

Appendix 12.4

Operational Traffic Prediction Methodology & Data

Operational traffic noise has been predicted at the relevant noise sensitive receptors using the calculation methodology from CRTN within the noise calculation software package IMMI for three traffic scenarios as detailed in Chapter 12 of the ES, based on the following flow data provided by the Applicant's transport consultant.

As well as the flow data, the predictions take account of the average speed, the type of road surface, the distance between the roads and the receptors, the ground type, the intervening topography and any other obstacles.

The values for the daytime represent the annual average weekday traffic (AAWT) value for the 18 hour period of 06:00 to 00:00, as required by CRTN; the values for the night-time are the AAWT for the 8 hour period of 23:00 to 07:00 as advised by DMRB.

Table 1: Data used for predictions of operational traffic noise - Day

Road	Section	2022 Baseline			First Year of Full Site Operation (2026) - Without Proposed Development			First Year of Full Site Operation (2026) - With Proposed Development		
		Car/LGV	HGV	Total Vehicles	Car/LGV	HGV	Total Vehicles	Car/LGV	HGV	Total Vehicles
A635	Between proposed site access roundabout and Billingley Green Lane	20,612	2,496	23,108	23,571	2,511	26,082	25,515	3,832	29,347
A635	West of Billingley Green Lane	19,873	2,490	22,363	22,775	2,506	25,281	24,632	3,826	28,458
A635	East of Cathill Roundabout	19,935	2,445	22,380	22,817	2,461	25,278	24,675	3,781	28,456
A6195	South of Cathill Roundabout	23,715	2,140	25,855	26,323	2,154	28,477	27,345	3,016	30,361
A635	West of Cathill Roundabout	13,401	1,111	14,513	14,544	1,119	15,662	15,031	1,385	16,416
A6195	North of Cathill Roundabout	16,944	1,517	18,461	18,849	1,527	20,376	19,197	1,719	20,916
A635	Between proposed site access roundabout and Hollygrove Roundabout	20,575	2,484	23,059	23,534	2,500	26,034	25,357	3,162	28,519
A635	East of Hollygrove Roundabout	12,898	2,519	15,417	13,846	2,535	16,381	14,571	3,198	17,769
Barnsley Road	East of Hollygrove Roundabout	6,646	409	7,055	8,455	412	8,866	8,745	412	9,157
Highgate Lane	North of Commercial Road	7,712	293	8,005	8,758	295	9,054	8,758	295	9,054
Highgate Lane	South of Commercial Road	9,822	385	10,208	11,141	388	11,529	11,948	388	12,336
A635	West of Fields End Roundabout	12,834	2,469	15,303	13,781	2,485	16,266	14,507	3,147	17,654
A635	East of Fields End Roundabout	12,429	2,623	15,052	13,422	2,640	16,062	13,857	3,302	17,159
A635	West of Hickleton Road / Red Hill Lane	17,314	2,943	20,257	19,109	2,962	22,071	19,545	3,624	23,169
A635	East of Hickleton Road / Red Hill Lane	14,060	2,789	16,849	15,703	2,807	18,510	16,108	3,469	19,577
A635	West of Blacksmiths Lane	14,131	2,839	16,970	15,744	2,857	18,602	16,149	3,520	19,669
A635	East of Blacksmiths Lane	17,751	3,047	20,798	19,388	3,066	22,454	19,793	3,729	23,521
A635	West of Church Lane	17,808	3,011	20,819	19,445	3,030	22,476	19,850	3,693	23,543
A635	East of Church Lane	17,319	2,996	20,315	18,952	3,016	21,968	19,357	3,678	23,035

Table 2: Data used for predictions of operational traffic noise – Night

Road	Section	2022 Baseline			First Year of Full Site Operation (2026) - Without Proposed Development			First Year of Full Site Operation (2026) - With Proposed Development		
		Car/LGV	HGV	Total Vehicles	Car/LGV	HGV	Total Vehicles	Car/LGV	HGV	Total Vehicles
A635	Between proposed site access roundabout and Billingley Green Lane	2,581	541	3,123	2,598	545	3,143	3,003	1,023	4,026
A635	West of Billingley Green Lane	2,489	540	3,029	2,505	543	3,048	2,892	1,022	3,914
A635	East of Cathill Roundabout	2,497	530	3,027	2,513	534	3,046	2,900	1,012	3,912
A6195	South of Cathill Roundabout	2,970	464	3,434	2,989	467	3,456	3,202	779	3,981
A635	West of Cathill Roundabout	1,678	241	1,919	1,689	243	1,932	1,791	339	2,130
A6195	North of Cathill Roundabout	2,122	329	2,451	2,136	331	2,467	2,208	401	2,609
A635	Between proposed site access roundabout and Hollygrove Roundabout	2,577	539	3,116	2,593	542	3,135	2,973	782	3,755
A635	East of Hollygrove Roundabout	1,615	546	2,162	1,626	550	2,176	1,777	790	2,567
Barnsley Road	East of Hollygrove Roundabout	832	89	921	838	89	927	898	89	987
Highgate Lane	North of Commercial Road	966	64	1,029	972	64	1,036	972	64	1,036
Highgate Lane	South of Commercial Road	1,230	84	1,314	1,238	84	1,322	1,406	84	1,490
A635	West of Fields End Roundabout	1,607	535	2,143	1,618	539	2,157	1,769	779	2,548
A635	East of Fields End Roundabout	1,557	569	2,126	1,567	573	2,139	1,657	812	2,470
A635	West of Hickleton Road / Red Hill Lane	2,168	638	2,807	2,182	642	2,825	2,273	882	3,155
A635	East of Hickleton Road / Red Hill Lane	1,761	605	2,366	1,772	609	2,381	1,857	849	2,705
A635	West of Blacksmiths Lane	1,770	616	2,386	1,781	620	2,401	1,865	860	2,725
A635	East of Blacksmiths Lane	2,223	661	2,884	2,237	665	2,902	2,322	905	3,227
A635	West of Church Lane	2,230	653	2,883	2,245	657	2,902	2,329	897	3,226
A635	East of Church Lane	2,169	650	2,819	2,183	654	2,837	2,267	894	3,161