



Management Systems Document - Form

Traffic Signal Supplementary Report (TSSR) – AMD Scheme Design and Impact Assessment

Document No: SQA-0569 - issue: 2

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1 Purpose

To provide the template for the client / promoter scheme proposal and the Asset Management Directorate (AMD) audit of signal design and network impact.

The template must be completed for all schemes planned for implementation on the Transport for London Road Network (TLRN) and Strategic Road Network (SRN) and where schemes on other roads impact the performance of the TLRN, SRN or bus operation.

The audit and assessment completed by AMD will be undertaken on schemes that are accepted traffic signal schemes and this document will provide a summary of the findings with recommendations, with respect to safe signal design and road network impact.

The Traffic Signal Supplementary Report (TSSR) will be initiated and submitted by the promoter (section 1). AMD Traffic Infrastructure (TI) Signals and Road Space Management (RSM) Network Performance (NP) will complete their assessment (Sections 2 and 3 respectively). It will then be returned to the promoter for them to submit to RSM's Planned Interventions (PI) and Forward Planning Team (FPT), along with other supporting information.

2 Scheme Types

1. Minor works (usually not in carriageway) not effecting signal operation or capacity.
2. Isolated crossings (Pelican, Toucan, Puffin).
3. Crossing in a linked system (Pelican, Toucan, Puffin).
4. Modifications to existing signals to improve facilities
5. New junctions
6. Modernisation Programme.

Notes:

Type 1: A TSSR is generally not required for this type of scheme, however a road network impact assessment (Section 3) may be required for non-traffic signal schemes that could affect road capacity.

A network impact assessment will require operational traffic modelling and must follow the Model Audit Process (MAP) – SQA-0184.

Type 5: Justification will need to be provided for new signal installations.

3 Reference Documents

Document Number	Document Title
SQA-0064	Design Standards for Signal Schemes in London.
SQA-0184	Model Audit Process (MAP) Overview.
SQA-0448	Signal Design Review Sheet

4 Document Reference

4.1 Document Control - for Scheme Submission

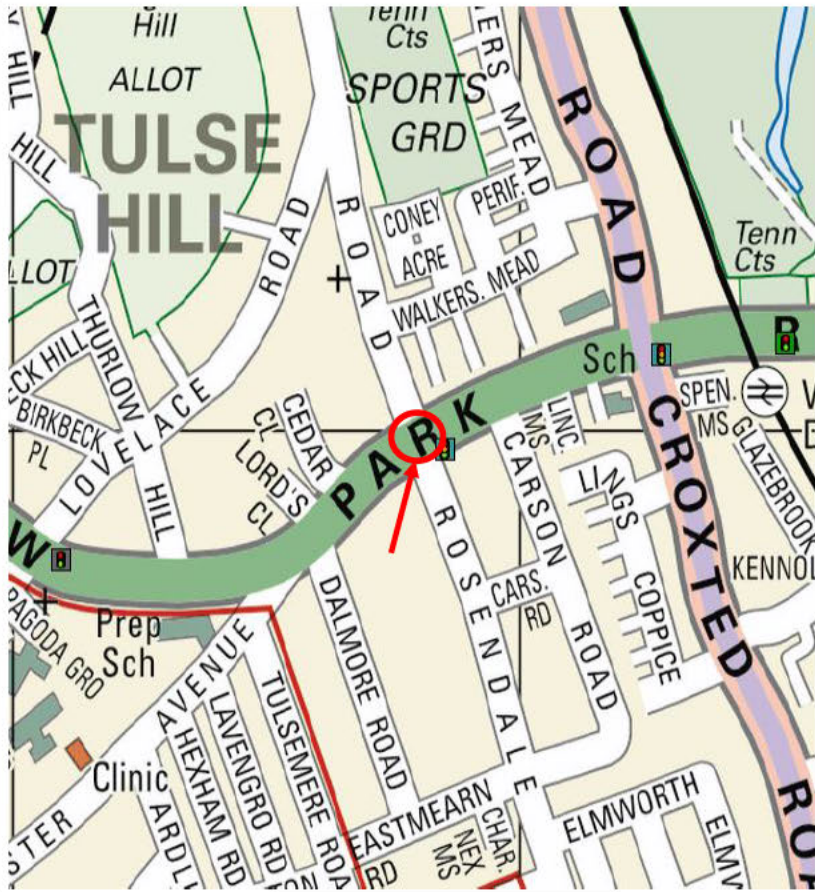
Issue	Date	Status / Notes	By	Checked	Approved
0.1	17/12/15	Initial draft by Sponsorship / ODE sent to TI and OD-OM	Danni Rooney	Toyin Odusina	Danni Rooney
0.2	17/12/15	TI comments added	Dave Chiu		
0.3	06/03/16	OD-OM Comments Added	Matt Lloyd		
1.0	09/03/16	Finalised version			

4.2 Scheme Reference

Scheme Type Number:	TC.010.3088.013
FPT Reference Number:	TBC
Sponsor:	Danni Rooney

5 Scheme Summary *(Promoter to complete this section)*

5.1 Scheme Overview

Title:	A205 Thurlow Park Road j/w Rosendale Road		
Location (Area):			
Borough:	Lambeth	Road Network (TLRN, SRN, Other):	TLRN
Road Number / Corridor:	A205	WBS Code:	SC.3088.013
Funding:	Quietways Programme	Highway Authority:	TfL
Objective:	The purpose of the scheme is to provide a safe and convenient crossing point for cyclists travelling across the TLRN		
Scheme Details:	<p>The scheme provides a link across the TLRN as part of Quietway 7 from Elephant and Castle to Crystal Palace.</p> <p>The Quietways programme will deliver a pan-London network of high-quality, well-signed cycle routes predominately on low-traffic back streets designed to overcome the most important barriers to cycling, targeting less confident cyclists and those who prefer a more relaxed journey.</p>		

New Signals Required?	TI have a modernisation scheme at this junction which is being carried out at the same time.
Scope of Works:	<ul style="list-style-type: none"> • 2 stage right hand turn for cyclists are being implemented. • Pedestrian crossings are being realigned and widened. • We are increasing the width of the existing ASLs. • Right turn lane and a pocket for vehicles turning from Rosendale Road westbound onto Thurlow Park Road is being introduced to minimise potential conflicts between cyclists and motor traffic • We are also introducing mandatory cycle lanes on the side roads. • Resurfacing of carriageway within the extent of works
Comments or Promoters assessment of scheme impact:	<p>This scheme will contribute to the Mayor's Vision for Cycling by providing a safer and more convenient crossing for cyclists, as well as achieving the outcomes of the Quietways programme by providing facilities across the TLRN.</p> <p>Refer to comments in section 7</p>

5.2 Site Works Breakdown

Existing or New Signals	Site No.	Address	Type	Controller / Stream	Scope of Works
Existing	09/000 050	A205 Thurlow Park Road j/w Rosendale Road		NA	<ul style="list-style-type: none"> • Modernising the junction • 2 stage right hand turn for cyclists are being implemented. • Pedestrian crossings are being realigned and widened. • We are increasing the width of the existing ASLs. • Right turn lane and a pocket for vehicles turning from Rosendale Road westbound onto Thurlow Park Road is being introduced to minimise potential conflicts between cyclists and motor traffic • We are also introducing mandatory cycle lanes on the side roads. • Resurfacing of carriageway within the extent of works

5.3 Information Supplied

Type	Title	Version / Reference No.	Date	Author	Organisation
Drawing	A205 Thurlow Park Road j/w Rosendale Road	ODE-TC.010.3006272-IN-01	May 2016	Mark Artis	RSM - ODE

5.4 Promoter Submission Details

The described scheme has been submitted for audit on behalf of the following:

Sponsor (Client):	Danni Rooney, Road Space Management - Sponsorship
Promoter (Design consultant):	Mark Artis, Road Space Management – Outcomes Design Engineering

Contact Details:	
Name:	Danni Rooney
E Mail Address:	████████████████████
Telephone Number:	██████████

Note: Please ensure that the relevant line in the document control table (section 4.1) has been completed including date submission sent.

6 Scheme Assessment (*To be completed by TI Signals*)

6.1 Data and Information

Clients data

Accident Statistics

6.2 Signal Design

09/050 Thurlowe Park Road/ Rosendale Road

Proposed changes:

The Junction 09/050 is due for modernisation, as part of these works the Quietway proposals will be included.

- 2 stage right hand turn for cyclists are being implemented.
- Pedestrian crossings to be realigned and widened.
- Increasing the width of the existing ASLs.
- Right turn lane and a pocket for vehicles turning from Rosendale Road westbound onto Thurlow Park Road is being introduced to minimise potential conflicts between cyclists and motor traffic.
- Mandatory cycle lanes on the side roads.
- Early start for cycles from Rosendale Road north bound and south bound .

- Thurlow Park Road East Bound

Pedestrian crossing re aligned and is now 3.2m wide, lane markings revised with 5m ASL. Kerb build out to allow 2 stage turn for cyclists. All movements are allowed from this approach.

- Thurlow Park Road West Bound

Pedestrian crossing re aligned and is now 3.2m wide, this is to allow for 2 stage turn reservoir, lane markings revised with 5m ASL. All movements allowed from this approach.

- Rosendale Road North Bound

Pedestrian crossing re aligned and increased to 3.2m to allow 2 stage turn reservoir, lane markings revised with 5m ASL. New 2.0m wide mandatory cycle lane south bound. NRT except buses and cycles to remain.

- Rosendale Road South Bound

Pedestrian crossing re aligned and increased to 3.2m to allow 2 stage turn reservoir, lane markings revised with 5m ASL. New 2.0m wide mandatory cycle lane.

Cycle Safety Mirrors will be installed on all approaches.

Pedestrian countdown will be added to the all round pedestrian stage.

Proposed Method of Control



- Stage 1: Thurlow Park Road east and west bound
- Stage 2: All round pedestrian stage with pedestrian countdown and tactile rotating cones.
- Stage 3: Rosendale Road north and south bound with Cycle early start phases E and F. NRT except buses and cycles Rosendale Road north bound.

Stage 1 Audit carried out and following issues observed on site;

- Formed poles required for Poles 1,2,3,5,6 and 8
- Cycle safety mirrors to be added to primary poles 2,4,6 and 9
- Existing mast arm to remain.

6.3 Assessment Summary

The following recommendation is made:
No objections raised. The following must be undertaken prior to implementation: Stage 2 audit- SQA 448 audit required
No objections raised
Do not proceed with scheme. This is due to the following objection(s):
NA

The scheme has been assessed / audited and approved by:

TI Traffic Control Engineer:	
TI Principal Traffic Control Engineer:	

Contact Details:	
Name:	
E Mail Address:	
Telephone Number:	

Note: Please ensure that the relevant line in the document control table (section 4.1) has been completed.

7 Network Impact Assessment

7.1 Model Integrity

LinSig models for the AM and PM peak have been developed to MAP standards for the assessment of this scheme.

7.2 Network Impact Assessment

The provision of new infrastructure for cyclists result in a loss of capacity at the site. This results in an increase in modelled degree of saturation, delay and queues on all approaches with the greatest impact being during the AM peak.

Quality Bus Network

The P13 and 201 bus routes pass through the junction where changes are being made. Both bus routes run four buses an hour in each direction along Thurlow Park Road (A205).

The proposed scheme increases queuing and delay on Thurlow Park Road, most notably in the AM peak where eastbound modelled delay increases from 15.7 seconds to 16.9 seconds. During the PM peak modelled delay increases from 4.7 seconds to 5.6 seconds. The biggest impact to traffic is on Rosendale Road where there are no bus routes.

Reliable Roads

The junction between Rosendale Road and Thurlow Park Road is on the A205 where Journey Time Reliability (JTR) is measured and reported. Due to the provision for cyclists there has been a loss of capacity for other road users.

The most significant change is on Rosendale Road northbound where degree of saturation rises from 95.8% to 103.6% during the AM peak. Performance on all arms is worse under the proposed scheme due to a reduction in available green time to general traffic.

More and safer cycling

This scheme improves cycling facilities at this site by introducing additional cycling infrastructure. Cyclists travelling along Rosendale Road will get an early release. Cyclists will be able to turn right in two stages and ASL sizes have been increased.

Due to a loss of capacity at the junction during the AM peak the northbound queue on Rosendale Road rises from 21.9 PCUs to 34.2 PCUs. This is the road the Quietway route uses and as a result of the increase in queue length cyclists will need to pass more queuing traffic to access the provisions for cyclists.

Better places to walk

There is already an all-round pedestrian stage at this junction. There are no significant changes for pedestrians as part of the scheme. The modelled maximum wait time for pedestrians in the proposed scenario remains the same as in the existing situation.

7.3 Assessment Summary

In order to provide early starts for cyclists on Rosendale Road other traffic movements now have less green time available. This has resulted in a drop in capacity and an increase in degree of saturation, delay and queue length at the junction.

The following recommendation is made:

No objections raised. Forward Planning to take these into consideration when making their decision on this scheme:

- There is a loss of capacity at the site which increases bus journey times.
- There is an increase in degree of saturation and queue length for general traffic.
- The increase in queue length is likely to impede cyclists particularly on northbound Rosendale Road during the AM peak.

The scheme has been assessed / audited and approved by:

OD-OM Traffic Control Engineer:	
OD-OM Principal Traffic Control Engineer:	Matthew Lloyd

Contact Details:	
Name:	Matthew Lloyd
E Mail Address:	
Telephone Number:	

Note: Please ensure that the relevant line in the document control table (section 4.1) has been completed.

8 **Document Control**

Issue	Date	Change Summary	Author	Checker	Approver
1	Nov 11	Initial draft	A Parkins	A Scriven	R Pye
2	Dec 13	TD references updated to RSM and RD references updated to AMD	R Pierson	J Fraser	

Appendix A – References

Reference	TfL file location	Title	Author	Content
RSMS Project File	\\onelondon.tfl.local\shared\CDT\03 London Routes and Places\03.05 Central\Cycling Programme Review\QUIETWAYS\Tranche 1\Lambeth\ A205 Thurlow Park Road j/w Rosendale Road	A205 Thurlow Park Road j/w Rosendale Road	Danni Rooney	PM, data, finance, photos

Appendix B – Comparative Performance Statistics

Period	Arm/Link		Base Model			Proposed Model		
	Link Number	Link Description	DoS (%)	Q Len (PCU's)	Delay (s/PCU)	DoS (%)	Q Len (PCU's)	Delay (s/PCU)
Weekday	1/1	Rosendale Road sb straight	22.7	2.6	1.0	25.8	2.7	1.1
AM Peak	1/2	Rosendale Road sb right	83.1	3.2	2.9	83.1	3.3	2.9
	2/1	Thurlow Park Road wb	82.9	12.7	5.9	86.0	13.3	6.5
	2/2	Thurlow Park Road wb right turn	79.3	10.1	5.2	82.6	10.6	5.7
	6/1	Rosendale Road nb	95.8	21.9	12.2	103.6	34.2	24.6
	5/1	Thurlow Park Road eb ahead	98.8	25.7	15.7	99.6	26.9	16.9
	5/2	Thurlow Park Road eb right	97.3	12.9	9.4	98.8	13.5	10.2
	Cycle Time		88					
	PRC (%)		-9.8%			-15.2		
	PI							

Period	Arm/Link		Base Model			Proposed Model		
	Link Number	Link Description	DoS (%)	Q Len (PCU's)	Delay (s/PCU)	DoS (%)	Q Len (PCU's)	Delay (s/PCU)
Weekday	1/1	Rosendale Road sb straight	72.4	7.7	3.9	76.2	8.1	4.2
PM Peak	1/2	Rosendale Road sb right	63.6	3.5	2.1	64.2	3.5	2.1
	2/1	Thurlow Park Road wb	64.2	10.7	3.5	70.9	11.9	4.2
	2/2	Thurlow Park Road wb right turn	46	6.3	2.2	51.6	6.9	2.6
	6/1	Rosendale Road nb	56	5.5	2.6	56.4	5.5	2.6
	5/1	Thurlow Park Road eb ahead	73.5	13.9	4.7	78.3	15.2	5.6
	5/2	Thurlow Park Road eb right	55.5	6.2	2.6	66.7	6.9	3.3
	Cycle Time		88			88		
	PRC (%)		22.5			15.0		
	PI							

Arm / Link = Traffic, Pedestrians and Buses etc., i.e. buses, pedestrian phases and any other significant road user group should be modelled as separate links.
Link Description should include the link address, compass position and direction of movement (e.g. High Street West bound ahead)

DoS = Degree of saturation JT = Journey Time Q Len = Mean Max Queue Length PI = Performance Index PRC = Practical reserve capacity. This is calculated from the maximum degree of saturation on a link and is a measure of how much additional traffic could pass through the junction while maintaining a maximum degree of saturation of 90% on all links