

SILVERTOWN TUNNEL

**Environmental Statement  
Appendix 6.E (6.3.6.5)**

**Model Parameters**

April 2016

Silvertown Tunnel

Appendix 6.E Modelling Parameters

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## Modelling Parameters

Work element	Setting or process used
<b>Model set up</b>	
Model used for portal	ADMS Roads 4.0.1
Model used for open roads	ADMS Roads 4.0.1
Pollutants considered	NO <sub>x</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>
Baseline and opening years	2012 and 2021
Met data	London City Airport 2012
Surface roughness and minimum Monin-Obukhov length	Advice was sought from CERC regarding the surface roughness and minimum Monin-Obukhov length parameters across the study area. It was recommended that Surface Roughness should be set at 1 in all models apart from the one which covered the Dartford Crossing where surface roughness would be 0.5. Monin Obukhov length was set at 75m for all of the models.
Air temperature	+15C
Buildings included	No
Model receptors	All sensitive receptors within 200m, future receptors currently under construction or with full planning permission (not outline)

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Receptor height	1.5
Portal represented by	Single volume source calculated by ADMS Roads based on portal dimensions
Dimensions used for the portal	<p>Bore Depth (vertical extent of tunnel)-7.15m N Portal, 7.15m S Portal</p> <p>Outflow Width (width of outflow road) – 9.85m N Portal, 9.85m S Portal</p> <p>Blackwall Tunnel:                      Bore Depth (vertical extent of tunnel)-4.7m N Portal, 4.0m S Portal                      Outflow Width(width of outflow road)-7.1m N Portal, 6.0m S Portal</p>
Portal in cutting	No, all at grade
Ventilation stack	Not yet modelled
Stack parameters (height, temp, velocity, diam)	n/a
<b>Traffic and emissions</b>	
Criteria to define ARN	DMRB 11.3.1

Extent of model	A13 between Poplar and the A1153/A123 interchange at Barking. A12 East Cross route between Blackwall Tunnel and the junction with A106 at Hackney Wick. A1261/1203 between Lower Lea Crossing and Aspen Way A1020/A1011 between Silvertown and Beckton A112 south of A13 in Canning Town A102 between Blackwall Tunnel and Kidbrooke A282 Dartford Crossing. Blackwall Tunnel (both directions) Silvertown Tunnel and new supporting infrastructure
Traffic scenario used	S142 with off peak split and minor revisions to AADT factoring
Diurnal profile used (e.g. how many hours for AM, IP, PM, OP)	Base case, reference case and assessed case; AM (06-09), IP 10-15, PM 16-18, OP1 19-21, OP2 22-06
Method to estimate emissions	EFT v6.0.2 with Highways England IAN 185/15 Speed Banding tool.
Traffic mix used in EFT (basic/detailed fleet, Inner London, etc)	EFT – basic. GIS lookup of roads and London zones (inner/outer/central) applied.
Daily average speed or hourly profile?	AM, IP, PM, OP1 and OP2 in all scenarios
Speed adjustments applied (e.g. exit slips)	Speeds banded according to guidance in Highways England IAN 185/15
Gradients considered	No
Recirculation considered	No
<b>Processing results</b>	

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Background values	DEFRA maps, in grid motorway, trunk A, and primary A removed. No removal of minor roads in or out of grid sq. No adjustment.
Post processing method and values	Abbot NOx to NO <sub>2</sub> v4.1 Borough and traffic mix selected according to receptor
Verification and adjustment applied?	See Appendix 6.B of Environmental Statement
Sensitivity tests included?	IAN 170/12v3, to adjust modelled results, LTTE6, LAEI projections
Significance determined in accordance with...	IAN 174/13