
The Cambridge South East Transport Order

Transport And Works Act 1992

Transport And Works (Applications And Objections Procedure) (England And Wales) Rules 2006

Appendix 6.4 – Air Quality – Traffic Data Analysis

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Introduction

6.1.1 Following a change to the expected opening year of the Proposed Development, revisions have been made to the traffic modelling. An opening year of 2026 was used for the traffic and air quality modelling within the Environmental Statement (ES), although the Proposed Development opening year at the time of the assessment was expected to be 2027. Using 2026 was considered to be conservative, given that emissions should decrease in future years. However, the opening year of the Proposed Development is now expected to be 2029. Revised traffic model data has been provided by AtkinsRéalis to account both for the change to the opening year and to adjust for the impact of the COVID-19 pandemic on traffic flows.

6.1.2 This appendix provides a comparison of the expected differences in traffic with the Proposed Development between the previous traffic data (2026) and the updated traffic data (2029). The ES contains the results from the air quality assessment based on the 2026 traffic data. It is expected that no further air quality assessment is necessary based on the findings in the differences in traffic data described below.

Local Air Quality Affected Road Network

6.1.3 The study area for operational traffic impacts has been determined using screening criteria given in IAQM Planning Guidance:

- A change in Light Duty Vehicle (LDV) of:
 - More than 100 Annual Average Daily Traffic (AADT) within or adjacent to an Air Quality Management Area (AQMA), or
 - More than 500 AADT elsewhere
- A change in Heavy Duty Vehicle (HDV) flows on local roads of:
 - More than 25 AADT within or adjacent to an AQMA, or
 - More than 100 AADT elsewhere.

6.1.4 It includes the area within 200 m of the roads which meet the screening criteria (the affected road network (ARN)). The extent of the ARN assessed for the ES is shown in Figure 6.1 and discussed in Section 6.3.4 of the ES Volume 2: Main Report.

6.1.5 The local air quality ARN for the 2029 traffic data has been derived and compared against that for the 2026 traffic data. The 2029 ARN is smaller in size than that for the previous 2026 traffic data, as there is only one new link in the 2029 ARN, but 5 links which are only in the 2026 ARN.

The new link in the 2029 ARN is located on the A603 Lensfield Road between the A1134 Trumpington Road and Tennis Court Road (Link ID 13208_13207). The change in LDV on this link just meets the IAQM traffic screening criteria for LDV within an AQMA with an expected decrease of -106 LDV AADT. Although there are receptors adjacent to this road link, the decrease in LDVs would mean a likely reduction in air pollutant concentrations at these receptors, and hence there would not be a requirement for any further assessment, as any effect should be beneficial, and unlikely to change the conclusions of the air quality assessment undertaken for the ES.

6.1.6 A comparison of LDV and HDV AADT differences between the 2026 and 2029 traffic datasets for links within the ARN for either dataset is provided in Tables 6.4.1 and 6.4.2 below respectively. The road links included in the tables are those which meet either the LDV or HDV screening criteria.

LDV

6.1.7 The traffic modelling shows that for the 2029 scenario, the majority of links in both the Do Minimum (DM) and the Do Something (DS) scenarios have lower LDV flows compared to the modelled outputs for the 2026 scenario (see columns 2029 DM-2026 DM, and 2029 DS-2026 DS) in Table 6.4.1 below. There are only two links (13208_13207 - A603 Lensfield Road and 16011_13305 – Regent Street) where the modelled outputs are higher for 2029 than for 2026. However, on both of these links, there is expected to be a decrease in flow with the Proposed Development in both the 2026 and 2029 scenarios.

6.1.8 The majority of links show an expected decrease with the Proposed Development with both the 2026 and 2029 scenarios (see the 2026 change and 2029 change columns in Table 6.4.1). The majority of links also have only a small difference in changes (see last column of Table 6.4.1). There is only one link where the difference in the changes is more than +100 LDV AADT (26704_26703 – Newmarket Road, see last column of Table 6.4.1), due to the decrease in LDV flows being smaller on this link in 2029 than in 2026. There are two links where the difference in the changes is more than -100 LDV AADT (16405_16306 – Milton Road and 98603_98602 – a new link in Proposed Development DS). The decrease in LDVs with the Proposed Development would mean a likely reduction in air pollutant concentrations at these receptors, and hence there would not be a requirement for any further assessment, as any effect should be beneficial, and unlikely to change the conclusions of the air quality assessment undertaken for the ES.

HDV

6.1.9 The traffic modelling shows that for the 2029 scenario, the majority of links have only small differences in HDV flows compared to the modelled outputs for the 2026 scenario. There is one link (95013_26703 – A1307 Cambridge Road west of the junction with the A11) where the modelled output for HDV traffic flow is expected to be greater than the IAQM traffic screening criteria for HDV AADT within an AQMA of ± 25 AADT in 2029 than for 2026 (+60 HDV AADT in the DM and +48 HDV AADT in the DS). However, the comparison of the differences between the DM and DS scenarios for each of the two years of data (last column of Table 6.4.2) indicates that this link is expected to have a smaller increase in HDV flows with the Proposed Development with the 2029 scenario when compared to the 2026 scenario (+184 HDV AADT in the 2026 scenario and +172 HDV AADT in the 2029 scenario). The change in air pollutant concentrations adjacent to this link in the 2029 scenario would therefore be expected to be less than that reported in the ES for the 2026 scenario, and hence there would not be a requirement for any further assessment, as any effect should be beneficial, and unlikely to change the conclusions of the air quality assessment undertaken for the ES.

6.1.10 In terms of the comparison of the difference in the change between the DM and DS scenario for each of the two years of data (last column of Table 6.4.2), the majority of links have only a small difference in changes (no change or +1 HDV AADT). No link is expected to have a difference in HDV flows greater than the IAQM traffic screening criteria for HDV AADT within an AQMA of ± 25 AADT, as such, any impact of the difference in the change between the 2026 and 2029 scenarios would not be expected to result in a significant effect and would be unlikely to change the conclusions of the air quality assessment undertaken for the ES.

Conclusion

- 6.1.11 The differences in the LDV and HDV flows between the 2026 and 2029 scenarios are generally small for the majority of links in the ARN, and would not be expected to lead to any changes in concentrations at relevant receptors such that there would be a material difference from the conclusions of the air quality assessment undertaken for the ES.

Table A6.4.1 2026 vs 2029 LDV AADT change

Link ID	ARN (links which meet either the LDV or HDV IAQM change criteria)	2026 DM	2029 DM	2029 DM - 2026 DM	2026 DS	2029 DS	2029 DS - 2026 DS	2026 change (2026 DS - 2026 DM)	2029 change (2029 DS - 2029 DM)	Difference in changes (2029 change minus 2026 change)
13208_13207	2029 only	13,952	14,763	+811	13,852	14,657	+805	-100	-106	-6
13303_13302	2026 & 2029	124	120	-4	124	121	-3	0	1	+1
13304_13303	2026 & 2029	3,014	2,290	-724	2,994	2,250	-744	-20	-40	-19
13305_13304	2026 & 2029	2,515	2,092	-423	2,508	2,103	-405	-7	+11	+18
13307_13305	2026 & 2029	9,379	9,236	-142	9,268	9,127	-141	-110	-109	+1
13308_13304	2026 & 2029	3,327	3,090	-237	3,317	3,064	-253	-10	-25	-16
13402_13302	2026 & 2029	4,399	4,257	-142	4,369	4,250	-119	-30	-7	+23
13403_13402	2026 & 2029	4,395	4,255	-140	4,365	4,248	-118	-29	-7	+23
13404_13308	2026 & 2029	4,113	3,981	-132	4,084	3,974	-109	-30	-7	+23
13404_13403	2026 & 2029	4,392	4,253	-139	4,363	4,246	-117	-30	-7	+23
14203_14201	2026 & 2029	12,524	12,161	-362	12,304	12,018	-287	-219	-143	+76
14209_14204	2026 & 2029	6,316	6,160	-156	6,274	6,172	-103	-42	+12	+53
14301_14209	2026 & 2029	3,199	3,096	-102	3,180	3,076	-104	-19	-20	-1
14702_14701	2026 & 2029	6,081	6,081	0	6,081	6,081	0	0	0	0
15522_14701	2026 & 2029	0	0	0	0	0	0	0	0	0
16011_13305	2026 & 2029	7,612	7,906	+294	7,483	7,757	+274	-129	-149	-20
16104_16011	2026 & 2029	12,984	12,711	-273	12,836	12,547	-290	-148	-165	-17
16105_16104	2026 & 2029	12,984	12,710	-274	12,836	12,547	-290	-148	-164	-16
16106_16105	2026 & 2029	11,788	11,480	-309	11,588	11,310	-279	-200	-170	+30
16107_14201	2026 & 2029	12,524	12,161	-362	12,305	12,018	-287	-219	-143	+76
16107_16106	2026 & 2029	12,524	12,161	-362	12,305	12,018	-286	-219	-143	+76
16108_14203	2026 & 2029	12,524	12,162	-362	12,306	12,018	-287	-218	-144	+75
16108_14204	2026 & 2029	12,524	12,162	-362	12,306	12,018	-287	-218	-144	+75

Link ID	ARN (links which meet either the LDV or HDV IAQM change criteria)	2026 DM	2029 DM	2029 DM - 2026 DM	2026 DS	2029 DS	2029 DS - 2026 DS	2026 change (2026 DS - 2026 DM)	2029 change (2029 DS - 2029 DM)	Difference in changes (2029 change minus 2026 change)
16405_16306	2026 only	18,569	18,601	+32	18,742	18,588	-153	+173	-13	-185
17801_14204	2026 only	15,971	15,544	-427	15,853	15,468	-386	-117	-76	+42
17804_14301	2026 & 2029	0	0	0	0	0	0	0	0	0
17804_15522	2026 & 2029	0	0	0	0	0	0	0	0	0
26704_26703	2026 & 2029	903	690	-212	727	619	-108	-176	-72	+104
26705_26704	2026 & 2029	7,837	7,573	-264	7,279	7,049	-230	-558	-524	+34
26719_26708	2026 only	17,749	17,192	-557	17,243	16,759	-484	-506	-433	+73
26720_26701	2026 only	17,749	17,192	-557	17,244	16,759	-486	-505	-433	+72
26720_26719	2026 only	17,749	17,192	-557	17,243	16,759	-484	-506	-433	+73
26721_26708	2026 & 2029	16,743	16,260	-483	16,153	15,750	-403	-590	-510	+80
26813_26717	2026 & 2029	0	0	0	0	0	0	0	0	0
27308_26717	2026 & 2029	0	0	0	0	0	0	0	0	0
27620_14702	2026 & 2029	0	0	0	0	0	0	0	0	0
27621_27308	2026 & 2029	0	0	0	0	0	0	0	0	0
27621_27620	2026 & 2029	0	0	0	0	0	0	0	0	0
95013_26703	2026 & 2029	22,237	21,966	-271	21,970	21,730	-239	-267	-235	+32
98601_26813	2026 & 2029	0	0	0	0	0	0	0	0	0
98602_95013	2026 & 2029	16,744	16,260	-483	17,368	16,881	-487	+625	+621	-4
98603_98601	2026 & 2029	0	0	0	0	0	0	0	0	0
98603_98602	2026 & 2029	0	0	0	2,145	2,021	-124	+2,145	+2,021	-124
98604_26721	2026 & 2029	16,744	16,260	-483	16,153	15,750	-403	-590	-510	+80
98604_98602	2026 & 2029	16,744	16,260	-483	16,153	15,750	-403	-590	-510	+80

Table A6.4.2 2026 vs 2029 HDV AADT change

Link ID	ARN (links which meet either the LDV or HDV IAQM change criteria)	2026 DM	2029 DM	2029 DM - 2026 DM	2026 DS	2029 DS	2029 DS - 2026 DS	2026 change (DS-DM)	2029 change (DS-DM)	Difference in changes (2029 change minus 2026 change)
13208_13207	2029 only	652	657	+5	652	658	+6	0	+1	+1
13303_13302	2026 & 2029	562	562	0	666	666	0	+104	+104	0
13304_13303	2026 & 2029	744	743	-1	847	846	-1	+104	+104	0
13305_13304	2026 & 2029	755	754	-1	962	961	-1	+207	+207	0
13307_13305	2026 & 2029	18	18	+1	18	18	+1	0	0	0
13308_13304	2026 & 2029	146	146	0	249	249	0	+103	+103	0
13402_13302	2026 & 2029	691	690	-1	794	794	0	+104	+104	0
13403_13402	2026 & 2029	1,433	1,433	-1	1,529	1,529	0	+96	+96	0
13404_13308	2026 & 2029	938	938	0	1,034	1,034	0	+96	+96	0
13404_13403	2026 & 2029	1,547	1,546	0	1,643	1,642	0	+96	+96	0
14203_14201	2026 & 2029	559	561	+2	765	767	+2	+206	+207	+1
14209_14204	2026 & 2029	447	448	+1	654	655	0	+207	+207	0
14301_14209	2026 & 2029	723	723	0	921	921	0	+198	+198	0
14702_14701	2026 & 2029	338	338	0	545	545	0	+207	+207	0
15522_14701	2026 & 2029	548	548	0	755	755	0	+207	+207	0
16011_13305	2026 & 2029	764	766	+2	971	973	+2	+207	+207	0
16104_16011	2026 & 2029	623	626	+3	829	833	+3	+206	+207	+1
16105_16104	2026 & 2029	623	626	+3	829	833	+3	+206	+207	+1
16106_16105	2026 & 2029	548	551	+2	755	757	+3	+206	+206	0
16107_14201	2026 & 2029	559	561	+2	765	767	+2	+206	+207	+1
16107_16106	2026 & 2029	559	561	+2	765	767	+2	+206	+207	+1
16108_14203	2026 & 2029	559	561	+2	765	767	+2	+206	+206	+1
16108_14204	2026 & 2029	559	561	+2	765	767	+2	+206	+206	+1

Link ID	ARN (links which meet either the LDV or HDV IAQM change criteria)	2026 DM	2029 DM	2029 DM - 2026 DM	2026 DS	2029 DS	2029 DS - 2026 DS	2026 change (DS-DM)	2029 change (DS-DM)	Difference in changes (2029 change minus 2026 change)
16405_16306	2026 only	334	337	+3	332	336	+3	-1	-1	0
17801_14204	2026 only	256	258	+2	256	258	+2	0	0	0
17804_14301	2026 & 2029	677	677	0	875	875	0	+198	+198	0
17804_15522	2026 & 2029	242	242	0	449	449	0	+207	+207	0
26704_26703	2026 & 2029	1	1	0	157	157	0	+155	+155	0
26705_26704	2026 & 2029	117	119	+2	195	197	+2	+78	+78	0
26719_26708	2026 only	484	499	+15	484	500	+16	0	+1	+1
26720_26701	2026 only	484	499	+15	484	500	+16	0	+1	+1
26720_26719	2026 only	484	499	+15	484	500	+16	0	+1	+1
26721_26708	2026 & 2029	486	496	+10	485	496	+11	-1	0	+1
26813_26717	2026 & 2029	0	0	0	207	207	0	+207	+207	0
27308_26717	2026 & 2029	0	0	0	207	207	0	+207	+207	0
27620_14702	2026 & 2029	0	0	0	207	207	0	+207	+207	0
27621_27308	2026 & 2029	0	0	0	207	207	0	+207	+207	0
27621_27620	2026 & 2029	0	0	0	207	207	0	+207	+207	0
95013_26703	2026 & 2029	905	965	+60	1,088	1,137	+48	+184	+172	-12
98601_26813	2026 & 2029	0	0	0	207	207	0	+207	+207	0
98602_95013	2026 & 2029	486	496	+10	640	651	+11	+155	+156	+1
98603_98601	2026 & 2029	0	0	0	155	155	0	+155	+155	0
98603_98602	2026 & 2029	0	0	0	155	155	0	+155	+155	0
98604_26721	2026 & 2029	486	496	+10	485	496	+11	-1	0	+1
98604_98602	2026 & 2029	486	496	+10	485	496	+11	-1	0	+1