Technical Note Number : 60049433/Mod/TN004	Revision : -

Project:	**Blackheath Hill Controlled Pedestrian Crossing**	Project No:	**60049433**
Subject:	**Modelling Summary**		
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THE SCHEME

This technical note provides an overview of the modelling assessment of a proposed signal controlled staggered pedestrian crossing facility at the junction of A2 Blackheath Road / Blackheath Hill with A2211 Lewisham Road / Greenwich South Street. The proposed scheme includes:

- Introduction of controlled staggered pedestrian crossing across Blackheath Hill;
- Introduction of a second signal stream for the northern part of the pedestrian crossing across the eastbound carriageway;
- Removal of Greenwich South Street left turn filter lane; and
- Introduction of cycle advanced stoplines on every arm.

In order to understand the potential impact of these measures on the road network the proposed scheme has been modelled in the AM, PM and Saturday peaks.

BASE MODELS

In May 2008 Faber Maunsell undertook a modelling exercise to test the impact of a proposed scheme at Deals Gateway. This involved the preparation of AM and PM TRANSYT12 models which covered the A2 corridor from New Cross Road to Blackheath Hill which were approved by DTO-UTC. The Deals Gateway schemes are now committed and these models have been used as the approved base models to test the Blackheath Hill proposed pedestrian crossing.

The Saturday peak model was built to represent Greenwich South Street junction with Blackheath Hill as an isolated junction in LINSIG2 in December 2008.

PROPOSED MODELS

The safety critical traffic signal timings for the proposed junction layout have been modelled per the information submitted to and approved by DTO - Traffic Infrastructure (TI) in December 2008. The following conclusions should be noted:

- The introduction of cycle ASLs on each arm has the consequence of increasing every vehicle to vehicle intergreen by one second. Thus there is an additional two seconds of lost time per cycle and the modelled performance of the junction inevitably worsens. Any future improvements/upgrade to this junction that includes cycle ASLs are likely to have this impact with or without the provision of a controlled pedestrian crossing.

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- The southern stagger of the proposed pedestrian crossing has little impact on the operation of the junction as it is called when the side roads run and does not cause additional lost time for traffic.

- The northern stagger of the proposed pedestrian crossing has been assumed to be called every cycle to ensure a robust assessment.

- In all peaks the most significant changes in junction operation are due to the intergreen amendments required due to the cycle ASLs.

- In the AM and PM peak the reduction in green time has been allocated to the side road stage. The impact is most obvious on Lewisham Road which is currently operating close to or at capacity. In the AM peak this causes an increase in modelled Mean Max Queue of 15 pcus and in the PM peak of 5 pcus.

- The degree of saturation exceeds 100% on Lewisham Road in the AM peak.

- In the Saturday peak model the reduction in green time was shared between the main road and the side road stages and the increase in modelled Mean Max Queues was less than 3 pcus on all arms.

- The Mean Modelled Queue on the eastbound internal stopline is 3 pcus or under in all scenarios which can easily be stored within the available stacking area. This represents the worst case scenario where the pedestrian stage is called every cycle.

RESULTS

AM PEAK

Link	Description	MMQ (pcus)		Degree of Saturation (%)	
		2007 AM Committed Base	AM Proposed	2007 AM Committed Base	AM Proposed
169	Blackheath Road eb ahead & left turn	12	12	72	72
168	Blackheath Road eb ahead & right turn	3	3	46	**54**
165	Blackheath Hill wb ahead and left turn	23	**27**	93	**96**
163	Blackheath Hill wb ahead and right turn	2	2	42	42
161	Greenwich South Street	7	7	65	**72**
166	Lewisham Road	17	**32**	95	**107**
1612	Blackheath Hill eb nearside second stopline	-	**3**	-	**61**
1613	Blackheath Hill eb farside second stopline	-	**1**	-	**12**

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PM PEAK

Link	Description	MMQ (pcus)		Degree of Saturation (%)	
		2007 PM Committed Base	PM Proposed	2007 PM Committed Base	PM Proposed
169	Blackheath Road eb ahead & left turn	20	20	78	78
168	Blackheath Road eb ahead & right turn	5	**6**	57	**64**
165	Blackheath Hill wb ahead and left turn	17	**18**	83	**85**
163	Blackheath Hill wb ahead and right turn	2	2	40	40
161	Greenwich South Street	9	**11**	77	**85**
166	Lewisham Road	11	**16**	86	**97**
1612	Blackheath Hill eb nearside second stopline	-	**2**	-	**32**
1613	Blackheath Hill eb farside second stopline	-	**1**	-	**37**

SATURDAY PEAK

Link	Description	MMQ (pcus)		Degree of Saturation (%)	
		2008 Base	2008 Proposed	2008 Base	2008 Proposed
169	Blackheath Road eb ahead & left turn	15	**16**	71	**74**
168	Blackheath Road eb ahead & right turn	4	**5**	59	**64**
165	Blackheath Hill wb ahead and left turn	18	**20**	78	**83**
163	Blackheath Hill wb ahead and right turn	1	1	23	**25**
161	Greenwich South Street	6	**8**	72	**77**
166	Lewisham Road	15	**17.5**	95	**99**
1612	Blackheath Hill eb nearside second stopline	0	**3**	0	**36**
1613	Blackheath Hill eb farside second stopline	0	**3**	0	**36**

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