intervals or when delay changes of five minutes or more occur, giving details of the delay times until such time as the delays have ceased to exceed 10 minutes.
17. Operating Company reserve the right to remove or to have removed any traffic management, if safe to do so, should exceptional circumstances such as a road traffic incident occur.
18. The approval applies only to the date(s) and time(s) stated on the Network Access Form.
19. A copy of the signed Network Access Form must be kept on site and will be shown on demand to any employee of Operating Company or relevant others.

Attachment 5.7 Overview of Delay Modelling Tool

Table 5.7.1 Delay Modelling Tool

Provision of the Delay Modelling Tool

The delay modelling tool facilities will be supplied by the Director as one of a suite of traffic analytics systems, which can be used to assess delay and congestion effects of works undertaken on the Trunk Road Network.

Access to the Delay Modelling Tool.

No later than 25 Working Days prior to the Commencement of Service Date, the Operating Company shall provide and maintain at the Central Office a broadband internet connection for access to the delay modelling tool.

Prior to ordering this connection, the Operating Company shall contact the Director to confirm the exact requirements.

Features

The delay modelling tool will use a simple demand/capacity flow model to simulate conditions at a location on the Trunk Road network.

The delay modelling tool will estimate the delay in minutes and the approximate queue length in kilometres resulting from a reduction in operational capacity at a specified location on the Trunk Road network. Estimated delays will take into account delays that are the result of recurrent congestion. The delay modelling tool will provide a delay value relating to the additional journey time that is in excess of the free flow journey time (total delay) and a further delay value for the additional time in excess of the typical journey time

for the specified time of day and day of week (normal delay). The location will be defined by network link(s), typically junction to junction, or by subsections of a link.

For roadworks that extend over a number of links, the capacity reduction will be assumed to apply at the most upstream link or section.

Roadworks interventions that affect both directions at a network location will require separate analysis and identification by the Operating Company.

The delay modelling tool will estimate the delay cost based on average traffic composition and value of time figures provided by Scottish Transport Appraisal Guidance (Scot-TAG).

A facility to specify an upstream diversion rate as a percentage of the demand flow in vehicles per hour will be provided. The Operating Company shall use this to estimate the cost saving resulting from the implementation of the diversion.

The delay modelling tool will have access to tables of normal flow rates and speeds at different times of the day and days of the week for network links that have monitoring facilities. These will be in three minute or 15 minute periods depending on the level of equipment provision at the location of the monitoring facilities.

The delay modelling tool will have access to tables of normal journey times for some network links. The Operating Company may use these in addition to the point information from monitoring sites to improve the accuracy of the delay estimation.

The Operating Company shall record the output from the assessment undertaken using the analytics tools made available, including the delay modelling tool, relating to a confirmed roadworks entry in the Automated Diary Facility using the appropriate Automated Diary Facility identifier.

The delay modelling tool will provide details of capacity flow rates and capacity reductions for different road types and typical closure scenarios based on values in the Design Manual for Roads and Bridges. These may be overridden by a delay modelling tool user.

Data Inputs

The delay modelling tool will contain appropriate details of:

- (i) Normal traffic flow, speed and composition,
- (ii) Normal link journey times,
- (iii) Link length, free flow speed and journey time and capacity, and
- (iv) Value of time figures.

Additional information required to model a capacity reduction will be required to be entered by a delay modelling tool user; this will include:

- (i) Location of the works in terms of links and/or sections of links,
- (ii) Chainage in metres from start of link/section to start of works,
- (iii) Length of works,
- (iv) Day(s) of week,
- (v) Start/end time,
- (vi) Lanes closed,
- (vii) Confirmation of free flow speed on the link/section (suggested by the delay modelling tool),
- (viii) Confirmation of link capacity remaining after roadworks implemented (suggested by the delay modelling tool),
- (ix) Expected diversion rate (to estimate benefit of diversion), and
- (x) Length of diversion route.

Report Outputs

The Operating Company shall estimate the following information for each model analysis:

**Scottish Trunk Road Network Management Contract
North West Unit**

- (i) Details of works location (links/sections),
- (ii) The delay in minutes during the period while the roadworks are implemented and until resultant queues have cleared (at intervals of three minutes or 15 minutes),
- (iii) The queue length (at intervals of three minutes or 15 minutes),
- (iv) The total delay in vehicle hours,
- (v) The total queue size in vehicle kilometres, and
- (vi) The cost/diversion benefit of the roadworks in terms of lost time/saved time