

ANNOTATED EXTRACTS  
FROM TFL/119

INQ/9

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## Technical note

<b>Project</b>	Thames Gateway Bridge Design Engineering and Costing Services	<b>Date</b>	16 July 2005
<b>Note</b>	Appraisal of the A13 interchange	<b>Ref</b>	TBTGRC/bjm/A13tn050716
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### 1. Introduction

1.1 This note has been prepared at the request of the Public Inquiry. It reviews the operation of the A13 interchange in 2016 both with and without the Thames Gateway Bridge (TGB).

### 2. A13 / A406 interchange

2.1 Currently this junction is a grade-separated junction at the southern end of the North Circular Road, A406 South Woodford to Barking Relief Road (SWBRR). The A13 Alfred's Way, which passes underneath the junction, is connected to the signal controlled gyratory system by slip roads. Traffic travelling between the A406 and the eastbound slip roads to/from the A13 bypass the traffic signals on dedicated left turn slip roads. The A1020 Royal Docks Road, to the south, provides access to a retail park located off Claps Gate Lane, some 200 metres south of the gyratory, and the eastern docklands.

2.2 It is proposed that the new link road to the Thames Gateway Bridge will commence to the north of this interchange and cross the gyratory on a dual two-lane flyover. The road will be connected to the gyratory by slip roads:

- to the north  
both the on- and off-slip roads will follow the alignment of the existing A406
- to the south  
the southbound on-slip will be constructed in the normal way, although a free flow slip road between the westbound A13 off-slip road and the new slip road is proposed  
the northbound slip road will link to the A1020 south of the interchange and join the gyratory at the existing traffic signals, which to maintain access to Claps Gate Lane will still permit traffic to leave the gyratory into Royal Docks Road.

### 3. 2016 design flows

3.1 The assessment has used data for 2016 from the revised traffic model. This model provides data only for the morning peak and an interpeak hour. The evening peak hour flows have been determined by reversing the morning peak flows.



4.5 **With TGB**  
The link diagram for the the gyrotory system following construction of the north-south flyover as part of the Thames Gateway Crossing is shown in figure 11.

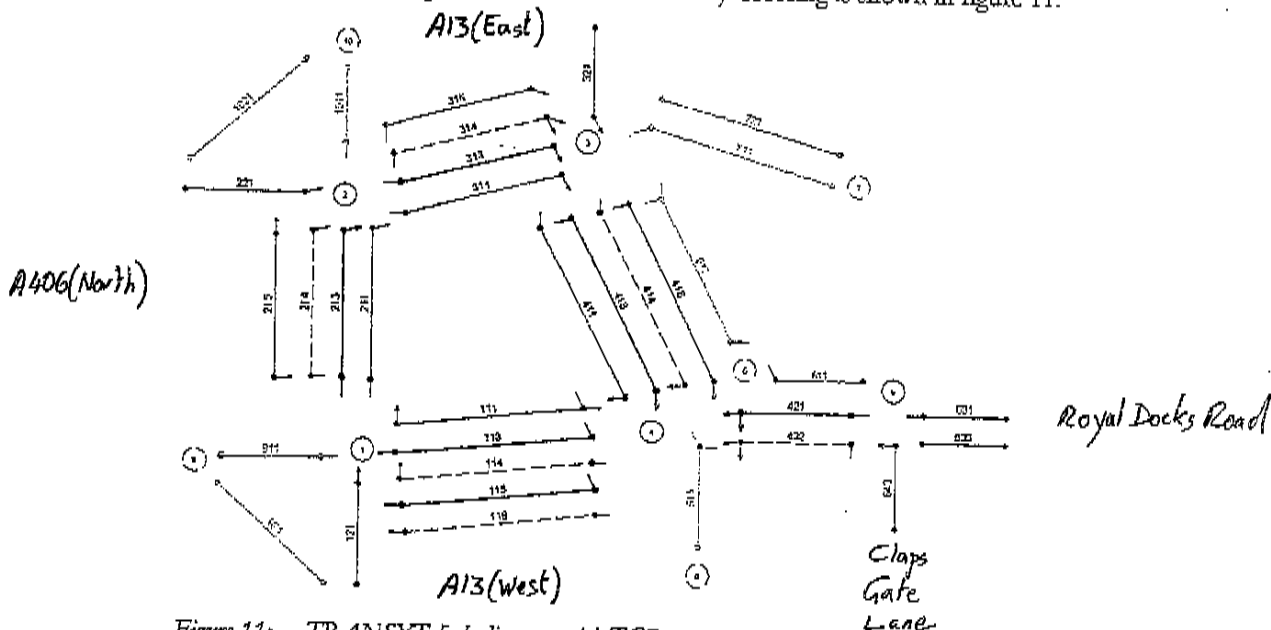


Figure 11: TRANSYT link diagram with TGB

4.6 Figures 12 and 13 show the morning and evening peak design flows (in pcu/h). The summary results of the TRANSYT run are shown in table 6 and figures 14 and 15. The full results are given in appendix B.



Technical note

Appendix B

Project Thames Gateway Bridge  
Design Engineering and Costing Services

Note Appraisal of the A13 interchange

T60 A13 Interchange: 2016 evening peak design flows (BJM 17/12/04)

CARD NO.	CARD TYPE	LINK NO.	TOTAL FLOW	UNIFORM FLOW	LINK CARDS: FLOW DATA				LINK NO.	FLOW	CRUISE SPEED	LINK NO.	FLOW	CRUISE SPEED	LINK NO.	FLOW	CRUISE SPEED	LINK NO.	FLOW	CRUISE SPEED
					ENTRY 1 LINK NO.	ENTRY 1 FLOW	ENTRY 1 CRUISE SPEED	ENTRY 2 LINK NO.												
47)	32	211	559	0	421	359	30	422	190	30	411	0	0	0	0	0	0	0	0	
50)	32	173	700	0	411	700	30	0	0	0	0	0	0	0	0	0	0	0	0	
51)	32	114	350	0	421	350	30	0	0	0	0	0	0	0	0	0	0	0	0	
52)	32	115	707	0	414	447	30	411	260	30	0	0	0	0	0	0	0	0	0	
55)	32	116	75	0	422	75	30	0	0	0	0	0	0	0	0	0	0	0	0	
54)	32	715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
55)	32	211	361	0	111	0	30	0	0	0	0	0	0	0	0	0	0	0	0	
56)	32	213	364	0	121	364	30	0	0	0	0	0	0	0	0	0	0	0	0	
57)	32	214	264	0	111	264	30	0	0	0	0	0	0	0	0	0	0	0	0	
58)	32	215	645	0	111	295	30	114	350	30	0	0	0	0	0	0	0	0	0	
59)	32	221	1794	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	
60)	32	311	930	0	221	930	30	0	0	0	0	0	0	0	0	0	0	0	0	
61)	32	313	864	0	221	864	30	0	0	0	0	0	0	0	0	0	0	0	0	
67)	32	314	80	0	211	80	30	0	0	0	0	0	0	0	0	0	0	0	0	
67)	32	315	750	0	217	114	30	211	364	30	211	311	30	0	0	0	0	0	0	
64)	32	321	1541	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	
65)	32	411	970	0	321	970	30	0	0	0	0	0	0	0	0	0	0	0	0	
66)	32	413	620	0	311	620	30	0	0	0	0	0	0	0	0	0	0	0	0	
67)	32	414	447	0	321	447	30	0	0	0	0	0	0	0	0	0	0	0	0	
68)	32	415	1030	0	313	740	30	311	310	30	0	0	0	0	0	0	0	0	0	
69)	32	421	1113	0	611	1113	30	0	0	0	0	0	0	0	0	0	0	0	0	
70)	32	422	522	0	645	522	30	0	0	0	0	0	0	0	0	0	0	0	0	
71)	32	517	509	0	314	50	30	315	211	30	313	124	30	321	124	30	0	0	0	
72)	32	611	509	0	517	509	30	0	0	0	0	0	0	0	0	0	0	0	0	
71)	32	631	1113	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	
74)	32	633	144	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	
75)	32	645	522	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	
76)	32	711	578	0	315	578	30	0	0	0	0	0	0	0	0	0	0	0	0	
77)	32	721	91	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	
78)	32	811	2332	0	413	620	30	415	1050	30	421	404	30	422	257	30	0	0	0	
79)	32	911	1482	0	113	700	30	115	707	30	116	75	30	0	0	0	0	0	0	
80)	32	921	1204	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	
81)	32	1011	793	0	215	645	30	214	150	30	0	0	0	0	0	0	0	0	0	
82)	32	1021	960	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	

LINK CARDS: FLARE SATURATION FLOW DATA							
CARD TYPE	LINK NO.	LANE 1		LANE 2		LANE 3	
		SAT. FLOW	CAPAC. VEH.	SAT. FLOW	CAPAC. VEH.	SAT. FLOW	CAPAC. VEH.
82)	32	121	1800	5	0	0	0
84)	32	421	1800	7	0	0	0

CARD NO.	CARD TYPE	LINK NO.	LIMIT QUEUE	QUEUE WEIGHT	LINK NO.	LIMIT QUEUE	QUEUE WEIGHT	LINK NO.	LIMIT QUEUE	QUEUE WEIGHT	LINK NO.	LIMIT QUEUE	QUEUE WEIGHT	LINK NO.	LIMIT QUEUE	QUEUE WEIGHT	LINK NO.	LIMIT QUEUE	QUEUE WEIGHT
85)	38	111	7	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86)	38	113	7	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87)	38	115	7	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88)	38	211	8	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89)	38	213	7	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90)	38	311	7	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91)	38	313	7	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92)	38	315	7	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93)	38	411	11	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94)	38	413	11	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95)	38	415	11	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96)	38	421	28	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97)	38	611	14	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

\*\*\*\*\*END OF SUBROUTINE 'INPUT'\*\*\*\*\*



Link No	Morning Peak Hour		Evening Peak Hour		LIMIT QUEUE PCU	
	RFC %	Queue pcu	RFC %	Queue pcu		
<b>A13 (west)</b>						
111	circulating 1	15	0	45	2	7
113/114	circulating 2	42	4	84	16	7
115/116	circulating 3	42	5	66	9	7
121	entry	69	7	93	19	
<b>A406 (SWBR)</b>						
211	circulating 1	44	1	48	7	8
213/214	circulating 2	47	2	84	13	8
215	circulating 3	25	2	90	14	7
221	entry	78	17	94	40	
<b>A13 (east)</b>						
311	circulating 1	65	2	93	16	7
313/314	circulating 2	91	12	91	7	7
315	circulating 3	28	4	83	18	7
321	entry	88	17	95	37	
<b>Royal Docks Road</b>						
411	circulating 1	41	2	83	14	11
413/414	circulating 2	93	18	91	23	11
415	circulating 3	53	7	90	25	11
421/422	entry	85	16	95	36	28
<b>Claps Gate Lane</b>						
611	RDR sb (right turn)	27	2	60	7	14
631	RDR nb (ahead)	39	7	67	19	
633	RDR nb (left turn)	7	0	21	2	
643	CGL (left turn)	36	2	65	9	

## Notes

- 1 RFC - ratio of flow to capacity (preferably less than 90%)
- 2 Queue - mean maximum queue (at the end of the red signal)
- 3 Cycle time  
Morning peak = 48 sec  
Evening peak = 72 sec

Table 6: TRANSYT results with TGB

- 4.7 The TRANSYT model shows that the proposed A13 interchange should work satisfactorily. However, in the evening peak, the model suggests that the location and extent of the queues may cause problems. The traffic signal timings would have to be monitored in the light of actual flows that occur to manage these queues.

