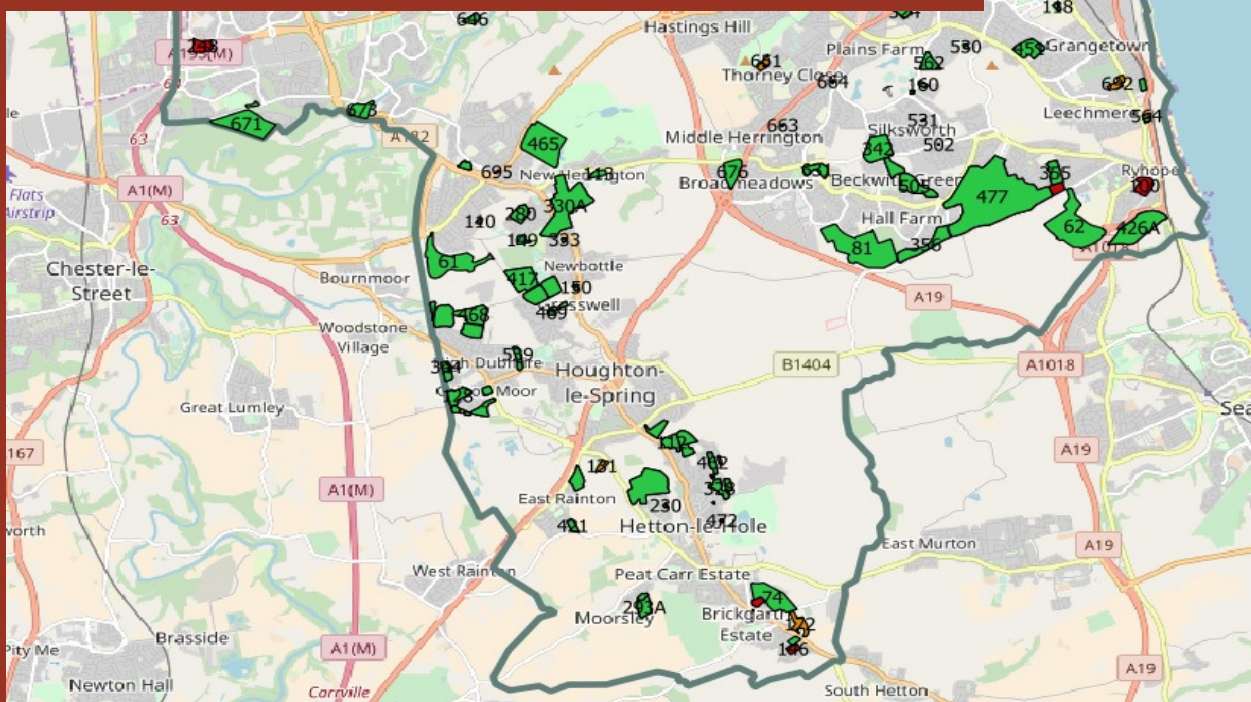





Sunderland Local Plan Assessment of Transport Impacts - Addendum One 25 May 2018



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1. Introduction

1.1 Background

- 1.1.1 Capita were first commissioned by Sunderland City Council (SCC) in 2017 to take account of the changes to the Local Plan allocation and its impact on the local road network using the regional Saturn strategic transport model. The methodology employed and results were first set out in the Capita Report *Initial Assessment of Transport Impacts report*, dated April 2017.
- 1.1.2 A year on, SCC have further updated the Local Plan with a series of revised land allocations including considering the Strategic Housing Land Availability Assessment (SHLAA) as well as the Employment Land Review (ELR). SCC have therefore commissioned Capita once again to take account of these changes and assess their impact using the Saturn strategic transport model.
- 1.1.3 In this most recent update to Local Plan, SCC has identified an additional 40 new residential sites. As a result of these additions, the number of potential additional trips generated from these sites over a number of phases has been estimated and the model updated to reflect these.
- 1.1.4 This addendum report therefore provides an update on the results of the modelling exercise first produced in April 2017. It sets out the land allocation assumptions behind the latest update and outlines the results of the modelling exercise in the form of junction capacities.

2. Modelling Assumptions

2.1 Modelling Year Scenarios

2.1.1 The modelling future year scenarios that have been assessed as part of this addendum include the following:

- Phase 0: is the reference year scenario which includes committed developments and traffic growth in the year zero (0) to year five (5);
- Phase 1: includes phase 0 with the committed developments and traffic growth in years six (6) to eleven (11);
- Phase 2: include phase 0 and phase 1 with the committed developments and traffic growth in years twelve (12) to year fifteen (15); and
- Phase 3: is the full Local Plan scenario which includes phases 0 to 2 with the committed developments and traffic growth for the sixteen (16) seventeen (17) years.

2.1.2 The reference case scenario includes developments which have planning permission and live applications that are likely to be granted planning approval. Other developments that are likely to gain planning permission and be considered by 2033 have been included where information was available. This is not prejudicial to the planning process and is based on guidance on uncertainty as defined by Table A2 in TAG Unit M4 Forecasting and Uncertainty.

2.1.3 The additional phases include traffic demand for a mix of development types, such as residential, employment, leisure, and retail, and consists of the following assumptions:

- Developments which have been completed between 2011 and 2016;
- Developments which have been granted planning permission (committed development); and
- All developments where a planning application has been submitted to the Local Authority as of May 2016, which have not yet been determined but are likely to be granted planning approval.

2.2 Trip Generation

- 2.2.1 The updated trip generation analysis has taken into account changes in both the proposed residential and employment site allocations.
- 2.2.2 With respect to the residential element, Local Authorities are required to undertake Strategic Housing Land Availability Assessments (SHLAA) to assess potential sites for future housing development. The SHLAA forms part of the evidence base for the emerging Sunderland Local Plan. This update has considered revisions to the SHLAA sites and these are outlined in Appendix A.
- 2.2.3 For the employment element, the Employment Land Review (ELR) provides an understanding of the city’s current employment land supply and anticipated future employment growth and the impacts of this on land availability up to 2033. This update has considered revisions to the ELR. The allocated IAMP development area (across Sunderland and South Tyneside) has increased from 100ha to 150ha which impacts on the latest trip generation figures. The updated trip generation figures are shown in Appendix B.
- 2.2.4 A summary of the revised total trip generation for both the residential and employment developments included within phase 0, 1, 2, and 3 are shown in Tables 1 to 4.

Table 1 Phase 0 Trip Generation

Development type	Vehicle trips			
	Morning peak		Evening peak	
	In	Out	In	Out
Residential	766	1,827	1,767	1,091
Employment	337	70	61	209

Table 2 Phase 1 Trip Generation

Development type	Vehicle trips			
	Morning peak		Evening peak	
	In	Out	In	Out
Residential	1,888	4,520	4,399	2,689
Employment	855	178	154	530

Table 3 Phase 2 Trip Generation

Development type	Vehicle trips			
	Morning peak		Evening peak	
	In	Out	In	Out
Residential	2,794	6,699	6,541	3,980
Employment	1,206	251	218	748

Table 4 Phase 3 Trip Generation

Development type	Vehicle trips			
	Morning peak		Evening peak	
	In	Out	In	Out
Residential	3,116	7,471	7,294	4,440
Employment	1,266	264	228	786

3. Modelling Outputs & Impacted Junctions

3.1 Ratio of Flow to Capacity

- 3.1.1 The Ratio of Flow to Capacity (RFC) of a highway link or a junction is one of the principal factors influencing queues and delays on the highway network. RFC is an indicator of the likely performance of a junction under a future year scenario incorporating future traffic demand.
- 3.1.2 An RFC of 85% (0.85) demonstrates that a junction will operate within capacity and with 15% spare capacity and an RFC of 86% (0.86) and above suggests a junction will operate within capacity but may experience capacity issues in the future. An RFC of 100%+ (1.00) indicates that a junction will operate beyond the design capacity and become oversaturated, highlighting that traffic delays and congestion will be more than likely at the junction.
- 3.1.3 RFC is therefore, a useful tool in helping to devise improvements that will enable a link or junction to operate without major queues and delays if it is predicted to become oversaturated. Table 5 Lists the key junctions within the local network

3.2 Results

- 3.2.1 From the Sunderland Local Plan, a total of 13,604 residential units and 66 employment sites have been assessed over the four phases. This updated assessment in Table 5 provides a picture of the impact of these generated trips on the local highway network.
- 3.2.2 In the final phase 3 of the Local Plan allocation, more than 10 000 trips and nearly 12,000 trips will be generated in the AM and PM peaks respectively. This additional volume of traffic will have significant influence on traffic conditions within the city.

Base Year

- 3.2.3 In the 2015 Base Year analysis no junctions were predicted as operating over capacity during the morning peak hour and four in the evening peak hour. There were however 17-20 junctions predicted at or approaching capacity.

Phase 0

- 3.2.4 With the addition of 2,000 – 3,000 assumed trips during the morning and evening peak hours the number of junctions predicted to operate beyond capacity rises to 10-11 during both peaks.

Phase 1

3.2.5 Phase 1 estimates the number of trips increasing on the local network from between 6,000 – 7,000 trips during the morning and evening peak hours. the number of junctions predicted to operate beyond capacity rises to 21 and 22 for the morning and evening peak respectively.

Phase 2

3.2.6 With over 10,000 trips now estimated on the network for the Phase 2 scenarios, the number of junctions predicted to operate beyond capacity rises once again to 23 and 25 for the morning and peak hours respectively. The higher number in the evening peak hour reflecting the higher volume of trips. However, the number of junctions approaching capacity rises substantially to 35 in the morning peak hour.

Phase 3

3.2.7 The final analysis Phase 3 has nearly 12,000 additional trips during the evening peak hour and over 10,000 during the morning peak hour. This results in a similar number of junctions over capacity to Phase 2 (26 & 27 in the AM & PM peaks respectively)

Table 5 Results for the Modelled Network

Junction RFCs					Scenario:	Ratio of Flow to Capacity (RFC)									
Ref	Node	X	Y	Junction		2015 Base		Phase 0		Phase 1		Phase 2		Phase 3	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
2	6589	434092	559819	A19 NB OffSlip/A1290 Downhill Ln	1.00	0.66	0.93	0.73	0.94	0.81	0.93	0.87	0.95	0.90	
6	6735	434567	557297	Sunderland Highway/A19	0.62	0.74	0.73	0.95	0.80	1.01	0.86	1.04	0.86	1.04	
11	7150	434737	555135	A19/A183 W	0.35	0.27	0.38	0.31	0.43	0.34	0.46	0.36	0.45	0.37	
12	7151	434786	555200	A19N onslip/A183W	0.59	0.54	0.73	0.57	0.84	0.62	0.86	0.64	0.86	0.67	
13	7135	435636	552444	A19S offslip/Parkside south	0.79	1.00	0.88	1.00	0.94	1.03	0.99	1.05	0.95	1.06	
18	7141	435656	552290	A19N offslip/Durham Rd	0.69	0.87	0.67	0.81	0.68	0.87	0.71	0.87	0.64	0.87	
19	7142	435581	552272	A19/Durham Road	0.48	0.48	0.48	0.47	0.54	0.50	0.57	0.51	0.51	0.51	
20	7143	435562	552362	A19N Onslip/Durham Road	0.85	0.81	0.98	0.93	1.07	1.00	1.11	1.02	1.12	1.03	
21	99837	435983	552371	City Way/Emperor Way	0.32	0.51	0.35	0.60	0.39	0.69	0.41	0.77	0.39	0.79	
22	7165	436216	552426	City Way/Monarch Way	0.86	0.57	1.01	0.76	1.14	0.86	1.26	0.91	1.21	0.93	
23	99840	436512	552602	City Way/Camberwell Way	0.39	0.62	0.49	1.00	0.48	1.62	1.03	2.11	0.49	2.36	
24	99841	436825	552827	City Way/Doxford Park Way	0.66	0.68	0.83	0.90	0.84	0.99	0.95	1.04	0.86	1.05	
25	6810	436947	552722	Doxford Park Way/Silkworth Way	0.70	0.60	0.78	0.73	0.71	0.96	0.68	1.01	0.78	1.02	
26	6818	438410	552580	Doxford Park Way/Half Farm Road	0.04	0.04	0.04	0.04	0.05	0.05	0.06	0.05	0.10	0.06	
27	6817	438496	552404	Doxford Park Way/Burdon Road	0.21	0.20	0.16	0.21	0.20	0.30	0.38	0.37	0.36	0.41	
28	6823	438641	551898	Burdon Road/Bardon Lane	0.27	0.26	0.10	0.09	0.11	0.12	0.11	0.17	1.13	0.21	
29	6826	440192	552639	Burdon Road/Bevan Avenue	0.10	0.11	0.05	0.05	0.08	0.08	0.29	0.11	0.82	0.14	
30	6757	440843	553050	Burdon Lane/Ryhope Street South	0.25	0.20	0.20	0.25	0.31	0.25	0.81	0.28	0.88	0.33	
31	6758	440650	553120	Ryhope Street South/Black Road	0.18	0.18	0.22	0.20	0.49	0.29	0.71	0.42	0.63	0.57	
32	6760	440092	553175	Ryhope Street South/Bevan Avenue	0.09	0.15	0.23	0.34	0.61	0.50	0.96	0.67	1.00	0.74	
33	6741	441056	552876	Stockton Road/The Village	0.19	0.18	0.26	0.26	0.41	0.35	0.44	0.40	0.44	0.50	
34	6738	441337	552894	The Village/ Robson Pl	0.14	0.15	0.15	0.18	0.14	0.18	0.26	0.18	0.22	0.18	
36	6744	441326	552323	SeeView/A1018	0.63	0.66	0.52	0.61	0.54	0.60	0.93	0.59	0.91	0.60	
37	6891	441480	552290	A1018/B1287	0.52	0.40	0.59	0.56	0.66	0.64	0.80	0.70	0.81	0.72	
38	6745	441296	552985	Ryhope Road/SeeView	0.32	0.37	0.32	0.38	0.31	0.43	0.21	0.47	0.22	0.49	
39	6759	440568	553123	Ryhope St/Nelson St	0.09	0.09	0.20	0.20	0.43	0.26	0.61	0.35	0.55	0.39	
40	6755	440880	553850	Toll Bar RoadFenside road	0.29	0.34	0.32	0.33	0.38	0.37	0.43	0.40	0.41	0.38	
41	6746	441070	553864	B1405/Salterfen Road	0.63	0.61	0.61	0.61	0.77	0.66	0.91	0.77	0.93	0.86	

42	99864	441240	553868	A1018/Salterfen Road	0.61	0.43	0.63	0.51	0.70	0.61	0.80	0.71	0.83	0.75
43	99870	440428	553908	Toll Bar Road/Carrmere Road	0.10	0.09	0.12	0.11	0.14	0.11	0.12	0.12	0.12	0.11
44	6754	440070	553960	Toll Bar/Hollycarrside Roaf	0.20	0.16	0.21	0.15	0.56	0.22	0.95	0.35	0.87	0.39
45	6764	438970	553350	Tunstall Village Green/Burdon Road	0.27	0.29	0.33	0.37	0.53	0.57	0.90	0.79	0.95	0.85
46	6766	438936	553402	Tunstall Village Lane/Tunstall Village Rd	0.21	0.27	0.18	0.26	0.25	0.38	0.29	0.49	0.32	0.52
47	6765	438999	553474	Maple Avenue/Paddock Lane	0.18	0.21	0.17	0.30	0.20	0.43	0.25	0.59	0.31	0.74
48	6792	439165	553530	Tunstall Hope Road/Paddock Lane	0.32	0.47	0.30	0.52	0.36	0.67	0.40	0.81	0.46	0.92
49	6753	439779	554220	Toll Bar Road/Leechmere Road	0.35	0.38	0.39	0.44	0.53	0.47	0.47	0.47	0.52	0.44
50	99872	439806	554265	Leechwere Way/Toll Bar Road	0.29	0.38	0.31	0.40	0.33	0.35	0.32	0.33	0.36	0.35
51	6751	439723	554273	Leechmere/Toll Bar North	0.20	0.21	0.22	0.23	0.28	0.24	0.31	0.25	0.29	0.25
52	99871	439748	554304	Leechmere Road	0.21	0.19	0.23	0.20	0.21	0.17	0.21	0.16	0.21	0.17
53	6791	439020	554883	Leechmere Road/Tunstall Road	0.90	0.93	1.01	0.98	1.13	1.05	1.21	1.09	1.40	1.10
54	6789	438463	555043	Premier Road/Essen Way	0.78	0.92	0.99	1.00	1.12	1.06	1.26	1.11	1.21	1.12
55	6799	438044	553996	Warwick Terrace/Silksworth Lane	0.54	0.59	0.61	0.72	0.56	0.73	0.51	0.82	0.59	0.84
56	6801	437466	553762	Silksworth Lane/North Moor Lane	0.35	0.43	0.43	0.47	0.39	0.46	0.27	0.43	0.39	0.45
57	6771	437455	553093	Silksworth Lane/Silksworth Road	0.47	0.67	0.63	0.82	0.63	0.93	0.58	0.96	0.66	0.98
58	6772	436946	552981	Silksworth Way/Silksworth Road	0.56	0.56	0.64	0.83	0.73	0.84	0.68	0.82	0.90	0.85
59	6790	438801	555004	Essen Way/Langley Road	0.43	0.49	0.50	0.55	0.61	0.54	0.70	0.56	0.59	0.59
60	6778	435706	552513	A690/West Park	0.37	0.48	0.73	0.43	1.00	0.52	0.98	0.76	1.01	0.76
61	6775	435586	553001	West Park/Herrington Road	0.28	0.26	0.62	0.52	0.65	0.68	0.59	0.79	0.60	0.79
62	6780	435921	553060	A690/Herrington Road	0.76	0.85	0.97	1.01	1.11	1.05	1.30	1.33	1.17	1.20
63	6785	437010	554322	A690/North Moor Lane	0.96	0.92	0.97	0.98	1.11	1.06	1.16	1.11	1.14	1.11
64	6787	437382	554996	Durham Road/Premier Road	0.97	0.81	0.92	0.95	1.01	1.00	1.03	1.00	1.04	1.01
65	6880	438410	555564	A690/Barnes Park Road	0.40	0.28	0.43	0.30	0.49	0.34	0.71	0.41	0.68	0.46
66	6848	438570	555500	Queen Alexandra Road/Silksworth Lane	0.55	0.63	0.60	0.60	0.63	0.62	0.71	0.60	0.74	0.60
67	6849	438567	555619	Durham Road/Richard Avenue	0.33	0.38	0.39	0.42	0.44	0.48	0.56	0.55	0.57	0.55
68	6882	437757	555227	Durham Road/Etrick Grove	0.81	0.82	0.83	0.87	0.94	0.88	0.95	0.91	0.98	0.93
69	6748	440754	554677	Ryhope Road/Ocean Road South	0.71	0.61	0.68	0.61	0.72	0.73	0.78	0.80	0.81	0.84
70	6777	440997	554790	A1018/Ocean Road South	0.61	0.67	0.63	0.67	0.80	0.67	0.92	0.66	0.93	0.66
72	6835	439521	555208	Queen Alexandra Rd/Ashbrooke Range	0.46	0.62	0.46	0.48	0.50	1.00	0.96	1.00	0.72	1.00
73	99904	440061	555624	The Cedars/Ryhope Road	0.52	0.36	0.56	0.37	0.59	0.44	0.81	0.54	0.77	0.55
74	6895	440763	555591	St Alban's Street/Commercial Road	0.72	0.69	0.75	0.75	0.93	0.83	1.03	0.90	1.02	0.93
76	7167	440764	555990	Commercial Road/Robinson Terrace	0.70	0.66	0.74	0.71	0.90	0.77	0.95	0.83	0.96	0.86
77	7104	439786	556077	Ryhope Road/Mowbray Road	0.41	0.31	0.45	0.29	0.48	0.33	0.60	0.41	0.55	0.43

78	6831	440595	556482	Commercial Road/White House Road	0.72	0.65	0.77	0.71	0.93	0.77	0.98	0.83	0.98	0.86
80	6880	438410	555564	A690/Barnes Park Road	0.40	0.28	0.43	0.30	0.49	0.34	0.71	0.41	0.68	0.46
81	6840	439599	556279	Park Road/A1231	0.15	0.19	0.16	0.19	0.18	0.21	0.25	0.23	0.23	0.24
83	6853	438744	556375	Burn Park/Eden House Road	0.35	0.44	0.41	0.51	0.47	0.56	0.46	0.62	0.52	0.63
85	6886	439017	556558	New Drham Road/Burn Park Road	0.16	0.18	0.23	0.28	0.24	0.41	0.28	0.53	0.30	0.56
86	7071	439154	556581	Burn Park/Derby Street	0.16	0.18	0.21	0.19	0.22	0.18	0.20	0.20	0.22	0.21
88	6855	438875	556652	Chester Road/The Royalty	0.24	0.20	0.20	0.22	0.31	0.30	0.36	0.33	0.37	0.35
89	6843	439231	556793	Chester Road/St Michael Way	1.00	0.91	0.94	0.87	1.00	0.88	1.01	0.91	1.01	0.94
90	7129	439300	556617	Grange Terrace/ Thornhill Cres	0.49	0.48	0.54	0.52	0.62	0.56	0.80	0.66	0.74	0.70
91	7131	439264	556615	A1231/A690	0.77	0.50	0.86	0.56	0.91	0.61	0.94	0.66	0.95	0.69
92	7133	439258	556635	A690/St Michaels Way	0.58	0.57	0.65	0.63	0.71	0.67	0.80	0.76	0.84	0.79
93	7125	439273	556652	SB St Michaels Way/ A690	0.52	0.67	0.54	0.70	0.56	0.68	0.57	0.71	0.56	0.72
94	7127	439304	556640	Mary St/St Machels Way	0.33	0.46	0.35	0.47	0.37	0.46	0.39	0.48	0.39	0.49
95	6839	439553	556327	A1231/Belvedere Road	0.79	0.62	0.75	0.55	0.69	0.65	0.78	0.79	0.72	0.84
96	7055	440411	556902	Lawrence St/Hendon Road	0.70	0.53	0.74	0.57	0.89	0.61	0.94	0.68	0.94	0.71
97	7083	440211	556978	Borough Road/A1018	0.57	0.47	0.60	0.49	0.75	0.59	0.81	0.68	0.80	0.74
99	7118	439699	557259	WB West Wear Street/Wearmouth Bridge	0.62	0.98	0.66	0.90	0.76	0.96	0.88	1.01	0.90	1.02
100	7096	439667	557251	Wearmouth Bridge/St Mary's Way EB	0.30	0.27	0.34	0.29	0.35	0.31	0.39	0.32	0.39	0.32
101	7116	439663	557283	WB St Mary's Way/Wearmouth Bridge	0.47	0.82	0.46	0.77	0.50	0.80	0.67	0.82	0.66	0.82
102	7117	439692	557292	SB Wearmouth Bridge/West Wear Street	0.65	0.64	0.72	0.61	0.75	0.65	0.71	0.69	0.72	0.70
105	7102	438649	556581	Chester Road/St Marks's Road	0.25	0.28	0.26	0.45	0.52	0.86	0.71	0.93	0.85	0.95
106	6851	437960	556363	Kayll Road/Chester Road	0.97	0.78	0.97	0.79	0.95	0.83	0.92	0.90	0.91	0.91
107	6881	437473	556098	Ettrick Grove/Chester Road	0.36	0.37	0.36	0.37	0.36	0.36	0.36	0.33	0.36	0.33
108	6878	436680	555720	The Broadway/Springwell Road	0.98	1.02	1.00	1.02	1.02	1.04	1.04	1.06	1.03	1.07
109	6907	436259	555537	Chester Road/Grindon Lane	0.60	0.54	0.57	0.55	0.72	0.68	0.83	0.75	0.74	0.76
110	6877	436203	555531	Chester Road/Pennywell Road	0.83	0.77	0.79	0.91	0.81	1.01	0.82	1.03	0.81	1.03
111	6876	435792	555307	Chester Road/Greenwood Road	0.71	0.67	0.74	0.81	0.90	0.88	0.94	0.98	0.91	1.01
112	6875	435375	555231	Chester Road/Prestbury Road	0.31	0.32	0.31	0.38	0.33	0.72	0.37	0.90	0.34	0.95
114	6873	435265	555728	Prestbury Road/Hylton Road	0.18	0.24	0.21	0.25	0.22	0.27	0.24	0.28	0.25	0.29
115	7099	435465	555932	Hylton Road/Waterford Green	0.22	0.25	0.23	0.25	0.28	0.28	0.30	0.32	0.32	0.35
116	6905	435821	556246	Hylton Road/Grindon Lane	0.46	0.72	0.47	0.71	0.54	0.81	0.56	0.90	0.57	0.93
117	6872	435892	556284	Hylton Road/Portsmouth Road	0.27	0.32	0.27	0.32	0.36	0.36	0.39	0.37	0.40	0.38
119	6868	436761	556476	Hylton Road/Font Road	0.52	0.69	0.51	0.81	0.52	0.81	0.65	0.84	0.69	0.89
120	6860	437763	556728	Hylton Road/Kayll Road	0.87	0.85	0.84	0.87	0.83	0.92	0.92	0.93	0.88	0.91

122	6862	437638	557327	St Luk's Terrace/St Luke's Road	0.14	0.20	0.15	0.26	0.20	0.30	0.20	0.35	0.22	0.37
124	6864	438100	557560	Pallion New Road/Lisburn Terrace	0.29	0.38	0.26	0.35	0.30	0.40	0.31	0.44	0.31	0.47
127	6857	438956	557150	Trimdon Street/ Silksworth Row	0.86	0.91	0.91	0.98	0.98	0.96	1.00	0.92	1.01	0.98
128	6859	438070	556910	Hylton Road/Rutland Street	0.19	0.26	0.22	0.26	0.20	0.26	0.18	0.25	0.18	0.25
129	6858	438399	557028	Hylton Road/St Marks Road North	0.28	0.32	0.30	0.38	0.40	0.44	0.48	0.47	0.49	0.48
130	7100	439633	557597	A1018/Dame Dorothy Street	0.64	0.52	0.63	0.52	0.73	0.60	0.75	0.65	0.76	0.67
131	99916	439633	557588	A1018/Sheepfolds North	0.51	0.53	0.50	0.49	0.58	0.52	0.59	0.54	0.60	0.54
132	6946	440090	557846	Church Street/Dame Dorothy Street	0.68	0.38	0.69	0.38	0.90	0.46	0.95	0.53	0.96	0.57
134	9166	439678	557950	North Bridge Street/Roker Avenue	0.74	0.79	0.76	0.79	0.81	0.93	0.85	0.97	0.88	0.98
135	6943	439932	558050	Roker Avenue/Fulwell Road	0.89	0.94	0.88	0.96	0.91	0.96	0.92	0.97	0.93	0.98
136	6944	439982	558063	Roker Avenue/Church Street	0.73	0.53	0.72	0.52	0.78	0.60	0.81	0.64	0.84	0.65
137	6947	440540	558444	Dame Dorothy Street/Harbour View	0.30	0.22	0.32	0.22	0.39	0.25	0.41	0.27	0.41	0.28
138	6950	439885	558508	Roker Baths Road/Fulwell Road	0.41	0.36	0.43	0.35	0.45	0.41	0.47	0.45	0.48	0.46
139	6948	440736	558900	Roker Terrace/St George's Terrace	0.25	0.19	0.26	0.20	0.34	0.23	0.36	0.25	0.36	0.26
141	6988	440623	559786	Whitburn Road/Chichester Road	0.19	0.15	0.21	0.16	0.28	0.20	0.30	0.21	0.30	0.21
142	6957	440558	560216	Whitburn Road/Dykelds Road	0.96	1.00	0.98	1.00	0.98	1.00	0.85	1.00	0.85	1.00
143	6960	438995	560108	Newcastle Road/A1018	0.42	0.47	0.42	0.52	0.50	0.56	0.56	0.58	0.56	0.58
144	99578	439001	560397	A1018/Dovedale Road	0.40	0.53	0.45	0.63	0.57	0.71	0.62	0.84	0.62	0.86
145	6921	439252	559349	Newcastle Road/Chalton Road	0.90	0.94	0.88	0.93	0.90	1.00	0.96	1.02	0.96	1.03
146	95606	439375	558907	Newcastle Road/Newhaven Avenue	0.23	0.21	0.23	0.22	0.25	0.23	0.27	0.23	0.27	0.23
147	6941	439542	558422	Newcastle Road/Crozier Street	0.27	0.27	0.26	0.29	0.29	0.41	0.30	0.46	0.31	0.48
148	6727	439440	558088	Southwick Road/Stadium Way	0.43	0.57	0.41	0.49	0.52	0.59	0.65	0.66	0.64	0.67
149	6934	438823	558411	Queens Road/Kier Hardie Way	0.57	0.71	0.60	0.72	0.62	0.70	0.66	0.70	0.67	0.70
151	6935	438565	558513	Southwick Road/B1291	0.75	0.74	0.76	0.76	0.87	0.82	0.90	0.85	0.90	0.85
152	6924	438174	558198	A1231/Camden Street	0.86	0.82	0.41	0.53	0.50	0.55	0.54	0.57	0.57	0.59
153	6926	438283	558219	Camden Street/Trafford Road	0.29	0.36	0.18	0.25	0.21	0.25	0.23	0.28	0.23	0.30
154	6928	438292	558300	Wessington Way/Queens Road	0.81	0.81	0.57	0.68	0.66	0.67	0.76	0.68	0.76	0.69
155	6911	438144	558319	Wessington Way/A1231	0.85	0.81	0.85	0.80	0.96	0.86	0.99	0.89	1.00	0.90
156	6932	438161	558458	Northern Way/Dean Terrace	0.83	0.82	0.79	0.87	0.85	0.92	0.86	0.96	0.88	0.96
157	6962	438133	558770	Northern Way/North Hylton Road	0.33	0.33	0.28	0.22	0.37	0.26	0.39	0.27	0.39	0.27
158	6966	437982	559421	Old Mill Road/Wembley Road	0.11	0.11	0.11	0.12	0.11	0.14	0.11	0.16	0.11	0.16
159	6965	436906	558789	Hylton Road/Castletown Way	0.92	1.00	0.80	0.83	0.75	0.79	0.77	0.78	0.78	0.79
160	6971	436742	558772	North Hylton Road/Radlett Road	0.45	0.43	0.55	0.37	0.60	0.35	0.64	0.36	0.66	0.37
161	99693	436899	558595	Castletown Way/Riverside Road	0.63	0.66	0.55	0.56	0.56	0.58	0.57	0.58	0.57	0.58

162	6963	436886	558454	Wessington Way/Castletown Way	0.94	0.86	1.01	0.91	1.03	0.97	1.04	0.99	1.04	0.99
163	6973	436361	558277	Wessington Way/Colima Avenue	0.89	0.58	0.95	0.95	1.01	0.99	1.02	1.00	1.02	1.00
165	6975	435581	557985	Grange Road/Barons Quay Road	0.27	0.34	0.26	0.27	0.24	0.35	0.21	0.40	0.21	0.40
166	6978	435075	557521	Wessington Way/Ferryboat Lane	0.98	0.92	1.00	0.86	1.03	0.93	1.06	0.95	1.06	0.96
167	6980	434630	559157	Washington Road/Ferryboat Lane	0.74	0.85	0.76	0.74	0.82	0.78	0.84	0.83	0.85	0.85
168	9081	434966	559181	Washington Road/Blackwood Road	0.65	0.82	0.71	0.88	0.78	0.96	0.76	0.98	0.77	0.99
169	95554	435293	559133	Washington Road/Canterbury Road	0.18	0.22	0.18	0.16	0.18	0.18	0.20	0.17	0.20	0.18
170	6977	435451	559082	Washington Road/Hylton Lane	0.85	0.70	0.82	0.71	0.85	0.78	0.85	0.80	0.84	0.82
171	6976	435731	558914	Washington Road/Craigavon Road	0.72	0.93	0.70	0.76	0.77	0.81	0.83	0.83	0.82	0.85
172	6972	435952	558803	Washington Road/Rotherfield Road	0.39	0.35	0.40	0.32	0.49	0.36	0.56	0.37	0.55	0.37
173	6981	435371	559895	Kingsway Road/Hylton Lane	0.10	0.13	0.13	0.15	0.16	0.20	0.17	0.22	0.17	0.23
174	12200	433892	559130	A1290/Downhill Lane	0.21	0.19	0.19	0.23	0.23	0.37	0.26	0.46	0.27	0.48
175	6591	433794	558827	A1290/Nissan Sight	0.67	0.26	0.64	0.27	0.55	0.50	0.53	0.66	0.53	0.69
176	6592	432855	558331	A1290/Cherry Blossom Way	0.21	0.18	0.21	0.18	0.20	0.51	0.24	0.80	0.27	0.86
177	99594	432881	556964	Nissan Way/A1231	0.13	0.20	0.18	0.26	0.19	0.25	0.18	0.28	0.18	0.30
178	99591	432902	556844	Sunderland Highway/ SB Pattinson Road	0.16	0.11	0.22	0.15	0.27	0.17	0.32	0.17	0.35	0.18
179	99596	432824	556831	NB Pattinson Way/A1231	0.33	0.55	0.56	0.77	0.69	0.77	0.74	0.78	0.74	0.78
180	99589	432806	556948	Sunderland Highway/ NB Nissan Way	0.11	0.18	0.22	0.25	0.33	0.25	0.39	0.24	0.41	0.24
181	6594	431945	557591	Glover Road/Spire Road	0.11	0.16	0.13	0.16	0.13	0.18	0.15	0.18	0.15	0.20
182	99607	431934	556900	A1231/Spire Road	0.15	0.36	0.14	0.35	0.15	0.37	0.16	0.39	0.16	0.39
183	99601	431925	556839	A1231/Horsley Road	0.20	0.17	0.20	0.16	0.20	0.17	0.20	0.19	0.20	0.20
184	99617	431326	556920	Northumberland Way SB Onslip/Sunderland Hwy	0.21	0.37	0.21	0.38	0.24	0.39	0.26	0.40	0.26	0.40
185	99609	431347	556825	Northumberland Way /Sundeland Hwy Offslip	0.20	0.20	0.22	0.24	0.24	0.29	0.25	0.32	0.26	0.33
186	99611	431257	556789	Northumberland Way NB Onslip/Sunderland Hwy	0.17	0.22	0.16	0.18	0.16	0.21	0.18	0.23	0.19	0.23
187	99615	431234	556915	Northumberland Way NB/Sunderland Hwy Offslip	0.22	0.20	0.22	0.22	0.24	0.25	0.26	0.28	0.26	0.28
188	99650	429725	556525	Washington Hwy SB Offslip/A1231	0.76	0.72	0.91	0.81	1.01	0.81	1.02	0.80	1.02	0.79
189	99637	429777	556452	Sunderland Hwy EB Offslip/Washington Hwy SB	0.84	0.80	0.87	0.51	0.85	0.55	0.86	0.58	0.85	0.60
190	99641	429670	556392	Washington Hwy NB Offslip/A1231	0.50	0.45	0.64	0.71	0.65	0.69	0.67	0.66	0.66	0.64
191	99645	429624	556468	A1231 WB Offslip/Washington Hwy	0.85	0.76	0.83	0.92	0.84	0.93	0.85	0.94	0.84	0.94
193	5426	437171	545536	A182 - Salter's Ln	0.00	0.00	0.33	0.13	0.34	0.12	0.42	0.16	0.44	0.18
194	99923	436269	546273	A182 - Murton Ln	0.00	0.00	1.27	1.40	1.28	1.41	1.29	1.43	1.29	1.43
195	5290	435486	546872	WB A182 - B1284	0.01	0.01	1.16	1.08	1.20	1.20	1.22	1.20	1.20	1.21
196	99929	435506	546857	SB A182 - B1284	0.00	0.00	0.56	0.61	0.50	0.47	0.49	0.46	0.48	0.47

198	5289	435250	547350	A182 - Caroline St	0.00	0.00	0.06	0.14	0.06	0.13	0.06	0.12	0.06	0.13
200	99932	435174	548021	A182 - Regent St	0.00	0.00	0.06	0.14	0.05	0.09	0.06	0.09	0.06	0.09
201	99933	434804	548775	A182 - The Bungalows	0.00	0.00	0.30	0.28	0.49	0.22	0.54	0.23	0.60	0.22
202	5432	433767	548640	B1260 - B1284	0.01	0.01	0.26	0.25	0.31	0.25	0.32	0.25	0.38	0.25
203	5431	433558	548746	B1284 - Cygnet Way	0.00	0.01	0.28	0.19	0.34	0.21	0.35	0.23	0.40	0.23
204	5285	433726	548828	A690 - Slip Roads/ Cygnet Way	0.02	0.02	0.69	0.45	0.81	0.47	0.86	0.51	0.96	0.51
205	5286	434499	548976	A182 - B1260	0.01	0.00	0.72	1.01	1.11	1.16	1.16	1.18	1.01	1.18
206	5428	435224	549431	B1404 - B1260	0.00	0.00	0.32	0.31	0.44	0.38	0.49	0.39	0.96	0.40
207	5292	437371	550137	B1404 - Salters Lane	0.28	0.12	0.28	0.14	0.29	0.14	0.29	0.16	0.81	0.15
208	5284	432534	549658	A1052 - Dairy Lane	0.01	0.01	0.34	0.25	0.32	0.26	0.32	0.28	0.32	0.28
209	5434	432344	549928	A1052 - Britannia Terrace	0.34	0.35	1.03	1.15	1.01	1.17	1.03	1.17	1.05	1.17
210	99950	434119	549624	A690 - A1052 NB off slip	0.00	0.00	0.89	0.54	0.86	0.64	0.82	0.68	0.86	0.69
211	99947	434133	549637	A690 - A1052 A1052 Dairy Lane entry	0.00	0.00	0.41	0.26	0.40	0.31	0.39	0.32	0.41	0.33
212	99942	434209	549588	A690 - A1052 SB off slip	0.00	0.00	0.71	0.64	0.67	0.64	0.67	0.62	0.78	0.63
213	99946	434195	549555	A690 - A1052 A182 entry	0.00	0.00	0.86	0.77	0.84	0.76	0.85	0.74	0.96	0.75
214	99939	434254	549941	A690 - B1404 - NB parallel slip	0.00	0.00	0.19	0.14	0.18	0.15	0.16	0.16	0.17	0.16
215	99934	434245	550000	A690 - B1404 - A182 Hillside Way	0.00	0.00	0.14	0.14	0.16	0.15	0.19	0.15	0.21	0.15
216	99938	434316	549999	A690 - B1404 - A182 SB off slip	0.00	0.00	0.07	0.15	0.06	0.15	0.06	0.13	0.03	0.13
217	99935	434327	549969	A690 - B1404 - Lake Road entry	0.00	0.00	1.02	1.03	1.02	1.03	1.02	1.03	1.01	1.03
218	6116	428503	554321	Vigo Ln - Picktree Ln	0.46	0.52	1.01	1.03	1.01	1.04	1.04	1.03	1.04	1.03
219	5402	428205	553519	Picktree Ln - Bonemill Ln	0.45	0.35	0.63	0.49	0.72	0.54	0.86	0.73	0.86	0.74
220	5403	430328	553951	Bonemill Ln/ Vigo Ln	0.30	0.41	0.44	0.36	0.49	0.41	0.58	0.60	0.58	0.61
221	5090	433677	551357	A182 - Coaley Ln	0.83	1.01	0.95	1.00	0.95	1.03	0.86	1.03	1.00	1.03
222	5092	433082	552569	A182 - B1286	0.93	1.00	1.03	0.88	0.95	0.87	0.92	0.74	0.93	0.74
223	5093	432433	552759	A182 - A183	0.78	0.73	1.13	1.04	1.20	1.06	2.00	1.10	1.29	1.11
Junctions approaching capacity (0.85 < RFC < 1.00):					20	17	22	25	21	22	35	23	37	32
Overcapacity junctions (RFC > 1.00):					0	4	11	10	21	22	23	25	26	27

Appendix A - Trips generated by SHLAA Sites

Appendix B Trips generated by ELR sites

Capita Property and Infrastructure Ltd

North Tyneside Council
The Quadrant
The Silverlink North
Cobalt Business Park
North Tyneside NE27 0BY