

A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010059

PHH.1 Driver Stress Assessment PHH.1.1 and 1.13

APFP Regulation Rule 8(1)(b)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

Infrastructure Planning

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**The Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009**

**The A1 in Northumberland: Morpeth to
Ellingham**

Development Consent Order 20[xx]

PHH.1 Driver Stress Assessment PHH.1.1 and 1.13

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1 DRIVER STRESS ASSESSMENT

- 1.1.1. The following tables outline the predicted average morning and afternoon peak hour Driver Stress levels along the traffic modelling links, between nodes (sections of the road along which traffic data is collected) within Part A and Part B for opening year (2023) and design year (2038). Number of lanes and the associated Design Manual for Roads and Bridges (DMRB) criteria have also been listed based on DMRB guidance in Volume 11, Section 2, Part 9. These comprise, Table 1 Motorways, Table 2 Dual-carriageway roads, and Table 3 Single-carriageway roads.
- 1.1.2. Flow units for the Driver Stress are calculated by using the following allocation for vehicle units:
 - A car or light van is one flow unit
 - A commercial vehicle over 1.5 tonnes or a public service vehicle is three flow units
- 1.1.3. The Driver Stress rating for each node is categorised using either low, moderate or high, as described under the Design Manual for Roads and Bridges (DMRB) guidance in Volume 11, Section 2, Part 9.

Table 1-1 – Part A Base Year (2015)

Link ID	road section	Number of Lanes/DMRB criteria	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1941-1951	1	1 / Table 3	756.90925	111.28	Moderate	754.5512	111.03	Moderate
1951-1985	1	1 / Table 3	756.9092	74.11	Moderate	754.6	70.2	Moderate
1985-1951	1	1 / Table 3	827.42332	72.09	High	690.1422	75.11	High
1985-1990	1	1 / Table 3	797.21226	64.19	Moderate	815.484	59.27	High
1990-1985	1	1 / Table 3	860.33437	67.39	High	726.8538	67.61	Moderate
1990-2059	1	1 / Table 3	772.0542	73.66	Moderate	749.0605	70.28	Moderate
2059-1990	1	1 / Table 3	851.00858	71.27	High	689.5782	75.12	Moderate
2059-2061	1	1 / Table 3	783.34795	73.22	Moderate	761.4445	69.72	Moderate
2061-2059	1	1 / Table 3	867.24732	70.63	High	696.8595	74.78	Moderate
2061-27047	1	1 / Table 3	782.96644	73.23	Moderate	762.8708	69.65	Moderate
27047-2061	1	1 / Table 3	864.88972	70.71	High	699.2294	74.61	Moderate
2076-27047	1	1 / Table 3	838.38192	71.61	High	712.5288	73.42	Moderate
27047-2076	1	1 / Table 3	770.98853	73.57	Moderate	749.8391	70.02	Moderate
2076-2099	1	1 / Table 3	766.95072	73.89	Moderate	738.9087	70.82	Moderate
20999-2076	1	1 / Table 3	824.29652	72.32	High	718.7212	73.78	Moderate
2107-2100	1	1 / Table 3	761.75269	75.12	Moderate	675.4175	75.79	Moderate
2100-2107	1	1 / Table 3	751.97377	74.56	Moderate	754.2649	70.17	Moderate
2107 2040	1	1 / Table 3	747.0473	74.63	Moderate	729.3817	71.23	Moderate
2040 2107	1	1 / Table 3	755.63769	75.36	Moderate	672.2911	75.93	Moderate
2040 1943	1	1 / Table 3	731.30574	75.32	Moderate	718.6009	71.87	Moderate
1943 2040	1	1 / Table 3	744.69687	75.72	Moderate	659.8919	76.62	Moderate
1841 1937	1	1 / Table 3	782.31731	74.34	Moderate	692.498	74.84	Moderate
1937 1841	1	1 / Table 3	759.42859	74.33	Moderate	742.767	70.76	Moderate
1841 27045	1	1 / Table 3	760.50311	82.29	Moderate	743.4022	79.62	Moderate

Link ID	road section	Number of Lanes/DMRB criteria	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
27045 1841	1	1 / Table 3	782.43603	82.3	Moderate	695.2367	82.45	Moderate
1807 27045	1	1 / Table 3	743.73079	83.19	Moderate	641.4099	83.84	Moderate
27045 1807	1	1 / Table 3	751.45499	82.56	Moderate	721.3109	80.42	Moderate
1802 27043	1	1 / Table 3	734.12886	83.11	Moderate	659.4168	82.94	Moderate
27043 1802	1	1 / Table 3	711.14095	84.27	Moderate	622.7755	84.87	Moderate
1829 27043	1	1 / Table 3	711.14095	84.36	Moderate	622.7755	85.08	Moderate
27043 1829	1	1 / Table 3	734.12886	83.11	Moderate	659.4168	82.94	Moderate
1829 1855	1	1 / Table 3	734.12886	111.35	Moderate	659.4249	111.34	Moderate
1985-1858	2	1 / Table 3	32.911041	74.58	Low	36.7	74.1	Low
1858-1985	2	1 / Table 3	40.290898	73.41	Low	60.9	72.6	Low
1990-2185	3	1 / Table 3	105.49775	81.76	Low	101.4	81.7	Low
2185-1990	3	1 / Table 3	89.659905	71.43	Low	72.20605	73.09	Low
2344-2059	4	1 / Table 3	14.924935	74.53	Low	15.09173	74.56	Low
2059-2344	4	1 / Table 3	19.862738	81.98	Low	9.980118	81.96	Low
1725 2061	5	1 / Table 3	4.2750851	76.81	Low	2.711716	77.69	Low
2061-1725	5	1 / Table 3	2.3011569	79.32	Low	3.665283	79.22	Low
2313-2076	6	1 / Table 3	26.179217	59.89	Moderate	9.421596	59.17	Moderate
2076-2313	6	1 / Table 3	16.133095	63.98	Moderate	26.55651	63.94	Moderate
2117-2353	7	1 / Table 3	48.506956	81.95	Low	88.79395	81.77	Low
2353-2117	7	1 / Table 3	96.075366	81.77	Low	147.4661	81.37	Low
2353 2451	7	1 / Table 3	51.519425	77.89	Low	91.98754	77.4	Low
2451 2353	7	1 / Table 3	102.40148	81.74	Low	153.6569	81.31	Low
2107 1662	8	1 / Table 3	4.913046	80.75	Low	24.89123	80.73	Low
1662 2107	8	1 / Table 3	6.1150009	79.12	Low	3.134139	78.97	Low
2417-2040	9	1 / Table 3	12.445923	79.65	Low	12.96993	79.67	Low

Link ID	road section	Number of Lanes/DMRB criteria	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
2040-2417	9	1 / Table 3	17.251787	80.25	Low	11.35045	80.24	Low
1662-1933	10	1 / Table 3	29.63551	81.98	Low	24.73674	81.98	Low
1933-1662	10	1 / Table 3	39.117832	81.97	Low	33.18127	81.96	Low
1662-1640	10	1 / Table 3	44.036818	70.17	Low	58.07156	69.67	Low
1640-1662	10	1 / Table 3	35.739987	80.07	Low	27.87596	80.68	Low
1659-1841	11	1 / Table 3	2.1978329	78.13	Low	3.710667	77.32	Low
1841-1659	11	1 / Table 3	1.248793	82	Low	5.819258	82	Low
1659-1802	12	1 / Table 3	71.779106	78.96	Low	19.74629	78.69	Low
1802-1659	12	1 / Table 3	12.001447	80.08	Low	26.97086	80.06	Low
1821-1970	13	1 / Table 3	89.099694	81.65	Low	81.64255	81.62	Low
1970-1821	13	1 / Table 3	44.586636	81.95	Low	45.61579	81.93	Low
27042-2018	14	1 / Table 3	64.335662	85.23	Low	57.44669	85.14	Low
2018-27042	14	1 / Table 3	62.266167	87.96	Low	49.25522	87.96	Low

Table 1-2 – Part A Do Minimum 2023 and 2038

Link ID	road section	Number of Lanes/DMRB CRITERIA	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	2023 Do Minimum			2038 do minimum		
									Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1941-1951	1	1 / Table 3	854.8509	111.04	High	814.2303	110.81	High	1022.5	110.49	High	918.8808	110.38	High
1951_1985	1	1 / Table 3	854.8509	70.25	High	814.2303	67.15	High	1022.5	63.39	High	918.8808	62.18	High
1985-1951	1	1 / Table 3	888.188	69.52	High	762.6583	71.62	High	935.347	67.24	High	918.6869	64.5	High
1985-1990	1	1 / Table 3	888.7459	62.27	High	871.25	55.86	High	1050.079	57.26	High	986.7416	49.9	High
1990-1985	1	1 / Table 3	896.1055	68.36	High	779.9359	67.95	Moderate	942.9675	66.11	High	936.7845	61.33	High
1990-2059	1	1 / Table 3	874.8006	69.56	High	785.4063	68.33	Moderate	1042.07	62.75	High	875.9653	63.97	High
2059-1990	1	1 / Table 3	902.6983	68.95	High	775.7671	71	Moderate	930.1692	67.44	High	911.475	64.81	High
2061 2059	1	1 / Table 3	908.3372	68.7	High	781.4392	70.73	Moderate	936.2502	67.17	High	917.7492	64.52	High
2059 2061	1	1 / Table 3	887.8909	69.04	High	800.3566	67.64	High	1055.671	62.24	High	890.9387	63.3	High
2061-27047	1	1 / Table 3	887.3319	69.06	High	802.896	67.53	High	1054.931	62.26	High	893.3741	63.19	High
27047-2061	1	1 / Table 3	908.0364	68.7	High	784.0889	70.56	Moderate	936.1247	67.16	High	920.463	64.36	High
2076-27047	1	1 / Table 3	879.6387	69.71	High	792.7335	69.7	Moderate	906.6379	68.21	High	928.1138	63.61	High
27047-2076	1	1 / Table 3	873.2293	69.49	High	786.3148	68.21	Moderate	1039.871	62.85	High	876.5855	63.98	High
2076-2099	1	1 / Table 3	867.98	69.85	High	785.0859	68.41	Moderate	1043.81	62.7	High	881.7347	63.75	High
2099-2076	1	1 / Table 3	872.3922	70.12	High	797.5982	69.98	Moderate	910.8921	68.17	High	939.7384	63.53	High
2107-2100	1	1 / Table 3	816.1525	72.68	High	759.3396	71.75	Moderate	861.6449	70.49	High	904.8753	65.1	High
2100-2107	1	1 / Table 3	854.323	70.5	High	804.1575	67.6	High	1028.275	63.42	High	902.8997	62.88	High
2107 2040	1	1 / Table 3	848.8547	70.59	High	785.9427	68.37	Moderate	1020.927	63.62	High	882.0925	63.75	High
2040 2107	1	1 / Table 3	809.9305	72.93	High	755.255	71.94	Moderate	854.8328	70.76	High	900.0801	65.32	High
1841 1937	1	1 / Table 3	832.4015	72.06	High	764.7873	71.32	Moderate	854.5706	70.78	High	895.4523	65.67	High
1937 1841	1	1 / Table 3	857.0908	70.46	High	799.4558	67.86	Moderate	1007.542	64.27	High	879.8784	63.95	High
1841 27045	1	1 / Table 3	857.2995	79.41	High	793.2259	77.62	Moderate	1007.646	74.49	High	874.0278	74.44	High
27045 1841	1	1 / Table 3	832.2027	80.63	High	768.4288	79.81	Moderate	854.3605	79.65	High	900.1037	75.35	High

Link ID	road section	Number of Lanes/DMRB CRITERIA	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	2023 Do Minimum			2038 do minimum		
									Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1807 27045	1	1 / Table 3	794.3311	81.53	Moderate	715.2168	81.26	Moderate	816.1076	80.56	High	844.7832	76.9	High
27045 1807	1	1 / Table 3	848.1562	79.7	High	772.9373	78.38	Moderate	998.3436	74.8	High	855.6997	75.15	High
1802 27043	1	1 / Table 3	834.0606	80.27	High	709.2224	81.16	Moderate	1019.565	74.3	High	811.3145	77.39	High
27043 1802	1	1 / Table 3	764.3432	82.61	Moderate	710.3869	81.83	Moderate	814.9505	80.57	High	866.8402	76.04	High
1829 27043	1	1 / Table 3	764.3432	82.74	Moderate	710.3869	82.19	Moderate	814.9505	80.99	High	866.8402	76.68	High
27043 1829	1	1 / Table 3	834.0606	80.27	High	709.2224	81.16	Moderate	1019.565	74.3	High	811.3145	77.39	High
1829 1855	1	1 / Table 3	834.0606	111.13	High	709.2371	111.2	Moderate	1019.575	110.55	High	811.3145	110.87	High
1985-1858	2	1 / Table 3	7.919492	74.48	Low	17.26896	74.1	Low	7.611454	73.87	Low	18.09377	73.59	Low
1858-1985	2	1 / Table 3	33.89536	72.87	Low	57.03386	72.14	Low	27.58148	71.66	Low	67.87742	70.97	Low
1990-2185	3	1 / Table 3	93.0938	81.81	Low	116.3445	81.57	Low	90.79146	81.82	Low	143.2016	81.35	Low
2185-1990	3	1 / Table 3	72.55548	69.57	Moderate	34.67164	71.95	Low	95.56823	67.97	Moderate	57.72615	70.84	Moderate
2344-2059	4	1 / Table 3	13.08922	73.59	Low	14.94715	73.67	Low	13.60113	71.99	Low	14.96721	71.64	Low
2059-2344	4	1 / Table 3	5.638912	81.93	Low	5.672593	81.98	Low	6.0837	81.98	Low	6.274386	82	Low
1725 2061	5	1 / Table 3	1.67209	76.54	Low	3.419823	77.81	Low	1.331975	75.46	Low	3.284794	77.22	Low
2061-1725	5	1 / Table 3	1.92	79.26	Low	3.53	79.16	Low	1.94	79.07	Low	3.54492	78.97	Low
2313-2076	6	1 / Table 3	17.21617	59.48	Moderate	10.48967	58.84	Moderate	4.329604	56.68	Moderate	5.159854	55.75	Moderate
2076-2313	6	1 / Table 3	15.23373	63.98	Moderate	16.58299	63.97	Moderate	4.648018	64	Moderate	11.64464	63.99	Moderate
2117-2353	7	1 / Table 3	47.56117	81.95	Low	85.64213	81.78	Low	52.94932	81.94	Low	88.92971	81.77	Low
2353-2117	7	1 / Table 3	90.14507	81.8	Low	143.0068	81.41	Low	86.67612	81.81	Low	144.992	81.39	Low
2353 2451	7	1 / Table 3	50.43533	77.78	Low	89.0472	77.31	Low	55.93319	77.52	Low	92.78952	77.06	Low
2451 2353	7	1 / Table 3	95.75079	81.77	Low	148.6063	81.36	Low	92.4901	81.78	Low	153.0915	81.32	Low
2107 1662	8	1 / Table 3	5.464043	80.75	Low	18.22439	80.74	Low	7.354032	80.76	Low	20.80933	80.76	Low
1662 2107	8	1 / Table 3	6.222127	78.74	Low	4.074921	78.53	Low	6.812072	78.04	Low	4.794919	77.52	Low

Link ID	road section	Number of Lanes/DMRB CRITERIA							2023 Do Minimum			2038 do minimum		
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
2417-2040	9	1 / Table 3	13.95995	79.56	Low	16.32457	79.51	Low	15.29387	79.43	Low	15.66589	79.01	Low
2040-2417	9	1 / Table 3	20.69737	80.2	Low	9.561733	80.23	Low	17.32923	80.11	Low	8.692989	80.19	Low
1662 1933	10	1 / Table 3	28.93246	81.98	Low	23.05474	81.99	Low	3.932139	82	Low	6.024714	82	Low
1933-1662	10	1 / Table 3	36.43184	81.97	Low	25.85774	81.97	Low	15.04044	82	Low	10.56865	82	Low
1662-1640	10	1 / Table 3	41.89566	69.95	Moderate	44.09585	69.49	Moderate	22.38481	69.28	Moderate	31.37798	68.83	Moderate
1640-1662	10	1 / Table 3	35.16453	80.01	Low	27.12966	80.3	Low	10.74419	75.43	Low	10.80966	77.3	Low
1659-1841	11	1 / Table 3	1.933883	77.5	Low	2.928312	76.87	Low	1.592574	76.63	Low	1.952765	76.25	Low
1841-1659	11	1 / Table 3	1.516757	82	Low	12.80392	82	Low	1.285921	82	Low	12.46474	82	Low
1659-1802	12	1 / Table 3	20.0666	80.08	Low	46.65724	80.01	Low	51.02068	80.04	Low	80.33809	79.86	Low
1802-1659	12	1 / Table 3	79.40403	78.75	Low	20.20397	78.45	Low	118.9768	78.16	Low	40.1933	78.26	Low
1821-1970	13	1 / Table 3	93.49767	81.6	Low	83.94879	81.53	Low	97.75891	81.54	Low	84.63452	81.44	Low
1970-1821	13	1 / Table 3	50.04977	81.93	Low	51.50843	81.9	Low	52.19729	81.93	Low	58.36036	81.88	Low
27042 2018	14	1 / Table 3	62.14385	85.14	Low	60.99467	85.04	Low	63.42214	84.97	Low	69.42635	84.87	Low
2018 27042	14	1 / Table 3	66.9007	87.95	Low	49.83388	87.96	Low	79.53967	87.92	Low	53.05136	87.95	Low

Table 1-3 – Part A Do Something 2023 and 2038

Link ID	Road section	Number of Lanes/DMRB Criteria	2023 Do Something						2038 Do Something					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1941-1951	1	2 / Table 2	1137.634	110.03	Low	1114.8	111.11	Low	1525.01	107.89	Moderate	1365.092	107.45	Moderate
1951-1985	1	2 / Table 2	1137.634	110.03	Low	1114.8	111.11	Low	1525.01	107.89	Moderate	1365.092	107.45	Moderate
1990-40013	1		Missing node data											
40013-40012	1		Missing node data											
1985-40011	1	2 / Table 2	1264.835	109.48	Moderate	1145.151	110.86	Low	1715.037	106.58	High	1393.393	107.19	Moderate
40011-40010	1		Missing node data											
41725-40009	1		Missing node data											
40009-35152	1	1 / Table 3	8.910283	47.79	High	5.894916	79.2	Moderate	10.25042	46.33	High	6.314919	46.7	High
40011-35152	1	3 / Table 2 (Junction)	1264.835	109.48	Moderate	1145.151	110.86	Low	1715.037	106.58	High	1393.393	107.19	Moderate
35153-40009	1		Missing node data											
35153-27169	1		Missing node data											
40010-35153	1	1 / Table 3	139.9846	48.09	High	118.7979	79.2	Low	163.7488	47.63	High	163.4957	46.98	High
40010-2061	1	1 / Table 3	80.99638	74.71	Low	67.31855	79.2	Low	93.96398	74.68	Low	94.90625	74.61	Low
40011-35152	1	3 / Table 2 (Junction)	1264.835	109.48	Moderate	1145.151	110.86	Low	1715.037	106.58	High	1393.393	107.19	Moderate
35152-27160	1	2 / Table 2	1179.721	109.9	Low	1064.37	110.97	Low	1617.362	107.35	High	1287.921	108.07	Moderate

27169 40014	1	2 / Table 2	171.8415	76.07	High	87.30535	76.54	Moderate	253.566	75.74	Moderate	113.6037	77.13	Moderate
27160 29104	1	2 / Table 2	1179.721	109.9	Low	1064.37	110.97	Low	1617.362	107.35	High	1287.921	108.07	Moderate
40014 40019	1		Missing node data											
29104 40015	1	2 / Table 2	1179.721	109.9	Low	1064.385	110.97	Low	1617.314	107.35	High	1287.931	108.07	Moderate
40019 40016	1		Missing node data											
40016 27163	1	2 / Table 2	1134.621	110.19	Low	997.2675	110.93	Low	1272.882	109.53	Moderate	1305.692	108.37	Moderate
40015 40017	1		Missing node data											
27163- 27164	1	2 / Table 2	1134.621	110.19	Low	997.2675	110.93	Low	1272.882	109.53	Moderate	1305.692	108.37	Moderate
27164 1807	1		Missing node data											
40017 27045	1	2 / Table 2	1179.721	109.9	Low	1064.389	110.97	Low	1617.314	107.35	High	1287.931	108.07	Moderate
1802 27166	1	1 / Table 3	122.1186	52.86	High	116.78	73.8	Moderate	136.5666	52.21	High	123.1537	54.76	High
27045 1802	1	2 / Table 2	1179.721	109.9	Low	1064.389	110.97	Low	1617.314	107.35	High	1287.931	108.07	Moderate
1807 29213	1		Missing node data											
27166 27167	1		Missing node data											
Total number in the column 29 (12 missing nodes)			AM (10 Low, 4 High, 3 Moderate) PM (14 Low, 3 Moderate)						AM (1 Low, 5 Moderate, 11 High) PM (1 Low, 13 Moderate, 3 High)					
1858- 35147	2	1 / Table 3	46.14756	75.26	Low	65.01421	75.49	Low	52.08366	75.15	Low	76.52624	75.24	Low
35147- 1858	2	1 / Table 3	21.38513	74.21	Low	26.79295	74.54	Low	13.63963	74.06	Low	31.29331	73.91	Low

27419 35147	2	1 / Table 3	160.0896	81.46	Low	77.52623	81.75	Low	215.8521	81.01	Low	90.67675	81.73	Low
35147- 27419	2	1 / Table 3	57.65942	81.92	Low	85.40062	81.96	Low	64.27376	81.91	Low	107.62	81.63	Low
1985- 35147	2	1 / Table 3	33.62321	81.97	Low	33.85588	82	Low	36.96312	81.97	Low	45.60866	81.94	Low
35147- 1985	2	1 / Table 3	160.8362	43.65	High	64.19183	73.8	Low	226.9648	42.08	High	73.89847	41.96	High
27148- 1990	3	1 / Table 3	15.90613	49.4	High	21.37458	73.8	Low	41.73236	49	High	35.63931	48.66	High
1990- 27148	3	1 / Table 3	69.90395	81.9	Low	122.1918	81.88	Low	95.06656	81.81	Low	163.5318	81.22	Low
27148- 2185	3	1 / Table 3	123.4053	81.67	Low	195.9885	81.75	Low	155.3315	81.46	Low	258.4236	79.96	Low
2185- 27148	3	1 / Table 3	171.8415	76.07	Low	87.30535	76.54	Low	253.566	75.74	Low	113.6037	77.13	Low
2061- 2059	4	1 / Table 3	1.53	96	Low	0.21	96	Low	1.85	96	Low	4.129464	96	Low
2059- 2061	4	1 / Table 3	11.35135	96	Low	7.927429	96	Low	12.46152	96	Low	8.144916	96	Low
2059- 2344	4	1 / Table 3	1.53	81.96	Low	0.21	81.98	Low	1.85	82	Low	4.129464	82	Low
2344- 2059	4	1 / Table 3	11.35135	82	Low	7.927429	82	Low	12.46152	82	Low	8.144916	82	Low
40010- 2061	5	1 / Table 3	80.99638	74.71	Low	67.31855	79.2	Low	93.96398	74.68	Low	94.90625	74.61	Low
2061 40010	5	1 / Table 3	80.99638	74.71	Low	67.31855	79.2	Low	93.96398	74.68	Low	94.90625	74.61	Low
40010 40009	5	1 / Table 3	18.34934	88	Low	33.46651	87.98	Low	18.2054	88	Low	35.26881	87.98	Low
40009 40010	5	1 / Table 3	114.3142	69.89	Moderate	80.63765	79.2	Low	126.9506	69.71	Moderate	106.3907	69.44	Moderate
40009 35152	5	1 / Table 3	8.910283	47.79	High	5.894916	79.2	Low	10.25042	46.33	High	6.314919	46.7	High

35152 40009	5	1 / Table 3	94.03248	78.54	Low	86.67628	79.2	Low	107.9343	78.83	Low	111.7759	75.69	Low
1725 40009	5	1 / Table 3	0.02	79.61	Low	0.04	79.65	Low	0.01	79.6	Low	0.04	79.59	Low
40009 1725	5	1 / Table 3	0.84	79.33	Low	0.13	79.4	Low	0.3	79.29	Low	0.13	79.22	Low
2076- 2313	6	1 / Table 3	19.60396	78.08	Low	28.87284	78.06	Low	19.67211	78.08	Low	31.06141	78.06	Low
2313- 2076	6	1 / Table 3	25.53818	77.88	Low	13.2946	77.86	Low	25.02197	77.83	Low	16.22457	77.7	Low
2313- 2076	6	1 / Table 3	25.53818	77.88	Low	13.2946	77.86	Low	25.02197	77.83	Low	16.22457	77.7	Low
2076- 2313	6	1 / Table 3	19.60396	78.08	Low	28.87284	78.06	Low	19.67211	78.08	Low	31.06141	78.06	Low
2117- 2353	7	1 / Table 3	55.72261	81.93	Low	48.67026	81.88	Low	63.92607	81.91	Low	67.0924	81.87	Low
2353- 2117	7	1 / Table 3	85.65574	81.81	Low	124.12	81.87	Low	111.8857	81.69	Low	164.1697	81.22	Low
2353 2451	7	1 / Table 3	58.41623	77.97	Low	51.93549	77.88	Low	66.6498	77.84	Low	70.91246	77.78	Low
2451 2353	7	1 / Table 3	90.79801	81.79	Low	129.0346	81.83	Low	117.2983	81.66	Low	169.2591	81.17	Low
2107 1662	8	2 / Table 2	5.468041	80.77	Low	21.20849	80.77	Low	7.768051	80.77	Low	22.75425	80.76	Low
1662 2107	8	1 / Table 3	7.250183	80.74	Low	5.718498	80.73	Low	7.594211	80.74	Low	4.85824	80.72	Low
2417- 2040	9	1 / Table 3	11.64048	80.41	Low	12.87551	80.4	Low	13.7028	80.41	Low	17.79398	80.39	Low
2040- 2417	9	1 / Table 3	18.77484	80.29	Low	15.10716	80.32	Low	22.62331	80.23	Low	18.2999	80.28	Low
1662 1933	10	1 / Table 3	2.728087	82	Low	4.164909	82	Low	2.448065	82	Low	3.714909	82	Low
1933- 1662	10	2 / Table 2	7.178237	82	Low	9.293502	82	Low	6.766125	82	Low	11.38821	82	Low

1662-1640	10	1 / Table 3	12.6463	70.61	Low	30.50195	73.8	Low	14.53417	70.44	Low	34.13747	70.19	Low
1640-1662	10	2 / Table 2	9.988227	74.59	Moderate	9.873454	73.8	Moderate	10.03237	74.31	Moderate	8.568226	76.04	Moderate
1659-1841	11	1 / Table 3	1.276576	82	Low	1.514551	82	Low	0.99023	82	Low	1.389587	82	Low
1841-1659	11	1 / Table 3	0.811957	82	Low	5.539832	82	Low	0.682016	82	Low	5.599837	82	Low
1659-27166	12	1 / Table 3	80.64784	81.87	Low	23.70934	81.97	Low	89.98419	81.83	Low	25.57932	81.98	Low
27166-1659	12	1 / Table 3	12.24849	80.02	Low	32.97373	79.96	Moderate	12.50264	80.02	Low	37.61359	79.98	Moderate
27165-1970	13	1 / Table 3	107.3064	81.56	Low	94.38854	81.01	Low	121.07	81.47	Low	101.0246	81.36	Low
1970-27165	13	1 / Table 3	62.14058	81.57	Low	57.21685	80.72	Low	65.86713	81.48	Low	66.77904	81.12	Low
2018-27042	14	1 / Table 3	72.47864	87.94	Low	51.1926	87.96	Low	87.47941	87.91	Low	58.7973	87.94	Low
27042 2018	14	1 / Table 3	62.4799	85.29	Low	60.59993	85.33	Low	64.11831	85.22	Low	68.89659	85.12	Low

Table 1-4 – Part B Baseline Year (2015)

Link ID	Location	Number of lanes/DMRB criteria	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1748_1722	1	2 / Table 2	418.17	111.83	Low	459.11	111.77	Low
1748_1744	1	1 / Table 3	5.74	64.00	Moderate	4.50	64.00	Moderate
1749_1748	1	2 / Table 2	415.04	111.83	Low	456.29	111.78	Low
1753_1749	1	3 / Table 2 (Junction)	415.75	111.83	Low	456.86	111.78	Low
1887_1753	1	2 / Table 2	415.75	87.23	Low	456.86	85.48	Low
1888_1887	1	2 / Table 2	446.70	65.25	Moderate	509.77	52.78	High
1901_1888	1	2 / Table 2	432.39	86.70	Low	496.44	83.90	Low
1890_1888	1	1 / Table 3	46.81	24.62	High	60.68	23.55	High
1887_1890	1	1 / Table 3	35.99	88.00	Low	63.21	88.00	Low
1899_1897	1	1 / Table 3	110.53	54.13	Moderate	105.01	40.27	High
1902_1899	1	1 / Table 3	110.53	88.00	Low	105.01	88.00	Low
1902_1901	1	2 / Table 2	316.41	90.38	Low	340.80	89.93	Low
1899_1901	1	2 / Table 2	115.99	22.46	High	155.64	22.17	High
2231_1902	1	2 / Table 2	316.41	90.38	Low	340.80	89.93	Low
2309_2238	1	3 / Table 2 (Junction)	356.14	111.92	Low	483.30	111.76	Low
2231_2274	1	3 / Table 2 (Junction)	262.87	111.95	Low	376.93	111.88	Low
2274_2278	1	2 / Table 2	188.22	111.98	Low	299.54	111.93	Low

Link ID	Location	Number of lanes/DMRB criteria	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
2288_2285	1	1 / Table 3	281.86	23.10	High	273.07	27.67	High
2310_2288	1	1 / Table 3	283.16	88.00	Low	276.48	88.00	Low
2278_2309	1	2 / Table 2	356.14	111.92	Low	483.30	111.76	Low
4658_4646	1	1 / Table 3	411.74	111.32	Low	430.05	111.36	Low
4664_4658	1	1 / Table 3	411.74	111.84	Low	430.05	111.81	Low
1722_4664	1	3 / Table 2 (Junction)	418.17	111.83	Low	459.11	111.77	Low
1744_1748	1	1 / Table 3	3.32	20.67	High	3.46	20.34	High
1753_1887	1	2 / Table 2	345.92	90.34	Low	444.91	86.35	Low
1887_1888	1	2 / Table 2	340.91	90.61	Low	434.60	86.83	Low
1888_1901	1	2 / Table 2	373.40	89.56	Low	481.95	84.82	Low
1897_1899	1	1 / Table 3	115.99	88.00	Low	155.64	88.00	Low
1901_1902	1	2 / Table 2	373.40	33.84	High	481.95	36.33	High
1902_2231	1	1 / Table 3	262.87	92.49	Low	376.93	88.94	Low
2285_2288	1	1 / Table 3	326.56	31.73	High	410.25	27.75	High
2288_2310	1	1 / Table 3	340.03	85.28	Low	388.48	82.59	Low
4646_4658	1	1 / Table 3	353.83	111.90	Low	425.34	111.83	Low
2116_2189	2	1 / Table 3	391.26	47.00	High	459.21	47.00	High
2200_27035	2	1 / Table 3	159.58	44.12	High	257.54	42.29	High

Link ID	Location	Number of lanes/DMRB criteria	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
2340_27035	2	1 / Table 3	241.45	43.39	High	195.83	43.21	High
2119_2111	2	1 / Table 3	118.70	23.22	High	79.42	23.25	High
2189_2116	2	1 / Table 3	474.95	47.00	High	510.87	47.00	High
27035_2200	2	1 / Table 3	241.45	43.29	High	195.83	43.21	High
27035_2340	2	1 / Table 3	159.58	44.02	High	257.54	42.29	High
2025_1897	3	1 / Table 3	99.56	63.78	Moderate	131.50	63.42	Moderate
2047_2025	3	1 / Table 3	53.31	87.96	Low	90.37	87.82	Low
2093_2047	3	1 / Table 3	118.20	87.77	Low	139.81	87.53	Low
2101_2108	3	2 / Table 2	190.71	88.00	Low	153.03	88.00	Low
2285_2119	3	1 / Table 3	118.70	88.00	Low	79.42	88.00	Low
1897_2025	3	1 / Table 3	97.36	63.57	Moderate	81.80	63.53	Moderate
2025_2047	3	1 / Table 3	81.49	87.92	Low	62.22	87.93	Low
2047_2093	3	1 / Table 3	164.45	87.55	Low	121.86	87.67	Low
2119_2285	3	1 / Table 3	120.77	82.59	Low	98.91	82.20	Low
2310_2346	4	1 / Table 3	321.47	82.28	Low	362.33	81.76	Low
2346_2310	4	1 / Table 3	357.87	78.22	Low	356.70	75.13	Low
1897_1648	5	1 / Table 3	13.16	86.64	Low	23.22	86.62	Low
1648_1897	5	1 / Table 3	16.43	86.65	Low	24.15	86.61	Low
1233_1744	6	1 / Table 3	3.32	82.00	Low	3.46	82.00	Low

Link ID	Location	Number of lanes/DMRB criteria	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1744_1233	6	1 / Table 3	6.43	81.53	Low	5.07	81.53	Low
4665_1755	7	1 / Table 3	55.01	77.58	Low	41.96	79.69	Low
1818_1755	7	1 / Table 3	22.57	81.99	Low	33.11	81.97	Low
2163_1755	7	1 / Table 3	23.65	80.16	Low	3.19	80.16	Low
27003_1818	7	1 / Table 3	24.97	76.46	Low	33.74	76.45	Low
4695_1818	7	1 / Table 3	8.35	78.90	Low	4.72	79.86	Low
4657_4646	7	2 / Table 2	42.65	75.91	Moderate	38.50	75.73	Moderate
1755_4665	7	2 / Table 2	46.22	72.74	Moderate	36.30	72.26	Moderate
1755_1818	7	1 / Table 3	27.86	81.98	Low	31.68	81.97	Low
1755_2163	7	1 / Table 3	27.15	80.15	Low	10.29	80.15	Low
1818_27003	7	1 / Table 3	32.91	76.45	Low	32.96	76.44	Low
1818_4695	7	2 / Table 2	5.72	64.00	Moderate	4.07	64.00	Moderate
4646_4657	7	2 / Table 2	39.43	81.95	Low	32.94	81.97	Low

Table 1-5 – Part B Do Minimum (2023 and 2038)

Link ID	Location	Number of lanes/DMRB criteria	2023 Do Minimum						2038 Do Minimum					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1748_1722	1	2 / Table 2	517.393	111.73	Low	517.3366	111.69	Low	700.8692	111.43	Low	628.8455	111.47	Low
1748_1744	1	1 / Table 3	5.554337	64	Moderate	4.337561	64	Moderate	5.861502	64	Moderate	4.342511	64	Moderate
1749_1748	1	2 / Table 2	514.3892	111.73	Low	514.5965	111.69	Low	697.8031	111.43	Low	626.1521	111.48	Low
1753_1749	1	3 / Table 2 (Junction)	515.1038	111.73	Low	515.1325	111.69	Low	698.562	111.43	Low	626.6882	111.48	Low
1887_1753	1	2 / Table 2	515.1038	84.09	Low	515.1325	82.95	Low	698.562	76.98	Moderate	626.6882	77.97	Moderate
1888_1887	1	2 / Table 2	545.1679	65.84	Moderate	569.1555	52.56	High	731.8637	62.6	Moderate	685.6198	50.41	High
1901_1888	1	2 / Table 2	529.6633	83.59	Low	555.2151	81.26	Low	712.8626	76.43	Moderate	669.8258	76.03	Moderate
1890_1888	1	1 / Table 3	46.10437	23.86	High	61.8562	22.64	High	48.46307	22.29	High	66.00065	20.88	High
1887_1890	1	1 / Table 3	34.81144	88	Low	65.12299	88	Low	38.16602	88	Low	71.99152	88	Low
1899_1897	1	1 / Table 3	108.4521	54.24	Moderate	108.302	40.13	High	114.5601	50.51	Moderate	118.5838	38.58	High
1902_1899	1	1 / Table 3	108.4521	88	Low	108.302	88	Low	114.5601	88	Low	118.5838	88	Low
1902_1901	1	2 / Table 2	407.2445	87.87	Low	390.6662	88.23	Low	559.1602	82.98	Low	481.1235	84.75	Low
1899_1901	1	2 / Table 2	122.42	21.68	High	164.5502	21.6	High	153.7024	20.14	High	188.6929	20.44	High
2231_1902	1	2 / Table 2	407.2445	87.87	Low	390.6662	88.23	Low	559.1602	82.98	Low	481.1235	84.75	Low
2309_2238	1	3 / Table 2 (Junction)	384.9843	111.9	Low	568.6666	111.63	Low	441.4963	111.85	Low	712.2866	111.32	Low
2231_2274	1	3 / Table 2 (Junction)	294.3773	111.94	Low	434.135	111.82	Low	344.0578	111.91	Low	537.4686	111.69	Low
2274_2278	1	2 / Table 2	213.5163	111.97	Low	345.8873	111.9	Low	250.6031	111.96	Low	432.571	111.83	Low
2288_2285	1	1 / Table 3	307.4655	22	High	292.0924	27.22	High	368.809	20.17	High	334.8379	25.68	High
2310_2288	1	1 / Table 3	317.1003	88	Low	300.2663	88	Low	367.5763	88	Low	341.4118	88	Low
2278_2309	1	2 / Table 2	384.9843	111.9	Low	568.6666	111.63	Low	441.4963	111.85	Low	712.2866	111.32	Low
4658_4646	1	1 / Table 3	511.0312	111.18	Moderate	487.2173	111.28	Low	696.5272	110.84	High	596.7975	111.1	Moderate

Link ID	Location	Number of lanes/DMRB criteria	2023 Do Minimum						2038 Do Minimum					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
4664_4658	1	1 / Table 3	511.0312	111.73	Moderate	487.2173	111.73	Low	696.5272	111.43	High	596.7975	111.54	Moderate
1722_4664	1	3 / Table 2 (Junction)	517.393	111.73	Low	517.3366	111.69	Low	700.8692	111.43	Low	628.8455	111.47	Low
1744_1748	1	1 / Table 3	3.173161	20.06	High	3.284075	19.89	High	3.215897	18.83	High	3.24752	19.04	High
1887_1888	1	2 / Table 2	372.2394	89.61	Low	494.526	84.4	Low	429.1655	87.76	Low	605.8455	79.77	Moderate
1897_1899	1	1 / Table 3	122.42	88	Low	164.5502	88	Low	153.7024	88	Low	188.6929	88	Low
1888_1901	1	2 / Table 2	402.8267	88.69	Low	542.4364	82.21	Low	458.6203	86.78	Low	656.0524	77.29	Moderate
2285_2288	1	1 / Table 3	349.5102	30.06	High	452.8895	27.27	High	390.0006	30.68	High	523.3112	25.6	High
2288_2310	1	1 / Table 3	371.3586	84.7	Low	426.1238	81.43	Low	425.1344	83.56	Low	480.879	79.42	Low
4646_4658	1	1 / Table 3	383.5555	111.88	Low	482.8263	111.75	Low	440.9404	111.83	Low	590.6377	111.59	Moderate
1901_1902	1	2 / Table 2	402.8267	34.15	High	542.4364	36.44	High	458.6203	33.5	High	656.0524	35.94	High
1902_2231	1	1 / Table 3	294.3773	91.72	Low	434.135	86.92	Low	344.0578	90.33	Low	537.4686	82.91	Low
1753_1887	1	2 / Table 2	376.9871	89.47	Low	505.6395	83.84	Low	434.0433	87.6	Low	618.904	79.06	Moderate
2119_2111	2	1 / Table 3	136.3829	23.2	High	85.72234	23.2	High	175.8854	23.17	High	101.5558	23.15	High
2189_2116	2	1 / Table 3	521.685	47	High	529.5391	47	High	607.5392	47	High	579.3019	47	High
27035_2200	2	1 / Table 3	256.4815	43.09	High	204.0759	43.06	High	293.6875	42.62	High	222.2503	42.74	High
27035_2340	2	1 / Table 3	165.6841	43.92	High	265.2588	42.15	High	185.0875	43.65	High	296.6504	41.62	High
2116_2189	2	1 / Table 3	407.8818	47	High	488.1745	47	High	449.9309	47	High	544.5408	47	High
2340_27035	2	1 / Table 3	256.4815	43.19	High	204.0759	43.06	High	293.6875	42.72	High	222.2503	42.74	High
2200_27035	2	1 / Table 3	165.6841	44.02	High	265.2588	42.15	High	185.0957	43.74	High	296.6504	41.62	High
2025_1897	3	1 / Table 3	105.7396	63.73	Moderate	140.1199	63.31	Moderate	135.7916	63.46	Moderate	162.3841	63.06	Moderate
2047_2025	3	1 / Table 3	62.02586	87.94	Low	100.4766	87.76	Low	89.57296	87.83	Low	122.2392	87.62	Low
2093_2047	3	1 / Table 3	134.4989	87.68	Low	151.8274	87.41	Low	183.6428	87.21	Low	181.0108	87.11	Low
2101_2108	3	2 / Table 2	193.2499	88	Low	181.8103	88	Low	209.0879	88	Low	218.7002	88	Low

Link ID	Location	Number of lanes/DMRB criteria	2023 Do Minimum						2038 Do Minimum					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
2285_2119	3	1 / Table 3	136.3829	88	Low	85.72234	88	Low	175.8854	88	Low	101.5558	88	Low
2047_2093	3	1 / Table 3	163.2225	87.54	Low	147.7299	87.47	Low	173.3077	87.47	Low	179.9003	87.15	Low
2119_2285	3	1 / Table 3	124.3257	82.53	Low	124.9949	81.99	Low	137.7402	82.43	Low	155.7378	81.59	Low
1897_2025	3	1 / Table 3	95.30013	63.57	Moderate	83.72871	63.52	Moderate	98.11779	63.55	Moderate	89.89083	63.5	Moderate
2025_2047	3	1 / Table 3	82.29302	87.91	Low	67.85775	87.9	Low	87.76853	87.89	Low	78.24909	87.87	Low
2346_2310	4	1 / Table 3	393.1489	77.86	Low	394.7927	73.89	Low	451.5412	76.65	Low	461.3879	71.39	Low
1890_2037	4	1 / Table 3	34.81144	86.15	Low	65.12299	86.23	Low	38.16602	86.2	Low	71.99152	86.18	Low
2310_2346	4	1 / Table 3	356.8087	81.67	Low	386.1149	80.67	Low	411.6537	80.52	Low	426.0361	79.02	Low
2037_1890	4	1 / Table 3	46.10437	87.98	Low	61.8562	87.93	Low	48.46307	87.97	Low	66.00065	87.91	Low
1648_1897	5	1 / Table 3	16.66502	86.64	Low	24.43041	86.6	Low	17.89158	86.62	Low	26.30857	86.59	Low
1897_1648	5	1 / Table 3	13.15733	86.63	Low	24.57793	86.61	Low	16.44177	86.61	Low	28.68369	86.6	Low
1744_1233	6	1 / Table 3	6.269767	81.53	Low	4.887391	81.53	Low	6.631862	81.53	Low	4.877422	81.52	Low
1233_1744	6	1 / Table 3	3.181297	82	Low	3.284075	82	Low	3.215897	82	Low	3.24752	82	Low
4665_1755	7	1 / Table 3	59.20126	77.83	Low	43.32301	79.7	Low	68.37659	77.99	Low	46.46094	79.65	Low
1818_1755	7	1 / Table 3	23.62452	81.99	Low	36.53993	81.96	Low	25.83563	81.99	Low	42.91209	81.95	Low
2163_1755	7	1 / Table 3	28.01093	80.15	Low	3.250534	80.16	Low	37.00435	80.14	Low	3.553874	80.15	Low
27003_1818	7	1 / Table 3	25.92158	76.46	Low	37.10076	76.45	Low	28.30248	76.46	Low	43.36838	76.43	Low
4695_1818	7	1 / Table 3	7.951906	78.89	Low	4.497819	79.9	Low	8.16695	78.87	Low	4.387886	79.98	Low
4657_4646	7	2 / Table 2	45.12137	75.7	Moderate	41.15407	75.54	Moderate	47.0048	75.08	Moderate	37.89703	74.91	Moderate
1755_1818	7	1 / Table 3	32.11184	81.98	Low	32.83943	81.97	Low	38.73765	81.97	Low	35.04852	81.97	Low
1755_2163	7	1 / Table 3	27.08936	80.16	Low	10.49402	80.15	Low	29.63237	80.15	Low	11.41225	80.14	Low
4646_4657	7	2 / Table 2	46.71876	81.93	Low	36.74204	81.96	Low	59.45002	81.9	Low	41.81776	81.95	Low
1755_4665	7	2 / Table 2	51.64672	72.61	Moderate	39.80959	71.98	Moderate	62.84007	72.37	Moderate	46.46705	71.44	Moderate
1818_4695	7	2 / Table 2	5.446929	64	Moderate	3.904229	64	Moderate	5.657696	64	Moderate	3.809262	64	Moderate

Link ID	Location	Number of lanes/DMRB criteria	2023 Do Minimum						2038 Do Minimum					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1818_27003	7	1 / Table 3	36.906	76.45	Low	33.98454	76.43	Low	43.71394	76.43	Low	36.09348	76.41	Low

Table 1-6 – Part B Do Something (2023 and 2038)

Link ID	Location	Number of lanes/DMRB criteria	2023 Do Something						2038 Do Something					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
1748_1722	1	2 / Table 2	560.501	111.66	Low	560.7329	111.6	Low	777.0606	111.26	Low	690.1699	111.31	Low
1748_1744	1	1 / Table 3	5.538082	64	Moderate	4.277892	64	Moderate	5.851449	64	Moderate	4.252813	64	Moderate
1749_1748	1	2 / Table 2	557.5156	111.66	Low	557.8159	111.6	Low	774.0117	111.27	Low	687.4865	111.32	Low
1753_1749	1	3 / Table 1	557.528	111.66	Low	557.8251	111.6	Low	774.0117	111.27	Low	687.4865	111.32	Low
1899_1897	1	1 / Table 3	37.78345	70.73	Low	40.56292	70.54	Low	40.49254	70.64	Low	41.66776	70.42	Low
1902_1901	1	2 / Table 2	454.7024	111.79	Low	436.9199	111.79	Low	650.7829	111.53	Low	544.982	111.63	Low
2231_1902	1	2 / Table 2	454.7024	111.79	Low	436.9199	111.79	Low	650.7829	111.53	Low	544.982	111.63	Low
2309_2238	1	3 / Table 2 (Junction)	395.5376	111.89	Low	584.7948	111.6	Low	457.213	111.84	Low	736.354	111.25	Low
2274_2278	1	2 / Table 2	226.2436	111.97	Low	369.8737	111.89	Low	271.7959	111.95	Low	473.5803	111.78	Low
2288_2285	1	1 / Table 3	377.5895	18.4	High	351.7578	20.97	High	442.6638	17.29	High	401.7988	19.93	High
2310_2288	1	1 / Table 3	399.1411	88	Low	368.4682	88	Low	456.6739	88	Low	419.6561	88	Low
2278_2309	1	2 / Table 2	395.5376	111.89	Low	584.7948	111.6	Low	457.213	111.84	Low	736.354	111.25	Low
4658_4646	1	1 / Table 3	546.2945	111.12	Moderate	517.0437	111.21	Low	766.8695	110.65	High	646.8186	110.81	Moderate
4664_4658	1	1 / Table 3	546.2945	111.68	Moderate	517.0437	111.67	Low	766.8695	111.29	High	646.8186	111.42	Moderate
1722_4664	1	3 / Table 2 (Junction)	560.501	111.66	Low	560.7329	111.6	Low	777.0606	111.26	Low	690.1699	111.31	Low
1744_1748	1	1 / Table 3	3.165642	21.15	High	3.415109	20.85	High	3.213913	19.53	High	3.248447	19.68	High
1887_1888	1	2 / Table 2	392.3651	111.88	Low	527.8728	111.69	Low	465.1941	111.81	Low	692.7625	111.36	Low
1897_1899	1	1 / Table 3	15.8642	71.1	Low	30.69264	71.02	Low	17.05824	71.09	Low	32.56967	71.01	Low
2285_2288	1	1 / Table 3	355.9292	27.57	High	458.601	24.52	High	411.1158	24.89	High	535.533	22.79	High
2288_2310	1	1 / Table 3	366.5554	84.78	Low	413.7261	81.81	Low	419.1326	83.69	Low	468.7347	79.82	Low
4646_4658	1	1 / Table 3	393.2368	111.88	Low	500.3527	111.73	Low	454.2432	111.82	Low	616.9453	111.53	Moderate
2189_2116	2	1 / Table 3	520.6312	47	High	524.9887	47	High	606.5181	47	High	578.2921	47	High

Link ID	Location	Number of lanes/DMRB criteria	2023 Do Something						2038 Do Something					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
27035_2200	2	1 / Table 3	255.9546	43.1	High	203.9469	43.07	High	292.7976	42.63	High	221.8621	42.75	High
27035_2340	2	1 / Table 3	165.0965	43.94	High	268.6519	42.09	High	183.9595	43.66	High	296.6706	41.62	High
2116_2189	2	1 / Table 3	407.4887	47	High	487.7785	47	High	449.1627	47	High	543.3062	47	High
2340_27035	2	1 / Table 3	255.9611	43.2	High	203.9469	43.07	High	292.8072	42.73	High	221.8621	42.75	High
2200_27035	2	1 / Table 3	165.0939	44.03	High	268.6519	42.09	High	183.9677	43.76	High	296.6706	41.62	High
2025_1897	3	1 / Table 3	106.1691	63.74	Moderate	137.1059	63.39	Moderate	125.5382	63.64	Moderate	159.2988	63.16	Moderate
2047_2025	3	1 / Table 3	61.62012	87.95	Low	97.46388	87.8	Low	77.38062	87.92	Low	118.7026	87.68	Low
2093_2047	3	1 / Table 3	134.1842	87.7	Low	148.9304	87.48	Low	171.5384	87.43	Low	177.5103	87.21	Low
2101_2108	3	2 / Table 2	122.9688	88	Low	124.0741	88	Low	137.1305	88	Low	154.895	88	Low
2285_2119	3	1 / Table 3	204.7736	88	Low	141.7045	88	Low	247.1193	88	Low	163.6425	88	Low
2025_2047	3	1 / Table 3	13.1515	88	Low	10.69567	88	Low	15.92016	88	Low	14.79228	88	Low
2047_2093	3	1 / Table 3	94.27361	87.87	Low	90.68822	87.84	Low	101.4498	87.84	Low	116.6444	87.69	Low
2119_2285	3	1 / Table 3	122.9656	82.52	Low	124.0741	81.96	Low	137.1401	82.35	Low	154.8939	81.53	Low
1897_2025	3	1 / Table 3	25.27001	63.25	Moderate	25.80513	63.21	Moderate	25.74041	63.24	Moderate	25.89946	63.2	Moderate
2346_2310	4	1 / Table 3	403.1672	77.96	Low	384.2764	74.35	Low	452.3748	76.9	Low	437.3414	72.38	Low
2310_2346	4	1 / Table 3	355.8303	81.62	Low	376.7408	80.86	Low	407.6408	80.65	Low	419.9498	79.16	Low
1744_1233	6	1 / Table 3	5.556519	81.53	Low	4.277599	81.53	Low	5.846486	81.53	Low	4.252813	81.52	Low
1233_1744	6	1 / Table 3	3.171191	82	Low	3.415109	82	Low	3.213913	82	Low	3.248447	82	Low
1755_1732	7	1 / Table 3	0	78.31	Low	0	78.31	Low	0	78.3	Low	0	78.31	Low
4665_1755	7	1 / Table 3	67.05635	78.24	Low	56.62576	80.2	Low	74.11184	78.23	Low	57.57422	80.04	Low
1818_1755	7	1 / Table 3	29.25431	81.98	Low	40.8141	81.95	Low	43.57525	81.96	Low	90.17245	81.76	Low
2163_1755	7	1 / Table 3	28.06243	80.15	Low	3.261061	80.15	Low	37.00435	80.12	Low	3.543954	80.1	Low
27003_1818	7	1 / Table 3	26.34174	76.44	Low	37.8705	76.4	Low	28.85316	76.41	Low	44.38854	76.27	Low
4695_1818	7	1 / Table 3	13.0708	80.01	Low	7.882435	80.78	Low	25.217	80.88	Low	50.42286	81.75	Low

Link ID	Location	Number of lanes/DMRB criteria	2023 Do Something						2038 Do Something					
			Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress	Average AM peak hourly flow / lane	AM peak average speed (kmph)	AM peak driver stress	Average PM peak hourly flow / lane	PM peak average speed (kmph)	PM peak driver stress
4657_4646	7	2 / Table 2	45.19459	75.63	Moderate	41.49271	75.46	Moderate	48.08533	74.94	Moderate	38.25664	74.75	Moderate
1732_1755	7	1 / Table 3	0	78.21	Low	0	78.19	Low	0	78.18	Low	0	78.13	Low
1755_1818	7	1 / Table 3	40.00713	81.96	Low	46.20956	81.94	Low	44.57809	81.96	Low	46.33272	81.94	Low
1755_2163	7	1 / Table 3	27.04911	80.16	Low	10.4036	80.14	Low	29.5418	80.16	Low	11.23225	80.17	Low
4646_4657	7	2 / Table 2	48.81178	81.93	Low	38.41905	81.96	Low	66.78032	81.88	Low	52.3679	81.92	Low
1755_4665	7	2 / Table 2	57.31656	72.56	Moderate	44.06967	71.88	Moderate	80.56945	72.26	Moderate	93.71211	71.01	Moderate
1818_4695	7	2 / Table 2	12.03713	64	Moderate	15.78441	64	Moderate	9.239452	64	Moderate	12.96305	64	Moderate
1818_27003	7	1 / Table 3	38.12632	76.44	Low	35.36922	76.43	Low	45.8133	76.42	Low	37.99867	76.41	Low

1.2 PART A DRIVER STRESS ASSESSMENT (OPERATION)

- 1.2.1. Revised (in response to written questions PHH.1. and PHH.1.13) predicted driver stress levels for opening year (2023) and design year (2038) are outlined in **Tables 1-1 to 1-3** above. Once operational, it is expected that Part A would result in reduced driver stress, when compared with the “do minimum” scenario (which shows that the majority of sections along the existing A1 would be of Moderate or High levels of driver stress), and also accommodate much higher volumes of traffic due to the additional lanes along the main trunk of the A1. Refer to **Table 1-7** and **Table 1-8** which outline that in a ‘do something’ scenario, driver stress ranges from Low to High driver stress along the A1 in the Study Area using the method set out in DMRB (**Ref. 12.14**) and described in **Section 12.4 of Chapter 12: Population and Human Health Part A** of the ES [**APP-054**]. Road sections within the study area for Part A are as shown on Section 1 on **Figure 12.1: Road Sections Assessed for Driver Stress [APP-120]**.
- 1.2.2. Whilst the beneficial effect on driver stress is primarily due to the decrease in frustration resulting from reductions in the peak hourly flow, motorised users would also benefit from a reduction in the fear of potential accidents and route uncertainty. Therefore, the magnitude of impact, once operational, is **minor**.
- 1.2.3. Overall, the effect of Part A on operational driver stress is expected to be **slight beneficial (not significant)**.

Table 1-7 - Driver Stress Conditions (Opening Year (2023)) ‘Do Something’ (Part A)

Road Section	‘Do Something’ 2023 AM Peak	‘Do Something’ 2023 PM Peak
1	10 nodes Low 3 nodes Moderate 4 nodes High Overall Low driver stress for this section.	14 nodes Low 3 nodes Moderate Overall Low driver stress for this section.
2	5 nodes Low 1 node High Overall Low driver stress for this section.	6 nodes Low Overall Low driver stress for this section.
3	3 nodes Low 1 node High Overall Low driver stress for this section	4 nodes Low Overall Low driver stress for this section
4	4 nodes Low Overall Low driver stress for this section	4 nodes Low Overall Low driver stress for this section
5	6 nodes Low 1 node Moderate 1 node High	8 nodes Low Overall Low driver stress for this section

Road Section	'Do Something' 2023 AM Peak	'Do Something' 2023 PM Peak
	<i>Overall Low driver stress for this section</i>	
6	<i>4 nodes Low Overall Low driver stress for this section</i>	<i>4 nodes Low Overall Low driver stress for this section</i>
7	<i>4 nodes Low Overall Low driver stress for this section</i>	<i>4 nodes Low Overall Low driver stress for this section</i>
8	<i>2 nodes Low Overall Low driver stress for this section</i>	<i>2 nodes Low Overall Low driver stress for this section</i>
9	<i>2 nodes Low Overall Low driver stress for this section</i>	<i>2 nodes Low Overall Low driver stress for this section</i>
10	<i>1 node Low 1 node Moderate Overall Low driver stress for this section</i>	<i>3 nodes Low 1 node Moderate Overall Low driver stress for this section</i>
11	<i>2 nodes Low Overall Low driver stress for this section</i>	<i>2 nodes Low Overall Low driver stress for this section</i>
12	<i>2 nodes Low Overall Low driver stress for this section</i>	<i>1 node Low 1 node Moderate Overall Low driver stress for this section</i>
13	<i>2 nodes Low Overall Low driver stress for this section</i>	<i>2 nodes Low Overall Low driver stress for this section</i>
14	<i>2 nodes Low Overall Low driver stress for this section</i>	<i>2 nodes Low Overall Low driver stress for this section</i>

Source: Part A traffic modelling data is set out in Chapter 4 of the Case for the Scheme (Application Document Reference: TR010041/APP/7.1).

Table 1-8 - Driver Stress Conditions (Design Year (2038)) 'Do Something' (Part A)

Road Section	'Do Something' 2038 AM Peak	'Do Something' 2038 PM Peak
1	1 nodes Low 5 nodes Moderate 11 nodes High Overall High driver stress for this section.	1 nodes Low 13 nodes Moderate 3 nodes High Overall Moderate driver stress for this section.
2	5 nodes Low 1 node High Overall Low driver stress for this section.	5 nodes Low 1 node High Overall Low driver stress for this section.
3	3 nodes Low 1 node High Overall Low driver stress for this section	3 nodes Low 1 node High Overall Low driver stress for this section
4	4 nodes Low Overall Low driver stress for this section	4 nodes Low Overall Low driver stress for this section
5	7 nodes Low 1 node Moderate Overall Low driver stress for this section	6 nodes Low 1 node Moderate 1 node High Overall Low driver stress for this section
6	4 nodes Low Overall Low driver stress for this section	4 nodes Low Overall Low driver stress for this section
7	4 nodes Low Overall Low driver stress for this section	4 nodes Low Overall Low driver stress for this section
8	2 nodes Low Overall Low driver stress for this section	2 nodes Low Overall Low driver stress for this section
9	2 nodes Low Overall Low driver stress for this section	2 nodes Low Overall Low driver stress for this section
10	4 nodes Low Overall Low driver stress for this section	4 nodes Low Overall Low driver stress for this section

Road Section	'Do Something' 2038 AM Peak	'Do Something' 2038 PM Peak
11	2 nodes Low Overall Low driver stress for this section	2 nodes Low Overall Low driver stress for this section
12	2 nodes Low Overall Low driver stress for this section	2 nodes Low Overall Low driver stress for this section
13	2 nodes Low Overall Low driver stress for this section	2 nodes Low Overall Low driver stress for this section
14	2 nodes Low Overall Low driver stress for this section	2 nodes Low Overall Low driver stress for this section

Source: Part A traffic modelling data is set out in **Chapter 4** of the **Case for the Scheme (Application Document Reference: TR010041/APP/7.1)**.

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