



SQA-8569 - Scheme Impact Report (SIR)

Figge's Marsh

February 2019



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Purpose

The Scheme Impact Report (SIR) is to be used to identify the impact of implementing a scheme on the network to provide the client/sponsor and Planned Intervention (PI) team with all of the required information to make an informed decision on the project.

The Scheme Impact Report (SIR) will be initiated and submitted by the scheme sponsor / promoter. Traffic Engineering (TE) Signals will complete the Signals Design Technical Assurance section. The SIR is then handed to Road Space Management (RSM) Outcomes Management, to inform on the integrity of the modelling and network impact. Once complete, the SIR is handed back to the sponsor/client who will then submit the scheme to RSM's Planned Interventions for approval.

A SIR must be completed for all schemes planned for implementation on the Transport for London Road Network (TLRN), Strategic Road Network (SRN) and on borough roads if bus operation is also impacted.

Scheme types:

- Aggregation of schemes in the area
- Significant changes to large sections of the network
- Major schemes
- Large schemes
- Small to medium schemes – localised impacts
- Low or no impact schemes

All of these scheme types require a SIR to assess the impact on the network.

Reference documents

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








Document Control for Scheme Submission

Version	Date	Prepared by	Reviewed by	Approved by



Scheme Overview

RSPG Version	Changes	Date
I		11/11/2011

Cycling		Green
Walking		Green
Bus Network		Green
Environment		Green
Freight & Servicing		Green
General Traffic		Green
Taxis		Green



Contact Details

Scheme Sponsor		Date Signed
Sponsor (Client):	LB Merton / TfL Buses	
Promoter (Design Consultant):		

Traffic Engineering		Date Signed
TE Traffic Control Engineer:	James Pinder	05/02/2019
TE Principal Traffic Control Engineer:		

Outcomes Delivery		Date Signed
OM Traffic Control Engineer:	David Oram	24/01/2019
OM Area Performance Manager:	Jennifer Melbourne	05/02/2019
Outcomes Design Engineer:	-	

Planned Interventions		Date Signed
Network Impact Assessment Engineer:		
Network Impact Assessment Manager:		



Scheme Summary

Name:	Figge's Marsh		
Type of scheme:	Junction redesign to improve bus journey times and enhance the public realm		
Borough:	Merton	Road Network:	SRN
Location & scope of works:	Junction and immediate surrounding (TfL site reference 22/006)		



Scheme objective (from Scheme Brief form):	Aim of the scheme is to improve bus journey times for the numerous bus routes that pass through. This will be achieved by introducing a new signalled junction facility in the place of the existing roundabout. London Road northbound and Streatham Road southbound will be shown green at the same time, dramatically improving the capacity of the junction. Alongside this is to improve the pedestrian and cycling experience through new cycling facilities and wider pavements
Scheme justification & benefits (from Scheme Brief form):	There are 8 bus routes, and 1 night route, that travel through the junction. Improvements in capacity will result in a lowering of cycle time and a subsequent reduction in delay to all vehicle modes. Journey times for buses are expected to improve significantly.
Changes to scheme brief	





Traffic Engineering: Safety checks

Designs approved in Principle:	Yes
The removal in the signalised roundabout facility and replacement with a traditional junction layout has been designed and approved through the Traffic Signals assurance process. This design shows no deviations from standards and there are no safety issues or concerns that need to be documented.	

Safety review (including safety timings:	Yes
Buildability Review:	Yes
Maintainability Review:	Yes

Comments or additional supplementary information:
N/A

Signal Design Technical Assurance of design drawings listed in Appendix.

This Assurance constitutes "Approval in Principle". Full AMD Technical Approval of the Signals Design will be given in detailed design.

Changes to layout or facilities following public consultation or in detailed design may affect the timings, buildability, maintainability and safety assessment of the design(s).

Prohibited movements require Traffic Management Orders prior to implementation.



Model Integrity

Modelling in line with MAP Standards:	LMAP	Yes
	TMAP	No
	VMAP	Yes
Date of traffic flow data:		01/11/2016
Traffic peak times modelled:	AM peak	Yes
	Off-peak	No
	PM peak	Yes
	Weekend	No
Strategic modelling undertaken:	ONE	No
	Other	No
Scenarios modelled:	Base	Yes
	Future Base	No
	Do Something	Yes
	Sensitivity	Yes
Feasibility modelling undertaken in Linsig:		Yes
Key modelling assumptions/exceptions:		
<p>Traffic flow data was collected in November 2016, prior to the completion of the adjacent Mitcham Town Centre scheme, therefore there were concerns around the accuracy of this data. Spot counts were carried out in October 2018 and compared against the 2016 data. Whilst most approaches were within an acceptable tolerance, Streatham Road southbound was shown to differ significantly, therefore it was agreed that sensitivity testing of this approach would be carried out to ensure that the benefits we measured would apply for higher flows</p> <p>All pedestrian crossings have been assumed to appear every cycle.</p>		



Network Impact Assessment:

Walking



All existing pedestrian crossings will be maintained, and will appear in approximately the same place in the signal staging as they do currently.

The main change for pedestrians will be a significant reduction in cycle time. The cycle time for the AM Peak will reduce from 128s down to 112s, which is a 16s reduction in wait time. In the PM Peak, the cycle time will reduce from 121s down to 104s, which is a 17s reduction in wait time.

Region/Area	Cycle Time (s)					
	AM Peak		PM Peak			
	Base	DS	Base	DS	Base	DS
J22/006 - London Road/Streatham Road	128	112	121	104		



Network Impact Assessment:

Cycling



Cyclists will benefit from increases in ASL size on all four approaches, There will also be improvements in cyclist journey times as a result of the improvement in capacity and the associated reduction in delay.



Network Impact Assessment:

Bus Network - Mitigated Impacts



Bus journey times have, for most routes, seen an improvement, with the majority of the benefits seen in the PM Peak.

AM Peak journey times for buses have remained similar to the current, except for the routes 201 and 127 southbound which see a 1-2 minute improvement, and the route 152 approaching from Locks Lane which will see a 2-3 minute improvement

PM Peak journey times have seen an impressive improvement, with a 1-2 minute improvement for all buses southbound along London Road, and a 3-5 minute improvement for buses on Streatham Road southbound.

Unfortunately the 152 approaching from Locks Lane in the PM Peak will likely see an increase in journey time due to the increased likelihood of the exit being blocked by left turning vehicles that are now stopped by the exit pedestrian crossing on London Road southbound. However the modelling has all pedestrian crossings appearing every cycle, which may be an overestimation, meaning the journey time for the 152 may be better in reality.

Sensitivity Testing of the PM Peak model was also performed (marked below in the WEEKEND field) which represented the impact of a 15% increase in traffic on Streatham Road southbound. The results are not as good, but there are still benefits for the London Road southbound and Streatham Road southbound routes.

AM Peak

Route description	Direction	Frequency (bus/hr)	JT Time Bands (mins)		
			Base Model	Do Something	Difference
Routes 322, 280, 264 & 270	North	24	2-3 mins	2-3 mins	0-30 secs
Routes 201 & 127	Northeast	9	1-2 mins	1-2 mins	-(0-30) secs
Routes 322, 280, 264 & 270	South	25	2-3 mins	2-3 mins	-(0-30) secs
Routes 201 & 127	Southwest	9	5-10 mins	5-10 mins	-(1-2) mins
Route 152	Southwest	6	5-10 mins	2-3 mins	-(2-3) mins
Route 152	Southeast	6	1-2 mins	0-1 mins	-(0-30) secs

PM Peak

Route description	Direction	Frequency (bus/hr)	JT Time Bands (mins)		
			Base Model	Do Something	Difference
Routes 322, 280, 264 & 270	North	25	2-3 mins	2-3 mins	-(0-30) secs
Routes 201 & 127	Northeast	9	1-2 mins	1-2 mins	0-30 secs
Routes 322, 280, 264 & 270	South	25	3-5 mins	2-3 mins	-(1-2) mins
Routes 201 & 127	Southwest	9	10-15 mins	5-10 mins	-(3-5) mins
Route 152	Southwest	5	3-5 mins	5-10 mins	1-2 mins
Route 152	Southeast	6	1-2 mins	1-2 mins	-(0-30) secs

Weekend

Route description	Direction	Frequency (bus/hr)	JT Time Bands (mins)		
			Base Model	Sensitivity	Difference
Routes 322, 280, 264 & 270	North	25	2-3 mins	2-3 mins	-(0-30) secs
Routes 201 & 127	Northeast	9	1-2 mins	1-2 mins	0-30 secs
Routes 322, 280, 264 & 270	South	25	3-5 mins	2-3 mins	-(1-2) mins



Routes 201 & 127	Southwest	9	10-15 mins	5-10 mins	-(1-2) mins
Route 152	Southwest	5	3-5 mins	5-10 mins	2-3 mins
Route 152	Southeast	6	1-2 mins	1-2 mins	-(0-30) secs



Environment



There is likely to be an improvement to the environment here through the reduction of queues, which will hopefully bring a reduction in vehicle emissions.



Network Impact Assessment:

Freight & Servicing



HGVs, coaches, buses and other long vehicles will be banned from turning left from London Road southbound into Streatham Road, due to the narrow angle in which to make the turn. (There are currently no bus routes that make this turn.)

Freight will be subject to the same improvements in delay and queuing as general traffic (see the general traffic tab)



Network Impact Assessment:

General Traffic



General traffic will, as a by product of the improvements in capacity to facilitate bus routes, see a reduction in delay and journey times through this junction

There is an improvement to all general traffic journey times, although some are under 30 seconds and can therefore be considered as 'no change'. Journey times from Locks Lane have also not been collected as there was no journey time validation available from this approach. The largest improvements come during the PM Peak, with journey time savings as high as 3-5 minutes on both London Road SB and Streatham Road SB

Sensitivity Testing of the PM Peak model was also performed (marked below in the WEEKEND fields) which represented the impact of a 15% increase in traffic on Streatham Road southbound. Journey time savings have been reduced when compared to the PM results, but are still an improvement on current performance.

AM Peak

Route description	Direction	JT Time Bands (mins)		
		Base Model	Do Something	Difference
London Road SB to Streatham Road NB	Northeast	3-5 mins	3-5 mins	-(0-30) secs
London Road SB to London Road SB	South	2-3 mins	2-3 mins	-(30-60) secs
London Road SB to Locks Lane SB	Southeast	2-3 mins	2-3 mins	-(30-60) secs
Streatham Road SB to London Road NB	North	5-10 mins	5-10 mins	-(0-30) secs
Streatham Road SB to London Road SB	South	3-5 mins	3-5 mins	-(1-2) mins
Streatham Road SB to Locks Lane SB	Southeast	3-5 mins	2-3 mins	-(1-2) mins
London Road NB to London Road NB	North	3-5 mins	3-5 mins	-(0-30) secs
London Road NB to Streatham Road NB	Northeast	3-5 mins	3-5 mins	-(0-30) secs
London Road NB to Locks Lane SB	Southeast	2-3 mins	1-2 mins	-(0-30) secs

PM Peak

Route description	Direction	JT Time Bands (mins)		
		Base Model	Do Something	Difference
London Road SB to Streatham Road NB	Northeast	5-10 mins	3-5 mins	-(3-5) mins
London Road SB to London Road SB	South	5-10 mins	2-3 mins	-(3-5) mins
London Road SB to Locks Lane SB	Southeast	5-10 mins	2-3 mins	-(3-5) mins
Streatham Road SB to London Road NB	North	5-10 mins	5-10 mins	-(2-3) mins
Streatham Road SB to London Road SB	South	5-10 mins	3-5 mins	-(3-5) mins
Streatham Road SB to Locks Lane SB	Southeast	5-10 mins	3-5 mins	-(3-5) mins
London Road NB to London Road NB	North	3-5 mins	3-5 mins	-(0-30) secs
London Road NB to Streatham Road NB	Northeast	3-5 mins	3-5 mins	-(0-30) secs
London Road NB to Locks Lane SB	Southeast	2-3 mins	1-2 mins	-(0-30) secs

Weekend

Route description	Direction	JT Time Bands (mins)		
		Base Model	Sensitivity	Difference
London Road SB to Streatham Road NB	Northeast	5-10 mins	3-5 mins	-(3-5) mins
London Road SB to London Road SB	South	5-10 mins	2-3 mins	-(3-5) mins



London Road SB to Locks Lane SB	Southeast	5-10 mins	2-3 mins	-(3-5) mins
Streatham Road SB to London Road NB	North	5-10 mins	5-10 mins	-(0-30) secs
Streatham Road SB to London Road SB	South	5-10 mins	5-10 mins	-(30-60) secs
Streatham Road SB to Locks Lane SB	Southeast	5-10 mins	5-10 mins	-(30-60) secs
London Road NB to London Road NB	North	3-5 mins	3-5 mins	-(0-30) secs
London Road NB to Streatham Road NB	Northeast	3-5 mins	3-5 mins	-(0-30) secs
London Road NB to Locks Lane SB	Southeast	2-3 mins	2-3 mins	-(0-30) secs

Degrees of saturation (values in %)

Link/Road	AM Peak			PM Peak			PM Peak		
	Base	DS	Difference	Base	DS	Difference	Base	Sens.	Difference
London Road NB nearside	68.7	84.7	16	67.4	84.3	16.9	67.4	79.5	12.1
London Road NB offside	96.8	78.3	-18.5	93.3	93.1	-0.2	93.3	86.7	-6.6
London Road SB	99.9	99.1	-0.8	100	91.6	-8.4	100	95.9	-4.1
Streatham Road SB	99.8	73.9	-25.9	94.3	79	-15.3	94.3	85.6	-8.7
Locks Lane	99.9	100.1	0.2	91.8	97.2	5.4	91.8	97.2	5.4

Queue length (values in metres)

Link/Road	AM Peak			PM Peak			PM Peak		
	Base	DS	Difference	Base	DS	Difference	Base	Sens.	Difference
London Road NB nearside	19.5	21.2	1.7	16	16.9	0.9	16	16	0
London Road NB offside	27.8	17.1	-10.7	19.8	17.6	-2.2	19.8	15.1	-4.7
London Road SB	26.5	26.6	0.1	27.8	20.2	-7.6	27.8	23.9	-3.9
Streatham Road SB	24.7	14.2	-10.5	18.8	14.6	-4.2	18.8	17.9	-0.9
Locks Lane	15.9	19.4	3.5	9.2	13.4	4.2	9.2	13.4	4.2



Network Impact Assessment:

Taxis



Freight will be subject to the same improvements in delay and queuing as general traffic (see the general traffic tab)



Healthy Streets Criteria

Pedestrian

1	Are pedestrian wait times 74 seconds or less?	Improved
2	Do pedestrian crossings double cycle?	No
3	Are pedestrian crossings protected from exit blocking?	No
4	Is pedestrian linking possible at staggered crossings?	Yes
5	Will pedestrian system tools be implemented?	No
6	Can all pedestrians clear the footway in one cycle/invitation period?	Yes
7	Is overcrowding on footways or central islands prevented?	Yes

Cycles

1	Can all cycles clear the stopline in one cycle?	Yes
2	Has cycle progression (e.g. offsets) been applied?	N/A
		CSH N/A
		QW N/A
		Other N/A
3	Are cycle movements prevented from exit blocking?	No
4	Have cycle wait times been minimised?	Yes
5	Will cycle SCOOT be implemented?	No

Buses

1	Has UTC Bus Priority been applied?	Yes
2	Are bus lane entry points free from obstruction and queueing?	N/A
3	Have bus speeds/journey times been improved or maintained?	Improved
4	Are buses able to clear the stop line in one cycle?	Yes










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General Traffic

1	Will call/cancel be applied at this location?	No
2	Have offsets been set for the predominant movement by time of day?	N/A
3	Have strategic traffic movements been prioritised over non-strategic traffic movements?	Yes



Overview Summary

						
Cycling	Walking	Bus Network	Environment	Freight/Serviceing	General Traffic	Taxis

Healthy Streets Criteria

Have Healthy Streets Criteria objectives been met?	Partially met
<p>Despite improvements across the board, for all modes, there are still some of the healthy streets criteria that cannot be met, for example a wait time for pedestrians of under 74s. However, the majority are now improved, and it is felt that this is a good scheme for the area</p>	

Summary

Modelling of the proposed design has shown that we can provide benefits to all modes, with buses in particular expected to see significant reductions in journey time through the junction.



Additional Information

List of additional documents (to be included with SIR submission or links provided):

Document title	Date last updated
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