



Operational Phase Assessment Sensitivity Analysis

Sensitivity Analysis Methodology

A sensitivity analysis has been undertaken for NO₂ concentrations, in which 2022 Base Year background pollutant concentrations and vehicle emission factors have been applied to the 2024 Construction and 2027 Opening/Future Year scenarios.

It is considered that the results of the sensitivity analysis provide a conservative upper-bound to the assessment.

Construction Phase

Table 6.5/1 details the predicted NO₂ concentrations for the 2024 Construction Year, for both the ‘Without Construction and ‘With Construction; scenarios, for the sensitivity analysis. The impact has been assessed in accordance with the descriptors included in Appendix 6.2.

Table 6.5/1: NO ₂ Concentrations at Existing Sensitive Receptors for Scenarios 2 and 3 – Sensitivity Analysis					
Receptor	Calculated Annual Mean NO ₂ Concentrations (µg/m ³) ^a				
	Without Construction	With Construction		Concentration Change as Percentage of AQAL	Impact ^b
		Concentration	Percentage in Relation to AQAL		
ESR 1	16.77	17.85	<75%	<0.5%	Negligible
ESR 2	14.53	15.04	<75%	<0.5%	Negligible
ESR 3	15.39	15.99	<75%	<0.5%	Negligible
ESR 4	13.39	13.72	<75%	<0.5%	Negligible
ESR 5	11.50	11.85	<75%	<0.5%	Negligible
ESR 6	15.66	16.58	<75%	<0.5%	Negligible
ESR 7	15.08	15.88	<75%	<0.5%	Negligible
ESR 8	25.02	25.96	<75%	<0.5%	Negligible
ESR 9	24.34	25.14	<75%	<0.5%	Negligible
ESR 10	23.95	24.66	<75%	<0.5%	Negligible
ESR 11	14.12	14.28	<75%	<0.5%	Negligible
ESR 12	13.79	13.88	<75%	<0.5%	Negligible
ESR 13	15.26	15.45	<75%	<0.5%	Negligible
ESR 14	16.46	16.89	<75%	<0.5%	Negligible

a. NO₂ concentrations obtained by inputting predicted NO_x concentrations into the NO_x to NO₂ calculator, in accordance with LAQM.TG(22).

b. Assessed using the Impact Descriptors from the EPUK/IAQM guidance, included in Appendix 6.X. Changes of less than 0.5% should be described as negligible.



Operational Phase

Table 6.5/2 details the predicted NO₂ concentrations for the 2027 Opening/Future Year, for both the ‘Without Development’ and ‘With Development’ scenarios, for the sensitivity analysis. The impact has been assessed in accordance with the descriptors included in Appendix 6.3.

Table 6.5/2: NO₂ Concentrations at Existing Sensitive Receptors for Scenarios 4 and 5 – Sensitivity Analysis					
Receptor	Calculated Annual Mean NO₂ Concentrations (µg/m³)^a				
	Without Development	With Development		Concentration Change as Percentage of AQAL	Impact^b
		Concentration	Percentage in Relation to AQAL		
ESR 1	17.82	17.86	<75%	<0.5%	Negligible
ESR 2	15.02	15.05	<75%	<0.5%	Negligible
ESR 3	15.98	16.02	<75%	<0.5%	Negligible
ESR 4	13.72	13.76	<75%	<0.5%	Negligible
ESR 5	11.83	11.87	<75%	<0.5%	Negligible
ESR 6	16.55	16.63	<75%	<0.5%	Negligible
ESR 7	15.86	15.91	<75%	<0.5%	Negligible
ESR 8	25.95	25.99	<75%	<0.5%	Negligible
ESR 9	25.12	25.16	<75%	<0.5%	Negligible
ESR 10	24.65	24.69	<75%	<0.5%	Negligible
ESR 11	14.28	14.28	<75%	<0.5%	Negligible
ESR 12	13.88	13.89	<75%	<0.5%	Negligible
ESR 13	15.44	15.45	<75%	<0.5%	Negligible
ESR 14	16.87	16.90	<75%	<0.5%	Negligible
<p>c. NO₂ concentrations obtained by inputting predicted NO_x concentrations into the NO_x to NO₂ calculator, in accordance with LAQM.TG(22).</p> <p>d. Assessed using the Impact Descriptors from the EPUK/IAQM guidance, included in Appendix 6.X. Changes of less than 0.5% should be described as negligible.</p>					