



Cambridge South East Transport Phase 2

Environmental Statement

Appendix 6.3 Air Quality Model Results

31st July 2023

Results

6.3.1 This section presents the operational phase modelling results of the Do-Minimum (without Proposed Development and with committed development) scenario against the Do-something scenario (with Proposed Development and with committed development) scenario for NO₂, PM₁₀, PM_{2.5} at 24 human health receptors and nitrogen deposition rates at 5 ecological receptors.

6.3.2 Table A6.3.1 to Table A6.3.3 present the modelled pollutant concentrations at human health receptors and Table A6.3.4 presents estimated nitrogen deposition rates at the ecological receptors.

Table A6.3.1 Estimated annual mean NO₂ concentrations

Receptor ID	Annual mean concentration			Estimated Change	Change as a percentage of AQAL	Impact Descriptor
	BY	DM	DS			
H01	15.0	12.6	12.6	<0.1	<0.1	Negligible
H02	12.7	11.4	11.4	<0.1	<0.1	Negligible
H03	12.7	11.4	11.4	<0.1	<0.1	Negligible
H04	12.9	11.6	11.6	<0.1	<0.1	Negligible
H05	12.6	11.5	11.5	<0.1	<0.1	Negligible
H06	12.5	11.4	11.4	<0.1	<0.1	Negligible
H07	13.6	12.0	12.0	<0.1	<0.1	Negligible
H08	13.5	11.9	11.9	<0.1	<0.1	Negligible
H09	14.5	12.6	12.7	+0.1	+0.3	Negligible
H10	14.7	12.3	12.3	<0.1	<0.1	Negligible
H11	16.1	13.3	13.3	<0.1	<0.1	Negligible
H12	18.1	14.9	14.9	<0.1	<0.1	Negligible
H13	19.4	15.8	15.8	<0.1	<0.1	Negligible
H14	25.8	16.9	16.9	<0.1	<0.1	Negligible
H15	38.3	32.1	32.0	-0.1	-0.3	Negligible
H16	35.0	25.2	25.2	<0.1	<0.1	Negligible
H17	19.6	16.2	16.1	-0.1	-0.3	Negligible

Receptor ID	Annual mean concentration			Estimated Change	Change as a percentage of AQAL	Impact Descriptor
	BY	DM	DS			
H18	21.5	16.6	16.6	<0.1	<0.1	Negligible
H19	30.3	21.1	21.0	-0.1	-0.3	Negligible
H20	23.3	19.2	19.2	<0.1	<0.1	Negligible
H21	22.7	18.9	18.9	<0.1	<0.1	Negligible
H22	13.3	11.9	11.9	<0.1	<0.1	Negligible
H23	21.6	18.2	18.2	<0.1	<0.1	Negligible
H24	20.3	17.3	17.3	<0.1	<0.1	Negligible
H25	14.6	12.5	12.4	<0.1	<0.1	Negligible
H26	14.7	12.5	12.5	<0.1	<0.1	Negligible
H27	15.8	13.0	13.0	<0.1	<0.1	Negligible
H28	16.6	13.4	13.4	<0.1	<0.1	Negligible

Notes: BY – Base Year (2018), DM – Do-Minimum, DS – Do-Something, AQAL – 40µg/m³ Change in concentration and percentage are rounded to the nearest 1 decimal place.

Table A6.3.2 Estimated annual mean PM₁₀ concentrations

Receptor ID	Annual mean concentration			Estimated Change	Change as a percentage of AQAL	Impact Descriptor
	BY	DM	DS			
H01	16.5	16.4	16.4	<0.1	<0.1	Negligible
H02	16.0	16.0	16.0	<0.1	<0.1	Negligible
H03	16.1	16.1	16.1	<0.1	<0.1	Negligible
H04	16.3	16.3	16.3	<0.1	<0.1	Negligible
H05	16.3	16.3	16.3	<0.1	<0.1	Negligible
H06	16.2	16.2	16.2	<0.1	<0.1	Negligible
H07	16.4	16.4	16.4	<0.1	<0.1	Negligible

Receptor ID	Annual mean concentration			Estimated Change	Change as a percentage of AQAL	Impact Descriptor
	BY	DM	DS			
H08	16.4	16.4	16.4	<0.1	<0.1	Negligible
H09	16.6	16.6	16.7	+0.1	+0.3	Negligible
H10	16.6	16.5	16.5	<0.1	<0.1	Negligible
H11	16.6	16.7	16.7	<0.1	<0.1	Negligible
H12	17.6	17.6	17.7	+0.1	+0.3	Negligible
H13	18.0	18.1	18.1	<0.1	<0.1	Negligible
H14	18.7	18.7	18.8	+0.1	+0.3	Negligible
H15	19.9	19.8	20.0	+0.2	+0.5	Negligible
H16	19.6	19.6	19.7	+0.1	+0.3	Negligible
H17	17.9	17.9	17.9	<0.1	<0.1	Negligible
H18	17.7	17.8	17.8	<0.1	<0.1	Negligible
H19	19.1	18.9	18.9	<0.1	<0.1	Negligible
H20	18.2	18.2	18.2	<0.1	<0.1	Negligible
H21	18.3	18.4	18.4	<0.1	<0.1	Negligible
H22	16.1	16.1	16.1	<0.1	<0.1	Negligible
H23	18.6	18.6	18.7	+0.1	+0.3	Negligible
H24	18.7	18.7	18.9	+0.2	+0.5	Negligible
H25	16.6	16.6	16.6	<0.1	<0.1	Negligible
H26	16.2	16.3	16.3	<0.1	<0.1	Negligible
H27	16.5	16.5	16.6	<0.1	<0.1	Negligible
H28	16.6	16.7	16.7	<0.1	<0.1	Negligible

Notes: BY – Base Year (2018), DM – Do-Minimum, DS – Do-Something, AQAL – 40µg/m³ Change in concentration and percentage are rounded to the nearest 1 decimal place.

Table A6.3.3 Estimated annual mean PM_{2.5} concentrations

Receptor ID	Annual mean concentration			Estimated Change	Change as a percentage of AQAL	Impact Descriptor
	BY	DM	DS			
H01	11.7	11.6	11.6	<0.1	<0.1	Negligible
H02	11.5	11.5	11.5	<0.1	<0.1	Negligible
H03	11.5	11.5	11.5	<0.1	<0.1	Negligible
H04	11.7	11.7	11.7	<0.1	<0.1	Negligible
H05	11.6	11.6	11.6	<0.1	<0.1	Negligible
H06	11.6	11.6	11.6	<0.1	<0.1	Negligible
H07	11.7	11.7	11.7	<0.1	<0.1	Negligible
H08	11.7	11.7	11.7	<0.1	<0.1	Negligible
H09	11.8	11.8	11.8	<0.1	<0.1	Negligible
H10	11.8	11.7	11.7	<0.1	<0.1	Negligible
H11	11.8	11.8	11.8	<0.1	<0.1	Negligible
H12	12.4	12.4	12.4	<0.1	<0.1	Negligible
H13	12.7	12.7	12.7	<0.1	<0.1	Negligible
H14	13.0	13.0	13.0	<0.1	<0.1	Negligible
H15	13.6	13.5	13.5	<0.1	<0.1	Negligible
H16	13.4	13.4	13.4	<0.1	<0.1	Negligible
H17	12.6	12.5	12.5	<0.1	<0.1	Negligible
H18	12.4	12.4	12.4	<0.1	<0.1	Negligible
H19	13.2	13.0	13.0	<0.1	<0.1	Negligible
H20	12.7	12.7	12.7	<0.1	<0.1	Negligible
H21	12.7	12.7	12.7	<0.1	<0.1	Negligible
H22	11.5	11.5	11.5	<0.1	<0.1	Negligible

Receptor ID	Annual mean concentration			Estimated Change	Change as a percentage of AQAL	Impact Descriptor
	BY	DM	DS			
H23	13.0	13.0	13.0	<0.1	<0.1	Negligible
H24	13.0	13.0	13.1	+0.1	+0.4	Negligible
H25	11.7	11.7	11.7	<0.1	<0.1	Negligible
H26	11.6	11.6	11.6	<0.1	<0.1	Negligible
H27	11.7	11.7	11.7	<0.1	<0.1	Negligible
H28	11.8	11.8	11.8	<0.1	<0.1	Negligible

Notes: BY – Base Year (2018), DM – Do-Minimum, DS – Do-Something, AQAL – 20µg/m³ Change in concentration and percentage are rounded to the nearest 1 decimal place

Table A6.3.4 Estimated nitrogen deposition rates at ecological receptors

Receptor	Nitrogen Deposition Rate (kg/ha/yr)					Minimum CL	Change as % of Minimum CL
	Background (2019)	Base Year	DM	DS	Change		
E01	29.0	30.91	30.48	30.54	+0.06	10	+0.6%
E07	16.0	17.11	17.28	17.24	-0.04	15	-0.3%
E08	29.2	35.31	35.76	35.75	-0.01	10	-0.1%
E10	29.6	39.46	38.13	38.04	-0.09	10	-0.9%
E11	29.2	34.12	34.23	34.22	-0.01	10	-0.1%