

# APPENDIX 10D: INPUT PARAMETERS AND RESULTS FOR ADMS ROADS ASSESSMENTS

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# APPENDIX 10D: INPUT PARAMETERS AND RESULTS FOR ADMS ROADS ASSESSMENTS

Table 1: Traffic input data for ADMS Roads 2009 'model verification/baseline' scenario for the Bridgwater Model

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
A	10678	57	8
AA	12033	51	8
AB	10396	50	8
Abq	10396	19	8
AD	10323	50	8
Adq	10323	6	8
Adqq	10323	11	8
AE	15891	41	8
Aeq	15891	10	8
B	19360	54	20
Bq	19360	27	20
D	22956	42	8
Dq	22956	34	8
Dqq	22956	31	8
E	13159	42	8
Eq	13159	14	8
Eqq	13159	42	8
F	16818	37	8
Fq	16818	13	8
Fqq	16818	10	8
Ga	21970	63	26
Gaq	21970	35	26
Gb(E)	11027	64	10
Gb(W)	10944	62	10
Gc	21970	63	20
I1	24728	44	8
I1q	24728	10	8
I2	21644	43	8
I3	21089	44	8

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
I4	21217	47	8
I4q	21217	27	8
J	20240	29	15
Jq	20240	5	15
Jqq	20240	11	15
K1	15338	45	8
K1q	15338	37	8
K2	14028	46	8
K2q	14028	26	8
K2qq	14028	48	8
K3	15442	45	8
K3q	15442	14	8
K4	17198	36	8
K4q	17198	23	8
K4qq	17198	10	8
K5	20410	44	18
K5q	20410	6	18
K5qq	20410	14	18
L	14061	65	8
Lq	14061	26	8
Lqq	14061	47	8
M	16536	60	8
M5Na	25407	114	12
M5Nb	25407	114	12
M5Sa	25468	114	12
M5Sb	25468	114	12
N1a	12931	60	8
N1b	12931	60	8
N1q	12931	53	8
N2	12829	50	8
N3	17129	39	8
N3q	17129	11	8
O1	22609	26	14
O1q	22609	5	14
O2	18820	43	14

**NOT PROTECTIVELY MARKED**

<b>Source Name <sup>a</sup></b>	<b>All Vehicles 24-hour AADT</b>	<b>Average Speed (km/hr)</b>	<b>Road Width (m)</b>
O2q	18820	8	14
S	12959	56	8
SA	3252	34	8
SB	2719	33	8
Sc	3917	39	8
Scq	3917	31	8
SD	2957	21	8
SE	4767	15	8
Seq	4767	16	8
SF	17521	40	8
SFq	17521	3	8
SFqq	17521	19	8
SG	8944	47	8
SGq	8944	39	8
SGqq	8944	8	8
SH	13756	28	8
SHq	13756	10	8
SI	9372	50	8
Siq	9372	3	8
SJ	6142	39	8
SK	5266	35	8
SKq	5266	6	8
SL	6838	40	8
SM	5001	39	8
SN	11550	28	8
SNq	11550	10	8
SO	13741	24	8
SP	13700	45	8
SQ	9646	44	8
Sqs	12959	27	8
SR	6993	47	8
SS	15955	59	8
SSq	15955	29	8
ST1	18510	46	21
ST1q	18510	27	21
ST1qq	18510	40	21

**NOT PROTECTIVELY MARKED**

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
ST2	4104	76	8
ST3	4774	91	8
ST3q	4774	37	8
ST4	4776	74	8
ST4q	4776	29	8
ST5	5065	73	8
T1	1518	48	8
T1q	1518	48	8
T2	4612	40	8
T2q	4612	13	8
V1	8154	94	8
v2	7754	82	8
v2q	7754	31	8
v3	3904	73	8
v3q	3904	13	8
V4	4091	71	8
Y	11601	44	8
Yq	11601	26	8
Yqq	11601	16	8
ZE	7031	44	8
Zeq	7031	11	8
Zeqq	7031	5	8

<sup>a</sup> 'q' suffix in source name denotes queuing link.

**NOT PROTECTIVELY MARKED**

Table 2: Traffic input data for ADMS Roads 2013 'without development' model scenario for the Bridgwater Model

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
A	10806	57	8
AA	12302	51	8
AB	10636	50	8
Abq	10636	24	8
AD	10436	50	8
Adq	10436	8	8
Adqq	10436	11	8
AE	16285	41	8
Aeq	16285	13	8
B	19951	54	20
Bq	19951	29	20
D	24194	42	8
Dq	24194	34	8
Dqq	24194	31	8
E	14299	42	8
Eq	14299	13	8
Eqq	14299	42	8
F	18017	37	8
Fq	18017	14	8
Fqq	18017	13	8
Ga	22555	63	26
Gaq	22555	29	26
Gb(E)	11441	64	10
Gb(W)	11114	62	10
Gc	22555	63	20
I1	25593	44	8
I1q	25593	8	8
I2	22482	43	8
I3	21709	44	8
I4	21945	47	8
I4q	21945	32	8
J	21539	29	15
Jq	21539	5	15
Jqq	21539	11	15

**NOT PROTECTIVELY MARKED**

<b>Source Name <sup>a</sup></b>	<b>All Vehicles 24-hour AADT</b>	<b>Average Speed (km/hr)</b>	<b>Road Width (m)</b>
K1	15559	45	8
K1q	15559	37	8
K2	14201	46	8
K2q	14201	27	8
K2qq	14201	47	8
K3	15778	45	8
K3q	15778	14	8
K4	17653	36	8
K4q	17653	21	8
K4qq	17653	13	8
K5	21246	44	18
K5q	21246	8	18
K5qq	21246	13	18
L	14994	65	8
Lq	14994	24	8
Lqq	14994	14	8
M	16764	60	8
M5Na	26099	114	12
M5Nb	26099	114	12
M5Sa	26151	114	12
M5Sb	26151	114	12
N1a	13428	60	8
N1b	13428	60	8
N1q	13428	10	8
N2	13221	50	8
N3	18846	39	8
N3q	18846	10	8
O1	23490	26	14
O1q	23490	5	14
O2	19876	43	14
O2q	19876	10	14
S	13150	56	8
SA	3397	34	8
SB	2872	33	8
Sc	4050	39	8



**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
Scq	4050	31	8
SD	3081	21	8
SE	4866	15	8
Seq	4866	16	8
SF	17718	40	8
SFq	17718	3	8
SFqq	17718	16	8
SG	9034	47	8
SGq	9034	35	8
SGqq	9034	11	8
SH	14029	28	8
SHq	14029	10	8
SI	9499	50	8
Siq	9499	5	8
SJ	6198	39	8
SK	5510	35	8
SKq	5510	6	8
SL	7017	40	8
SM	5006	39	8
SN	11937	28	8
SNq	11937	10	8
SO	13629	24	8
SP	13757	45	8
SQ	9538	44	8
Sqs	13150	29	8
SR	6841	47	8
SS	16272	59	8
SSq	16272	34	8
ST1	19089	46	21
ST1q	19089	21	21
ST1qq	19089	39	21
ST2	4254	76	8
ST3	4964	91	8
ST3q	4964	40	8
ST4	4846	74	8
ST4q	4846	27	8

**NOT PROTECTIVELY MARKED**

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
ST5	5223	73	8
T1	1546	48	8
T1q	1546	48	8
T2	4658	40	8
T2q	4658	11	8
V1	8338	94	8
v2	8051	82	8
v2q	8051	31	8
v3	4115	73	8
v3q	4115	14	8
V4	4236	71	8
Y	11788	44	8
Yq	11788	27	8
Yqq	11788	18	8
ZE	7265	44	8
Zeq	7265	14	8
Zeqq	7265	6	8

<sup>a</sup> 'q' suffix in source name denotes queuing link.

**NOT PROTECTIVELY MARKED**

Table 3: Traffic input data for ADMS Roads 2013 'with development' model scenario for the Bridgwater Model

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
A	10804	57	8
AA	13129	51	8
AB	11323	50	8
Abq	11323	27	8
AD	10699	50	8
Adq	10699	8	8
Adqq	10699	10	8
AE	17044	41	8
Aeq	17044	13	8
B	21002	54	20
Bq	21002	29	20
D	24946	42	8
Dq	24946	34	8
Dqq	24946	29	8
E	14807	42	8
Eq	14807	13	8
Eqq	14807	43	8
F	18032	37	8
Fq	18032	14	8
Fqq	18032	14	8
Ga	23404	63	26
Gaq	23404	31	26
Gb(E)	11795	64	10
Gb(W)	11608	62	10
Gc	23404	63	20
I1	26994	44	8
I1q	26994	8	8
I2	23676	43	8
I3	22796	44	8
I4	23160	47	8
I4q	23160	32	8
J	21932	29	15
Jq	21932	5	15
Jqq	21932	11	15
K1	16644	45	8

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
K1q	16644	37	8
K2	15314	46	8
K2q	15314	26	8
K2qq	15314	47	8
K3	16843	45	8
K3q	16843	14	8
K4	18639	36	8
K4q	18639	21	8
K4qq	18639	13	8
K5	22128	44	18
K5q	22128	8	18
K5qq	22128	13	18
L	15306	65	8
Lq	15306	24	8
Lqq	15306	14	8
M	16737	60	8
M5Na	26652	114	12
M5Nb	26652	114	12
M5Sa	26687	114	12
M5Sb	26687	114	12
N1a	13693	60	8
N1b	13693	60	8
N1q	13693	10	8
N2	13455	50	8
N3	18771	39	8
N3q	18771	11	8
O1	24000	26	14
O1q	24000	5	14
O2	20278	43	14
O2q	20278	10	14
S	15238	56	8
SA	3366	34	8
SB	2895	33	8
Sc	4199	39	8
Scq	4199	31	8
SD	3072	21	8

**NOT PROTECTIVELY MARKED**

<b>Source Name <sup>a</sup></b>	<b>All Vehicles 24-hour AADT</b>	<b>Average Speed (km/hr)</b>	<b>Road Width (m)</b>
SE	4992	15	8
Seq	4992	16	8
SF	17893	40	8
SFq	17893	3	8
SFqq	17893	18	8
SG	9092	47	8
SGq	9092	35	8
SGqq	9092	11	8
SH	14154	28	8
SHq	14154	10	8
SI	9467	50	8
Siq	9467	5	8
SJ	6168	39	8
SK	5535	35	8
SKq	5535	6	8
SL	6702	40	8
SM	4876	39	8
SN	12076	28	8
SNq	12076	10	8
SO	13813	24	8
SP	14063	45	8
SQ	9668	44	8
Sqs	15238	29	8
SR	6989	47	8
SS	16518	59	8
SSq	16518	34	8
ST1	21335	46	21
ST1q	21335	18	21
ST1qq	21335	39	21
ST2	4732	76	8
ST3	5506	91	8
ST3q	5506	37	8
ST4	5442	74	8
ST4q	5442	23	8
ST5	5844	73	8
T1	1400	48	8
T1q	1400	48	8

**NOT PROTECTIVELY MARKED**

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
T2	4812	40	8
T2q	4812	11	8
V1	8683	94	8
v2	8185	82	8
v2q	8185	29	8
v3	4321	73	8
v3q	4321	13	8
V4	4269	71	8
Y	12605	44	8
Yq	12605	26	8
Yqq	12605	19	8
ZE	7769	44	8
Zeq	7769	14	8
Zeqq	7769	6	8

<sup>a</sup> 'q' suffix in source name denotes queuing link.

**NOT PROTECTIVELY MARKED**

Table 4: Traffic input data for ADMS Roads 2016 'without development' model scenario for the Bridgwater Model

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
A	10772	57	8
AA	12649	51	8
AB	10853	50	8
Abq	10853	24	8
AD	11145	50	8
Adq	11145	6	8
Adqq	11145	10	8
AE	16796	41	8
Aeq	16796	13	8
B	21422	54	20
Bq	21422	29	20
D	26716	42	8
Dq	26716	32	8
Dqq	26716	29	8
E	15904	42	8
Eq	15904	13	8
Eqq	15904	43	8
F	18764	37	8
Fq	18764	14	8
Fqq	18764	13	8
Ga	24935	63	26
Gaq	24935	27	26
Gb(E)	12365	64	10
Gb(W)	12570	62	10
Gc	24935	63	20
I1	26962	44	8
I1q	26962	8	8
I2	23738	43	8
I3	23318	44	8
I4	22824	47	8
I4q	22824	34	8
J	22485	29	15
Jq	22485	5	15

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
Jqq	22485	13	15
K1	16172	45	8
K1q	16172	37	8
K2	14297	46	8
K2q	14297	27	8
K2qq	14297	47	8
K3	16329	45	8
K3q	16329	14	8
K4	18156	36	8
K4q	18156	21	8
K4qq	18156	13	8
K5	22114	44	18
K5q	22114	8	18
K5qq	22114	13	18
L	14427	65	8
Lq	14427	24	8
Lqq	14427	16	8
M	16818	60	8
M5Na	27459	114	12
M5Nb	27459	114	12
M5Sa	27203	114	12
M5Sb	27203	114	12
N1a	11881	60	8
N1b	11881	60	8
N1q	11881	11	8
N2	11206	50	8
N3	15740	39	8
N3q	15740	10	8
O1	24650	26	14
O1q	24650	5	14
O2	20802	43	14
O2q	20802	10	14
S	13293	56	8
SA	3550	34	8
SB	3086	33	8



**NOT PROTECTIVELY MARKED**

<b>Source Name <sup>a</sup></b>	<b>All Vehicles 24-hour AADT</b>	<b>Average Speed (km/hr)</b>	<b>Road Width (m)</b>
Sc	4286	39	8
Scq	4286	31	8
SD	3149	21	8
SE	4900	15	8
Seq	4900	16	8
SF	16541	40	8
SFq	16541	3	8
SFqq	16541	14	8
SG	9129	47	8
SGq	9129	32	8
SGqq	9129	10	8
SH	14181	28	8
SHq	14181	10	8
SI	9700	50	8
Siq	9700	5	8
SJ	7025	39	8
SK	5614	35	8
SKq	5614	6	8
SL	7160	40	8
SM	4983	39	8
SN	12638	28	8
SNq	12638	10	8
SO	14196	24	8
SP	14461	45	8
SQ	10549	44	8
Sqs	13293	29	8
SR	7277	47	8
SS	17566	59	8
SSq	17566	32	8
ST1	20018	46	21
ST1q	20018	19	21
ST1qq	20018	39	21
ST2	4600	76	8
ST3	5202	91	8
ST3q	5202	39	8
ST4	5034	74	8

**NOT PROTECTIVELY MARKED**

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
ST4q	5034	26	8
ST5	5364	73	8
T1	1523	48	8
T1q	1523	48	8
T2	4644	40	8
T2q	4644	11	8
V1	8256	94	8
v2	8057	82	8
v2q	8057	29	8
v3	4815	73	8
v3q	4815	14	8
V4	4701	71	8
Y	11988	44	8
Yq	11988	27	8
Yqq	11988	18	8
ZE	7666	44	8
Zeq	7666	13	8
Zeqq	7666	6	8

<sup>a</sup> 'q' suffix in source name denotes queuing link.

**NOT PROTECTIVELY MARKED**

Table 5: Traffic input data for ADMS Roads 2016 'with development' model scenario for the Bridgwater Model

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
A	10767	57	8
AA	14494	51	8
AB	12543	50	8
Abq	12543	24	8
AD	13016	50	8
Adq	13016	8	8
Adqq	13016	11	8
AE	18534	41	8
Aeq	18534	13	8
B	24134	54	20
Bq	24134	29	20
D	27145	42	8
Dq	27145	34	8
Dqq	27145	29	8
E	14807	42	8
Eq	14807	13	8
Eqq	14807	42	8
F	18361	37	8
Fq	18361	14	8
Fqq	18361	13	8
Ga	26177	63	26
Gaq	26177	29	26
Gb(E)	12806	64	10
Gb(W)	13372	62	10
Gc	26177	63	20
I1	28005	44	8
I1q	28005	8	8
I2	24539	43	8
I3	23531	44	8
I4	23956	47	8
I4q	23956	32	8
J	24208	29	15
Jq	24208	5	15
Jqq	24208	11	15
K1	17547	45	8

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
K1q	17547	37	8
K2	15733	46	8
K2q	15733	27	8
K2qq	15733	47	8
K3	17618	45	8
K3q	17618	14	8
K4	19312	36	8
K4q	19312	21	8
K4qq	19312	13	8
K5	22956	44	18
K5q	22956	8	18
K5qq	22956	13	18
L	13165	65	8
Lq	13165	24	8
Lqq	13165	14	8
M	16804	60	8
M5Na	27248	114	12
M5Nb	27248	114	12
M5Sa	26788	114	12
M5Sb	26788	114	12
N1a	11908	60	8
N1b	11908	60	8
N1q	11908	10	8
N2	12314	50	8
N3	17788	39	8
N3q	17788	10	8
O1	25973	26	14
O1q	25973	5	14
O2	22124	43	14
O2q	22124	10	14
S	16875	56	8
SA	3390	34	8
SB	2977	33	8
Sc	4336	39	8
Scq	4336	31	8
SD	3134	21	8

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
SE	4973	15	8
Seq	4973	16	8
SF	16704	40	8
SFq	16704	3	8
SFqq	16704	16	8
SG	9447	47	8
SGq	9447	35	8
SGqq	9447	11	8
SH	14221	28	8
SHq	14221	10	8
SI	9644	50	8
Siq	9644	5	8
SJ	6982	39	8
SK	5544	35	8
SKq	5544	6	8
SL	6081	40	8
SM	4504	39	8
SN	11815	28	8
SNq	11815	10	8
SO	14272	24	8
SP	14107	45	8
SQ	10077	44	8
Sqs	16875	29	8
SR	7398	47	8
SS	17734	59	8
SSq	17734	34	8
ST1	21399	46	21
ST1q	21399	21	21
ST1qq	21399	39	21
ST2	4514	76	8
ST3	4980	91	8
ST3q	4980	39	8
ST4	5850	74	8
ST4q	5850	27	8
ST5	6281	73	8
T1	1271	48	8
T1q	1271	48	8

**NOT PROTECTIVELY MARKED**

**NOT PROTECTIVELY MARKED**

Source Name <sup>a</sup>	All Vehicles 24-hour AADT	Average Speed (km/hr)	Road Width (m)
T2	4914	40	8
T2q	4914	11	8
V1	9794	94	8
v2	9487	82	8
v2q	9487	31	8
v3	4650	73	8
v3q	4650	14	8
V4	4459	71	8
Y	13931	44	8
Yq	13931	27	8
Yqq	13931	18	8
ZE	7664	44	8
Zeq	7664	14	8
Zeqq	7664	6	8

<sup>a</sup> 'q' suffix in source name denotes queuing link.

**NOT PROTECTIVELY MARKED**

Table 6 Queuing junction distances applied in Bridgwater ADMS Roads model setup

Source Name	Average Queue Length (m)
Abq	16
Adq	38
Adqq	16
Aeq	41
Bq	21
Dq	14
Dqq	9
Eq	58
Eqq	4
Fq	59
Fqq	46
Gaq	4
I1q	90
I4q	16
Jq	37
Jqq	49
K1q	27
K2q	16
K2qq	4
K3q	15
K4q	13
K4qq	33
K5q	33
K5qq	55
Lq	11
Lqq	50
N1q	21
N3q	32
O1q	49
O2q	34
Sqs	8
Scq	1
Seq	3
SFq	27
Sfqq	12
SGq	22
SGqq	25
SHq	38
Siq	36
SKq	29
Snq	36
SSq	10
ST1q	7
ST1qq	2

**NOT PROTECTIVELY MARKED**

**NOT PROTECTIVELY MARKED**

Source Name	Average Queue Length (m)
ST3q	10
ST4q	2
T1q	1
T2q	28
V2q	17
V3q	16
Yq	13
Yqq	31
Zeq	26
Zeqq	24

Table 7: Background annual mean pollutant concentrations applied to the Bridgwater ADMS Roads model scenarios

Year	NO <sub>x</sub> background concentration (µg/m <sup>3</sup> )	NO <sub>2</sub> background concentration (µg/m <sup>3</sup> )	PM <sub>10</sub> background concentration (µg/m <sup>3</sup> )	PM <sub>2.5</sub> background concentration (µg/m <sup>3</sup> )
<b>Bridgwater Model <sup>a</sup></b>				
2009	27.0	18.2	16.7	10.2
2013	23.5	16.2	16.1	9.7
2016	21.8	15.3	15.9	9.5
2020	20.2	14.3	15.7	9.3

<sup>a</sup> *Bridgwater background pollutant concentrations obtained from Defra UK Air Quality Resource (UK-AIR). Worst-case (i.e. highest) UK-AIR pollutant concentrations taken for the 16 1km x 1km grid squares within the Bridgwater model area.*



**NOT PROTECTIVELY MARKED**

Table 8: Predicted 2013 NO<sub>2</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' NO <sub>2</sub> (µg/m <sup>3</sup> )	2013 'without development' NO <sub>2</sub> (µg/m <sup>3</sup> )	2013 'with development' NO <sub>2</sub> (µg/m <sup>3</sup> )	% change 2013 'with development' compared to 2013 'without development'	% change 2013 'with development' compared to 2009 'model verification/baseline'
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	27.11	24.35	24.54	0.78%	-9.48%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	32.05	26.17	26.29	0.46%	-17.97%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	22.34	19.77	19.93	0.81%	-10.79%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	31.68	26.58	29.73	11.85%	-6.16%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	26.16	23.44	23.62	0.77%	-9.71%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	22.10	19.63	19.75	0.61%	-10.63%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	22.01	19.55	19.66	0.56%	-10.68%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	21.82	19.37	19.48	0.57%	-10.72%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	23.63	20.35	21.17	4.03%	-10.41%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	26.39	23.57	23.72	0.64%	-10.12%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	27.82	24.95	25.12	0.68%	-9.71%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	22.96	20.42	20.57	0.73%	-10.41%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	19.82	17.49	17.56	0.40%	-11.40%
Somerset Skills & Learning, Parkway	331410	137465	1.8	19.61	17.30	17.37	0.40%	-11.42%

**NOT PROTECTIVELY MARKED**

Table 9: Worst-case predicted 2013 NO<sub>2</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' NO <sub>2</sub> (µg/m <sup>3</sup> )	2013 'without development' NO <sub>2</sub> (µg/m <sup>3</sup> ) (worst-case)	2013 'with development' NO <sub>2</sub> (µg/m <sup>3</sup> ) (worst-case)	% change 2013 'with development' compared to 2013 'without development' (worst-case)	% change 2013 'with development' compared to 2009 'model verification/baseline' (worst-case)
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	27.11	29.34	29.58	0.82%	9.11%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	32.05	31.39	31.56	0.54%	-1.53%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	22.34	23.15	23.37	0.95%	4.61%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	31.68	31.82	35.70	12.19%	12.69%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	26.16	28.13	28.37	0.85%	8.45%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	22.10	22.96	23.13	0.74%	4.66%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	22.01	22.86	23.02	0.70%	4.59%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	21.82	22.61	22.76	0.66%	4.31%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	23.63	23.95	25.05	4.59%	6.01%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	26.39	28.28	28.48	0.71%	7.92%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	27.82	30.11	30.32	0.70%	8.99%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	22.96	24.11	24.26	0.62%	5.66%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	19.82	19.97	20.06	0.45%	1.21%
Somerset Skills & Learning, Parkway.	331410	137465	1.8	19.61	19.71	19.80	0.46%	0.97%

**NOT PROTECTIVELY MARKED**

Table 10: Predicted 2016 NO<sub>2</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' NO <sub>2</sub> (µg/m <sup>3</sup> )	2016 'without development' NO <sub>2</sub> (µg/m <sup>3</sup> )	2016 'with development' NO <sub>2</sub> (µg/m <sup>3</sup> )	% change 2016 'with development' compared to 2016 'without development'	% change 2016 'with development' compared to 2009 'model verification/baseline'
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	27.11	20.41	20.84	2.11%	-23.13%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	32.05	22.69	22.93	1.06%	-28.46%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	22.34	17.58	17.78	1.14%	-20.41%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	31.68	23.22	25.01	7.71%	-21.05%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	26.16	19.84	20.23	1.97%	-22.67%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	22.10	17.45	17.62	0.97%	-20.27%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	22.01	17.39	17.56	0.98%	-20.22%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	21.82	17.28	17.44	0.93%	-20.07%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	23.63	18.35	18.75	2.18%	-20.65%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	26.39	19.98	20.34	1.80%	-22.93%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	27.82	20.85	21.29	2.11%	-23.47%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	22.96	17.95	18.17	1.23%	-20.86%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	19.82	16.15	16.20	0.31%	-18.26%
Somerset Skills & Learning, Parkway	331410	137465	1.8	19.61	16.03	16.06	0.19%	-18.10%
Bri-A Accommodation 1	331059	137972	1.8	21.15	16.90	17.03	0.77%	-19.48%
Bri-A Accommodation 2	330944	137868	1.8	21.17	16.91	17.05	0.83%	-19.46%
Bri-A Accommodation 3	330993	138073	1.8	20.02	16.26	16.34	0.49%	-18.38%
Bri-A Accommodation 4	331078	138154	1.8	19.96	16.23	16.29	0.37%	-18.39%

**NOT PROTECTIVELY MARKED**

Table 11: Worst-case predicted 2016 NO<sub>2</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' NO <sub>2</sub> (µg/m <sup>3</sup> )	2016 'without development' NO <sub>2</sub> (µg/m <sup>3</sup> ) (worst case)	2016 'with development' NO <sub>2</sub> (µg/m <sup>3</sup> ) (worst case)	% change 2016 'with development' compared to 2016 'without development' (worst case)	% change 2016 'with development' compared to 2009 'model verification/baseline' (worst case)
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	27.11	27.76	28.49	2.63%	5.09%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	32.05	31.45	31.97	1.65%	-0.25%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	22.34	22.64	23.00	1.59%	2.95%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	31.68	32.16	35.55	10.54%	12.22%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	26.16	26.75	27.41	2.47%	4.78%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	22.10	22.40	22.72	1.43%	2.81%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	22.01	22.30	22.61	1.39%	2.73%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	21.82	22.09	22.38	1.31%	2.57%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	23.63	24.15	25.05	3.73%	6.01%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	26.39	26.98	27.60	2.30%	4.59%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	27.82	28.52	29.24	2.52%	5.10%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	22.96	23.33	23.73	1.71%	3.35%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	19.82	19.94	20.03	0.45%	1.06%
Somerset Skills & Learning, Parkway	331410	137465	1.8	19.61	19.72	19.79	0.35%	0.92%
Bri-A Accommodation 1	331059	137972	1.8	21.15	21.38	21.62	1.12%	2.22%
Bri-A Accommodation 2	330944	137868	1.8	21.17	21.40	21.66	1.21%	2.31%
Bri-A Accommodation 3	330993	138073	1.8	20.02	20.17	20.33	0.79%	1.55%
Bri-A Accommodation 4	331078	138154	1.8	19.96	20.10	20.24	0.70%	1.40%

**NOT PROTECTIVELY MARKED**

Table 12: Predicted 2013 PM<sub>10</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' PM <sub>10</sub> (µg/m <sup>3</sup> )	2013 'without development' PM <sub>10</sub> (µg/m <sup>3</sup> )	2013 'with development' PM <sub>10</sub> (µg/m <sup>3</sup> )	% change 2013 'with development' compared to 2013 'without development'	% change 2013 'with development' compared to 2009 'model verification/baseline'
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	18.65	18.05	18.06	0.06%	-3.15%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	18.76	17.81	17.83	0.06%	-4.96%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	17.49	16.89	16.90	0.07%	-3.35%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	18.69	17.78	18.00	1.25%	-3.69%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	18.41	17.81	17.82	0.06%	-3.19%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	17.46	16.87	16.88	0.05%	-3.32%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	17.44	16.85	16.86	0.05%	-3.32%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	17.39	16.80	16.81	0.05%	-3.33%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	17.58	16.94	17.01	0.41%	-3.29%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	18.44	17.83	17.83	0.05%	-3.26%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	18.79	18.18	18.19	0.05%	-3.21%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	17.65	17.06	17.07	0.06%	-3.29%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	16.94	16.35	16.36	0.04%	-3.44%
Somerset Skills & Learning, Parkway	331410	137465	1.8	16.89	16.31	16.31	0.04%	-3.44%

**NOT PROTECTIVELY MARKED**

Table 13: Predicted 2016 PM<sub>10</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' PM <sub>10</sub> (µg/m <sup>3</sup> )	2016 'without development' PM <sub>10</sub> (µg/m <sup>3</sup> )	2016 'with development' PM <sub>10</sub> (µg/m <sup>3</sup> )	% change 2016 'with development' compared to 2016 'without development'	% change 2016 'with development' compared to 2009 'model verification/baseline'
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	18.65	17.37	17.53	0.94%	-5.99%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	18.76	17.38	17.38	0.04%	-7.32%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	17.49	16.50	16.56	0.34%	-5.32%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	18.69	17.36	17.45	0.54%	-6.62%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	18.41	17.19	17.33	0.82%	-5.86%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	17.46	16.48	16.54	0.35%	-5.28%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	17.44	16.46	16.52	0.34%	-5.27%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	17.39	16.43	16.48	0.31%	-5.25%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	17.58	16.66	16.68	0.08%	-5.16%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	18.44	17.22	17.35	0.77%	-5.91%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	18.79	17.48	17.65	0.94%	-6.11%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	17.65	16.63	16.70	0.45%	-5.40%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	16.94	16.09	16.10	0.05%	-4.97%
Somerset Skills & Learning, Parkway	331410	137465	1.8	16.89	16.05	16.06	0.03%	-4.94%
Bri-A Accommodation 1	331059	137972	1.8	17.24	16.32	16.36	0.23%	-5.14%
Bri-A Accommodation 2	330944	137868	1.8	17.24	16.32	16.36	0.23%	-5.14%
Bri-A Accommodation 3	330993	138073	1.8	16.99	16.13	16.15	0.09%	-4.96%
Bri-A Accommodation 4	331078	138154	1.8	16.98	16.12	16.13	0.09%	-4.96%

**NOT PROTECTIVELY MARKED**

Table 14: Predicted 2013 PM<sub>2.5</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' PM <sub>2.5</sub> (µg/m <sup>3</sup> )	2013 'without development' PM <sub>2.5</sub> (µg/m <sup>3</sup> )	2013 'with development' PM <sub>2.5</sub> (µg/m <sup>3</sup> )	% change 2013 'with development' compared to 2013 'without development'	% change 2013 'with development' compared to 2009 'model verification/baseline'
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	11.53	10.93	10.94	0.07%	-5.15%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	11.74	10.86	10.86	0.03%	-7.54%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	10.74	10.19	10.20	0.08%	-5.10%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	11.70	10.85	11.02	1.58%	-5.83%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	11.37	10.78	10.79	0.07%	-5.14%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	10.72	10.17	10.18	0.06%	-5.05%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	10.71	10.16	10.17	0.06%	-5.05%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	10.68	10.13	10.14	0.06%	-5.05%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	10.82	10.22	10.27	0.46%	-5.08%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	11.39	10.79	10.80	0.06%	-5.22%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	11.64	11.02	11.03	0.06%	-5.25%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	10.85	10.30	10.30	0.07%	-5.07%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	10.37	9.84	9.85	0.05%	-5.05%
Somerset Skills & Learning, Parkway.	331410	137465	1.8	10.34	9.81	9.81	0.04%	-5.03%

**NOT PROTECTIVELY MARKED**

Table 15: Predicted 2016 PM<sub>2.5</sub> annual mean concentrations for human health discrete receptors located along road transport routes closest to the proposed Bridgwater A Associated Development site.

Receptor name	X(m)	Y(m)	Z(m)	2009 'model verification/baseline' PM <sub>2.5</sub> (µg/m <sup>3</sup> )	2016 'without development' PM <sub>2.5</sub> (µg/m <sup>3</sup> )	2016 'with development' PM <sub>2.5</sub> (µg/m <sup>3</sup> )	% change 2016 'with development' compared to 2016 'without development'	% change 2016 'with development' compared to 2009 'model verification/baseline'
104 Bath Road, Bridgwater, Sydenham	330973	137814	1.8	11.53	10.38	10.48	0.95%	-9.10%
128 Union Street, Bridgwater, Eastover	330553	137731	1.8	11.74	10.44	10.45	0.05%	-11.04%
131 Lower Bath Road, Bridgwater, Eastover	330812	137696	1.8	10.74	9.86	9.89	0.34%	-7.91%
131 The Drove, Bridgwater, Eastover	330529	137793	1.8	11.70	10.45	10.52	0.68%	-10.15%
135 Bath Road, Bridgwater, Sydenham	330942	137802	1.8	11.37	10.28	10.36	0.83%	-8.87%
144 Bath Road, Bridgwater, Sydenham	331100	137901	1.8	10.72	9.84	9.88	0.35%	-7.85%
150 Frederick Road, Bridgwater, Sydenham	331135	137931	1.8	10.71	9.83	9.87	0.34%	-7.83%
170 Bath Road, Bridgwater, Sydenham	331194	137980	1.8	10.68	9.81	9.84	0.32%	-7.78%
196 Bristol Road, Bridgwater, Eastover	330613	137953	1.8	10.82	9.96	9.97	0.09%	-7.85%
69 Bath Road, Bridgwater, Eastover	330666	137563	1.8	11.39	10.29	10.37	0.78%	-8.94%
78 Bath Road, Bridgwater, Eastover	330670	137543	1.8	11.64	10.46	10.56	0.96%	-9.29%
Bath Road News167, Bath Road, Bridgwater	330996	137879	1.8	10.85	9.93	9.98	0.46%	-8.07%
Bridgwater College, Bridgwater, Sydenham	330978	137387	1.8	10.37	9.61	9.62	0.05%	-7.28%
Somerset Skills & Learning, Parkway.	331410	137465	1.8	10.34	9.59	9.59	0.03%	-7.22%
Bri-A Accommodation 1	331059	137972	1.8	10.57	9.75	9.77	0.24%	-7.60%
Bri-A Accommodation 2	330944	137868	1.8	10.57	9.75	9.77	0.23%	-7.60%
Bri-A Accommodation 3	330993	138073	1.8	10.40	9.63	9.64	0.09%	-7.29%
Bri-A Accommodation 4	331078	138154	1.8	10.39	9.63	9.63	0.09%	-7.28%