

Technical Note

WLPTS2018 Scheme Intervention Timing
Demand-based Assessment Methodology



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1 Introduction

- 1.1 The Wealden Local Plan Transport Study (WLPTS2018) identified a set of junctions where improvements will be necessary to enable delivery of the Wealden Local Plan (WLP). The study concluded that further work would be undertaken to establish the potential phasing of identified improvements in relation to potential housing development trajectories.
- 1.2 Working in partnership, Jacobs and GTA Civils have developed an infrastructure delivery schedule that assigns prioritisation to the necessary transport mitigations that support the WLP, which is both practicably achievable and best accommodates the delivery of the development plan.
- 1.3 The overall process included consideration of:
 - A demand-based assessment of when the identified interventions are required. This initially takes into account the requirements of the network from a demand perspective, by applying a range of performance indicators to a strategic model, and secondly also considers any implications of variations in the spatial distribution of the development sites over the period of the Wealden Local Plan; and
 - An assessment of the practical and financial delivery constraints. An assessment has been made of when each intervention can be delivered, with consideration of scheme timeframes and the integration and timing of other local transport schemes.
- 1.4 This Technical Note sets out the details of the approach developed by GTA Civils for this project, and adopted in initial 'demand-based' assessments.

2 Data Utilised

2.1 The 'Demand-based' Assessment process for each assessment junction utilises a range of junction performance measures extracted from WLPTS2018 AM and PM peak hour SATURN model runs for a number of different scenarios:

- 2015 Base Year;
- 2028 end-plan-period, with no highway network improvements:
 - a. Scenario DN1 - With background growth to 2028, plus only completions and commitments in the draft WLP
 - b. Scenario DN4 – As DN1 but with the full WLP development proposals; and
- 2028 end-plan-period, with all identified highway network improvements:
 - c. Scenario DS1 – with full WLP development proposals; and
 - d. Scenario DS2 – As DS1 but also including the A27 Comprehensive Offline Scheme.

2.2 Performance indicators included in the assessment cover a range of representative measures for each junction, as presented in the WLPTS2018 standard model summary outputs contained in the WLPTS2018 final Report:

- Overall junction volume / capacity ratio (described as 'DOS' – degree of saturation – in the WLPTS2018 source data and in this Technical Note) – flow weighted average of all junction arms;
- Worst individual junction arm DOS;
- Junction delays (measured as delay / pcu in seconds over all arms); and
- Junction queues (measured as the total average queue over all arms).

2.3 All model outputs used relate to SATURN Actual flows, rather than Demand flows ⁽¹⁾, as this dataset has the greater amount of descriptive information in the standard model output format used in WLPTS2018 reporting. In practice, there is little difference between Actual and Demand junction inflows at the modelled junctions.

¹ In SATURN the "demand" flow is defined as the flow that would reach a particular point in the modelled highway network if all upstream bottlenecks were addressed while the "actual" flow is defined as the flow that actually arrives at that particular point taking account of upstream bottlenecks.

3 Assessment Approach

- 3.1 All the available performance indicators reflect one way in which any particular junction would respond to different levels of traffic demand. All indicator values would be expected to worsen as demand increases (and vice versa). However, the manner in which each indicator responds is not consistent. This is best illustrated by the tables shown in **Appendix A** which set out the full dataset for the assessment junctions and others on the same routes, the tables sorted in ascending order for each of Junction DOS, worst arm DOS, average delay, and average queue.
- 3.2 All tables show a similar general pattern of inconsistent levels of response association in the non-sorted indicators through the sorted data range. All also show that towards the upper end of the sorted data range, the rate of change in the non-sorted indicators intensifies. This is the usual pattern expected as a representation of the way in which junction performance would deteriorate with higher traffic demands. However, there is no clear case for concluding that any particular indicator is more consistently reliable than any other and could therefore be considered capable of being used on its own as the sole indicator of junction performance. Each indicator presents only a partial picture; all are necessary to gain a full understanding.
- 3.3 An aggregate approach has therefore been adopted which does not place undue emphasis on any one of the available performance indicators. In this aggregate approach, each performance indicator model output value is scored in a consistent way across all assessment junctions, in all assessment scenarios and for both AM and PM peaks. Individual indicator scores are then totalled to give aggregate scores for overall junction performance in each peak and in total across both peaks combined.
- 3.4 Scores adopted in this assessment are shown in **Table 3.1**. Scores range from 0 to 3 for each performance indicator. The maximum score of 3 is associated with target values for acceptable performance adopted in this assessment:

Junction & Arm DOS: maximum acceptable junction DOS = 0.85 and maximum acceptable individual arm DOS = 0.90. These values have been agreed with ESCC taking account of the evidence from the sorted tables in **Appendix A** and the likely rate of increase in demands locally beyond the end of the plan period, with a target of about 10 years residual life before the impacts of increased demands could potentially become severe.²

² See Appendix B which demonstrates that the rate of increase in demand through the plan period and beyond is consistently about, or just below, 1% per annum.

Delays: maximum average delay per vehicle = 60 seconds. The tables in **Appendix A** indicate that this is broadly consistent with the general level of delays at the assessment junctions at which the maximum acceptable junction and arm DOS levels are experienced. It is equivalent to one cycle of an efficient traffic signals, for all traffic on all arms averaged over the whole hour period ;

Queues: maximum total average queue (all arms combined) = 60 vehicles. Again, this is broadly consistent with the other indicators, as evidenced by the tables in **Appendix A**.

- 3.5 Scoring between 0 and 3 for each performance indicator is based on a discounting of each indicator value back to an acceptable base value consistent with the overall target of about 10 years residual life. The ranges adopted are as shown in Table 3.1.

Table 3.1 Performance Indicator Scoring Values

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60 +
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60 +
ARM DOS	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90 +
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85 +
SCORE	0	1	2	3

TOTAL SCORE % of maximum	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE % of maximum	0 - 15%	16 - 32%	33 - 49%	50 - 100%

- 3.6 Table 3.1 also shows the way in which 'TOTAL and WORST PEAK aggregate scores are associated with individual performance indicator score ranges. The values for both are expressed as the percentage of the maximum score possible if all indicators individually were to score the maximum value. To ensure comparability between junctions with different numbers of arms, all arms are included and scored for 3-arm junctions, but only the worst three arms for junctions with 4 arms.
- 3.7 The target maximum for acceptable TOTAL and WORST PEAK scores at the end of the plan period (2028) has been set at 50%, i.e. potentially up to half the individual performance indicator values exceed an acceptable level (and therefore score 3), or all values on average score 1.5 (e.g. arm DoS of 0.80-0.89 or junction DoS of 0.75-0.84). The relevant sorted table in **Appendix A** (for WORST PEAK) shows that a 50% aggregate score is also consistent with the onset of increasing intensity of response to increasing demand in the other indicators.

3.8 A typical example of scoring for an assessment junction is shown in Table 3.2.

Table 3.2 Typical Scored Assessment Junction

JUNCTION NAME	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNABOUT IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WDC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
	NETWORK	2015	2015	2015	2015 + WLPTS2018	2015 + WLPTS2018 + A27 offline	NETWORK
SATURN OUTPUT DATA (ACTUAL FLOWS) 4-arm roundabout junction. Therefore WORST 3 arms count towards TOTAL & WORST PEAK scores.	AM						AM
	Inflow (pcu)	3640	4098	4142	4581	4810	Inflow (pcu)
	Delay / pcu (secs)	15.2	29.8	52.5	17.1	18.8	Delay / pcu (secs)
	Junction delay (hrs)	15.4	33.9	60.4	21.7	25.1	Junction delay (hrs)
	Total ave Q (pcu)	2	16	43	4	8	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.52	1.01	1.06	0.70	0.84	East arm
	South arm	0.56	0.67	0.65	0.56	0.57	South arm
	North arm	0.74	0.94	1.01	0.58	0.63	North arm
	West arm	0.23	0.33	0.31	0.31	0.43	West arm
	Junction	0.59	0.79	0.82	0.56	0.62	Junction
	PM						PM
	Inflow (pcu)	3639	4146	4233	4996	5247	Inflow (pcu)
	Delay / pcu (secs)	13.6	27.6	31.4	17.0	20.3	Delay / pcu (secs)
	Junction delay (hrs)	13.8	31.7	36.9	23.6	29.6	Junction delay (hrs)
	Total ave Q (pcu)	1	15	20	5	9	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.10	0.14	0.12	0.11	0.13	East arm
	South arm	0.61	0.76	0.85	0.74	0.86	South arm
	North arm	0.72	1.01	1.01	0.80	0.90	North arm
	West arm	0.29	0.51	0.66	0.60	0.78	West arm
	Junction	0.57	0.77	0.83	0.70	0.81	Junction
TOTAL SCORE (worst 3 arms)	max = 36	0	13	21	1	9	TOTAL SCORE (max = 36)
		0%	36%	58%	3%	25%	
WORST PEAK SCORE (worst 3 arms)	max = 18	0	8	12	1	8	WORST PEAK SCORE (max=18)
		0%	44%	67%	6%	44%	

4 Timings Assessment

4.1 TOTAL SCORE and WORST PEAK SCORE in DN1 and DN4 scenarios are used as the key determinants of if and when improvements would be necessary at any junction. Those in DS1 and DS2 scenarios are an indicator of the effectiveness of the specific improvement identified and included in the WLPTS2018 modelling work.

4.2 Improvement timing at any junction is informed using the parameter values set out in **Table 4.1**. This counts back and forward in 5-year tranches from 2028 (the end of plan period), principally based on the following considerations:

- Arm and junction DOS responds to increased demands at a rate of 0.01 increase for a 1% demand increase;
- Overall matrix growth over the model period (2015-2028) of approx 1% per annum (see **Appendix B** for more detail);
- Typical demand growth at the assessment junctions (Scenarios DN1 and DN4 versus Base Year) of about 1% per annum; and
- TEMPRO7.2 forward growth beyond 2028 of approx 0.8% per annum).

Table 4.1 Improvement Timing Parameter Values

Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80 - 99.9	100+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80 - 99	100+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96 - 0.99	1.00+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93 - 0.99	1.00+
TOTAL SCORE (both peaks)	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68 - 84%	85 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68 - 84%	85 - 100%
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS	>MINUS 10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	2018
SCORE SIGNIFICANCE	Low	Moderate	High	TARGET MAX	Very High	Overloaded	

4.3 Table 4.1 is used as follows:

- Initial timings are indicated by TOTAL SCORE (and WORST PEAK SCORE if the operational performance is particularly skewed towards one peak only, and it is considered important that the junction should not operate unacceptably at any time);
- Other parameters can moderate timescales if of particular significance; usually this would be used if one or more important arm(s) have a DOS of >1.00;

4.4 The assessment junction scoring (as per typical example shown in Table 3.2) is then compared to the Timing Parameters (as shown in Table 4.1) in an Improvement Timings Assessment. This assessment is shown in Table 4.2 for the typical example junction in Table 3.2, Scenarios DN1 and DN4.

Table 4.2 Typical Improvement Timing Assessment

SCENARIO DN1 (2028: base year network; no WLP)								
Delay / pcu (worst peak)		29.8						Arises on important arm (north)
Total ave Q (worst peak)	16							
Arm DOS (worst arm any peak)							1.01	
Junction DOS (worst peak)		0.79						
TOTAL SCORE			36%					
WORST PEAK SCORE			44%					Improvement needed 2029 - 2033 Arm DOSs moves timing forward 1 period
IMPROVEMENT TIMESCALE	POST 2038	2034 -2038	2029 -2033	2028	2023 -2028	2018 -2022	2018	Improvement needed 2023 - 2028

SCENARIO DN4 (2028: base year network; plus WLP)								
Delay / pcu (worst peak)			52.5					Arises on important arm (north)
Total ave Q (worst peak)			43					
Arm DOS (worst arm any peak)							1.06	
Junction DOS (worst peak)			0.83					
TOTAL SCORE					58%			
WORST PEAK SCORE					67%			Improvement needed 2023 - 2028 Arm DOSs moves timing forward 1 period
IMPROVEMENT TIMESCALE	POST 2038	2034 -2038	2029 -2033	2028	2023 -2028	2018 -2022	2018	Improvement needed 2018 - 2022

4.5 Full timing assessments for all assessment junctions are included at Appendix C.

- End of Report -

Appendix A

Performance Indicator Datasets

RELATIONSHIPS BETWEEN JUNCTION PERFORMANCE INDICATORS

JUNCTION RESULTS

	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/jnc DOS	Q/delay	delay / jnc DOS	Q / jnc DOS	delay / worst arm	Q / worst arm
A22 GJWAY/DITTONS RD	0.56	0.70	17.1	4	1.25	0.23	30.54	7.14	24.43	5.71
A22 GJWAY/DITTONS RD	0.57	0.72	13.6	1	1.26	0.07	23.86	1.75	18.89	1.39
A22 GJWAY/DITTONS RD	0.59	0.74	15.2	2	1.25	0.13	25.76	3.39	20.54	2.70
A22 GJWAY/DITTONS RD	0.62	0.84	18.8	8	1.35	0.43	30.32	12.90	22.38	9.52
A22 GJWAY/DITTONS RD	0.70	0.80	17.0	5	1.14	0.29	24.29	7.14	21.25	6.25
A22 GJWAY/DITTONS RD	0.77	1.01	27.6	15	1.31	0.54	35.84	19.48	27.33	14.85
A22 GJWAY/DITTONS RD	0.79	1.01	29.8	16	1.28	0.54	37.72	20.25	29.50	15.84
A22 GJWAY/DITTONS RD	0.81	0.90	20.3	9	1.11	0.44	25.06	11.11	22.56	10.00
A22 GJWAY/DITTONS RD	0.82	1.06	52.5	43	1.29	0.82	64.02	52.44	49.53	40.57
A22 GJWAY/DITTONS RD	0.83	1.01	31.4	20	1.22	0.64	37.83	24.10	31.09	19.80
A22/DIPLOCKS WAY	0.67	0.88	19.2	4	1.31	0.21	28.66	5.97	21.82	4.55
A22/DIPLOCKS WAY	0.68	0.79	17.3	0	1.16	0.00	25.44	0.00	21.90	0.00
A22/DIPLOCKS WAY	0.71	0.75	17.8	2	1.06	0.11	25.07	2.82	23.73	2.67
A22/DIPLOCKS WAY	0.73	0.85	18.2	2	1.16	0.11	24.93	2.74	21.41	2.35
A22/DIPLOCKS WAY	0.77	1.03	32.7	14	1.34	0.43	42.47	18.18	31.75	13.59
A22/DIPLOCKS WAY	0.79	1.03	34.5	16	1.30	0.46	43.67	20.25	33.50	15.53
A22/DIPLOCKS WAY	0.79	0.86	19.0	3	1.09	0.16	24.05	3.80	22.09	3.49
A22/DIPLOCKS WAY	0.79	0.97	27.4	9	1.23	0.33	34.68	11.39	28.25	9.28
A22/DIPLOCKS WAY	0.79	1.02	28.9	11	1.29	0.38	36.58	13.92	28.33	10.78
A22/DIPLOCKS WAY	0.83	1.03	32.9	17	1.24	0.52	39.64	20.48	31.94	16.50
A22/SOUTH RD	0.60	0.61	12.5	0	1.02	0.00	20.83	0.00	20.49	0.00
A22/SOUTH RD	0.63	0.79	12.8	1	1.25	0.08	20.32	1.59	16.20	1.27
A22/SOUTH RD	0.65	0.77	13.7	2	1.18	0.15	21.08	3.08	17.79	2.60
A22/SOUTH RD	0.67	0.78	12.8	1	1.16	0.08	19.10	1.49	16.41	1.28
A22/SOUTH RD	0.69	0.70	13.5	1	1.01	0.07	19.57	1.45	19.29	1.43
A22/SOUTH RD	0.71	0.85	14.7	2	1.20	0.14	20.70	2.82	17.29	2.35
A22/SOUTH RD	0.74	0.88	16.7	2	1.19	0.12	22.57	2.70	18.98	2.27
A22/SOUTH RD	0.81	0.91	18.5	3	1.12	0.16	22.84	3.70	20.33	3.30
A22/SOUTH RD	0.85	1.01	31.5	17	1.19	0.54	37.06	20.00	31.19	16.83
A22/SOUTH RD	0.94	1.07	86.7	77	1.14	0.89	92.23	81.91	81.03	71.96
A2270/POLEGATE HIGH ST/WANNOCK RD	0.67	0.77	41.7	29	1.15	0.70	62.24	43.28	54.16	37.66
A2270/POLEGATE HIGH ST/WANNOCK RD	0.71	0.90	42.6	23	1.27	0.54	60.00	32.39	47.33	25.56
A2270/POLEGATE HIGH ST/WANNOCK RD	0.74	0.92	53.0	29	1.24	0.55	71.62	39.19	57.61	31.52
A2270/POLEGATE HIGH ST/WANNOCK RD	0.75	0.87	49.2	27	1.16	0.55	65.60	36.00	56.55	31.03
A2270/POLEGATE HIGH ST/WANNOCK RD	0.76	1.00	68.8	33	1.32	0.48	90.53	43.42	68.80	33.00
A2270/POLEGATE HIGH ST/WANNOCK RD	0.80	1.01	60.8	23	1.26	0.38	76.00	28.75	60.20	22.77
A2270/POLEGATE HIGH ST/WANNOCK RD	0.83	0.95	61.0	30	1.14	0.49	73.49	36.14	64.21	31.58
A2270/POLEGATE HIGH ST/WANNOCK RD	0.84	0.98	69.4	29	1.17	0.42	82.62	34.52	70.82	29.59
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.04	85.6	34	1.21	0.40	99.53	39.53	82.31	32.69
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.03	82.1	32	1.20	0.39	95.47	37.21	79.71	31.07
A27/A22 GJWAY	0.54	0.68	12.5	0	1.26	0.00	23.15	0.00	18.38	0.00
A27/A22 GJWAY	0.59	0.69	10.5	1	1.17	0.10	17.80	1.69	15.22	1.45
A27/A22 GJWAY	0.59	0.74	13.1	1	1.25	0.08	22.20	1.69	17.70	1.35
A27/A22 GJWAY	0.62	0.80	11.4	0	1.29	0.00	18.39	0.00	14.25	0.00
A27/A22 GJWAY	0.67	0.74	14.0	0	1.10	0.00	20.90	0.00	18.92	0.00
A27/A22 GJWAY	0.72	0.84	14.9	0	1.17	0.00	20.69	0.00	17.74	0.00
A27/A22 GJWAY	0.75	0.88	15.7	2	1.17	0.13	20.93	2.67	17.84	2.27
A27/A22 GJWAY	0.76	0.99	19.4	5	1.30	0.26	25.53	6.58	19.60	5.05
A27/A22 GJWAY	0.79	0.91	16.1	0	1.15	0.00	20.38	0.00	17.69	0.00
A27/A22 GJWAY	0.80	1.01	31.0	19	1.26	0.61	38.75	23.75	30.69	18.81
A27/A2270	0.35	0.36	14.2	8	1.03	0.59	40.57	22.86	39.44	22.22
A27/A2270	0.38	0.45	20.5	12	1.18	0.59	53.95	31.58	45.56	26.67
A27/A2270	0.58	0.65	24.4	18	1.12	0.74	42.07	31.03	37.54	27.69
A27/A2270	0.58	0.60	26.2	24	1.03	0.92	45.17	41.38	43.67	40.00
A27/A2270	0.59	0.70	23.8	20	1.19	0.84	40.34	33.90	34.00	28.57
A27/A2270	0.63	0.73	25.5	19	1.16	0.75	40.48	30.16	34.93	26.03
A27/A2270	0.63	0.72	25.9	19	1.14	0.73	41.11	30.16	35.97	26.39
A27/A2270	0.63	0.66	30.7	27	1.05	0.88	48.73	42.86	46.52	40.91
A27/A2270	0.69	0.88	26.8	22	1.28	0.82	38.84	31.88	30.45	25.00
A27/A2270	0.72	0.92	31.4	27	1.28	0.86	43.61	37.50	34.13	29.35
BOSHIP	0.50	0.56	18.4	30	1.12	1.63	36.80	60.00	32.86	53.57
BOSHIP	0.52	0.58	19.2	34	1.12	1.77	36.92	65.38	33.10	58.62
BOSHIP	0.56	0.66	16.2	27	1.18	1.67	28.93	48.21	24.55	40.91
BOSHIP	0.59	0.70	17.5	31	1.19	1.77	29.66	52.54	25.00	44.29
BOSHIP	0.72	1.01	33.3	14	1.40	0.42	46.25	19.44	32.97	13.86
BOSHIP	0.77	1.01	41.8	23	1.31	0.55	54.29	29.87	41.39	22.77
BOSHIP	0.91	1.20	210.6	173	1.32	0.82	231.43	190.11	175.50	144.17
BOSHIP	0.92	1.11	158.2	128	1.21	0.81	171.96	139.13	142.52	115.32
BOSHIP	0.97	1.17	228.7	191	1.21	0.84	235.77	196.91	195.47	163.25
BOSHIP	0.99	1.32	305.1	254	1.33	0.83	308.18	256.57	231.14	192.42
COPHALL	0.62	0.78	13.9	17	1.26	1.22	22.42	27.42	17.82	21.79
COPHALL	0.64	0.71	12.4	14	1.11	1.13	19.38	21.88	17.46	19.72
COPHALL	0.69	0.85	18.7	67	1.23	3.58	27.10	97.10	22.00	78.82
COPHALL	0.70	1.14	25.9	37	1.63	1.43	37.00	52.86	22.72	32.46
COPHALL	0.71	1.09	22.5	32	1.54	1.42	31.69	45.07	20.64	29.36
COPHALL	0.72	0.81	18.7	58	1.13	3.10	25.97	80.56	23.09	71.60
COPHALL	0.73	0.83	18.2	56	1.14	3.08	24.93	76.71	21.93	67.47
COPHALL	0.76	0.85	16.0	22	1.12	1.38	21.05	28.95	18.82	25.88
COPHALL	0.78	1.00	34.2	98	1.28	2.87	43.85	125.64	34.20	98.00
COPHALL	0.79	0.96	18.1	25	1.22	1.38	22.91	31.65	18.85	26.04
DRUSILLAS	0.53	0.67	9.3	0	1.26	0.00	17.55	0.00	13.88	0.00
DRUSILLAS	0.66	0.85	11.4	1	1.29	0.09	17.27	1.52	13.41	1.18
DRUSILLAS	0.85	1.02	34.9	17	1.20	0.49	41.06	20.00	34.22	16.67
DRUSILLAS	0.88	1.08	87.2	50	1.23	0.57	99.09	56.82	80.74	46.30
DRUSILLAS	0.94	1.07	91.9	51	1.14	0.55	97.77	54.26	85.89	47.66
DRUSILLAS	0.95	1.1	115.5	69	1.16	0.60	121.58	72.63	105.00	62.73
DRUSILLAS	1.05	1.26	257.1	152	1.20	0.59	244.86	144.76	204.05	120.63
DRUSILLAS	1.06	1.23	226.1	134	1.16	0.59	213.30	126.42	183.82	108.94
LION HILL/DITTONS RD	0.79	0.86	82.3	20	1.09	0.24	104.18	25.32	95.70	23.26
LION HILL/DITTONS RD	0.82	0.92	64.5	27	1.12	0.42	78.66	32.93	70.11	29.35
LION HILL/DITTONS RD	0.84	0.87	62.9	27	1.04	0.43	74.88	32.14	72.30	31.03
LION HILL/DITTONS RD	0.84	0.89	64.7	27	1.06	0.42	77.02	32.14	72.70	30.34
LION HILL/DITTONS RD	0.85	0.90	90.6	22	1.06	0.24	106.59	25.88	100.67	24.44
LION HILL/DITTONS RD	0.85	0.91	89.8	22	1.07	0.24	105.65	25.88	98.68	24.18
LION HILL/DITTONS RD	0.86	0.89	66.9	28	1.03	0.42	77.79	32.56	75.17	31.46
LION HILL/DITTONS RD	0.96	1.00	115.4	24	1.04	0.21	120.21	25.00	115.40	24.00
LION HILL/DITTONS RD	0.97	1.01	121.8	26	1.04	0.21	125.57	26.80	120.59	25.74
LION HILL/DITTONS RD	1.02	1.04	168.4	41	1.02	0.24	165.10	40.20	161.92	39.42
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.38	0.70	13.0	2	1.84	0.15	34.21	5.26	18.57	2.86
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.41	0.55	12.8	0	1.34	0.00	31.22	0.00	23.27	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.44	0.61	13.0	0	1.39	0.00	29.55	0.00	21.31	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.82	13.6	5	1.18	0.37	29.57	10.87	16.59	6.10
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.53	12.1	0	1.75	0.00	26.30	0.00	22.83	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.47	0.54	12.2	0	1.15	0.00	25.96	0.00	22.59	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.51	1.00	34.5	11	1.96	0.32	67.65	21.57	34.50	11.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.53	1.03	34.6	11	1.94	0.32	65.28	20.75	33.59	10.68
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.62	1.14	44.9	18	1.84	0.40	72.42	29.03	39.39	15.79
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.65	1.06	42.0	14	1.63	0.33	64.62	21.54	39.62	13.21
	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/jnc DOS	Q/delay	delay / jnc DOS	Q / jnc DOS	delay / worst arm	Q / worst arm

RELATIONSHIPS BETWEEN JUNCTION PERFORMANCE INDICATORS

SORTED BY JUNCTION DOS

	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/jnc DOS	Q/delay	delay / jnc DOS	Q / jnc DOS	delay / worst arm	Q / worst arm
A27/A2270	0.35	0.36	14.2	8	1.03	0.56	40.57	22.86	39.44	22.22
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.38	0.70	13.0	2	1.84	0.15	34.21	5.26	18.57	2.86
A27/A2270	0.38	0.45	20.5	12	1.18	0.59	53.95	31.58	45.56	26.67
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.41	0.55	12.8	0	1.34	0.00	31.22	0.00	23.27	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.44	0.61	13.0	0	1.39	0.00	29.55	0.00	21.31	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.82	13.6	5	1.78	0.37	29.57	10.87	16.59	6.10
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.53	12.1	0	1.15	0.00	26.30	0.00	22.83	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.47	0.54	12.2	0	1.15	0.00	25.96	0.00	22.59	0.00
BOSHIP	0.50	0.56	18.4	30	1.12	1.63	36.80	60.00	32.86	53.57
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.51	1.00	34.5	11	1.96	0.32	67.65	21.57	34.50	11.00
BOSHIP	0.52	0.58	19.2	34	1.12	1.77	36.92	65.38	33.10	58.62
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.53	1.03	34.6	11	1.94	0.32	65.28	20.75	33.59	10.68
DRUSILLAS	0.53	0.67	9.3	0	1.26	0.00	17.55	0.00	13.88	0.00
A27/A22 GJWAY	0.54	0.68	12.5	0	1.26	0.00	23.15	0.00	18.38	0.00
BOSHIP	0.56	0.66	16.2	27	1.18	1.67	28.93	48.21	24.55	40.91
A22 GJWAY/DITTONS RD	0.56	0.70	17.1	4	1.25	0.23	30.54	7.14	24.43	5.71
A22 GJWAY/DITTONS RD	0.57	0.72	13.6	1	1.26	0.07	23.86	1.75	18.89	1.39
A27/A2270	0.58	0.65	24.4	18	1.12	0.74	42.07	31.03	37.54	27.69
A27/A2270	0.58	0.60	26.2	24	1.03	0.92	45.17	41.38	43.67	40.00
BOSHIP	0.59	0.70	17.5	31	1.19	1.77	29.66	52.54	25.00	44.29
A27/A22 GJWAY	0.59	0.69	10.5	1	1.17	0.10	17.80	1.69	15.22	1.45
A27/A22 GJWAY	0.59	0.74	13.1	1	1.25	0.08	22.20	1.69	17.70	1.35
A22 GJWAY/DITTONS RD	0.59	0.74	15.2	2	1.25	0.13	25.76	3.39	20.54	2.70
A27/A2270	0.59	0.70	23.8	20	1.19	0.84	40.34	33.50	34.00	28.57
A22/SOUTH RD	0.60	0.61	12.5	0	1.02	0.00	20.83	0.00	20.49	0.00
A27/A22 GJWAY	0.62	0.80	11.4	0	1.29	0.00	18.39	0.00	14.25	0.00
A22 GJWAY/DITTONS RD	0.62	0.84	18.8	8	1.35	0.43	30.32	12.90	22.38	9.52
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.62	1.14	44.9	18	1.84	0.40	72.42	29.03	39.39	15.79
COPHALL	0.62	0.78	13.9	17	1.26	1.22	22.42	27.42	17.82	21.79
A22/SOUTH RD	0.63	0.79	12.8	1	1.25	0.08	20.32	1.59	16.20	1.27
A27/A2270	0.63	0.73	25.5	19	1.16	0.75	40.48	30.16	34.93	26.03
A27/A2270	0.63	0.72	25.9	19	1.14	0.73	41.11	30.16	35.97	26.39
A27/A2270	0.63	0.66	30.7	27	1.05	0.88	48.73	42.86	46.52	40.91
COPHALL	0.64	0.71	12.4	14	1.11	1.13	19.38	21.88	17.46	19.72
A22/SOUTH RD	0.65	0.77	13.7	2	1.18	0.15	21.08	3.08	17.79	2.60
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.65	1.06	42.0	14	1.63	0.33	64.62	21.54	39.62	13.21
DRUSILLAS	0.66	0.85	11.4	1	1.29	0.09	17.27	1.52	13.41	1.18
A22/SOUTH RD	0.67	0.78	12.8	1	1.16	0.08	19.10	1.49	16.41	1.28
A27/A22 GJWAY	0.67	0.74	14.0	0	1.10	0.00	20.90	0.00	18.92	0.00
A22/DIPLOCKS WAY	0.67	0.88	19.2	4	1.31	0.21	28.66	5.97	21.82	4.55
A2270/POLEGATE HIGH ST/WANNOCK RD	0.67	0.77	41.7	29	1.15	0.70	62.24	43.28	54.16	37.66
A22/DIPLOCKS WAY	0.68	0.79	17.3	0	1.16	0.00	25.44	0.00	21.90	0.00
A22/SOUTH RD	0.69	0.70	13.5	1	1.01	0.07	19.57	1.45	19.29	1.43
COPHALL	0.69	0.85	18.7	67	1.23	3.58	27.10	97.10	22.00	78.82
A27/A2270	0.69	0.88	26.8	22	1.28	0.82	38.84	31.88	30.45	25.00
A22 GJWAY/DITTONS RD	0.70	0.80	17.0	5	1.14	0.29	24.29	7.14	21.25	6.25
COPHALL	0.70	1.14	25.9	37	1.63	1.43	37.00	52.86	22.72	32.46
A22/SOUTH RD	0.71	0.85	14.7	2	1.20	0.14	20.70	2.82	17.29	2.35
A22/DIPLOCKS WAY	0.71	0.75	17.8	2	1.06	0.11	25.07	2.82	23.73	2.67
COPHALL	0.71	1.09	22.5	32	1.54	1.42	31.69	45.07	20.64	29.36
A2270/POLEGATE HIGH ST/WANNOCK RD	0.71	0.90	42.6	23	1.27	0.54	60.00	32.39	47.33	25.56
BOSHIP	0.72	1.01	33.3	14	1.40	0.42	46.25	19.44	32.97	13.86
A27/A22 GJWAY	0.72	0.84	14.9	0	1.17	0.00	20.69	0.00	17.74	0.00
COPHALL	0.72	0.81	18.7	58	1.13	3.10	25.97	80.56	23.09	71.60
A27/A2270	0.72	0.92	31.4	27	1.28	0.86	43.61	37.50	34.13	29.35
A22/DIPLOCKS WAY	0.73	0.85	18.2	2	1.16	0.11	24.93	2.74	21.41	2.35
COPHALL	0.73	0.83	18.2	56	1.14	3.08	24.93	76.71	21.93	67.47
A22/SOUTH RD	0.74	0.88	16.7	2	1.19	0.12	22.57	2.70	18.98	2.27
A2270/POLEGATE HIGH ST/WANNOCK RD	0.74	0.92	53.0	29	1.24	0.55	71.62	39.19	57.61	31.52
A27/A22 GJWAY	0.75	0.88	15.7	2	1.17	0.13	20.93	2.67	17.84	2.27
A2270/POLEGATE HIGH ST/WANNOCK RD	0.75	0.87	49.2	27	1.16	0.55	65.60	36.00	56.55	31.03
A27/A22 GJWAY	0.76	0.99	19.4	5	1.30	0.26	25.53	6.58	19.60	5.05
COPHALL	0.76	0.85	16.0	22	1.12	1.38	21.05	28.95	18.82	25.88
A2270/POLEGATE HIGH ST/WANNOCK RD	0.76	1.00	68.8	33	1.32	0.48	90.53	43.42	68.80	33.00
BOSHIP	0.77	1.01	41.8	23	1.31	0.55	54.29	29.87	41.39	22.77
A22 GJWAY/DITTONS RD	0.77	1.01	27.6	15	1.31	0.54	35.84	19.48	27.33	14.85
A22/DIPLOCKS WAY	0.77	1.03	32.7	14	1.34	0.43	42.47	18.18	31.75	13.59
COPHALL	0.78	1.00	34.2	98	1.28	2.87	43.85	125.64	34.20	98.00
A27/A22 GJWAY	0.79	0.91	16.1	0	1.15	0.00	20.38	0.00	17.69	0.00
A22 GJWAY/DITTONS RD	0.79	1.01	29.8	16	1.28	0.54	37.72	20.25	29.50	15.84
A22/DIPLOCKS WAY	0.79	1.03	34.5	16	1.30	0.46	43.67	20.25	33.50	15.53
A22/DIPLOCKS WAY	0.79	0.86	19.0	3	1.09	0.16	24.05	3.80	22.09	3.49
A22/DIPLOCKS WAY	0.79	0.97	27.4	9	1.23	0.33	34.68	11.39	28.25	9.28
A22/DIPLOCKS WAY	0.79	1.02	28.9	11	1.29	0.38	36.58	13.92	28.33	10.78
COPHALL	0.79	0.96	18.1	25	1.22	1.38	22.91	31.65	18.85	26.04
LIION HILL/DITTONS RD	0.79	0.86	82.3	20	1.09	0.24	104.18	25.32	95.70	23.26
A27/A22 GJWAY	0.80	1.01	31.0	19	1.26	0.61	38.75	23.75	30.69	18.81
A2270/POLEGATE HIGH ST/WANNOCK RD	0.80	1.01	60.8	23	1.26	0.38	76.00	28.75	60.20	22.77
A22/SOUTH RD	0.81	0.91	18.5	3	1.12	0.16	22.84	3.70	20.33	3.30
A22 GJWAY/DITTONS RD	0.81	0.90	20.3	9	1.11	0.44	25.06	11.11	22.56	10.00
A22 GJWAY/DITTONS RD	0.82	1.06	52.5	43	1.29	0.82	64.02	52.44	49.53	40.57
LIION HILL/DITTONS RD	0.82	0.92	64.5	27	1.12	0.42	78.66	32.93	70.11	29.35
A22 GJWAY/DITTONS RD	0.83	1.01	31.4	20	1.22	0.64	37.83	24.10	31.09	19.80
A22/DIPLOCKS WAY	0.83	1.03	32.9	17	1.24	0.52	39.64	20.48	31.94	16.50
A2270/POLEGATE HIGH ST/WANNOCK RD	0.83	0.95	61.0	30	1.14	0.49	73.49	36.14	64.21	31.58
A2270/POLEGATE HIGH ST/WANNOCK RD	0.84	0.98	69.4	29	1.17	0.42	82.62	34.52	70.82	29.59
LIION HILL/DITTONS RD	0.84	0.87	62.9	27	1.04	0.43	74.88	32.14	72.30	31.03
LIION HILL/DITTONS RD	0.84	0.89	64.7	27	1.06	0.42	77.02	32.14	72.70	30.34
A22/SOUTH RD	0.85	1.01	31.5	17	1.19	0.54	37.06	20.00	31.19	16.83
LIION HILL/DITTONS RD	0.85	0.90	90.6	22	1.06	0.24	106.59	25.88	100.67	24.44
LIION HILL/DITTONS RD	0.85	0.91	89.8	22	1.07	0.24	105.65	25.88	98.68	24.18
DRUSILLAS	0.85	1.02	34.9	17	1.20	0.49	41.06	20.00	34.22	16.67
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.04	85.6	34	1.21	0.40	99.53	39.53	82.31	32.69
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.03	82.1	32	1.20	0.39	95.47	37.21	79.71	31.07
LIION HILL/DITTONS RD	0.86	0.89	66.9	28	1.03	0.42	77.79	32.56	75.17	31.46
DRUSILLAS	0.88	1.08	87.2	50	1.23	0.57	99.09	56.82	80.74	46.30
BOSHIP	0.91	1.20	210.6	173	1.32	0.82	231.43	190.11	175.50	144.17
BOSHIP	0.92	1.11	158.2	128	1.21	0.81	171.96	139.13	142.52	115.32
A22/SOUTH RD	0.94	1.07	86.7	77	1.14	0.89	92.23	81.91	81.03	71.96
DRUSILLAS	0.94	1.07	91.9	51	1.14	0.55	97.77	54.26	85.89	47.66
DRUSILLAS	0.95	1.1	115.5	69	1.16	0.60	121.58	72.63	105.00	62.73
LIION HILL/DITTONS RD	0.96	1.00	115.4	24	1.04	0.21	120.21	25.00	115.40	24.00
BOSHIP	0.97	1.17	228.7	191	1.21	0.84	235.77	196.91	195.47	163.25
LIION HILL/DITTONS RD	0.97	1.01	121.8	26	1.04	0.21	125.57	26.80	120.59	25.74
BOSHIP	0.99	1.32	305.1	254	1.33	0.83	308.18	256.57	231.14	192.42
LIION HILL/DITTONS RD	1.02	1.04	168.4	41	1.02	0.24	165.10	40.20	161.92	39.42
DRUSILLAS	1.05	1.26	257.1	152	1.20	0.59	244.86	144.76	204.05	120.63
DRUSILLAS	1.06	1.23	226.1	134	1.16	0.59	213.30	126.42	183.82	108.94

RELATIONSHIPS BETWEEN JUNCTION PERFORMANCE INDICATORS
SORTED BY WORST ARM DOS

	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/inc DOS	Q/delay	delay / inc DOS	Q / inc DOS	delay / worst arm	Q / worst arm
A27/A2270	0.35	0.36	14.2	8	1.03	0.56	40.57	22.86	39.44	22.22
A27/A2270	0.38	0.45	20.5	12	1.18	0.59	53.95	31.58	45.56	26.67
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.53	12.1	0	1.15	0.00	26.30	0.00	22.83	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.47	0.54	12.2	0	1.15	0.00	25.96	0.00	22.59	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.41	0.55	12.8	0	1.34	0.00	31.22	0.00	23.27	0.00
BOSHIP	0.50	0.56	18.4	30	1.12	1.63	36.80	60.00	32.86	53.57
BOSHIP	0.52	0.58	19.2	34	1.12	1.77	36.92	65.38	33.10	58.62
A27/A2270	0.58	0.60	26.2	24	1.03	0.92	45.17	41.38	43.67	40.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.44	0.61	13.0	0	1.39	0.00	29.55	0.00	21.31	0.00
A22/SOUTH RD	0.60	0.61	12.5	0	1.02	0.00	20.83	0.00	20.49	0.00
A27/A2270	0.58	0.65	24.4	18	1.12	0.74	42.07	31.03	37.54	27.69
BOSHIP	0.56	0.66	16.2	27	1.18	1.67	28.93	48.21	24.55	40.91
A27/A2270	0.63	0.66	30.7	27	1.05	0.88	48.73	42.86	46.52	40.91
DRUSILLAS	0.53	0.67	9.3	0	1.26	0.00	17.55	0.00	13.88	0.00
A27/A22 GJWAY	0.54	0.68	12.5	0	1.26	0.00	23.15	0.00	18.38	0.00
A27/A22 GJWAY	0.59	0.69	10.5	1	1.17	0.10	17.80	1.69	15.22	1.45
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.38	0.70	13.0	2	1.84	0.15	34.21	5.26	18.57	2.86
A22 GJWAY/DITTONS RD	0.56	0.70	17.1	4	1.25	0.23	30.54	7.14	24.43	5.71
BOSHIP	0.59	0.70	17.5	31	1.19	1.77	29.66	52.54	25.00	44.29
A27/A2270	0.59	0.70	23.8	20	1.19	0.84	40.34	33.90	34.00	28.57
A22/SOUTH RD	0.69	0.70	13.5	1	1.01	0.07	19.57	1.45	19.29	1.43
COPHALL	0.64	0.71	12.4	14	1.11	1.13	19.38	21.88	17.46	19.72
A22 GJWAY/DITTONS RD	0.57	0.72	13.6	1	1.26	0.07	23.86	1.75	18.89	1.39
A27/A2270	0.63	0.72	25.9	19	1.14	0.73	41.11	30.16	35.97	26.39
A27/A2270	0.63	0.73	25.5	19	1.16	0.75	40.48	30.16	34.93	26.03
A27/A22 GJWAY	0.59	0.74	13.1	1	1.25	0.08	22.20	1.69	17.70	1.35
A22 GJWAY/DITTONS RD	0.59	0.74	15.2	2	1.25	0.13	25.76	3.39	20.54	2.70
A27/A22 GJWAY	0.67	0.74	14.0	0	1.10	0.00	20.90	0.00	18.92	0.00
A22/DIPLOCKS WAY	0.71	0.75	17.8	2	1.06	0.11	25.07	2.82	23.73	2.67
A22/SOUTH RD	0.65	0.77	13.7	2	1.18	0.15	21.08	3.08	17.79	2.60
A2270/POLEGATE HIGH ST/WANNOCK RD	0.67	0.77	41.7	29	1.15	0.70	62.24	43.28	54.16	37.66
COPHALL	0.62	0.78	13.9	17	1.26	1.22	22.42	27.42	17.82	21.79
A22/SOUTH RD	0.67	0.78	12.8	1	1.16	0.08	19.10	1.49	16.41	1.28
A22/SOUTH RD	0.63	0.79	12.8	1	1.25	0.08	20.32	1.59	16.20	1.27
A22/DIPLOCKS WAY	0.68	0.79	17.3	0	1.16	0.00	25.44	0.00	21.90	0.00
A27/A22 GJWAY	0.62	0.80	11.4	0	1.29	0.00	18.39	0.00	14.25	0.00
A22 GJWAY/DITTONS RD	0.70	0.80	17.0	5	1.14	0.29	24.29	7.14	21.25	6.25
COPHALL	0.72	0.81	18.7	58	1.13	3.10	25.97	80.56	23.09	71.60
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.82	13.6	5	1.78	0.37	29.57	10.87	16.59	6.10
COPHALL	0.73	0.83	18.2	56	1.14	3.08	24.93	76.71	21.93	67.47
A22 GJWAY/DITTONS RD	0.62	0.84	18.8	8	1.35	0.43	30.32	12.90	22.38	9.52
A27/A22 GJWAY	0.72	0.84	14.9	0	1.17	0.00	20.69	0.00	17.74	0.00
DRUSILLAS	0.66	0.85	11.4	1	1.29	0.09	17.27	1.52	13.41	1.18
COPHALL	0.69	0.85	18.7	67	1.23	3.58	27.10	97.10	22.00	78.82
A22/SOUTH RD	0.71	0.85	14.7	2	1.20	0.14	20.70	2.82	17.29	2.35
A22/DIPLOCKS WAY	0.73	0.85	18.2	2	1.16	0.11	24.93	2.74	21.41	2.35
COPHALL	0.76	0.85	16.0	22	1.12	1.38	21.05	28.95	18.82	25.88
A22/DIPLOCKS WAY	0.79	0.86	19.0	3	1.09	0.16	24.05	3.80	22.09	3.49
LIION HILL/DITTONS RD	0.79	0.86	82.3	20	1.09	0.24	104.18	25.32	95.70	23.26
A2270/POLEGATE HIGH ST/WANNOCK RD	0.75	0.87	49.2	27	1.16	0.55	65.60	36.00	56.55	31.03
LIION HILL/DITTONS RD	0.84	0.87	62.9	27	1.04	0.43	74.88	32.14	72.30	31.03
A22/DIPLOCKS WAY	0.67	0.88	19.2	4	1.31	0.21	28.66	5.97	21.82	4.55
A27/A2270	0.69	0.88	26.8	22	1.28	0.82	38.84	31.88	30.45	25.00
A22/SOUTH RD	0.74	0.88	16.7	2	1.19	0.12	22.57	2.70	18.98	2.27
A27/A22 GJWAY	0.75	0.88	15.7	2	1.17	0.13	20.93	2.67	17.84	2.27
LIION HILL/DITTONS RD	0.84	0.89	64.7	27	1.06	0.42	77.02	32.14	72.70	30.34
LIION HILL/DITTONS RD	0.86	0.89	66.9	28	1.03	0.42	77.79	32.56	75.17	31.46
A2270/POLEGATE HIGH ST/WANNOCK RD	0.71	0.90	42.6	23	1.27	0.54	60.00	32.39	47.33	25.56
A22 GJWAY/DITTONS RD	0.81	0.90	20.3	9	1.11	0.44	25.06	11.11	22.56	10.00
LIION HILL/DITTONS RD	0.85	0.90	90.6	22	1.06	0.24	106.59	25.88	100.67	24.44
A27/A22 GJWAY	0.79	0.91	16.1	0	1.15	0.00	20.38	0.00	17.69	0.00
A22/SOUTH RD	0.81	0.91	18.5	3	1.12	0.16	22.84	3.70	20.33	3.30
LIION HILL/DITTONS RD	0.85	0.91	89.8	22	1.07	0.24	105.65	25.88	98.68	24.18
A27/A2270	0.72	0.92	31.4	27	1.28	0.86	43.61	37.50	34.13	29.35
A2270/POLEGATE HIGH ST/WANNOCK RD	0.74	0.92	53.0	29	1.24	0.55	71.62	39.19	57.61	31.52
LIION HILL/DITTONS RD	0.82	0.92	64.5	27	1.12	0.42	78.66	32.93	70.11	29.35
A2270/POLEGATE HIGH ST/WANNOCK RD	0.83	0.95	61.0	30	1.14	0.49	73.49	36.14	64.21	31.58
COPHALL	0.79	0.96	18.1	25	1.22	1.38	22.91	31.65	18.85	26.04
A22/DIPLOCKS WAY	0.79	0.97	27.4	9	1.23	0.33	34.68	11.39	28.25	9.28
A2270/POLEGATE HIGH ST/WANNOCK RD	0.84	0.98	69.4	29	1.17	0.42	82.62	34.52	70.82	29.59
A27/A22 GJWAY	0.76	0.99	19.4	5	1.30	0.26	25.53	6.58	19.60	5.05
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.51	1.00	34.5	11	1.96	0.32	67.65	21.57	34.50	11.00
A2270/POLEGATE HIGH ST/WANNOCK RD	0.76	1.00	68.8	33	1.32	0.48	90.53	43.42	68.80	33.00
COPHALL	0.78	1.00	34.2	98	1.28	2.87	43.85	125.64	34.20	98.00
LIION HILL/DITTONS RD	0.96	1.00	115.4	24	1.04	0.21	120.21	25.00	115.40	24.00
BOSHIP	0.72	1.01	33.3	14	1.40	0.42	46.25	19.44	32.97	13.86
BOSHIP	0.77	1.01	41.8	23	1.31	0.55	54.29	29.87	41.39	22.77
A22 GJWAY/DITTONS RD	0.77	1.01	27.6	15	1.31	0.54	35.84	19.48	27.33	14.85
A22 GJWAY/DITTONS RD	0.79	1.01	29.8	16	1.28	0.54	37.72	20.25	29.50	15.84
A27/A22 GJWAY	0.80	1.01	31.0	19	1.26	0.61	38.75	23.75	30.69	18.81
A2270/POLEGATE HIGH ST/WANNOCK RD	0.80	1.01	60.8	23	1.26	0.38	76.00	28.75	60.20	22.77
A22 GJWAY/DITTONS RD	0.83	1.01	31.4	20	1.22	0.64	37.83	24.10	31.09	19.80
A22/SOUTH RD	0.85	1.01	31.5	17	1.19	0.54	37.06	20.00	31.19	16.83
LIION HILL/DITTONS RD	0.97	1.01	121.8	26	1.04	0.21	125.57	26.80	120.59	25.74
A22/DIPLOCKS WAY	0.79	1.02	28.9	11	1.29	0.38	36.58	13.92	28.33	10.78
DRUSILLAS	0.85	1.02	34.9	17	1.20	0.49	41.06	20.00	34.22	16.67
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.53	1.03	34.6	11	1.94	0.32	65.28	20.75	33.59	10.68
A22/DIPLOCKS WAY	0.77	1.03	32.7	14	1.34	0.43	42.47	18.18	31.75	13.59
A22/DIPLOCKS WAY	0.79	1.03	34.5	16	1.30	0.46	43.67	20.25	33.50	15.53
A22/DIPLOCKS WAY	0.83	1.03	32.9	17	1.24	0.52	39.64	20.48	31.94	16.50
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.03	82.1	32	1.20	0.39	95.47	37.21	79.71	31.07
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.04	85.6	34	1.21	0.40	99.53	39.53	82.31	32.69
LIION HILL/DITTONS RD	1.02	1.04	168.4	41	1.02	0.24	165.10	40.20	161.92	39.42
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.65	1.06	42.0	14	1.63	0.33	64.62	21.54	39.62	13.21
A22 GJWAY/DITTONS RD	0.82	1.06	52.5	43	1.29	0.82	64.02	52.44	49.53	40.57
A22/SOUTH RD	0.94	1.07	86.7	77	1.14	0.89	92.23	81.91	81.03	71.96
DRUSILLAS	0.94	1.07	91.9	51	1.14	0.55	97.77	54.26	85.89	47.66
DRUSILLAS	0.88	1.08	87.2	50	1.23	0.57	99.09	56.82	80.74	46.30
COPHALL	0.71	1.09	22.5	32	1.54	1.42	31.69	45.07	20.64	29.36
DRUSILLAS	0.95	1.1	115.5	69	1.16	0.60	121.58	72.63	105.00	62.73
BOSHIP	0.92	1.11	158.2	128	1.21	0.81	171.96	139.13	142.52	115.32
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.62	1.14	44.9	18	1.84	0.40	72.42	29.03	39.39	15.79
COPHALL	0.70	1.14	25.9	37	1.63	1.43	37.00	52.86	22.72	32.46
BOSHIP	0.97	1.17	228.7	191	1.21	0.84	235.77	196.91	195.47	163.25
BOSHIP	0.91	1.20	210.6	173	1.32	0.82	231.43	190.11	175.50	144.17
DRUSILLAS	1.06	1.23	226.1	134	1.16	0.59	213.30	126.42	183.82	108.94
DRUSILLAS	1.05	1.26	257.1	152	1.20	0.59	244.86	144.76	204.05	120.63
BOSHIP	0.99	1.32	305.1	254	1.33	0.83	308.18	256.57	231.14	192.42

RELATIONSHIPS BETWEEN JUNCTION PERFORMANCE INDICATORS

SORTED BY DELAY

	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/inc DOS	Q/delay	delay / inc DOS	Q / inc DOS	delay / worst arm	Q / worst arm
DRUSILLAS	0.53	0.67	9.3	0	1.26	0.00	17.55	0.00	13.88	0.00
A27/A22 GJWAY	0.59	0.69	10.5	1	1.17	0.10	17.80	1.69	15.22	1.45
A27/A22 GJWAY	0.62	0.80	11.4	0	1.29	0.00	18.39	0.00	14.25	0.00
DRUSILLAS	0.66	0.85	11.4	1	1.29	0.09	17.27	1.52	13.41	1.18
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.53	12.1	0	1.15	0.00	26.30	0.00	22.83	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.47	0.54	12.2	0	1.15	0.00	25.96	0.00	22.59	0.00
COPHALL	0.64	0.71	12.4	14	1.11	1.13	19.38	21.88	17.46	19.72
A22/SOUTH RD	0.60	0.61	12.5	0	1.02	0.00	20.83	0.00	20.49	0.00
A27/A22 GJWAY	0.54	0.68	12.5	0	1.26	0.00	23.15	0.00	18.38	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.41	0.55	12.8	0	1.34	0.00	31.22	0.00	23.27	0.00
A22/SOUTH RD	0.67	0.78	12.8	1	1.16	0.08	19.10	1.49	16.41	1.28
A22/SOUTH RD	0.63	0.79	12.8	1	1.25	0.08	20.32	1.59	16.20	1.27
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.44	0.61	13.0	0	1.39	0.00	29.55	0.00	21.31	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.38	0.70	13.0	2	1.84	0.15	34.21	5.26	18.57	2.86
A27/A22 GJWAY	0.59	0.74	13.1	1	1.25	0.08	22.20	1.69	17.70	1.35
A22/SOUTH RD	0.69	0.70	13.5	1	1.01	0.07	19.57	1.45	19.29	1.43
A22 GJWAY/DITTONS RD	0.57	0.72	13.6	1	1.26	0.07	23.86	1.75	18.89	1.39
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.82	13.6	5	1.78	0.37	29.57	10.87	16.59	6.10
A22/SOUTH RD	0.65	0.77	13.7	2	1.18	0.15	21.08	3.08	17.79	2.60
COPHALL	0.62	0.78	13.9	17	1.26	1.22	22.42	27.42	17.82	21.79
A27/A22 GJWAY	0.67	0.74	14.0	0	1.10	0.00	20.90	0.00	18.92	0.00
A27/A2270	0.35	0.36	14.2	8	1.03	0.56	40.57	22.86	39.44	22.22
A22/SOUTH RD	0.71	0.85	14.7	2	1.20	0.14	20.70	2.82	17.29	2.35
A27/A22 GJWAY	0.72	0.84	14.9	0	1.17	0.00	20.69	0.00	17.74	0.00
A22 GJWAY/DITTONS RD	0.59	0.74	15.2	2	1.25	0.13	25.76	3.39	20.54	2.70
A27/A22 GJWAY	0.75	0.88	15.7	2	1.17	0.13	20.93	2.67	17.84	2.27
COPHALL	0.76	0.85	16.0	22	1.12	1.38	21.05	28.95	18.82	25.88
A27/A22 GJWAY	0.79	0.91	16.1	0	1.15	0.00	20.38	0.00	17.69	0.00
BOSHIP	0.56	0.66	16.2	27	1.18	1.67	28.93	48.21	24.55	40.91
A22/SOUTH RD	0.74	0.88	16.7	2	1.19	0.12	22.57	2.70	18.98	2.27
A22 GJWAY/DITTONS RD	0.70	0.80	17.0	5	1.14	0.29	24.29	7.14	21.25	6.25
A22 GJWAY/DITTONS RD	0.56	0.70	17.1	4	1.25	0.23	30.54	7.14	24.43	5.71
A22/DIPLOCKS WAY	0.68	0.79	17.3	0	1.16	0.00	25.44	0.00	21.90	0.00
BOSHIP	0.59	0.70	17.5	31	1.19	1.77	29.66	52.54	25.00	44.29
A22/DIPLOCKS WAY	0.71	0.75	17.8	2	1.06	0.11	25.07	2.82	23.73	2.67
COPHALL	0.79	0.96	18.1	25	1.22	1.38	22.91	31.65	18.85	26.04
COPHALL	0.73	0.83	18.2	56	1.14	3.08	24.93	76.71	21.93	67.47
A22/DIPLOCKS WAY	0.73	0.85	18.2	2	1.16	0.11	24.93	2.74	21.41	2.35
BOSHIP	0.50	0.56	18.4	30	1.12	1.63	36.80	60.00	32.86	53.57
A22/SOUTH RD	0.81	0.91	18.5	3	1.12	0.16	22.84	3.70	20.33	3.30
COPHALL	0.72	0.81	18.7	58	1.13	3.10	25.97	80.56	23.09	71.60
COPHALL	0.69	0.85	18.7	67	1.23	3.58	27.10	97.10	22.00	78.82
A22 GJWAY/DITTONS RD	0.62	0.84	18.8	8	1.35	0.43	30.32	12.90	22.38	9.52
A22/DIPLOCKS WAY	0.79	0.86	19.0	3	1.09	0.16	24.05	3.80	22.09	3.49
BOSHIP	0.52	0.58	19.2	34	1.12	1.77	36.92	65.38	33.10	58.62
A22/DIPLOCKS WAY	0.67	0.88	19.2	4	1.31	0.21	28.66	5.97	21.82	4.55
A27/A22 GJWAY	0.76	0.99	19.4	5	1.30	0.26	25.53	6.58	19.60	5.05
A22 GJWAY/DITTONS RD	0.81	0.90	20.3	9	1.11	0.44	25.06	11.11	22.56	10.00
A27/A2270	0.38	0.45	20.5	12	1.18	0.59	53.95	31.58	45.56	26.67
COPHALL	0.71	1.09	22.5	32	1.54	1.42	31.69	45.07	20.64	29.36
A27/A2270	0.59	0.70	23.8	20	1.19	0.84	40.34	33.90	34.00	28.57
A27/A2270	0.58	0.65	24.4	18	1.12	0.74	42.07	31.03	37.54	27.69
A27/A2270	0.63	0.73	25.5	19	1.16	0.75	40.48	30.16	34.93	26.03
A27/A2270	0.63	0.72	25.9	19	1.14	0.73	41.11	30.16	35.97	26.39
COPHALL	0.70	1.14	25.9	37	1.63	1.43	37.00	52.86	22.72	32.46
A27/A2270	0.58	0.60	26.2	24	1.03	0.92	45.17	41.38	43.67	40.00
A27/A2270	0.69	0.88	26.8	22	1.28	0.82	38.84	31.88	30.45	25.00
A22/DIPLOCKS WAY	0.79	0.97	27.4	9	1.23	0.33	34.68	11.39	28.25	9.28
A22 GJWAY/DITTONS RD	0.77	1.01	27.6	15	1.31	0.54	35.84	19.48	27.33	14.85
A22/DIPLOCKS WAY	0.79	1.02	28.9	11	1.29	0.38	36.58	13.92	28.33	10.78
A22 GJWAY/DITTONS RD	0.79	1.01	29.8	16	1.28	0.54	37.72	20.25	29.50	15.84
A27/A2270	0.63	0.66	30.7	27	1.05	0.88	48.73	42.86	46.52	40.91
A27/A22 GJWAY	0.80	1.01	31.0	19	1.26	0.61	38.75	23.75	30.69	18.81
A27/A2270	0.72	0.92	31.4	27	1.28	0.86	43.61	37.50	34.13	29.35
A22 GJWAY/DITTONS RD	0.83	1.01	31.4	20	1.22	0.64	37.83	24.10	31.09	19.80
A22/SOUTH RD	0.85	1.01	31.5	17	1.19	0.54	37.06	20.00	31.19	16.83
A22/DIPLOCKS WAY	0.77	1.03	32.7	14	1.34	0.43	42.47	18.18	31.75	13.59
A22/DIPLOCKS WAY	0.83	1.03	32.9	17	1.24	0.52	39.64	20.48	31.94	16.50
BOSHIP	0.72	1.01	33.3	14	1.40	0.42	46.25	19.44	32.97	13.86
COPHALL	0.78	1.00	34.2	98	1.28	2.87	43.85	125.64	34.20	98.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.51	1.00	34.5	11	1.96	0.32	67.65	21.57	34.50	11.00
A22/DIPLOCKS WAY	0.79	1.03	34.5	16	1.30	0.46	43.67	20.25	33.50	15.53
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.53	1.03	34.6	11	1.94	0.32	65.28	20.75	33.59	10.68
DRUSILLAS	0.85	1.02	34.9	17	1.20	0.49	41.06	20.00	34.22	16.67
A2270/POLEGATE HIGH ST/WANNOCK RD	0.67	0.77	41.7	29	1.15	0.70	62.24	43.28	54.16	37.66
BOSHIP	0.77	1.01	41.8	23	1.31	0.55	54.29	29.87	41.39	22.77
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.65	1.06	42.0	14	1.63	0.33	64.62	21.54	39.62	13.21
A2270/POLEGATE HIGH ST/WANNOCK RD	0.71	0.90	42.6	23	1.27	0.54	60.00	32.39	47.33	25.56
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.62	1.14	44.9	18	1.84	0.40	72.42	29.03	39.39	15.79
A2270/POLEGATE HIGH ST/WANNOCK RD	0.75	0.87	49.2	27	1.16	0.55	65.60	36.00	56.55	31.03
A22 GJWAY/DITTONS RD	0.82	1.06	52.5	43	1.29	0.82	64.02	52.44	49.53	40.57
A2270/POLEGATE HIGH ST/WANNOCK RD	0.74	0.92	53.0	29	1.24	0.55	71.62	39.19	57.61	31.52
A2270/POLEGATE HIGH ST/WANNOCK RD	0.80	1.01	60.8	23	1.26	0.38	76.00	28.75	60.20	22.77
A2270/POLEGATE HIGH ST/WANNOCK RD	0.83	0.95	61.0	30	1.14	0.49	73.49	36.14	64.21	31.58
LION HILL/DITTONS RD	0.84	0.87	62.9	27	1.04	0.43	74.88	32.14	72.30	31.03
LION HILL/DITTONS RD	0.82	0.92	64.5	27	1.12	0.42	78.66	32.93	70.11	29.35
LION HILL/DITTONS RD	0.84	0.89	64.7	27	1.06	0.42	77.02	32.14	72.70	30.34
LION HILL/DITTONS RD	0.86	0.89	66.9	28	1.03	0.42	77.79	32.56	75.17	31.46
A2270/POLEGATE HIGH ST/WANNOCK RD	0.76	1.00	68.8	33	1.32	0.48	90.53	43.42	68.80	33.00
A2270/POLEGATE HIGH ST/WANNOCK RD	0.84	0.98	69.4	29	1.17	0.42	82.62	34.52	70.82	29.59
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.03	82.1	32	1.20	0.39	95.47	37.21	79.71	31.07
LION HILL/DITTONS RD	0.79	0.86	82.3	20	1.09	0.24	104.18	25.32	95.70	23.26
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.04	85.6	34	1.21	0.40	99.53	39.53	82.31	32.69
A22/SOUTH RD	0.94	1.07	86.7	77	1.14	0.89	92.23	81.91	81.03	71.96
DRUSILLAS	0.88	1.08	87.2	50	1.23	0.57	99.09	56.82	80.74	46.30
LION HILL/DITTONS RD	0.85	0.91	89.8	22	1.07	0.24	105.65	25.88	98.68	24.18
LION HILL/DITTONS RD	0.85	0.90	90.6	22	1.06	0.24	106.59	25.88	100.67	24.44
DRUSILLAS	0.94	1.07	91.9	51	1.14	0.55	97.77	54.26	85.89	47.66
LION HILL/DITTONS RD	0.96	1.00	115.4	24	1.04	0.21	120.21	25.00	115.40	24.00
DRUSILLAS	0.95	1.1	115.5	69	1.16	0.60	121.58	72.63	105.00	62.73
LION HILL/DITTONS RD	0.97	1.01	121.8	26	1.04	0.21	125.57	26.80	120.59	25.74
BOSHIP	0.92	1.11	158.2	128	1.21	0.81	171.96	139.13	142.52	115.32
LION HILL/DITTONS RD	1.02	1.04	168.4	41	1.02	0.24	165.10	40.20	161.92	39.42
BOSHIP	0.91	1.20	210.6	173	1.32	0.82	231.43	190.11	175.50	144.17
DRUSILLAS	1.06	1.23	226.1	134	1.16	0.59	213.30	126.42	183.82	108.94
BOSHIP	0.97	1.17	228.7	191	1.21	0.84	235.77	196.91	195.47	163.25
DRUSILLAS	1.05	1.26	257.1	152	1.20	0.59	244.86	144.76	204.05	120.63
BOSHIP	0.99	1.32	305.1	254	1.33	0.83	308.18	256.57	231.14	192.42

RELATIONSHIPS BETWEEN JUNCTION PERFORMANCE INDICATORS
 SORTED BY TOTAL AVE Q

	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/jnc DOS	Q/delay	delay / jnc DOS	Q / jnc DOS	delay / worst arm	Q / worst arm
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.53	12.1	0	1.15	0.00	26.30	0.00	22.83	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.47	0.54	12.2	0	1.15	0.00	25.96	0.00	22.59	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.41	0.55	12.8	0	1.34	0.00	31.22	0.00	23.27	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.44	0.61	13.0	0	1.39	0.00	29.55	0.00	21.31	0.00
A22/SOUTH RD	0.60	0.61	12.5	0	1.02	0.00	20.83	0.00	20.49	0.00
DRUSILLAS	0.53	0.67	9.3	0	1.26	0.00	17.55	0.00	13.88	0.00
A27/A22 GJWAY	0.54	0.68	12.5	0	1.26	0.00	23.15	0.00	18.38	0.00
A27/A22 GJWAY	0.67	0.74	14.0	0	1.10	0.00	20.90	0.00	18.92	0.00
A22/DIPLOCKS WAY	0.68	0.79	17.3	0	1.16	0.00	25.44	0.00	21.90	0.00
A27/A22 GJWAY	0.62	0.80	11.4	0	1.29	0.00	18.39	0.00	14.25	0.00
A27/A22 GJWAY	0.72	0.84	14.9	0	1.17	0.00	20.69	0.00	17.74	0.00
A27/A22 GJWAY	0.79	0.91	16.1	0	1.15	0.00	20.38	0.00	17.69	0.00
A27/A22 GJWAY	0.59	0.69	10.5	1	1.17	0.10	17.80	1.69	15.22	1.45
A22/SOUTH RD	0.69	0.70	13.5	1	1.01	0.07	19.57	1.45	19.29	1.43
A22 GJWAY/DITTONS RD	0.57	0.72	13.6	1	1.26	0.07	23.86	1.75	18.89	1.39
A27/A22 GJWAY	0.59	0.74	13.1	1	1.25	0.08	22.20	1.69	17.70	1.35
A22/SOUTH RD	0.67	0.78	12.8	1	1.16	0.08	19.10	1.49	16.41	1.28
A22/SOUTH RD	0.63	0.79	12.8	1	1.25	0.08	20.32	1.59	16.20	1.27
DRUSILLAS	0.66	0.85	11.4	1	1.29	0.09	17.27	1.52	13.41	1.18
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.38	0.70	13.0	2	1.84	0.15	34.21	5.26	18.57	2.86
A22 GJWAY/DITTONS RD	0.59	0.74	15.2	2	1.25	0.13	25.76	3.39	20.54	2.70
A22/DIPLOCKS WAY	0.71	0.75	17.8	2	1.06	0.11	25.07	2.82	23.73	2.67
A22/SOUTH RD	0.65	0.77	13.7	2	1.18	0.15	21.08	3.08	17.79	2.60
A22/SOUTH RD	0.71	0.85	14.7	2	1.20	0.14	20.70	2.82	17.29	2.35
A22/DIPLOCKS WAY	0.73	0.85	18.2	2	1.16	0.11	24.93	2.74	21.41	2.35
A22/SOUTH RD	0.74	0.88	16.7	2	1.19	0.12	22.57	2.70	18.98	2.27
A27/A22 GJWAY	0.75	0.88	15.7	2	1.17	0.13	20.93	2.67	17.84	2.27
A22/DIPLOCKS WAY	0.79	0.86	19.0	3	1.09	0.16	24.05	3.80	22.09	3.49
A22/SOUTH RD	0.81	0.91	18.5	3	1.12	0.16	22.84	3.70	20.33	3.30
A22 GJWAY/DITTONS RD	0.56	0.70	17.1	4	1.25	0.23	30.54	7.14	24.43	5.71
A22/DIPLOCKS WAY	0.67	0.88	19.2	4	1.31	0.21	28.66	5.97	21.82	4.55
A22 GJWAY/DITTONS RD	0.70	0.80	17.0	5	1.14	0.29	24.29	7.14	21.25	6.25
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.46	0.82	13.6	5	1.78	0.37	29.57	10.87	16.59	6.10
A27/A22 GJWAY	0.76	0.99	19.4	5	1.30	0.26	25.53	6.58	19.60	5.05
A27/A2270	0.35	0.36	14.2	8	1.03	0.56	40.57	22.86	39.44	22.22
A22 GJWAY/DITTONS RD	0.62	0.84	18.8	8	1.35	0.43	30.32	12.90	22.38	9.52
A22 GJWAY/DITTONS RD	0.81	0.90	20.3	9	1.11	0.44	25.06	11.11	22.56	10.00
A22/DIPLOCKS WAY	0.79	0.97	27.4	9	1.23	0.33	34.68	11.39	28.25	9.28
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.51	1.00	34.5	11	1.96	0.32	67.65	21.57	34.50	11.00
A22/DIPLOCKS WAY	0.79	1.02	28.9	11	1.29	0.38	36.58	13.92	28.33	10.78
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.53	1.03	34.5	11	1.94	0.32	65.28	20.75	33.59	10.68
A27/A2270	0.38	0.45	20.6	12	1.18	0.59	53.95	31.58	45.56	26.67
COPHALL	0.64	0.71	12.4	14	1.11	1.13	19.38	21.88	17.46	19.72
BOSHIP	0.72	1.01	33.3	14	1.40	0.42	46.25	19.44	32.97	13.86
A22/DIPLOCKS WAY	0.77	1.03	32.7	14	1.34	0.43	42.47	18.18	31.75	13.59
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.65	1.06	42.0	14	1.63	0.33	64.62	21.54	39.62	13.21
A22 GJWAY/DITTONS RD	0.77	1.01	27.6	15	1.31	0.54	35.84	19.48	27.33	14.85
A22 GJWAY/DITTONS RD	0.79	1.01	29.8	16	1.28	0.54	37.72	20.25	29.50	15.84
A22/DIPLOCKS WAY	0.79	1.03	34.5	16	1.30	0.46	43.67	20.25	33.50	15.53
COPHALL	0.62	0.78	13.9	17	1.26	1.22	22.42	27.42	17.82	21.79
A22/SOUTH RD	0.85	1.01	31.5	17	1.19	0.54	37.06	20.00	31.19	16.83
DRUSILLAS	0.85	1.02	34.9	17	1.20	0.49	41.06	20.00	34.22	16.67
A22/DIPLOCKS WAY	0.83	1.03	32.9	17	1.24	0.52	39.64	20.48	31.94	16.50
A27/A2270	0.58	0.65	24.4	18	1.12	0.74	42.07	31.03	37.54	27.69
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0.62	1.14	44.9	18	1.84	0.40	72.42	29.03	39.39	15.79
A27/A2270	0.63	0.72	25.9	19	1.14	0.73	41.11	30.16	35.97	26.39
A27/A2270	0.63	0.73	25.5	19	1.16	0.75	40.48	30.16	34.93	26.03
A27/A22 GJWAY	0.80	1.01	31.0	19	1.26	0.61	38.75	23.75	30.69	18.81
A27/A2270	0.59	0.70	23.8	20	1.19	0.84	40.34	33.90	34.00	28.57
LIJON HILL/DITTONS RD	0.79	0.86	82.3	20	1.09	0.24	104.18	25.32	95.70	23.26
A22 GJWAY/DITTONS RD	0.83	1.01	31.4	20	1.22	0.64	37.83	24.10	31.09	19.80
COPHALL	0.76	0.85	16.0	22	1.12	1.38	21.05	28.95	18.82	25.88
A27/A2270	0.69	0.88	26.8	22	1.28	0.82	38.84	31.88	30.45	25.00
LIJON HILL/DITTONS RD	0.85	0.90	90.6	22	1.06	0.24	106.59	25.88	100.67	24.44
LIJON HILL/DITTONS RD	0.85	0.91	89.8	22	1.07	0.24	105.65	25.88	98.68	24.18
A2270/POLEGATE HIGH ST/WANNOCK RD	0.71	0.90	42.6	23	1.27	0.54	60.00	32.39	47.33	25.56
BOSHIP	0.77	1.01	41.8	23	1.31	0.55	54.29	29.87	41.39	22.77
A2270/POLEGATE HIGH ST/WANNOCK RD	0.80	1.01	60.8	23	1.26	0.38	76.00	28.75	60.20	22.77
A27/A2270	0.58	0.60	26.2	24	1.03	0.92	45.17	41.38	43.67	40.00
LIJON HILL/DITTONS RD	0.96	1.00	115.4	24	1.04	0.21	120.21	25.00	115.40	24.00
COPHALL	0.79	0.96	18.1	25	1.22	1.38	22.91	31.65	18.85	26.04
LIJON HILL/DITTONS RD	0.97	1.01	121.8	26	1.04	0.21	125.57	26.80	120.59	25.74
BOSHIP	0.56	0.66	16.2	27	1.18	1.67	28.93	48.21	24.55	40.91
A27/A2270	0.63	0.66	30.7	27	1.05	0.88	48.73	42.86	46.52	40.91
A2270/POLEGATE HIGH ST/WANNOCK RD	0.75	0.87	49.2	27	1.16	0.55	65.60	36.00	56.55	31.03
LIJON HILL/DITTONS RD	0.84	0.87	62.9	27	1.04	0.43	74.88	32.14	72.30	31.03
LIJON HILL/DITTONS RD	0.84	0.89	64.7	27	1.06	0.42	77.02	32.14	72.70	30.34
A27/A2270	0.72	0.92	31.4	27	1.28	0.86	43.61	37.50	34.13	29.35
LIJON HILL/DITTONS RD	0.82	0.92	64.5	27	1.12	0.42	78.66	32.93	70.11	29.35
LIJON HILL/DITTONS RD	0.86	0.89	66.9	28	1.03	0.42	77.79	32.56	75.17	31.46
A2270/POLEGATE HIGH ST/WANNOCK RD	0.67	0.77	41.7	29	1.15	0.70	62.24	43.28	54.16	37.66
A2270/POLEGATE HIGH ST/WANNOCK RD	0.74	0.92	53.0	29	1.24	0.55	71.62	39.19	57.61	31.52
A2270/POLEGATE HIGH ST/WANNOCK RD	0.84	0.98	69.4	29	1.17	0.42	82.62	34.52	70.82	29.59
BOSHIP	0.50	0.56	18.4	30	1.12	1.63	36.80	60.00	32.86	53.57
A2270/POLEGATE HIGH ST/WANNOCK RD	0.83	0.95	61.0	30	1.14	0.49	73.49	36.14	64.21	31.58
BOSHIP	0.59	0.70	17.5	31	1.19	1.77	29.66	52.54	25.00	44.29
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.03	82.1	32	1.20	0.39	95.47	37.21	79.71	31.07
COPHALL	0.71	1.09	22.5	32	1.54	1.42	31.69	45.07	20.64	29.36
A2270/POLEGATE HIGH ST/WANNOCK RD	0.76	1.00	68.8	33	1.32	0.48	90.53	43.42	68.80	33.00
BOSHIP	0.52	0.58	19.2	34	1.12	1.77	36.92	65.38	33.10	58.62
A2270/POLEGATE HIGH ST/WANNOCK RD	0.86	1.04	85.6	34	1.21	0.40	99.53	39.53	82.31	32.69
COPHALL	0.70	1.14	25.9	37	1.63	1.43	37.00	52.86	22.72	32.46
LIJON HILL/DITTONS RD	1.02	1.04	168.4	41	1.02	0.24	165.10	40.20	161.92	39.42
A22 GJWAY/DITTONS RD	0.82	1.06	52.5	43	1.29	0.82	64.02	52.44	49.53	40.57
DRUSILLAS	0.88	1.08	87.2	50	1.23	0.57	99.09	56.82	80.74	46.30
DRUSILLAS	0.94	1.07	91.9	51	1.14	0.55	97.77	54.26	85.89	47.66
COPHALL	0.73	0.83	18.2	56	1.14	3.08	24.93	76.71	21.93	67.47
COPHALL	0.72	0.81	18.7	58	1.13	3.10	25.97	80.56	23.09	71.60
COPHALL	0.69	0.85	18.7	67	1.23	3.58	27.10	97.10	22.00	78.82
DRUSILLAS	0.95	1.1	115.5	69	1.16	0.60	121.58	72.63	105.00	62.73
A22/SOUTH RD	0.94	1.07	86.7	77	1.14	0.89	92.23	81.91	81.03	71.96
COPHALL	0.78	1.00	34.2	98	1.28	2.87	43.85	125.64	34.20	98.00
BOSHIP	0.92	1.11	158.2	128	1.21	0.81	171.96	139.13	142.52	115.32
DRUSILLAS	1.06	1.23	226.1	134	1.16	0.59	213.30	126.42	183.82	108.94
DRUSILLAS	1.05	1.26	257.1	152	1.20	0.59	244.86	144.76	204.05	120.63
BOSHIP	0.91	1.20	210.6	173	1.32	0.82	231.43	190.11	175.50	144.17
BOSHIP	0.97	1.17	228.7	191	1.21	0.84	235.77	196.91	195.47	163.25
BOSHIP	0.99	1.32	305.1	254	1.33	0.83	308.18	256.57	231.14	192.42

RELATIONSHIPS BETWEEN JUNCTION PERFORMANCE INDICATORS

SORTED BY PEAK SCORE

	PEAK SCORE	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/jnc DOS	Q/delay	delay / jnc DOS	Q / jnc DOS	delay / worst arm DOS	Q / worst arm DOS
A22 GJWAY/DITTONS RD	0	0.59	0.74	15.2	2	1.25	0.13	25.76	3.39	20.54	2.70
A22 GJWAY/DITTONS RD	0	0.57	0.72	13.6	1	1.26	0.07	23.86	1.75	18.89	1.39
A22 GJWAY/DITTONS RD	0	0.56	0.70	17.1	4	1.25	0.23	30.54	7.14	24.43	5.71
A22/DIPLOCKS WAY	0	0.71	0.75	17.8	2	1.06	0.11	25.07	2.82	23.73	2.67
A22/DIPLOCKS WAY	0	0.68	0.79	17.3	0	1.16	0.00	25.44	0.00	21.90	0.00
A22/SOUTH RD	0	0.67	0.78	12.8	1	1.16	0.08	19.10	1.49	16.41	1.28
A22/SOUTH RD	0	0.63	0.79	12.8	1	1.25	0.08	20.32	1.59	16.20	1.27
A22/SOUTH RD	0	0.60	0.61	12.5	0	1.02	0.00	20.83	0.00	20.49	0.00
A22/SOUTH RD	0	0.65	0.77	13.7	2	1.18	0.15	21.08	3.08	17.79	2.60
A22/SOUTH RD	0	0.69	0.70	13.5	1	1.01	0.07	19.57	1.45	19.29	1.43
A27/A22 GJWAY	0	0.59	0.69	10.5	1	1.17	0.10	17.80	1.69	15.22	1.45
A27/A22 GJWAY	0	0.54	0.68	12.5	0	1.26	0.00	23.15	0.00	18.38	0.00
A27/A22 GJWAY	0	0.67	0.74	14.0	0	1.10	0.00	20.90	0.00	18.92	0.00
A27/A22 GJWAY	0	0.59	0.74	13.1	1	1.25	0.08	22.20	1.69	17.70	1.35
A27/A2270	0	0.35	0.36	14.2	8	1.03	0.56	40.57	22.86	39.44	22.22
COPHALL	0	0.62	0.78	13.9	17	1.26	1.22	22.42	27.42	17.82	21.79
COPHALL	0	0.64	0.71	12.4	14	1.11	1.13	19.38	21.88	17.46	19.72
DRUSILLAS	0	0.66	0.85	11.4	1	1.29	0.09	17.27	1.52	13.41	1.18
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0	0.38	0.70	13.0	2	1.84	0.15	34.21	5.26	18.57	2.86
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0	0.41	0.55	12.8	0	1.34	0.00	31.22	0.00	23.27	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0	0.46	0.53	12.1	0	1.15	0.00	26.30	0.00	22.83	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0	0.44	0.61	13.0	0	1.39	0.00	29.55	0.00	21.31	0.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	0	0.47	0.54	12.2	0	1.15	0.00	25.96	0.00	22.59	0.00
A22 GJWAY/DITTONS RD	6	0.70	0.80	17.0	5	1.14	0.29	24.29	7.14	21.25	6.25
A22 GJWAY/DITTONS RD	6	0.62	0.84	18.8	8	1.35	0.43	30.32	12.90	22.38	9.52
A27/A22 GJWAY	6	0.62	0.80	11.4	0	1.29	0.00	18.39	0.00	14.25	0.00
A27/A22 GJWAY	6	0.72	0.84	14.9	0	1.17	0.00	20.69	0.00	17.74	0.00
A27/A2270	6	0.58	0.65	24.4	18	1.12	0.74	42.07	31.03	37.54	27.69
A27/A2270	6	0.63	0.73	25.5	19	1.16	0.75	40.48	30.16	34.93	26.03
A27/A2270	6	0.63	0.72	25.9	19	1.14	0.73	41.11	30.16	35.97	26.39
A27/A2270	6	0.38	0.45	20.5	12	1.18	0.59	53.95	31.58	45.56	26.67
BOSHIP	6	0.52	0.58	19.2	34	1.12	1.77	36.92	65.38	33.10	58.62
BOSHIP	6	0.59	0.70	17.5	31	1.19	1.77	29.66	52.54	25.00	44.29
BOSHIP	6	0.50	0.56	18.4	30	1.12	1.63	36.80	60.00	32.86	53.57
BOSHIP	6	0.56	0.66	16.2	27	1.18	1.67	28.93	48.21	24.55	40.91
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	6	0.46	0.82	13.6	5	1.78	0.37	29.57	10.87	16.59	6.10
A22/DIPLOCKS WAY	11	0.67	0.88	19.2	4	1.31	0.21	28.66	5.97	21.82	4.55
A22/DIPLOCKS WAY	11	0.73	0.85	18.2	2	1.16	0.11	24.93	2.74	21.41	2.35
A22/SOUTH RD	11	0.74	0.88	16.7	2	1.19	0.12	22.57	2.70	18.98	2.27
A22/SOUTH RD	11	0.71	0.85	14.7	2	1.20	0.14	20.70	2.82	17.29	2.35
A27/A2270	11	0.59	0.70	23.8	20	1.19	0.84	40.34	33.90	34.00	28.57
A27/A2270	11	0.63	0.66	30.7	27	1.05	0.88	48.73	42.86	46.52	40.91
A27/A2270	11	0.58	0.60	26.2	24	1.03	0.92	45.17	41.38	43.67	40.00
DRUSILLAS	11	0.53	0.67	9.3	0	1.26	0.00	17.55	0.00	13.88	0.00
COPHALL	14	0.73	0.83	18.2	56	1.14	3.08	24.93	76.71	21.93	67.47
A2270/POLEGATE HIGH ST/WANNOCK RD	17	0.67	0.77	41.7	29	1.15	0.70	62.24	43.28	54.16	37.66
A27/A22 GJWAY	17	0.75	0.88	15.7	2	1.17	0.13	20.93	2.67	17.84	2.27
COPHALL	19	0.72	0.81	18.7	58	1.13	3.10	25.97	80.56	23.09	71.60
A22/DIPLOCKS WAY	22	0.79	0.86	19.0	3	1.09	0.16	24.05	3.80	22.09	3.49
A27/A22 GJWAY	22	0.76	0.99	19.4	5	1.30	0.26	25.53	6.58	19.60	5.05
A27/A2270	22	0.69	0.88	26.8	22	1.28	0.82	38.84	31.88	30.45	25.00
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	22	0.53	1.03	34.6	11	1.94	0.32	65.28	20.75	33.59	10.68
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	22	0.51	1.00	34.5	11	1.96	0.32	67.65	21.57	34.50	11.00
COPHALL	24	0.76	0.85	16.0	22	1.12	1.38	21.05	28.95	18.82	25.88
A22 GJWAY/DITTONS RD	28	0.77	1.01	27.6	15	1.31	0.54	35.84	19.48	27.33	14.85
A27/A22 GJWAY	28	0.79	0.91	16.1	0	1.15	0.00	20.38	0.00	17.69	0.00
A27/A2270	28	0.72	0.92	31.4	27	1.28	0.86	43.61	37.50	34.13	29.35
COPHALL	28	0.69	0.85	18.7	67	1.23	3.58	27.10	97.10	22.00	78.82
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	28	0.62	1.14	44.9	18	1.84	0.40	72.42	29.03	39.39	15.79
COPHALL	29	0.70	1.14	25.9	37	1.63	1.43	37.00	52.86	22.72	32.46
COPHALL	29	0.71	1.09	22.5	32	1.54	1.42	31.69	45.07	20.64	29.36
A22/DIPLOCKS WAY	33	0.77	1.03	32.7	14	1.34	0.43	42.47	18.18	31.75	13.59
A22/DIPLOCKS WAY	33	0.79	1.03	34.5	16	1.30	0.46	43.67	20.25	33.50	15.53
A22/SOUTH RD	33	0.81	0.91	18.5	3	1.12	0.16	22.84	3.70	20.33	3.30
A27/A22 GJWAY	33	0.80	1.01	31.0	19	1.26	0.61	38.75	23.75	30.69	18.81
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	33	0.65	1.06	42.0	14	1.63	0.33	64.62	21.54	39.62	13.21
COPHALL	38	0.79	0.96	18.1	25	1.22	1.38	22.91	31.65	18.85	26.04
A22/SOUTH RD	39	0.85	1.01	31.5	17	1.19	0.54	37.06	20.00	31.19	16.83
A2270/POLEGATE HIGH ST/WANNOCK RD	39	0.75	0.87	49.2	27	1.16	0.55	65.60	36.00	56.55	31.03
BOSHIP	39	0.72	1.01	33.3	14	1.40	0.42	46.25	19.44	32.97	13.86
DRUSILLAS	39	0.85	1.02	34.9	17	1.20	0.49	41.06	20.00	34.22	16.67
LION HILL/DITTONS RD	39	0.79	0.86	82.3	20	1.09	0.24	104.18	25.32	95.70	23.26
A22 GJWAY/DITTONS RD	44	0.79	1.01	29.8	16	1.28	0.54	37.72	20.25	29.50	15.84
A22 GJWAY/DITTONS RD	44	0.81	0.90	20.3	9	1.11	0.44	25.06	11.11	22.56	10.00
A22/DIPLOCKS WAY	44	0.83	1.03	32.9	17	1.24	0.52	39.64	20.48	31.94	16.50
A22/DIPLOCKS WAY	44	0.79	0.97	27.4	9	1.23	0.33	34.68	11.39	28.25	9.28
A22/DIPLOCKS WAY	44	0.79	1.02	28.9	11	1.29	0.38	36.58	13.92	28.33	10.78
A2270/POLEGATE HIGH ST/WANNOCK RD	44	0.71	0.90	42.6	23	1.27	0.54	60.00	32.39	47.33	25.56
A22 GJWAY/DITTONS RD	50	0.83	1.01	31.4	20	1.22	0.64	37.83	24.10	31.09	19.80
A2270/POLEGATE HIGH ST/WANNOCK RD	50	0.76	1.00	68.8	33	1.32	0.48	90.53	43.42	68.80	33.00
A2270/POLEGATE HIGH ST/WANNOCK RD	56	0.74	0.92	53.0	29	1.24	0.55	71.62	39.19	57.61	31.52
LION HILL/DITTONS RD	56	0.84	0.87	62.9	27	1.04	0.43	74.88	32.14	72.30	31.03
BOSHIP	61	0.77	1.01	41.8	23	1.31	0.55	54.29	29.87	41.39	22.77
DRUSILLAS	61	0.88	1.08	87.2	50	1.23	0.57	99.09	56.82	80.74	46.30
LION HILL/DITTONS RD	61	0.82	0.92	64.5	27	1.12	0.42	78.66	32.93	70.11	29.35
LION HILL/DITTONS RD	61	0.84	0.89	64.7	27	1.06	0.42	77.02	32.14	72.70	30.34
COPHALL	62	0.78	1.00	34.2	98	1.28	2.87	43.85	125.64	34.20	98.00
A22 GJWAY/DITTONS RD	67	0.82	1.06	52.5	43	1.29	0.82	64.02	52.44	49.53	40.57
A2270/POLEGATE HIGH ST/WANNOCK RD	67	0.80	1.01	60.8	23	1.26	0.38	76.00	28.75	60.20	22.77
A2270/POLEGATE HIGH ST/WANNOCK RD	67	0.83	0.95	61.0	30	1.14	0.49	73.49	36.14	64.21	31.58
A2270/POLEGATE HIGH ST/WANNOCK RD	67	0.84	0.98	69.4	29	1.17	0.42	82.62	34.52	70.82	29.59
LION HILL/DITTONS RD	67	0.85	0.91	89.8	22	1.07	0.24	105.65	25.88	98.68	24.18
LION HILL/DITTONS RD	67	0.86	0.89	66.9	28	1.03	0.42	77.79	32.56	75.17	31.46
A2270/POLEGATE HIGH ST/WANNOCK RD	72	0.86	1.04	85.6	34	1.21	0.40	99.53	39.53	82.31	32.69
A2270/POLEGATE HIGH ST/WANNOCK RD	72	0.86	1.03	82.1	32	1.20	0.39	95.47	37.21	79.71	31.07
LION HILL/DITTONS RD	78	0.85	0.90	90.6	22	1.06	0.24	106.59	25.88	100.67	24.44
A22/SOUTH RD	83	0.94	1.07	86.7	77	1.14	0.89	92.23	81.91	81.03	71.96
DRUSILLAS	89	0.94	1.07	91.9	51	1.14	0.55	97.77	54.26	85.89	47.66
LION HILL/DITTONS RD	89	0.97	1.01	121.8	26	1.04	0.21	125.57	26.80	120.59	25.74
LION HILL/DITTONS RD	89	0.96	1.00	115.4	24	1.04	0.21	120.21	25.00	115.40	24.00
DRUSILLAS	94	1.05	1.26	257.1	152	1.20	0.59	244.86	144.76	204.05	120.63
DRUSILLAS	94	0.95	1.1	115.5	69	1.16	0.60	121.58	72.63	105.00	62.73
LION HILL/DITTONS RD	94	1.02	1.04	168.4	41	1.02	0.24	165.10	40.20	161.92	39.42
BOSHIP	100	0.92	1.11	158.2	128	1.21	0.81	171.96	139.13	142.52	115.32
BOSHIP	100	0.91	1.20	210.6	173	1.32	0.82	231.43	190.11	175.50	144.17
BOSHIP	100	0.97	1.17	228.7	191	1.21	0.84	235.77			

RELATIONSHIPS BETWEEN JUNCTION PERFORMANCE INDICATORS

JUNCTION RESULTS

	TOTAL SCORE	PEAK SCORE	junction DOS	worst arm DOS	delay/pcu	total ave Q	arm/jnc DOS	Q/delay	delay / jnc DOS	Q / jnc DOS	delay / worst arm DOS	Q / worst arm DOS
A22 GJWAY/DITTONS RD		0	0.59	0.74	15.2	2	1.25	0.13	25.76	3.39	20.54	2.70
A22 GJWAY/DITTONS RD	0	0	0.57	0.72	13.6	1	1.26	0.07	23.86	1.75	18.89	1.39
A22 GJWAY/DITTONS RD	44	0	0.79	1.01	29.8	16	1.28	0.54	37.72	20.25	29.60	15.84
A22 GJWAY/DITTONS RD	36	28	0.77	1.01	27.6	15	1.31	0.54	35.84	19.48	27.33	14.85
A22 GJWAY/DITTONS RD	67		0.82	1.06	52.5	43	1.29	0.82	64.02	52.44	49.53	40.57
A22 GJWAY/DITTONS RD	58	50	0.83	1.01	31.4	20	1.22	0.64	37.83	24.10	31.09	19.80
A22 GJWAY/DITTONS RD		0	0.56	0.70	17.1	4	1.25	0.23	30.54	7.14	24.43	5.71
A22 GJWAY/DITTONS RD	3	6	0.70	0.80	17.0	5	1.14	0.29	24.29	7.14	21.25	6.25
A22 GJWAY/DITTONS RD		6	0.62	0.84	18.8	8	1.35	0.43	30.32	12.90	22.38	9.52
A22 GJWAY/DITTONS RD	25	44	0.81	0.90	20.3	9	1.11	0.44	25.06	11.11	22.56	10.00
A22/DIPLOCKS WAY		44	0.83	1.03	32.9	17	1.24	0.52	39.64	20.48	31.94	16.50
A22/DIPLOCKS WAY	28	11	0.67	0.88	19.2	4	1.31	0.21	28.66	5.97	21.82	4.55
A22/DIPLOCKS WAY		33	0.77	1.03	32.7	14	1.34	0.43	42.47	18.18	31.75	13.59
A22/DIPLOCKS WAY	39	44	0.79	0.97	27.4	9	1.23	0.33	34.68	11.39	28.25	9.28
A22/DIPLOCKS WAY		33	0.79	1.03	34.5	16	1.30	0.46	43.67	20.25	33.50	15.53
A22/DIPLOCKS WAY	39	44	0.79	1.02	28.9	11	1.29	0.38	36.58	13.92	28.33	10.78
A22/DIPLOCKS WAY		0	0.71	0.75	17.8	2	1.06	0.11	25.07	2.82	23.73	2.67
A22/DIPLOCKS WAY	0	0	0.68	0.79	17.3	0	1.16	0.00	25.44	0.00	21.90	0.00
A22/DIPLOCKS WAY		22	0.79	0.86	19.0	3	1.09	0.16	24.05	3.80	22.09	3.49
A22/DIPLOCKS WAY	17	11	0.73	0.85	18.2	2	1.16	0.11	24.93	2.74	21.41	2.35
A22/SOUTH RD		0	0.67	0.78	12.8	1	1.16	0.08	19.10	1.49	16.41	1.28
A22/SOUTH RD	0	0	0.63	0.79	12.8	1	1.25	0.08	20.32	1.59	16.20	1.27
A22/SOUTH RD	39		0.85	1.01	31.5	17	1.19	0.54	37.06	20.00	31.19	16.83
A22/SOUTH RD	25	11	0.74	0.88	16.7	2	1.19	0.12	22.57	2.70	18.98	2.27
A22/SOUTH RD	83		0.94	1.07	86.7	77	1.14	0.89	92.23	81.91	81.03	71.96
A22/SOUTH RD	58	33	0.81	0.91	18.5	3	1.12	0.16	22.84	3.70	20.33	3.30
A22/SOUTH RD		0	0.60	0.61	12.5	0	1.02	0.00	20.83	0.00	20.49	0.00
A22/SOUTH RD	0	0	0.65	0.77	13.7	2	1.18	0.15	21.08	3.08	17.79	2.60
A22/SOUTH RD	6	0	0.69	0.70	13.5	1	1.01	0.07	19.57	1.45	19.29	1.43
A22/SOUTH RD	6	11	0.71	0.85	14.7	2	1.20	0.14	20.70	2.82	17.29	2.35
A2270/POLEGATE HIGH ST/WANNOCK RD		39	0.75	0.87	49.2	27	1.16	0.55	65.60	36.00	56.55	31.03
A2270/POLEGATE HIGH ST/WANNOCK RD	53	67	0.80	1.01	60.8	23	1.26	0.38	76.00	28.75	60.20	22.77
A2270/POLEGATE HIGH ST/WANNOCK RD		67	0.83	0.95	61.0	30	1.14	0.49	73.49	36.14	64.21	31.58
A2270/POLEGATE HIGH ST/WANNOCK RD	69	72	0.86	1.04	85.6	34	1.21	0.40	99.53	39.53	82.31	32.69
A2270/POLEGATE HIGH ST/WANNOCK RD		67	0.84	0.98	69.4	29	1.17	0.42	82.62	34.52	70.82	29.59
A2270/POLEGATE HIGH ST/WANNOCK RD	69	72	0.86	1.03	82.1	32	1.20	0.39	95.47	37.21	79.71	31.07
A2270/POLEGATE HIGH ST/WANNOCK RD		56	0.74	0.92	53.0	29	1.24	0.55	71.62	39.19	57.61	31.52
A2270/POLEGATE HIGH ST/WANNOCK RD	53	50	0.76	1.00	68.8	33	1.32	0.48	90.53	43.42	68.80	33.00
A2270/POLEGATE HIGH ST/WANNOCK RD		17	0.67	0.77	41.7	29	1.15	0.70	62.24	43.28	54.16	37.66
A2270/POLEGATE HIGH ST/WANNOCK RD	31	44	0.71	0.90	42.6	23	1.27	0.54	60.00	32.39	47.33	25.56
A27/A22 GIWAY		0	0.59	0.69	10.5	1	1.17	0.10	17.80	1.69	15.22	1.45
A27/A22 GIWAY	3	6	0.62	0.80	11.4	0	1.29	0.00	18.39	0.00	14.25	0.00
A27/A22 GIWAY		6	0.72	0.84	14.9	0	1.17	0.00	20.69	0.00	17.74	0.00
A27/A22 GIWAY	14	22	0.76	0.99	19.4	5	1.30	0.26	25.53	6.58	19.60	5.05
A27/A22 GIWAY		17	0.75	0.88	15.7	2	1.17	0.13	20.93	2.67	17.84	2.27
A27/A22 GIWAY	25	33	0.80	1.01	31.0	19	1.26	0.61	38.75	23.75	30.69	18.81
A27/A22 GIWAY		0	0.54	0.68	12.5	0	1.26	0.00	23.15	0.00	18.38	0.00
A27/A22 GIWAY	0	0	0.67	0.74	14.0	0	1.10	0.00	20.90	0.00	18.92	0.00
A27/A22 GIWAY		0	0.59	0.74	13.1	1	1.25	0.08	22.20	1.69	17.70	1.35
A27/A22 GIWAY	14	28	0.79	0.91	16.1	0	1.15	0.00	20.38	0.00	17.69	0.00
A27/A2270		6	0.58	0.65	24.4	18	1.12	0.74	42.07	31.03	37.54	27.69
A27/A2270	8	11	0.59	0.70	23.8	20	1.19	0.84	40.34	33.90	34.00	28.57
A27/A2270		6	0.63	0.73	25.5	19	1.16	0.75	40.48	30.16	34.93	26.03
A27/A2270	14	22	0.69	0.88	26.8	22	1.28	0.82	38.84	31.88	30.45	25.00
A27/A2270		6	0.63	0.72	25.9	19	1.14	0.73	41.11	30.16	35.97	26.39
A27/A2270	17	28	0.72	0.92	31.4	27	1.28	0.86	43.61	37.50	34.13	29.35
A27/A2270		11	0.63	0.66	30.7	27	1.05	0.88	48.73	42.86	46.52	40.91
A27/A2270	11	11	0.58	0.60	26.2	24	1.03	0.92	45.17	41.38	43.67	40.00
A27/A2270		6	0.38	0.45	20.5	12	1.18	0.59	53.95	31.58	45.56	26.67
A27/A2270	3	0	0.35	0.36	14.2	8	1.03	0.56	40.57	22.86	39.44	22.22
BOSHIP		39	0.72	1.01	33.3	14	1.40	0.42	46.25	19.44	32.97	13.86
BOSHIP	50	61	0.77	1.01	41.8	23	1.31	0.55	54.29	29.87	41.39	22.77
BOSHIP		100	0.92	1.11	158.2	128	1.21	0.81	171.96	139.13	142.52	115.32
BOSHIP	100	100	0.91	1.20	210.6	173	1.32	0.82	231.43	190.11	175.50	144.17
BOSHIP		100	0.97	1.17	228.7	132	1.07	0.84	235.77	196.91	195.47	163.25
BOSHIP	100	100	0.99	1.32	305.1	254	1.33	0.83	308.18	256.57	231.14	192.42
BOSHIP		6	0.52	0.58	19.2	34	1.12	1.77	36.92	65.38	33.10	58.62
BOSHIP	6	6	0.59	0.70	17.5	31	1.19	1.77	29.66	52.54	25.00	44.29
BOSHIP		6	0.50	0.56	18.4	30	1.12	1.63	36.80	60.00	32.86	53.57
BOSHIP	6	6	0.56	0.66	16.2	27	1.18	1.67	28.93	48.21	24.55	40.91
COPHALL		0	0.62	0.78	13.9	17	1.26	1.22	22.42	27.42	17.82	21.79
COPHALL	0	0	0.64	0.71	12.4	14	1.11	1.13	19.38	21.88	17.46	19.72
COPHALL	29		0.70	1.14	25.9	37	1.63	1.43	37.00	52.86	22.72	32.46
COPHALL	26	24	0.76	0.85	16.0	22	1.12	1.38	21.05	28.95	18.82	25.88
COPHALL		29	0.71	1.09	22.5	32	1.54	1.42	31.69	45.07	20.64	29.36
COPHALL	33	38	0.79	0.96	18.1	25	1.22	1.38	22.91	31.65	18.85	26.04
COPHALL		19	0.72	0.81	18.7	58	1.13	3.10	25.97	80.56	23.09	71.60
COPHALL	17	14	0.73	0.83	18.2	56	1.14	3.08	24.93	76.71	21.93	67.47
COPHALL		62	0.78	1.00	34.2	98	1.28	2.87	43.85	125.64	34.20	98.00
COPHALL	43	28	0.69	0.85	18.7	67	1.23	3.58	27.10	97.10	22.00	78.82
DRUSILLAS		61	0.88	1.08	87.2	50	1.23	0.57	99.09	56.82	80.74	46.30
DRUSILLAS	50	39	0.85	1.02	34.9	17	1.20	0.49	41.06	20.00	34.22	16.67
DRUSILLAS		100	1.06	1.23	226.1	134	1.16	0.59	213.30	126.42	183.82	108.94
DRUSILLAS	94	89	0.94	1.07	91.9	51	1.14	0.55	97.77	54.26	85.89	47.66
DRUSILLAS		94	1.05	1.26	257.1	152	1.20	0.59	244.86	144.76	204.05	120.63
DRUSILLAS	94	94	0.95	1.1	115.5	69	1.16	0.60	121.58	72.63	105.00	62.73
DRUSILLAS		11	0.53	0.67	9.3	0	1.26	0.00	17.55	0.00	13.88	0.00
DRUSILLAS	6	0	0.66	0.85	11.4	1	1.29	0.09	17.27	1.52	13.41	1.18
LION HILL/DITTONS RD	39		0.79	0.86	82.3	20	1.09	0.82	104.18	25.32	95.70	23.26
LION HILL/DITTONS RD	53	67	0.85	0.91	89.8	22	1.07	0.24	105.65	25.88	98.68	24.18
LION HILL/DITTONS RD		78	0.85	0.90	90.6	22	1.06	0.24	106.59	25.88	100.67	24.44
LION HILL/DITTONS RD		89	0.97	1.01	121.8	26	1.04	0.21	125.57	26.80	120.59	25.74
LION HILL/DITTONS RD	89		0.96	1.00	115.4	24	1.04	0.21	120.21	25.00	115.40	24.00
LION HILL/DITTONS RD		92	1.02	1.04	168.4	41	1.02	0.24	165.10	40.20	161.92	39.42
LION HILL/DITTONS RD		61	0.82	0.92	64.5	27	1.12	0.42	78.66	32.93	70.11	29.35
LION HILL/DITTONS RD	58	56	0.84	0.87	62.9	27	1.04	0.43	74.88	32.14	72.30	31.03
LION HILL/DITTONS RD		67	0.86	0.89	66.9	28	1.03	0.42	77.79	32.56	75.17	31.46
LION HILL/DITTONS RD	64	61	0.84	0.89	64.7	27	1.06	0.42	77.02	32.14	72.70	30.34
SOUTH RD/ERSHAM RD/DIPLOCKS WAY		6	0.46	0.82	13.6	5	1.78	0.37	29.57	10.87	16.59	6.10
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	3	0	0.38	0.70	13.0	2	1.84	0.15	34.21	5.26	18.57	2.86
SOUTH RD/ERSHAM RD/DIPLOCKS WAY		22	0.53	1.03	34.6	11	1.94	0.32	65.28	20.75	37.59	20.68
SOUTH RD/ERSHAM RD/DIPLOCKS WAY	22		0.51	1.00	34.5	11	1.96	0.22	67.65	21.57	34.50	

Appendix B

Demand Growth Analysis

WLPTS2018 HIGHWAY TRIPS GROWTH ANALYSIS FOR TRANSPORT INTERVENTIONS TIMING				TIME OF DAY	GROWTH PERIOD 2015-2028	GROWTH per annum 13 years	GROWTH PERIOD 2028-2038	GROWTH per annum 10 years
WLPTS MATRIX GROWTH	TEMPRO 7.2 GROWTH south Wealden (inc NTM / all urban roads / cars)			AM peak	1.1286	0.85	1.0646	0.76
				PM peak	1.1305	0.86	1.0657	0.76
				Average	1.1296	0.85	1.0651	0.76
	WLPTS2018 Reference Case (all vehs)			AM peak	1.121	0.85		
				PM peak	1.116	0.85		
				Average	1.119	0.85		
	WLPTS2018 Reference Case plus WLP (all vehs)			AM peak	1.166	0.87		
				PM peak	1.151	0.86		
				Average	1.156	0.87		
WLPTS2018 JUNCTION INFLOWS (TYPICAL EXAMPLE JUNCTIONS)	COPHALL ROUNDABOUT	DN1	2015 network; 2028 Ref Case Demand	AM peak	1.098	0.84		
				PM peak	1.119	0.85		
				Average	1.109	0.84		
		DN4	2015 network; 2028 full WLP demand	AM peak	1.119	0.85		
				PM peak	1.156	0.87		
				Average	1.137	0.86		
	A27 / A22 GOLDEN JUBILEE WAY	DN1	2015 network; 2028 Ref Case Demand	AM peak	1.130	0.85		
				PM peak	1.116	0.85		
				Average	1.123	0.85		
		DN4	2015 network; 2028 full WLP demand	AM peak	1.141	0.86		
				PM peak	1.148	0.86		
				Average	1.144	0.86		
				AVERAGE	1.1313	0.85	1.0651	0.76

CONCLUSIONS Average rate of growth within plan period (2015-2028) is generally just under 1% per annum.
Average rate of growth beyond plan period slightly lower at about 0.8% per annum.

ASSUMPTIONS When junction DoS lies close to, at, or over max acceptable value in 2028, rate of increase before and after 2028 also approx 1% per annum.
For beyond 2028, 5 years life is therefore indicated by a 2028 max DoS of 5% lower than the max acceptable, etc.
For before 2028, an improvement is therefore necessary within 2023-2028 if junction DoS at 2028 is up to 5% higher than max acceptable value, etc.

Appendix C

Full Timing Assessments

A22 / A271 / A267 BOSHIP ROUNDABOUT							
JUNCTION ID: 11	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNDAABOUT IN BY/DN1/DN4/DM SIGNALS IN DS1/DS2	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WDC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
4-arm junction. Therefore only worst 3 arms count towards TOTAL & WORST PEAK scores.	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
	Further Improvements				Y	Y	Further Improvements
SATURN OUTPUT DATA	A27 Off-line					Y	A27 Off-line
	AM						AM
	Inflow (pcu)	3142	3484	3644	3822	3706	Inflow (pcu)
	growth 2015-2028		10.9%	16.0%	21.6%	18.0%	growth 2015-2028
(ACTUAL FLOWS)	growth / year		0.80%	1.15%	1.52%	1.28%	growth / year
	Delay / pcu (secs)	33.3	158.2	228.7	19.2	18.4	Delay / pcu (secs)
	Junction delay (hrs)	29.1	153.1	231.5	39.3	36.9	Junction delay (hrs)
	Total ave Q (pcu)	14	128	191	34	30	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	1.01	1.09	1.17	0.58	0.56	East arm
	South arm	0.90	1.11	1.14	0.58	0.54	South arm
	North arm	0.50	1.06	1.15	0.45	0.43	North arm
	West arm	0.43	0.49	0.53	0.41	0.45	West arm
	Junction	0.72	0.92	0.97	0.52	0.50	Junction
	PM						PM
	Inflow (pcu)	3281	3692	3941	3770	3528	Inflow (pcu)
	growth 2015-2028		12.5%	20.1%	14.9%	7.5%	growth 2015-2028
	growth / year		0.91%	1.42%	1.07%	0.56%	growth / year
	Delay / pcu (secs)	41.8	210.6	305.1	17.5	16.2	Delay / pcu (secs)
	Junction delay (hrs)	38.1	216.0	334.0	39.7	35.0	Junction delay (hrs)
	Total ave Q (pcu)	23	173	254	31	27	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.89	1.04	1.05	0.70	0.65	East arm
	South arm	0.26	0.39	0.49	0.34	0.27	South arm
	North arm	0.88	1.03	1.06	0.67	0.66	North arm
	West arm	1.01	1.20	1.32	0.53	0.53	West arm
	Junction	0.77	0.91	0.99	0.59	0.56	Junction
TOTAL SCORE (worst 3 arms)	max = 36	18	36	36	2	2	TOTAL SCORE (max = 36)
WORST PEAK SCORE (worst 3 arms)	max = 18	50%	100%	100%	6%	6%	WORST PEAK SCORE (max=18)

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - None
Further Improvements FI - Signalisation

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -1% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with Dos)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	0 - 19.9	20 - 39.9	40 - 59.9	TARGET MAX 2028	60.1 - 79.9	80+
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High		Overloaded

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)
Delay / pcu (worst peak)			41.8			
Total ave Q (worst peak)		23				
Arm DOS (worst arm any peak)					1.01	Arises on east arm AM and west arm PM
Junction DOS (worst peak)		0.77				
TOTAL SCORE				50%		
WORST PEAK SCORE					61%	

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)
Delay / pcu (worst peak)						210.6
Total ave Q (worst peak)						173
Arm DOS (worst arm any peak)						1.20
Junction DOS (worst peak)				0.92		
TOTAL SCORE						100%
WORST PEAK SCORE						100%
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2018 - 2022

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)
Delay / pcu (worst peak)						305.1
Total ave Q (worst peak)						254
Arm DOS (worst arm any peak)						1.32
Junction DOS (worst peak)						0.99
TOTAL SCORE						100%
WORST PEAK SCORE						100%
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2018 - 2022

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)
Delay / pcu (worst peak)	19.2					
Total ave Q (worst peak)		34				
Arm DOS (worst arm any peak)	0.70					
Junction DOS (worst peak)	0.59					
TOTAL SCORE	6%					
WORST PEAK SCORE	6%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						FI works to beyond 2038. No additional improvement required

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)
Delay / pcu (worst peak)	18.4					
Total ave Q (worst peak)		30				
Arm DOS (worst arm any peak)	0.66					
Junction DOS (worst peak)	0.56					
TOTAL SCORE	6%					
WORST PEAK SCORE	6%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						FI works to beyond 2038. No additional improvement required

A22 / DIPLOCKS WAY							
JUNCTION ID: 29	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNDBABOUT IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WDC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE Further Improvements				Y	Y	Core Strategy + HE Further Improvements
4-arm roundabout junction. Therefore WORST 3 arms count towards TOTAL & WORST PEAK scores.	A27 Off-line					Y	A27 Off-line
	AM						AM
	Inflow (pcu)	3007	2957	3011	3818	4119	Inflow (pcu)
	growth 2015-2028		-1.7%	0.1%	27.0%	37.0%	growth 2015-2028
(ACTUAL FLOWS)	growth / year		-0.13%	0.02%	1.85%	2.45%	growth / year
	Delay / pcu (secs)	32.9	32.7	34.5	17.8	19.0	Delay / pcu (secs)
	Junction delay (hrs)	27.4	26.8	28.9	18.9	21.8	Junction delay (hrs)
	Total ave Q (pcu)	17	14	16	2	3	Total ave Q (pcu)
SATURN OUTPUT DATA	Max DOS:						Max DOS:
	East arm	1.03	1.03	1.03	0.47	0.48	East arm
	South arm	0.80	0.67	0.69	0.75	0.86	South arm
	North arm	0.81	0.82	0.83	0.74	0.81	North arm
(ACTUAL FLOWS)	West arm	0.02	0.02	0.09	0.01	0.01	West arm
	Junction	0.83	0.77	0.79	0.71	0.79	Junction
	PM						PM
	Inflow (pcu)	2843	3146	3243	3603	3786	Inflow (pcu)
(ACTUAL FLOWS)	growth 2015-2028		10.7%	14.1%	26.7%	33.2%	growth 2015-2028
	growth / year		0.78%	1.02%	1.84%	2.23%	growth / year
	Delay / pcu (secs)	19.2	27.4	28.9	17.3	18.2	Delay / pcu (secs)
	Junction delay (hrs)	15.2	23.9	26.0	17.3	19.1	Junction delay (hrs)
(ACTUAL FLOWS)	Total ave Q (pcu)	4	9	11	0	2	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.66	0.97	1.02	0.41	0.48	East arm
	South arm	0.44	0.57	0.62	0.63	0.66	South arm
(ACTUAL FLOWS)	North arm	0.88	0.95	0.91	0.79	0.85	North arm
	West arm	0.08	0.02	0.11	0.02	0.02	West arm
	Junction	0.67	0.79	0.79	0.68	0.73	Junction
TOTAL SCORE (worst 3 arms)	max = 36	10	14	14	0	6	TOTAL SCORE (max = 36)
		28%	39%	39%	0%	17%	
	WORST PEAK SCORE (worst 3 arms)	8	8	8	0	4	WORST PEAK SCORE (max=18)
		44%	44%	44%	0%	22%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - None
Further Improvements FI - None

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -1% PM; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with DoS)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	TARGET MAX 2028				
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)	
Delay / pcu (worst peak)		32.9					
Total ave Q (worst peak)	17						
Arm DOS (worst arm any peak)					1.03		Arises on side (east) arm in AM
Junction DOS (worst peak)			0.83				
TOTAL SCORE		28%					
WORST PEAK SCORE			44%				

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)	
Delay / pcu (worst peak)		32.7					
Total ave Q (worst peak)	14						
Arm DOS (worst arm any peak)					1.03		Arises on side (east) arm in AM (0.97 in PM) - also 0.95 on north arm PM
Junction DOS (worst peak)		0.79					
TOTAL SCORE			39%				Initial timing - improvement needed 2029 - 2033
WORST PEAK SCORE			44%				Combination of arm DOSs moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2023 - 2028

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)	
Delay / pcu (worst peak)		34.5					
Total ave Q (worst peak)	16						
Arm DOS (worst arm any peak)					1.03		Arises on side (east) arm in AM (1.02 in PM) - also 0.91 on north arm PM
Junction DOS (worst peak)		0.79					
TOTAL SCORE			39%				Initial timing - improvement needed 2029 - 2033
WORST PEAK SCORE			44%				Combination of arm DOSs moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2023 - 2028

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)	
Delay / pcu (worst peak)		17.8					
Total ave Q (worst peak)	2						
Arm DOS (worst arm any peak)		0.79					
Junction DOS (worst peak)		0.71					
TOTAL SCORE		0%					
WORST PEAK SCORE		0%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	No improvement needed

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)	
Delay / pcu (worst peak)		19.0					
Total ave Q (worst peak)	3						
Arm DOS (worst arm any peak)			0.86				Arises on south arm AM - also 0.85 north arm PM
Junction DOS (worst peak)		0.79					
TOTAL SCORE		17%					Initial timing - improvement needed 2034 - 2038
WORST PEAK SCORE		22%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2034 - 2038

A22 / A295 SOUTH ROAD							
JUNCTION ID: 37	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNDBABOUT IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WOC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
3-arm roundabout junction. Therefore all 3 arms count towards TOTAL & WORST PEAK scores.	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
	AM						AM
	Inflow (pcu)	3494	3867	4011	4493	4995	Inflow (pcu)
(ACTUAL FLOWS)	growth 2015-2028		10.7%	14.8%	28.6%	43.0%	growth 2015-2028
	growth / year		0.78%	1.07%	1.95%	2.79%	growth / year
	Delay / pcu (secs)	12.8	31.5	86.7	12.5	13.5	Delay / pcu (secs)
	Junction delay (hrs)	12.4	33.8	96.6	16.1	18.7	Junction delay (hrs)
	Total ave Q (pcu)	1	17	77	0	1	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.50	0.67	0.98	0.57	0.68	East arm
	South arm	0.78	1.01	1.07	0.60	0.69	South arm
	North arm	0.60	0.72	0.72	0.61	0.70	North arm
	West arm	N/A	N/A	N/A	N/A	N/A	West arm
	Junction	0.67	0.85	0.94	0.60	0.69	Junction
	PM						PM
	Inflow (pcu)	3493	3923	4185	4630	4885	Inflow (pcu)
	growth 2015-2028		12.3%	19.8%	32.6%	39.9%	growth 2015-2028
	growth / year		0.90%	1.40%	2.19%	2.61%	growth / year
	Delay / pcu (secs)	12.8	16.7	18.5	13.7	14.7	Delay / pcu (secs)
	Junction delay (hrs)	12.4	18.2	21.5	17.6	20	Junction delay (hrs)
	Total ave Q (pcu)	1	2	3	2	2	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.51	0.62	0.68	0.72	0.78	East arm
	South arm	0.51	0.65	0.77	0.50	0.54	South arm
	North arm	0.79	0.88	0.91	0.77	0.85	North arm
	West arm	N/A	N/A	N/A	N/A	N/A	West arm
	Junction	0.63	0.74	0.81	0.65	0.71	Junction
TOTAL SCORE (all 3 arms)	max = 36	0	9	21	0	2	TOTAL SCORE (max = 36)
WORST PEAK SCORE (all 3 arms)	max = 18	0	7	15	0	2	WORST PEAK SCORE (max=18)
		0%	25%	58%	0%	6%	
		0	7	15	0	2	
		0%	39%	83%	0%	11%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (all 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - None
Further Improvements FI - Approach flarings plus east-south slip

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth = 1% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with DoS)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	TARGET MAX 2028					
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)	
Delay / pcu (worst peak)	12.8						
Total ave Q (worst peak)	1						
Arm DOS (worst arm any peak)	0.79						
Junction DOS (worst peak)	0.67						
TOTAL SCORE	0%						
WORST PEAK SCORE	0%						

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)	
Delay / pcu (worst peak)	31.5						
Total ave Q (worst peak)	17						
Arm DOS (worst arm any peak)					1.01		Arises on important arm (south)
Junction DOS (worst peak)			0.85				
TOTAL SCORE	25%						Initial timing - improvement needed 2029-2033
WORST PEAK SCORE	39%						Importance of arm DOS moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2023 - 2028

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)	
Delay / pcu (worst peak)					86.7		
Total ave Q (worst peak)				77			
Arm DOS (worst arm any peak)					1.07		Arises on important arm (south)
Junction DOS (worst peak)					0.95		
TOTAL SCORE				58%			Initial timing - improvement needed 2023 - 2028
WORST PEAK SCORE				83%			Importance of arm DOS & SCORE (AM only) moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2018 - 2022

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)	
Delay / pcu (worst peak)	13.7						
Total ave Q (worst peak)	2						
Arm DOS (worst arm any peak)	0.77						
Junction DOS (worst peak)	0.65						
TOTAL SCORE	0%						
WORST PEAK SCORE	0%						
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	FI gives >10 years life beyond 2028.

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)	
Delay / pcu (worst peak)	14.7						
Total ave Q (worst peak)	2						
Arm DOS (worst arm any peak)			0.85				
Junction DOS (worst peak)	0.71						
TOTAL SCORE	6%						
WORST PEAK SCORE	6%						
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	FI gives >10 years life beyond 2028.

A27 / A22 COPHALL ROUNABOUT							
JUNCTION ID: 37	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2 (exc E/W through traffic)	SCENARIO NAME
ROUNABOUT IN ALL SCENARIOS SIGNALISED IN RC/DM/DS1/DS2 GRADE SEPARATED IN DS2 5-arm roundabout junction (6 in DS2) Therefore WORST 4 arms count towards TOTAL & WORST PEAK scores	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WDC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
	NETWORK (see notes below)						NETWORK (see notes below)
	2015	Y	Y	Y	Y	Y	2015
	Hemphstead Lane Rbt				Y	Y	Hemphstead Lane Rbt
	BOSHP Signals				Y	Y	BOSHP Signals
	Core Strategy + HE				Y	Y	Core Strategy + HE
SATURN OUTPUT DATA	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
	AM						AM
	Inflow (pcu)	4946	5433	5535	6066	6072	Inflow (pcu)
	growth 2015-2028		8.8%	11.9%	22.6%	22.8%	growth 2015-2028
	growth / year		0.23%	0.67%	1.58%	1.59%	growth / year
(ACTUAL FLOWS)	Delay / pcu (secs)	13.9	25.9	22.5	18.7	34.2	Delay / pcu (secs)
	Junction delay (hrs)	25.2	50.3	44.6	75.5	155.7	Junction delay (hrs)
	Total ave Q (pcu)	17	37	32	58	98	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.63	0.69	0.74	0.81	0.66	East arm
	Southeast arm	0.44	0.57	0.63	0.65	1.00	Southeast arm
	South arm	0.74	0.82	0.80	0.80	0.85	South arm
	North arm	0.46	0.52	0.55	0.63	0.62	North arm
	West arm	0.78	1.14	1.09	0.73	0.69	West arm
	West Slip	N/A	N/A	N/A	N/A	0.90	West Slip
	Junction	0.62	0.70	0.71	0.72	0.78	Junction
	PM						PM
	Inflow (pcu)	5099	5704	5893	6248	6028	Inflow (pcu)
	growth 2015-2028		11.9%	15.6%	22.5%	18.2%	growth 2015-2028
	growth / year		0.67%	1.12%	1.58%	1.30%	growth / year
	Delay / pcu (secs)	12.4	16.0	18.1	18.2	18.7	Delay / pcu (secs)
	Junction delay (hrs)	23.5	33.4	38.4	74.2	86.2	Junction delay (hrs)
	Total ave Q (pcu)	14	22	25	56	67	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.71	0.85	0.89	0.78	0.75	East arm
	Southeast arm	0.37	0.47	0.50	0.60	0.60	Southeast arm
	South arm	0.67	0.78	0.82	0.83	0.62	South arm
	North arm	0.60	0.71	0.70	0.71	0.68	North arm
	West arm	0.48	0.80	0.84	0.72	0.66	West arm
	West Slip	N/A	N/A	N/A	N/A	0.85	West Slip
	Junction	0.64	0.76	0.79	0.73	0.69	Junction
TOTAL SCORE (worst 4 arms)	max = 42	0	11	14	7	18	TOTAL SCORE (max = 42)
		0%	26%	33%	17%	43%	
WORST PEAK SCORE (worst 4 arms)	max = 21	0	6	8	4	13	WORST PEAK SCORE (max=21)
		0%	29%	38%	19%	62%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 4 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE
Further Improvements

CS - Signalisation
FI - None

IMPROVEMENT TIMING PARAMETERS

Timing based on:

Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth = 1% pa; TEMPROT.2 future growth 2028-2038 = 0.8% per annum; linear relationship with Dos)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	TARGET MAX 2028					
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)							BASE YEAR (for reference)						
Delay / pcu (worst peak)	13.9						Delay / pcu (worst peak)						
Total ave Q (worst peak)	17						Total ave Q (worst peak)						
Arm DOS (worst arm any peak)	0.78						Arm DOS (worst arm any peak)						
Junction DOS (worst peak)	0.64						Junction DOS (worst peak)						
TOTAL SCORE	0%						TOTAL SCORE						
WORST PEAK SCORE	0%						WORST PEAK SCORE						
DN1 (2028: base year network; no WLP)							DN1 (2028: base year network; no WLP)						
Delay / pcu (worst peak)		25.9					Delay / pcu (worst peak)						
Total ave Q (worst peak)		37					Total ave Q (worst peak)						
Arm DOS (worst arm any peak)							Arm DOS (worst arm any peak)				1.14		Arises on minor arm (west - services) AM - next worse is 0.85 on east arm PM
Junction DOS (worst peak)		0.76					Junction DOS (worst peak)						Initial timing - improvement needed 2034 - 2038
TOTAL SCORE		20%					TOTAL SCORE						Arm DoS not by itself important, but safety issue?
WORST PEAK SCORE		29%					WORST PEAK SCORE						Improvement needed 2034 - 2038
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
DN4 (2028: base year network; plus WLP)							DN4 (2028: base year network; plus WLP)						
Delay / pcu (worst peak)		22.5					Delay / pcu (worst peak)						
Total ave Q (worst peak)		32					Total ave Q (worst peak)						
Arm DOS (worst arm any peak)							Arm DOS (worst arm any peak)					1.09	Arises on minor arm (west - services) AM (0.96PM) - next worse is 0.89 on east arm PM
Junction DOS (worst peak)		0.79					Junction DOS (worst peak)						Initial timing - improvement needed 2029 - 2033
TOTAL SCORE				33%			TOTAL SCORE						Arm DoS not by itself important, but safety issue?
WORST PEAK SCORE				38%			WORST PEAK SCORE						Improvement needed 2029 - 2033
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
DS1 (2028: CS+HE plus Further Imps network; plus WLP)							DS1 (2028: CS+HE plus Further Imps network; plus WLP)						
Delay / pcu (worst peak)	18.7			58			Delay / pcu (worst peak)						
Total ave Q (worst peak)			0.83				Total ave Q (worst peak)						
Arm DOS (worst arm any peak)							Arm DOS (worst arm any peak)						
Junction DOS (worst peak)	0.73						Junction DOS (worst peak)						Initial timing - includes CS - additional improvement needed 2034 - 2038
TOTAL SCORE					17%		TOTAL SCORE						
WORST PEAK SCORE					19%		WORST PEAK SCORE						
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP) - exc E/W through traffic							DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)						
Delay / pcu (worst peak)		34.2					Delay / pcu (worst peak)						
Total ave Q (worst peak)							Total ave Q (worst peak)					98	
Arm DOS (worst arm any peak)							Arm DOS (worst arm any peak)					1.00	Arises on (important for buses) southeast arm AM - not PM (west slip 0.90 AM, 0.85 PM)
Junction DOS (worst peak)		0.78					Junction DOS (worst peak)						Initial timing - includes CS - additional improvement needed 2029 - 2033
TOTAL SCORE				43%			TOTAL SCORE						Importance of arm DOS & SCORE (AM only) moves timing forward 1 period
WORST PEAK SCORE							WORST PEAK SCORE						Includes CS. Additional improvement needed 2023 - 2028
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022

A27 / A2270 SIGNALS							
JUNCTION ID: 63	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
SIGNALS IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WOC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
3-arm junction. Therefore all 3 arms count towards TOTAL & WORST PEAK scores.	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
SATURN OUTPUT DATA	AM						AM
(ACTUAL FLOWS)	Inflow (pcu)	3444	3649	3661	4166	2235	Inflow (pcu)
	growth 2015-2028		6.0%	6.3%	21.0%	-35.1%	growth 2015-2028
	growth / year		0.45%	0.47%	1.47%	-3.27%	growth / year
	Delay / pcu (secs)	24.4	25.5	25.9	30.7	20.5	Delay / pcu (secs)
	Junction delay (hrs)	23.4	25.8	26.4	35.5	12.7	Junction delay (hrs)
	Total ave Q (pcu)	18	19	19	27	12	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	N/A	N/A	N/A	N/A	N/A	East arm
	South arm	0.58	0.63	0.64	0.66	0.45	South arm
	North arm	0.49	0.53	0.54	0.65	0.19	North arm
	West arm	0.65	0.73	0.72	0.59	0.39	West arm
	Junction	0.58	0.63	0.63	0.63	0.38	Junction
	PM						PM
	Inflow (pcu)	3772	4119	4164	4054	2474	Inflow (pcu)
	growth 2015-2028		9.2%	10.4%	7.5%	-34.4%	growth 2015-2028
	growth / year		0.68%	0.76%	0.56%	-3.19%	growth / year
	Delay / pcu (secs)	23.8	26.8	31.4	26.2	14.2	Delay / pcu (secs)
	Junction delay (hrs)	25.0	30.7	36.3	29.5	9.8	Junction delay (hrs)
	Total ave Q (pcu)	20	22	27	24	8	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	N/A	N/A	N/A	N/A	N/A	East arm
	South arm	0.56	0.65	0.65	0.49	0.36	South arm
	North arm	0.52	0.55	0.56	0.55	0.36	North arm
	West arm	0.70	0.88	0.92	0.60	0.25	West arm
	Junction	0.59	0.69	0.72	0.58	0.35	Junction
TOTAL SCORE (all 3 arms)	max = 36	3	5	6	4	1	TOTAL SCORE (max = 36)
		8%	14%	17%	11%	3%	
WORST PEAK SCORE (all 3 arms)	max = 18	2	4	5	2	1	WORST PEAK SCORE (max=18)
		11%	22%	28%	11%	6%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (all 3 arms scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE HE - Layout changes (inc dualling north arm)
Further Improvements FI - None

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -0.6% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with DoS)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	TARGET MAX 2028					
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)
Delay / pcu (worst peak)		24.4				
Total ave Q (worst peak)		20				
Arm DOS (worst arm any peak)	0.70					
Junction DOS (worst peak)	0.59					
TOTAL SCORE	6%					
WORST PEAK SCORE	6%					

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)
Delay / pcu (worst peak)		26.8				
Total ave Q (worst peak)		22				
Arm DOS (worst arm any peak)			0.88			Arises on important arm (west) in PM
Junction DOS (worst peak)	0.69					
TOTAL SCORE	14%					Initial timing - improvement needed 2034 - 2038
WORST PEAK SCORE	22%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2034 - 2038

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)
Delay / pcu (worst peak)		31.4				
Total ave Q (worst peak)		27				
Arm DOS (worst arm any peak)				0.92		Arises on important arm (west) in PM
Junction DOS (worst peak)	0.72					
TOTAL SCORE	17%					Initial timing - improvement needed 2034 - 2038
WORST PEAK SCORE	28%					Importance of arm DOS moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2029 - 2033

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)
Delay / pcu (worst peak)		30.7				
Total ave Q (worst peak)		27				
Arm DOS (worst arm any peak)	0.66					
Junction DOS (worst peak)	0.63					
TOTAL SCORE	11%					
WORST PEAK SCORE	11%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						HE improvement gives >10 years life beyond 2028

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)
Delay / pcu (worst peak)		20.5				
Total ave Q (worst peak)	12					
Arm DOS (worst arm any peak)	0.45					
Junction DOS (worst peak)	0.38					
TOTAL SCORE	3%					
WORST PEAK SCORE	6%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						HE improvement gives >10 years life beyond 2028

A2270 / POLEGATE HIGH ST / WANNOCK RD							
JUNCTION ID: 64	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
SIGNALS IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WDC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
4-arm junction. Therefore WORST 3 arms count towards TOTAL & WORST PEAK scores.	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
SATURN OUTPUT DATA	AM						AM
(ACTUAL FLOWS)	Inflow (pcu)	2650	2875	2877	3011	2944	Inflow (pcu)
	growth 2015-2028		8.5%	8.6%	13.6%	11.1%	growth 2015-2028
	growth / year		0.63%	0.63%	0.99%	0.81%	growth / year
	Delay / pcu (secs)	49.2	61.0	69.4	53.0	41.7	Delay / pcu (secs)
	Junction delay (hrs)	36.2	48.7	55.4	44.3	34.1	Junction delay (hrs)
	Total ave Q (pcu)	27	30	29	29	29	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.51	0.63	0.70	0.67	0.71	East arm
	South arm	0.62	0.69	0.63	0.44	0.50	South arm
	North arm	0.87	0.95	0.97	0.92	0.77	North arm
	West arm	0.83	0.93	0.98	0.91	0.73	West arm
	Junction	0.75	0.83	0.84	0.74	0.67	Junction
	PM						PM
	Inflow (pcu)	2710	2850	2855	2968	2805	Inflow (pcu)
	growth 2015-2028		5.2%	5.4%	9.5%	3.5%	growth 2015-2028
	growth / year		0.39%	0.40%	0.70%	0.27%	growth / year
	Delay / pcu (secs)	60.8	85.6	82.1	68.8	42.6	Delay / pcu (secs)
	Junction delay (hrs)	45.8	67.8	65.1	66.3	33.2	Junction delay (hrs)
	Total ave Q (pcu)	23	34	32	33	23	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.55	0.76	0.74	0.76	0.70	East arm
	South arm	0.58	0.62	0.63	0.40	0.40	South arm
	North arm	0.93	0.99	0.99	1.00	0.90	North arm
	West arm	1.01	1.04	1.03	0.86	0.85	West arm
	Junction	0.80	0.86	0.86	0.76	0.71	Junction
TOTAL SCORE (worst 3 arms)	max = 36	19	25	25	19	11	TOTAL SCORE (max = 36)
		53%	69%	69%	53%	31%	
WORST PEAK SCORE (worst 3 arms)	max = 18	12	13	13	10	8	WORST PEAK SCORE (max=18)
		67%	72%	72%	56%	44%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - Layout changes inc slips east-south and west-north
Further Improvements FI - None

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -0.5% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with DoS)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

				TARGET MAX 2028		
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)
Delay / pcu (worst peak)					60.8	
Total ave Q (worst peak)		27				
Arm DOS (worst arm any peak)						1.01
Junction DOS (worst peak)			0.80			
TOTAL SCORE					53%	
WORST PEAK SCORE					67%	

Arises on west arm in PM (important north arm 0.93)

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)
Delay / pcu (worst peak)						85.6
Total ave Q (worst peak)		34				
Arm DOS (worst arm any peak)						1.04
Junction DOS (worst peak)					0.86	
TOTAL SCORE						69%
WORST PEAK SCORE						72%
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022

Arises on west arm in PM - other arms >0.90 AM&PM

Initial timing - improvement needed 2018 - 2022

Improvement needed 2018 - 2022

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)
Delay / pcu (worst peak)						82.1
Total ave Q (worst peak)		32				
Arm DOS (worst arm any peak)						1.03
Junction DOS (worst peak)					0.86	
TOTAL SCORE						69%
WORST PEAK SCORE						72%
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022

Arises on west arm in PM - other arms >0.90 AM&PM

Initial timing - improvement needed 2018 - 2022

Improvement needed 2018 - 2022

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)
Delay / pcu (worst peak)					68.8	
Total ave Q (worst peak)		33				
Arm DOS (worst arm any peak)						1.00
Junction DOS (worst peak)		0.76				
TOTAL SCORE					53%	
WORST PEAK SCORE					56%	
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022

Arises on important (north) arm in PM - other arms >0.90 in AM

Initial timing - improvement needed 2023 - 2028

Importance of arm DOS moves timing forward 1 period

Includes CS improvement. Additional Imp needed 2018 - 2022

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)
Delay / pcu (worst peak)			42.6			
Total ave Q (worst peak)		29				
Arm DOS (worst arm any peak)				0.90		
Junction DOS (worst peak)	0.71					
TOTAL SCORE		31%				
WORST PEAK SCORE			44.0%			
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022

Arises on north arm in PM

Initial timing - improvement needed 2034 - 2038

Importance of arm DOS & SCORE (PM only) moves timing forward 1 period

Includes CS improvement. Additional Imp needed 2029 - 2033

A27 / A22 GJ WAY							
JUNCTION ID: 47	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNDBABOUT IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WOC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
3-arm roundabout junction. Therefore all 3 arms count towards TOTAL & WORST PEAK scores.	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
	AM						AM
	Inflow (pcu)	3764	4255	4296	4559	4676	Inflow (pcu)
(ACTUAL FLOWS)	growth 2015-2028		13.0%	14.1%	21.1%	24.2%	growth 2015-2028
	growth / year		0.95%	1.02%	1.48%	1.68%	growth / year
	Delay / pcu (secs)	10.5	14.9	15.7	12.5	13.1	Delay / pcu (secs)
	Junction delay (hrs)	11.0	17.6	18.7	15.8	17.1	Junction delay (hrs)
	Total ave Q (pcu)	1	0	2	0	1	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.43	0.61	0.67	0.41	0.43	East arm
	South arm	0.59	0.66	0.64	0.68	0.74	South arm
	North arm	N/A	N/A	N/A	N/A	N/A	North arm
	West arm	0.69	0.84	0.88	0.52	0.55	West arm
	Junction	0.59	0.72	0.75	0.54	0.59	Junction
	PM						PM
	Inflow (pcu)	3703	4134	4250	4806	5161	Inflow (pcu)
	growth 2015-2028		11.6%	14.8%	29.8%	39.4%	growth 2015-2028
	growth / year		0.85%	1.07%	2.03%	2.59%	growth / year
	Delay / pcu (secs)	11.4	19.4	31.0	14.0	16.1	Delay / pcu (secs)
	Junction delay (hrs)	11.7	22.3	36.6	18.7	23.0	Junction delay (hrs)
	Total ave Q (pcu)	0	5	19	0	0	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.37	0.46	0.46	0.39	0.50	East arm
	South arm	0.53	0.65	0.73	0.74	0.91	South arm
	North arm	N/A	N/A	N/A	N/A	N/A	North arm
	West arm	0.80	0.99	1.01	0.74	0.80	West arm
	Junction	0.62	0.76	0.80	0.67	0.79	Junction
TOTAL SCORE (all 3 arms)	max = 36	1	5	9	0	5	TOTAL SCORE (max = 36)
WORST PEAK SCORE (all 3 arms)	max = 18	1	4	6	0	5	WORST PEAK SCORE (max=18)

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (all 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - Approach widenings and flarings
Further Improvements FI - Additional approach widenings plus flarings

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -1% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with Dos)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	TARGET MAX 2028					
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)	
Delay / pcu (worst peak)	11.4						
Total ave Q (worst peak)	1						
Arm DOS (worst arm any peak)	0.72						
Junction DOS (worst peak)		0.80					
TOTAL SCORE	3%						
WORST PEAK SCORE	6%						

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)	
Delay / pcu (worst peak)	19.4						
Total ave Q (worst peak)	5						
Arm DOS (worst arm any peak)					0.99		Arises on important arm (west)
Junction DOS (worst peak)		0.76					
TOTAL SCORE	14%						Initial timing - improvement not needed before 2038
WORST PEAK SCORE		22%					Importance of arm DOS (PM only) moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2034 - 2038

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)	
Delay / pcu (worst peak)		31.0					
Total ave Q (worst peak)	19						
Arm DOS (worst arm any peak)					1.01		Arises on important arm (west) in PM, 0.88 in AM
Junction DOS (worst peak)			0.80				
TOTAL SCORE		25%					Initial timing - improvement needed 2034 - 2038
WORST PEAK SCORE			33%				Importance of arm DOSs (AM & PM) moves timing forward 2 periods
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2023 - 2028

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)	
Delay / pcu (worst peak)	14.0						
Total ave Q (worst peak)	0						
Arm DOS (worst arm any peak)	0.74						
Junction DOS (worst peak)	0.67						
TOTAL SCORE	0%						Initial timing - improvement OK to >2038
WORST PEAK SCORE	0%						
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	CS + FI gives >10 years life beyond 2028.

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)	
Delay / pcu (worst peak)	16.1						
Total ave Q (worst peak)	1						
Arm DOS (worst arm any peak)					0.91		
Junction DOS (worst peak)		0.79					
TOTAL SCORE	14%						Initial timing - Additional improvement not needed before 2038
WORST PEAK SCORE		28%					Importance of arm DOS (PM only) moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	CS + FI needs Additional Improvement 2034 - 2038

A22 GJ WAY / DITTONS ROAD							
JUNCTION ID: 50	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNDBABOUT IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WOC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE Further Improvements A27 Off-line				Y	Y	Core Strategy + HE Further Improvements A27 Off-line
SATURN OUTPUT DATA	AM						AM
	Inflow (pcu)	3640	4098	4142	4581	4810	Inflow (pcu)
(ACTUAL FLOWS)	growth 2015-2028		12.6%	13.8%	25.9%	32.1%	growth 2015-2028
	growth / year		0.92%	1.00%	1.78%	2.17%	growth / year
	Delay / pcu (secs)	15.2	29.8	52.5	17.1	18.8	Delay / pcu (secs)
	Junction delay (hrs)	15.4	33.9	60.4	21.7	25.1	Junction delay (hrs)
	Total ave Q (pcu)	2	16	43	4	8	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.52	1.01	1.06	0.70	0.84	East arm
	South arm	0.56	0.67	0.65	0.56	0.57	South arm
	North arm	0.74	0.94	1.01	0.58	0.63	North arm
	West arm	0.23	0.33	0.31	0.31	0.43	West arm
	Junction	0.59	0.79	0.82	0.56	0.62	Junction
	PM						PM
	Inflow (pcu)	3639	4146	4233	4996	5247	Inflow (pcu)
	growth 2015-2028		13.9%	16.3%	37.3%	44.2%	growth 2015-2028
	growth / year		0.84%	1.17%	2.47%	2.85%	growth / year
	Delay / pcu (secs)	13.6	27.6	31.4	17.0	20.3	Delay / pcu (secs)
	Junction delay (hrs)	13.8	31.7	36.9	23.6	29.6	Junction delay (hrs)
	Total ave Q (pcu)	1	15	20	5	9	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.10	0.14	0.12	0.11	0.13	East arm
	South arm	0.61	0.76	0.85	0.74	0.86	South arm
	North arm	0.72	1.01	1.01	0.80	0.90	North arm
	West arm	0.29	0.51	0.66	0.60	0.78	West arm
	Junction	0.57	0.77	0.83	0.70	0.81	Junction
TOTAL SCORE (worst 3 arms)	max = 36	0	13	21	1	9	TOTAL SCORE (max = 36)
WORST PEAK SCORE (worst 3 arms)	max = 18	0	8	12	1	8	WORST PEAK SCORE (max=18)
		0%	44%	67%	6%	44%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - Approach widenings and flarings
Further Improvements FI - Additional approach widenings plus flarings

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -1% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with Dos)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	0 - 19.9	20 - 39.9	40 - 59.9	TARGET MAX 2028	60.1 - 79.9	80+
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)	15.2						BASE YEAR (for reference)
Delay / pcu (worst peak)	15.2						
Total ave Q (worst peak)	2						
Arm DOS (worst arm any peak)	0.72						
Junction DOS (worst peak)	0.59						
TOTAL SCORE	0%						
WORST PEAK SCORE	0%						

DN1 (2028: base year network; no WLP)	29.8						DN1 (2028: base year network; no WLP)
Delay / pcu (worst peak)	29.8						
Total ave Q (worst peak)	16						
Arm DOS (worst arm any peak)						1.01	Arises on important arm (north)
Junction DOS (worst peak)	0.79						
TOTAL SCORE			36%				Initial timing - improvement needed 2029 - 2033
WORST PEAK SCORE			44%				Importance of arm DOS moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2023 - 2028

DN4 (2028: base year network; plus WLP)	52.5	43					DN4 (2028: base year network; plus WLP)
Delay / pcu (worst peak)	52.5	43					
Total ave Q (worst peak)							
Arm DOS (worst arm any peak)						1.06	Arises on less important arm (but important for WLP) - 1.01 on important north arm
Junction DOS (worst peak)			0.83				
TOTAL SCORE					58%		Initial timing - improvement needed 2023 - 2028
WORST PEAK SCORE					67%		Importance of arm DOSs moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	Improvement needed 2018 - 2022

DS1 (2028: CS+HE plus Further Imps network; plus WLP)	17.1						DS1 (2028: CS+HE plus Further Imps network; plus WLP)
Delay / pcu (worst peak)	17.1						
Total ave Q (worst peak)	5						
Arm DOS (worst arm any peak)		0.80					
Junction DOS (worst peak)	0.70						
TOTAL SCORE	3%						
WORST PEAK SCORE	6%						
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2027	2018 - 2022	CS + FI gives >10 years life beyond 2028.

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)	9	20.3		0.90			DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)
Delay / pcu (worst peak)	9	20.3		0.90			
Total ave Q (worst peak)							
Arm DOS (worst arm any peak)			0.81				Arises on important arm (north) in PM; also 0.86 on south and 0.81 junction DOS in PM.
Junction DOS (worst peak)							
TOTAL SCORE		25%					Initial timing - improvement needed 2034 - 2038
WORST PEAK SCORE			44%				Importance of DOSs & SCORE (PM only) moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022	CS + FI needs Additional Improvement 2029 - 2033

LION HILL / DITTONS ROAD							
JUNCTION ID: 51	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
SIGNALS IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WOC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
4-arm junction. Therefore WORST 3 arms count towards TOTAL & WORST PEAK scores.	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
SATURN OUTPUT DATA	AM						AM
(ACTUAL FLOWS)	Inflow (pcu)	1467	1584	1695	2058	2141	Inflow (pcu)
	growth 2015-2028		8.0%	15.5%	40.3%	45.9%	growth 2015-2028
	growth / year		0.59%	1.12%	2.64%	2.95%	growth / year
	Delay / pcu (secs)	82.3	90.6	115.4	64.5	66.9	Delay / pcu (secs)
	Junction delay (hrs)	33.5	39.9	54.3	36.9	39.8	Junction delay (hrs)
	Total ave Q (pcu)	20	22	24	27	28	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.77	0.88	0.99	0.82	0.88	East arm
	South arm	0.75	0.76	0.87	0.74	0.80	South arm
	North arm	0.79	0.85	0.94	0.92	0.82	North arm
	West arm	0.86	0.90	1.00	0.84	0.89	West arm
	Junction	0.79	0.85	0.96	0.82	0.86	Junction
	PM						PM
	Inflow (pcu)	1544	1729	1724	2195	2208	Inflow (pcu)
	growth 2015-2028		12.0%	11.7%	42.2%	43.0%	growth 2015-2028
	growth / year		0.87%	0.85%	2.74%	2.79%	growth / year
	Delay / pcu (secs)	89.8	121.8	168.4	62.9	64.7	Delay / pcu (secs)
	Junction delay (hrs)	38.5	58.5	80.7	38.3	39.7	Junction delay (hrs)
	Total ave Q (pcu)	22	26	41	27	27	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.78	1.01	1.04	0.74	0.74	East arm
	South arm	0.79	0.90	0.97	0.83	0.80	South arm
	North arm	0.85	0.99	1.03	0.84	0.86	North arm
	West arm	0.91	1.01	1.03	0.87	0.89	West arm
	Junction	0.85	0.97	1.02	0.84	0.84	Junction
TOTAL SCORE (worst 3 arms)	max = 36	19	30	33	21	23	TOTAL SCORE (max = 36)
		53%	83%	92%	58%	64%	
WORST PEAK SCORE (worst 3 arms)	max = 18	12	16	17	11	12	WORST PEAK SCORE (max=18)
		67%	89%	94%	61%	67%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - Layout and timing changes
Further Improvements FI - None

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -1% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with Dos)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESCC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	TARGET MAX 2028					
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)	BASE YEAR (for reference)					
Delay / pcu (worst peak)						89.8
Total ave Q (worst peak)		22				
Arm DOS (worst arm any peak)				0.91		
Junction DOS (worst peak)			0.85			
TOTAL SCORE				53%		
WORST PEAK SCORE				67%		

DN1 (2028: base year network; no WLP)	DN1 (2028: base year network; no WLP)					
Delay / pcu (worst peak)						121.8
Total ave Q (worst peak)		26				
Arm DOS (worst arm any peak)					1.01	
Junction DOS (worst peak)					0.97	
TOTAL SCORE					83%	
WORST PEAK SCORE					89%	
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2018 - 2022

DN4 (2028: base year network; plus WLP)	DN4 (2028: base year network; plus WLP)					
Delay / pcu (worst peak)						168.4
Total ave Q (worst peak)			41			
Arm DOS (worst arm any peak)					1.04	
Junction DOS (worst peak)					1.02	
TOTAL SCORE					92%	
WORST PEAK SCORE					94%	
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2018 - 2022

DS1 (2028: CS+HE plus Further Imps network; plus WLP)	DS1 (2028: CS+HE plus Further Imps network; plus WLP)					
Delay / pcu (worst peak)					64.5	
Total ave Q (worst peak)		27				
Arm DOS (worst arm any peak)				0.92		
Junction DOS (worst peak)			0.84			
TOTAL SCORE				58%		
WORST PEAK SCORE				61%		
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2018 - 2022

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)	DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)					
Delay / pcu (worst peak)					66.9	
Total ave Q (worst peak)		28				
Arm DOS (worst arm any peak)			0.89			
Junction DOS (worst peak)					0.86	
TOTAL SCORE					64%	
WORST PEAK SCORE					67%	
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
						Improvement needed 2018 - 2022

A27 BERWICK (DRUSILLAS) ROUNDABOUT							
JUNCTION ID: 62	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNDBOUT IN ALL SCENARIOS	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WOC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
4-arm roundabout junction. Therefore WORST 3 arms count towards TOTAL & WORST PEAK scores.	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
SATURN OUTPUT DATA	AM						AM
(ACTUAL FLOWS)	Inflow (pcu)	2331	2679	2683	3324	562	Inflow (pcu)
	growth 2015-2028		14.9%	15.1%	42.6%	-75.9%	growth 2015-2028
	growth / year		1.08%	1.09%	2.77%	-10.37%	growth / year
	Delay / pcu (secs)	87.2	226.1	257.1	11.4	8.2	Delay / pcu (secs)
	Junction delay (hrs)	56.5	168.3	191.5	10.6	1.3	Junction delay (hrs)
	Total ave Q (pcu)	50	134	152	1	0	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	1.08	1.23	1.26	0.85	0.08	East arm
	South arm	0.38	0.54	0.55	0.25	0.03	South arm
	North arm	0.59	1.03	1.06	0.18	0.01	North arm
	West arm	0.79	0.94	0.88	0.54	0.10	West arm
	Junction	0.88	1.06	1.05	0.66	0.07	Junction
	PM						PM
	Inflow (pcu)	2261	2634	2662	2702	364	Inflow (pcu)
	growth 2015-2028		16.5%	17.7%	19.5%	-86.9%	growth 2015-2028
	growth / year		1.18%	1.26%	1.38%	-13.11%	growth / year
	Delay / pcu (secs)	34.9	91.9	115.5	9.3	7.7	Delay / pcu (secs)
	Junction delay (hrs)	21.9	67.2	85.4	7.0	0.8	Junction delay (hrs)
	Total ave Q (pcu)	17	51	69	0	0	Total ave Q (pcu)
	Max DOS:						Max DOS:
	East arm	0.78	0.87	0.86	0.44	0.02	East arm
	South arm	0.23	0.37	0.55	0.03	0.01	South arm
	North arm	0.19	1.02	1.05	0.12	0.02	North arm
	West arm	1.02	1.07	1.10	0.67	0.07	West arm
	Junction	0.85	0.94	0.95	0.53	0.04	Junction
TOTAL SCORE (worst 3 arms)	max = 36	18	34	34	2	0	TOTAL SCORE (max = 36)
		50%	94%	94%	6%	0%	
WORST PEAK SCORE (worst 3 arms)	max = 18	11	18	17	2	0	WORST PEAK SCORE (max=18)
		61%	100%	94%	11%	0%	

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE HE - Improved / enlarged roundabout
Further Improvements FI - None

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -1% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with Dos)
Other parameters: equal segments from 0 to max.
2028 Target Max for limit of acceptability agreed with ESC.
TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

				TARGET MAX 2028		
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)
Delay / pcu (worst peak)						87.2
Total ave Q (worst peak)			50			
Arm DOS (worst arm any peak)						1.08
Junction DOS (worst peak)				0.88		
TOTAL SCORE				50%		
WORST PEAK SCORE					61%	

Arises on East arm AM (1.02 west arm PM)

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)
Delay / pcu (worst peak)						226.1
Total ave Q (worst peak)						134
Arm DOS (worst arm any peak)						1.23
Junction DOS (worst peak)						1.06
TOTAL SCORE						94%
WORST PEAK SCORE						100%
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018

Multiple arms both peaks DOS>1.00

Initial timing - improvement needed 2018 - 2022

Improvement needed 2018 - 2022

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)
Delay / pcu (worst peak)						257.1
Total ave Q (worst peak)						152
Arm DOS (worst arm any peak)						1.26
Junction DOS (worst peak)						1.05
TOTAL SCORE						94%
WORST PEAK SCORE						94%
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018

Multiple arms both peaks DOS>1.00

Initial timing - improvement needed 2018 - 2022

Improvement needed 2018 - 2022

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)
Delay / pcu (worst peak)	11.4					
Total ave Q (worst peak)	1					
Arm DOS (worst arm any peak)			0.85			
Junction DOS (worst peak)	0.66					
TOTAL SCORE	6%					
WORST PEAK SCORE	11%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022

Arises on east arm AM peak

Initial timing - additional (to HE) improvement not needed before 2038

Importance of arm DOS moves timing forward 1 period

Incs HE Improvement. Additional imp'ment needed 2034-2038

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)
Delay / pcu (worst peak)	8.2					
Total ave Q (worst peak)	0					
Arm DOS (worst arm any peak)	0.10					
Junction DOS (worst peak)	0.07					
TOTAL SCORE	0%					
WORST PEAK SCORE	0%					
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2028	2018 - 2022

HE Improvement works to beyond 2038

SOUTH RD / ERSHAM RD / DIPLOCKS WAY							
JUNCTION ID: 31/32	SCENARIO NAME	2015 BY	2028 DN1	2028 DN4	2028 DS1	2028 DS2	SCENARIO NAME
ROUNDABOUT + PRIORITY IN BY/DN1/DN4 SINGLE RBT IN RC/DM/DS1/DS2	DEMAND	2015 BASE YEAR	2028 REFERENCE CASE (Background growth + WDC completions & commitments)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	2028 FULL WLP (Reference Case + Local Plan)	DEMAND
	NETWORK						NETWORK
	2015	Y	Y	Y	Y	Y	2015
	Core Strategy + HE				Y	Y	Core Strategy + HE
4-arm junction. Therefore WORST 3 arms count towards TOTAL & WORST PEAK scores.	Further Improvements				Y	Y	Further Improvements
	A27 Off-line					Y	A27 Off-line
	AM						AM
	Inflow (pcu)	2057	2302	2536	2461	2572	Inflow (pcu)
(ACTUAL FLOWS)	growth 2015-2028		11.9%	23.3%	19.6%	25.0%	growth 2015-2028
	growth / year		0.87%	1.62%	1.39%	1.73%	growth / year
	Delay / pcu (secs)	13.6	34.6	44.9	12.8	13.0	Delay / pcu (secs)
	Junction delay (hrs)	10.6	22.1	31.6	8.7	9.3	Junction delay (hrs)
	Total ave Q (pcu)	5	11	18	0	0	Total ave Q (pcu)
	Max DOS:						Max DOS:
	South arm	0.82	1.03	1.14	0.24	0.28	South arm
	Southwest arm	0.22	0.35	0.33	0.35	0.37	Southwest arm
	Northeast arm	0.47	0.56	0.74	0.55	0.61	Northeast arm
	Northwest arm	0.57	0.42	0.52	0.16	0.16	Northwest arm
	Junction	0.46	0.53	0.62	0.41	0.44	Junction
	PM						PM
	Inflow (pcu)	2125	2361	2468	2493	2507	Inflow (pcu)
	growth 2015-2028		11.1%	16.1%	17.3%	18.0%	growth 2015-2028
	growth / year		0.81%	1.16%	1.24%	1.28%	growth / year
	Delay / pcu (secs)	13.0	34.5	42.0	12.1	12.2	Delay / pcu (secs)
	Junction delay (hrs)	7.7	22.6	28.8	8.4	8.5	Junction delay (hrs)
	Total ave Q (pcu)	2	11	14	0	0	Total ave Q (pcu)
	Max DOS:						Max DOS:
	South arm	0.31	0.38	0.44	0.12	0.13	South arm
	Southwest arm	0.28	0.46	0.84	0.49	0.50	Southwest arm
	Northeast arm	0.37	0.46	0.52	0.53	0.54	Northeast arm
	Northwest arm	0.70	1.00	1.06	0.46	0.43	Northwest arm
	Junction	0.38	0.51	0.65	0.46	0.47	Junction
TOTAL SCORE (worst 3 arms)	max = 36	1 3%	8 22%	11 31%	0 0%	0 0%	TOTAL SCORE (max = 36)
WORST PEAK SCORE (worst 3 arms)	max = 18	1 6%	4 22%	6 33%	0 0%	0 0%	WORST PEAK SCORE (max=18)

SCORING

DELAYS (secs/pcu)	0 - 19.9	20 - 39.9	40 - 59.9	60+
TOTAL AVE Q	0 - 19	20 - 39	40 - 59	60+
ARM DOS (only worst 3 scored)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90+
JUNCTION DOS	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85+
SCORE	0	1	2	3

TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50 - 100%

PROPOSED IMPROVEMENTS

Core Strategy + HE CS - Combining the 2 junctions into single large roundabout
 Further Improvements FI - None

IMPROVEMENT TIMING PARAMETERS

Timing based on: Arm DOS / Junction DOS: 0.01 change = 1 year (matrix growth 2015-2028 approx = 1% per annum ave; DN1&4 growth -1% pa; TEMPRO7.2 future growth 2028-2038 = 0.8% per annum; linear relationship with Dos)
 Other parameters: equal segments from 0 to max.
 2028 Target Max for limit of acceptability agreed with ESCC.
 TOTAL SCORE AND WORST PEAK SCORE INDICATE INITIAL TIMING. OTHER PARAMETERS CAN MODERATE TIMESCALE AS SHOWN.

	TARGET MAX 2028					
Delay / pcu (worst peak)	0 - 19.9	20 - 39.9	40 - 59.9	60	60.1 - 79.9	80+
Total ave Q (worst peak)	0 - 19	20 - 39	40 - 59	60	61 - 79	80+
ARM DOS (worst arm any peak)	0 - 0.79	0.80 - 0.84	0.85 - 0.89	0.90	0.91 - 0.95	0.96+
JUNCTION DOS (worst peak)	0 - 0.74	0.75 - 0.79	0.80 - 0.84	0.85	0.86 - 0.92	0.93+
TOTAL SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
WORST PEAK SCORE	0 - 15%	16 - 32%	33 - 49%	50	51 - 67%	68%+
YEARS LIFE wrt 2028	>10 YEARS	6-10 YEARS	1-5 YEARS	0 YEARS	MINUS 1-5 YEARS	MINUS 6-10 YEARS
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2027	2018 - 2022
SCORE SIGNIFICANCE	Low	Moderate	High	Very High	Overloaded	

IMPROVEMENT TIMING ASSESSMENT

BASE YEAR (for reference)						BASE YEAR (for reference)	
Delay / pcu (worst peak)	13.6						
Total ave Q (worst peak)	5						
Arm DOS (worst arm any peak)		0.82					
Junction DOS (worst peak)	0.46						
TOTAL SCORE	3%						
WORST PEAK SCORE	6%						

DN1 (2028: base year network; no WLP)						DN1 (2028: base year network; no WLP)	
Delay / pcu (worst peak)		34.6					
Total ave Q (worst peak)	11						
Arm DOS (worst arm any peak)					1.03		Arises on important arm (south)
Junction DOS (worst peak)	0.53						
TOTAL SCORE		22%					Initial timing - improvement needed 2034 - 2038
WORST PEAK SCORE		22%					Importance of arm DOS moves timing forward 1 period
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2027	2018 - 2022	Improvement needed 2029 - 2033

DN4 (2028: base year network; plus WLP)						DN4 (2028: base year network; plus WLP)	
Delay / pcu (worst peak)			44.9				
Total ave Q (worst peak)	18						
Arm DOS (worst arm any peak)					1.14		Arises on important arm (south) - northwest max 1.06
Junction DOS (worst peak)	0.65						
TOTAL SCORE		31%					Initial timing - improvement needed 2034 - 2038
WORST PEAK SCORE			33%				Importance of arm DOSs (both peaks) moves timing forward 3 periods
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2027	2018 - 2022	Improvement needed 2018 - 2022

DS1 (2028: CS+HE plus Further Imps network; plus WLP)						DS1 (2028: CS+HE plus Further Imps network; plus WLP)	
Delay / pcu (worst peak)	12.8						
Total ave Q (worst peak)	0						
Arm DOS (worst arm any peak)	0.55						
Junction DOS (worst peak)	0.46						
TOTAL SCORE	0%						
WORST PEAK SCORE	0%						
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2027	2018 - 2022	CS gives >10 years life beyond 2028.

DS2 (2028: CS+HE plus Further Imps plus A27 offline improvement network; plus WLP)						DS2 (2028: CS+HE plus Further Imps plus A27 network; plus WLP)	
Delay / pcu (worst peak)	13.0						
Total ave Q (worst peak)	0						
Arm DOS (worst arm any peak)	0.61						
Junction DOS (worst peak)	0.47						
TOTAL SCORE	0%						
WORST PEAK SCORE	0%						
IMPROVEMENT TIMESCALE	AFTER 2038	2034 - 2038	2029 - 2033	2028	2023-2027	2018 - 2022	CS gives >10 years life beyond 2028.



Drainage - Flood Risk - Highways - Transport

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