



SILVERTOWN TUNNEL

**+520 Over-Height
Vehicles (OHV) Scenario:
Noise Impacts**

T010021

March 2017

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Document Reference: 8.85

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Rev.	Date	Approved By	Signature	Description
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List of Abbreviations

AADT	Annual Average Daily Traffic
CMS	Construction Method Statement
ExA	Examining Authority
HGV	Heavy Good Vehicle
OHV	Over-height vehicles
TfL	Transport for London

1. INTRODUCTION

1.1 Draft HGV Management Strategy

- 1.1.1 The approach taken by the Applicant to estimating the number of Over-Height Vehicles (OHVs) that could potentially use the Silvertown Tunnel northbound is set out in Section 5 of the Draft HGV Management Strategy (Appendix K of Response to ExA First Written Questions: *Air Quality* (REP1-151)).
- 1.1.2 In summary, the estimate is based on both the total number of OHVs recorded at Blackwall Tunnel southbound and the difference in northbound and southbound flows at the Blackwall Tunnel (520 Annual Average Daily Traffic (AADT)). The estimate also takes into account the deterrence effect of the user charge on HGVs (assumed 10% reduction, 470 AADT) and the additional journey time that would be incurred in using the Silvertown Tunnel compared to the Blackwall Tunnel (assumed 15% reduction, 400 AADT).
- 1.1.3 The environmental implications of an additional 400 AADT were considered in the Appendix K of Response to ExA First Written Questions: *Air Quality* (REP-151) and the tests have concluded that a 'worst case' sensitivity scenario of 400 additional AADT HGVs would not materially change the conclusions about the significance of effect of any air quality or noise effects presented in the ES (APP-031).

1.2 Purpose of this note

- 1.2.1 For the detailed reasons previously set out in Section 5 of the Draft HGV Management Strategy (Appendix K of Response to ExA First Written Questions: *Air Quality* [REP1-151 p.1022-1089]), the Applicant considers that 400 OHVs (AADT) represents the 'worst case' assessment and that in practice it is likely that HGV flows on the local highway network in Silvertown would in fact be much lower due to expected changes to land uses in the area.
- 1.2.2 However, London Borough of Newham, at the Issue Specific Hearing on 18 January 2017, has queried whether the same conclusions regarding noise impacts would apply if there were 520 vehicles (i.e. the unadjusted number of OHVs) travelling northbound, and the Applicant was requested to update the analysis, and present the results to the Examination. This was based on the suggestion that some OHVs might currently be deterred from using the

crossing in both directions due to the presence of the northbound height restriction.

2. NOISE IMPACTS

2.1 Assessment methodology

- 2.1.1 The implications of 520 additional OHVs utilising Silvertown Tunnel in the northbound direction have been assessed and compared to the findings presented within the Environmental Statement (ES) (APP-031).
- 2.1.2 The 'Do something' (Assessed Case) traffic data set accounting for the additional 520 OHVs has been modelled and compared to the 'Do Minimum' (Reference Case) traffic data set. This additional modelling has been undertaken to test whether the additional 520 OHVs would result in any significant effects or conclusions different to those presented in the ES.
- 2.1.3 The following scenarios, as presented in the ES, have been compared to understand the short term and long term noise impacts of the Scheme:
- Do Minimum 2021 (Reference Case) v Do Something 2021 (Assessed Case) - Short term impact; and
 - Do Minimum 2021 (Reference Case) v Do Something 2036 (Assessed Case) - Long term impact.

2.2 Short term noise impacts

- 2.2.1 The results of the assessment when compared to the ES indicate that the magnitude of change in road traffic noise as a result of the additional OHVs would not be materially worse than that presented in the ES.
- 2.2.2 The results of the noise assessment with the additional 520 HGVs are presented in accordance with the format specified in the Design Manual for Roads and Bridges. As presented in Table 1 below, the following is concluded in relation to the daytime (as suggested by DMRB) period:
- a small rise (+2,117) in the number of dwellings experiencing a negligible increase in road traffic noise;
 - a small rise (+336) in the number of dwellings experiencing a minor increase in road traffic noise;
 - a small fall (-579) in the number of dwellings predicted to experience no change in road traffic noise;

- a small fall (-1,558) in the number of dwellings predicted to experience a negligible decrease in road traffic noise; and
- a small fall (-316) in the number of dwellings predicted to experience a slight decrease in road traffic noise.

2.2.3 As with the Assessed Case presented in the ES, in the short term there are no dwellings predicted to experience a change in road traffic noise level of greater than 3dB resulting in a 'slight adverse' significance of effect, and the number of dwellings predicted to experience a change in road traffic noise level remain broadly in line with the Assessed Case. As such the conclusion drawn for the Assessed Case with regard to road traffic noise would remain the same for the short-term assessment and the significance of effect is the same as concluded in Chapter 14 of the ES (APP-031).

Table 1 Short Term Noise Impacts

Change in noise level		Opening Year (2021) Noise Assessment ES		Opening Year (2021) Noise Assessment with +520 OHV's	
		Daytime		Daytime	
		Number of dwellings	Number of Other Sensitive Receptors	Number of dwellings	Number of Other Sensitive Receptors
Increase in noise level, L _{A10,18-hour}	0.1 - 0.9	24487	18	26604	19
	1.0 - 2.9	1868	3	2204	4
	2.9 - 4.9	0	0	0	0
	>5	0	0	0	0
No Change	0	8236	5	7657	6
Decrease in noise level, L _{A10,18-hour}	0.1 - 0.9	11194	10	9636	7
	1.0 - 2.9	1725	3	1409	3
	2.9 - 4.9	0	0	0	0
	>5	0	0	0	0

2.3 Long term noise impacts

2.3.1 The results of the assessment when compared to the ES indicate that the magnitude of change in road traffic noise as a result of the additional OHVs would not be materially worse than that presented in the ES (APP-031).

2.3.2 The results of the noise assessment with the additional 520 OHVs are presented in accordance with the format specified in the Design Manual for Roads and Bridges (and thus taking account of both day and night time). As presented in Table 2 below, the following is concluded in relation to the daytime period:

- a small rise (+324) in the number of dwellings experiencing a negligible increase in road traffic noise;
- a small rise (+2) in the number of dwellings experiencing a minor increase in road traffic noise;
- a small fall (-118) in the number of dwellings predicted to experience no change in road traffic noise; and
- a small fall (-208) in the number of dwellings predicted to experience a negligible decrease in road traffic noise.

2.3.3 During the night-time period the results of the assessment with the 520 OHVs are similar to the long-term daytime assessment and are concluded as follows:

- a small rise (+221) in the number of dwellings experiencing a negligible increase in road traffic noise;
- a small rise (+3) in the number of dwellings experiencing a minor increase in road traffic noise;
- a small increase (+568) in the number of dwellings predicted to experience no change in road traffic noise; and
- a small fall (-788) in the number of dwellings predicted to experience a negligible decrease in road traffic noise.

2.3.4 As with the Assessed Case presented in the ES, in the long term there are no dwellings predicted to experience a change in road traffic noise level of greater than 4.9dB, and the number of dwellings predicted to experience a change in road traffic noise level remain broadly in line with the Assessed

Case. As such the conclusion drawn for the Assessed Case with regard to road traffic noise would remain the same for the long-term assessment and the significance of effect is the same as concluded in Chapter 14 of the ES (APP-031).

Table 2 Long Term Noise Impacts

Change in noise level		Design Year (2036) Noise Assessment ES			Design Year (2036) Noise Assessment ES with +520 OHV's		
		Number of dwellings	Number of other sensitive receptors	Number of dwellings	Number of dwellings	Number of other sensitive receptors	Number of dwellings
		Daytime		Night-Time	Daytime		Night-Time
Increase in noise level, LA10,18-hour	0.1 - 2.9	7304	6	2563	7628	10	2784
	3.0 - 4.9	53	0	6	55	0	9
	5.0- 9.9	0	0	0	0	0	0
	>10	0	0	0	0	0	0
No Change	0	5458	0	230	5340	1	798
Decrease in noise level, LA10,18-hour	0.1 - 2.9	34695	33	10666	34487	28	9878
	3.0 - 4.9	0	0	0	0	0	0
	5.0- 9.9	0	0	0	0	0	0
	>10	0	0	0	0	0	0

3. CONCLUSION

- 3.1.1 A sensitivity test was undertaken to identify any potential significant noise effects in the unlikely scenario of additional 520 OHVs using the Silvertown tunnel in the northbound direction.
- 3.1.2 Overall, the sensitivity test undertaken on short-term and long term noise impacts with the 520 additional OHVs shows that the results would not be materially worse than the results presented in Chapter 14 of the ES and the conclusions related to the significance of effects for operational road traffic noise remains as reported (APP-031).