

Summary of AADT flows for Assessment Links

Calculations use worst case link flows from junction assessments

Link Ref	Link Description	AQ Monitor Site Ref.	Scenario		% Impact		% HGV		2019 Background NO2	2019 Background PM10
			DM 2019	DS2A 2019	Air	Noise	DM 2019	DS2A 2019		
5	A6075, Kings Mill Rd East		30451	30868	1.37%	1.37%	6.33%	5.91%		
6	A38 (North of MARR)		36755	37170	1.13%	1.13%	6.33%	6.01%		
7	A38 (South of MARR)		43383	44176	1.83%	1.83%	7.34%	7.32%		
8	A617, MARR (A38 to Hamilton Rd)		25279	27411	8.43%	8.43%	5.69%	5.56%		
9	Hamilton Rd (North of A617)		16046	15858	-1.17%	-1.17%	3.08%	2.72%		
10	Hamilton Rd (South of A617)		16278	16700	2.59%	2.59%	5.21%	5.12%		
11	A617, MARR (Hamilton Rd to A60)	75	28873	32535	12.68%	12.68%	5.95%	5.77%	10.815528	16.253914
12	A611, Derby Rd	74	16263	19127	17.61%	17.61%	5.75%	5.31%	11.543592	16.357308
13	A60, Nottingham Rd (North of A611)	74	21920	24414	11.38%	11.38%	4.47%	5.08%	11.543592	16.357308
14	A60, Nottingham Rd (South of A611)	74	15769	22343	41.69%	41.69%	4.80%	5.35%	11.543592	16.357308
15	A60, Nottingham Rd (South of MARR)		19643	20458	4.15%	4.15%	3.63%	4.71%		
16	A617, MARR (A60 to Adamsway)	75	30472	35306	15.86%	15.86%	7.61%	5.66%	10.815528	16.253914
17	A6117, Adamsway	75	14633	19940	36.27%	36.27%	5.61%	5.50%	10.815528	16.253914
18	A617, MARR (Adamsway to A6191)	76	17329	23991	38.44%	38.44%	9.08%	6.49%	10.210459	15.899626
20	A38, Mansfield Rd		24430	23989	-1.81%	-1.81%	5.41%	5.20%		
21	B6023, Mansfield Rd		18817	17951	-4.60%	-4.60%	5.08%	5.00%		
22	B6139 (East of A38)		14475	14384	-0.63%	-0.63%	4.77%	4.41%		
23	Coxmoor Rd (West of A38)		12635	12074	-4.44%	-4.44%	4.35%	4.32%		
24	A38 (South of B6139)		41228	41920	1.68%	1.68%	7.15%	7.16%		
25	B6020 East		10198	9686	-5.02%	-5.02%	0.15%	0.15%		
26	A60 (South of B6020)		29578	29675	0.33%	0.33%	6.26%	6.16%		
27	B6020 West		15176	16221	6.89%	6.89%	7.58%	5.94%		

Notes:

% : link to be assessed

Data for 2019 concentrations of NO2 and PM10 obtained from www.airquality.co.uk/archive/laqm/tools.php?tool=background06 (Mansfield BC)

AQ Monitoring site location coordinates obtained from www.airquality.co.uk/archive/laqm/tools.php?tool=background06 (Mansfield BC)

Background data for the closest Air Quality monitoring site has been applied to the links identified as requiring assessment.

2019 ALL VEHICLES
JUNCTIONS HIGHLIGHTED IN YELLOW NOT USED IN TRANSPORT ASSESSMENT

SSM Junction Ref	Junction Name	Saturn Node No.	Arm	DM - 2019 AM		DM - 2019 PM		DS2A - 2019 AM		DS2A - 2019 PM		DM - 2019 AM factor for18hr	DM - 2019 PM factor for18hr	DS2A - 2019 AM factor for18hr	DS2A - 2019 PM factor for18hr	Link Ref	DM - 2019 18 hour	DS2A - 2019 18 hour
				Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound							
1	Adams Way/Northern Spine Road	261	Adams Way North Spine Road South Adams Way South	736 #N/A 520	520 #N/A 736	862 #N/A 661	661 #N/A 862	1015 #N/A 290	290 #N/A 1015	595 #N/A 802	802 #N/A 595	1456 #N/A 7400	7400 #N/A 1456	5011 #N/A 9482	9482 #N/A 5011	17	14223	15362
2	A617 MARR/Adams Way	62	Adams Way North MARR East Spine Road South MARR West	736 841 #N/A 1202	520 661 #N/A 1577	862 904 #N/A 1575	661 1130 #N/A 1307	290 1129 #N/A 1600	290 1279 #N/A 1632	595 862 #N/A 1524	802 891 #N/A 1686	1456 790 #N/A 1634	7400 5011 #N/A 9482	1456 5011 #N/A 9482	17	14223	15362	
3	Southwell Road West/Northern Spine Road	360	Southwell Road NE Southwell Road SW Northern Spine Road	1007 1543 #N/A	1543 #N/A 1007	1320 1307 #N/A	1320 1838 #N/A	1466 1478 #N/A	1466 1478 #N/A	1478 1478 #N/A	1478 1478 #N/A	1478 1478 #N/A	1478 1478 #N/A	1478 1478 #N/A	1478 1478 #N/A	16	29714	34318
4	A60 Notingham Road/Cauldwell Road/Development Link	2	A60 North Litchfield Lane East A60 South Cauldwell Road West	876 475 1011 149	641 821 825 764	644 866 817 918	706 871 1103 717	1217 1204 773 483	811 896 969 112	1204 896 969 112	1204 896 969 112	893 4448 11053 2095	893 4448 11053 2095	4442 12324 6627 5052	14	15327	21718	
5	Sherwood Avenue/Northern Spine Road	361	Sherwood Avenue Spine Road East Spine Road West	#N/A #N/A #N/A	#N/A #N/A #N/A	#N/A #N/A #N/A	#N/A #N/A #N/A	279 109 419	157 271 379	206 391 65	28 68 565	#N/A #N/A #N/A	#N/A #N/A #N/A	2571 2241 4698	2571 1509 2074	#N/A #N/A #N/A	3628 4298 7761	
6b	Bellamy Road/Development Internal Link	366	Bellamy Road North Old Newark Rd East Dev. Link South Old Newark Rd West	#N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A	#DIV/0! #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! #DIV/0! #DIV/0!	#N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A	#DIV/0! #DIV/0! #DIV/0! #DIV/0!	#N/A #N/A #N/A #N/A	#DIV/0! #DIV/0! #DIV/0! #DIV/0!	#N/A #N/A #N/A #N/A	
7	A617 MARR/A60 Notingham Road	63	A60 North MARR East A60 South MARR West	825 1577 1103 1276	1011 1202 1075 1435	861 907 999 1230	817 1692 1100 1580	773 1600 1083 1473	1103 1600 1083 1355	346 1524 708 1568	969 1524 708 1568	10811 16384 13185 15966	10811 16384 13185 15966	5650 9481 6821 8524	11063 12922 13729 17980	6299 3892 6879 9616	14 16 15 11	19093 29619 22927 28365
7a	A617 MARR/Development Link	260	Development Link MARR East MARR West	#N/A 841 882	#N/A 682 841	#N/A 837 904	#N/A 904 947	#N/A 693 844	#N/A 844 855	#N/A 8971 8971	#N/A 8971 8971	#N/A 5242 5242	#N/A 5727 5727	#N/A 9657 9657	#N/A 5588 5588	#N/A 769 769	#N/A 16844 16844	#N/A 23320 23320
8	A60/A611/Litchfield Road	3	A60 North A611 A60 South Atkin Lane	994 647 1056 511	1079 876 912 454	862 708 885 645	1058 708 1230 372	1142 1217 1060 512	1220 827 882 643	1138 1138 11823 5686	1220 827 882 5686	12208 8933 13846 5686	12208 8933 13846 5686	6383 4442 6006 3346	13913 8627 13485 6635	6794 1437 6404 3393	13 10 13 10	21306 21718 22793 10350
9	A60/Berry Hill Lane/Atkin Lane	4	A60 North Berry Hill Lane A60 South Atkin Lane	1066 418 695 511	1140 457 912 454	693 865 885 645	965 861 1230 613	671 1238 1060 727	1238 1060 882 727	1238 1060 882 727	1075 1079 11823 5686	1079 1079 11823 5686	5455 7123 6006 3346	11242 7123 13485 6635	5911 4123 6404 3393	9 13 10 10	15597 12373 20432 10350	
10	A617 MARR/Hamilton Road	78	Hamilton Road North MARR East Hamilton Road South MARR West	690 1283 778 1284	959 1363 797 1066	554 1119 736 1061	672 1119 641 1247	727 1444 803 1433	926 1444 730 1065	573 1170 676 1375	979 1444 927 13846	10811 16384 13185 15966	10811 16384 13185 15966	5650 9481 6821 8524	11063 12922 13729 17980	6299 3892 6879 9616	14 16 15 11	19093 29619 22927 28365
11	A6075/A38/B6023 "Kingsmill Hospital" Junction	48	A6075 North A38 East A38 South B6023	1213 900 1811 896	1257 1427 1519 619	1474 1650 1824 1149	1954 1160 1826 864	1275 1427 1563 1094	1247 1427 1659 944	1443 1160 1856 1094	2000 1459 1659 944	1459 1459 1659 944	1459 1459 1659 944	11279 7016 11960 7039	14854 9246 10960 8521	11328 7016 63726 6705	5 20 6 21	25998 23746 35726 18291
12	A617 MARR/A38 Kings Mill Road East	79	A617 North MARR East A38 South	1519 1066 2218	1811 1284 2052	1149 1061 2052	950 1247 2052	864 1150 1731	864 1150 2162	894 1065 2162	894 1065 2162	894 1065 2162	894 1065 2162	894 1065 2162	894 1065 2162	894 1065 2162	894 1065 2162	894 1065 2162
13	A38/Coxmoor Road	49	A38 North Coxmoor Road East A38 South Coxmoor Road West	1708 395 2089 574	2218 654 1854 549	2104 1054 1753 606	2052 973 1815 543	1731 973 2154 518	2277 1420 1861 585	2162 1420 1734 628	2049 959 23229 6612	23123 3092 11739 6612	13673 3092 23651 6250	23612 3092 23651 6250	13857 3092 11904 3992	7 22 24 23	42168 14070 40074 12282	
14	A60/B6020	58	A60 North B6020 East A60 South B6020 West	879 566 1455 634	1119 366 1213 834	1039 968 1423 678	968 411 1443 606	856 411 1443 791	1241 392 1443 820	1043 392 1443 685	977 545 1443 685	11766 545 15713 8646	11766 545 15713 8646	6605 5166 9375 9484	12384 5166 15674 9484	6647 3030 9496 4274	15 25 26 27	21063 9415 28845 15767
15	A6191 Southwell Road West/Oak Tree Lane/Adams Way	9	Oak Tree Lane A6191 East Adams Way A6191 West	1339 624 892	1224 1252 850	1230 1036 814	1036 1305 521	1670 1686 933	1670 1686 933	1339 1341 973	1339 14915 1167	1339 14915 1167	1339 14915 1167	1339 14915 1167	1339 14915 1167	1339 14915 1167	1339 14915 1167	1339 14915 1167
16	A617 MARR/Southwell Road East	57	Rainworth Bypass B6020 MARR Southwell Road	1219 1035 682 1007	836 722 841 1543	1010 750 904 1320	1153 1058 693 836	1258 1205 857 1536	890 823 808 1478	1176 1169 844 986	1258 10349 8971 15018	1258 10349 8971 15018	1258 10349 8971 15018	1258 10349 8971 15018	1258 10349 8971 15018	1258 10349 8971 15018	1258 10349 8971 15018	
17	Southwell Road West/Sherwood Oaks	17	Southwell Road West Business Park Southwell Road East Sherwood Avenue	1134 179 1543 81	1403 446 1007 446	1065 579 1320 806	1209 174 1486 157	1642 425 1331 279	1424 559 1138 28	1306 81 1478 28	1206 3679 15018 1496	1206 3679 15018 1496	1206 3679 15018 1496	1206 3679 15018 1496	1206 3679 15018 1496	1206 3679 15018 1496	1206 3679 15018 1496	
18	A6075/B6014 Skegby Lane	69	A6075 North B6014 East A6075 South B6014 West	1478 437 1257 1082	1309 508 1213 1225	1404 585 1954 1224	1640 666 1474 1098	1507 510 1247 1179	1345 605 2000 1024	1630 5564 14549 1323	1630 5564 14549 1323	1630 5564 14549 1323	1630 5564 14549 1323	10017 4117 11279 7520	16337 5235 14854 13414	9789 3736 11328 7392	30252 11094 29598 24192	
19	A38/B6014 Skegby Lane	41	A38 East Sheepbridge Lane A38 West B6014	979 487 1219 829	1000 563 1365 586	921 636 1269 740	1039 473 1227 830	1004 628 1421 856	966 507 1181 545	979 633 1181 661	11652 6186 15224 8334	11652 6186 15224 8334	6449 3949 9258 5165	11603 6481 15601 8266	6207 3979 8767 4925	20743 11615 28057 15471	20410 11987 27925 15105	
20	A60/B6030 Forest Road	20	A60 North A60 South	547 100	825 393	545 121	556 330	590 103	690 434	8077 365	8077 365	3801 1483	3801 1483	8435 3164	4212 1590	13612 5022	14493 5448	
21	A6191 Southwell Road West/B6030 Carter Lane	25	Carter Lane Southwell Road East Windsor Road Southwell Road West	716 957 897 812	868 829 537 749	463 988 988 970	784 1144 534 819	931 10521 584 809	446 1075 584 809	829 10521 584 809	9328 10521 7271 809	9328 10521 7271 809	3844 5967 3689 6257	41012 13018 7341 6257	10102 6960 3844 6257	15095 18895 12560 12713	16385 22895 13047 17238	
22	Berry Hill Lane/Lindhurst Lane	7	Berry Hill Lane East Lindhurst Lane Berry Hill Lane West	402 275 314	406 238 404	423 300 472	481 375 403	515 375 403	485 431 452	431 341 452	603 3022 452	4762 3022 452	2974 1627 452	2974 1627 452	5892 2402 3062	5892 2402 3062	8864 5328 8984	10653 7930 10653
23	Adamsway/Bellamy Road/Lindhurst Lane Roundabout	12	Bellamy Road North Bellamy Road South Adams Way South Lindhurst Lane	151 223 520 350	98 151 736 362	121 101 862 243	69 211 1015 484	56 129 802 426	125 66 802 4195	1488 2203 7400 4195	1488 2203 7400 4195	1488 2203 7400 4195	1488 2203 7400 4195	1488 2203 7400 4195	1488 2203 7400 4195	1488 2203 7400 4195	1488 2203 7400 4195	
24	A6191/Berry Hill Lane	8	Southwell Road East Berry Hill Lane Southwell Road West	1004 406 846	1044 402 846	1055 481 846	1013 423 877	1004 485 877	1237 603 877	1077 431 877	1077 431 877	1077 431 877	1077 431 877	1077 431 877	1077 431 877	1077 431 877	1077 431 877	1077 431 877
25	Sheepbridge Lane/Hamilton Way	133	Quarry Lane Sheepbridge Ln East Hamilton Way Sheepbridge Ln West	292 618 449 541	379 487 527 436	353 537 747 678	527 792 647 618	311 647 427 618	402 554 437 581	357 554 437 581	357 554 437 581	357 554 437 581	357 554 437 581	2895 4375 4261 4108	4196 7071 6880 6360	2848 2248 15151 4137	7852 12476 14475 11305	
26	A6117/Jubilee Way Roundabout	125	A6117 North Jubilee Way A6117 South	1050 352 1088	966 314 1210	970 334 1020	1118 479 1539	1219 405 1446	794 346 1446	1022 348 1561	1176 507 12683	1176 507 12683	1176 507 12683	1176 507 12683	6872 2676 4079	11852 4420 15363	7233 2813 8421	21484 7680 24137
27	Violet Hill/Crown Farm Way	28	Violet Hill North Crown Farm Way Violet Hill South	330 991	561 955	667 1158	266 1040	318 903	533 1192	639 1192	259 1181	5248 11461	5248 11461	5248 11461	5248 11461	5248 11461	5248 11461	5248 11461

Note:
 18 hour AADT calculated using t formula: (AM Peak multiplied by 5.89 plus PM peak multiplied by 3.29) multiplied by 1.146

Summary of 18 Hour flows for Assessment Links

Calculations use worst case link flows from junction assessments

Link Ref	Link Description	Scenario		% Impact Noise	% HGV DM 2019	% HGV DS2A 2019	DM dBA	DS2A dBA	Difference
		DM 2019	DS2A 2019						
5	A6075, Kings Mill Rd East	29598	30004	1.37%	6.33%	5.91%	81.91	81.89	-0.01
6	A38 (North of MARR)	35726	36129	1.13%	6.33%	6.01%	82.72	82.72	-0.01
7	A38 (South of MARR)	42168	42939	1.83%	7.34%	7.32%	83.61	83.68	0.07
8	A617, MARR (A38 to Hamilton Rd)	24571	26644	8.43%	5.69%	5.56%	80.21	80.53	0.33
9	Hamilton Rd (North of A617)	15597	15414	-1.17%	3.08%	2.72%	74.02	73.85	-0.17
10	Hamilton Rd (South of A617)	15823	16232	2.59%	5.21%	5.12%	74.74	74.83	0.09
11	A617, MARR (Hamilton Rd to A60)	28065	31624	12.68%	5.95%	5.77%	80.83	81.32	0.48
12	A611, Derby Rd	15808	18592	17.61%	5.75%	5.31%	74.89	75.47	0.58
13	A60, Nottingham Rd (North of A611)	21306	23731	11.38%	4.47%	5.08%	75.81	76.46	0.65
14	A60, Nottingham Rd (South of A611)	15327	21718	41.69%	4.80%	5.35%	67.90	69.55	1.65
15	A60, Nottingham Rd (South of MARR)	19093	19885	4.15%	3.63%	4.71%	70.63	72.28	1.65
16	A617, MARR (A60 to Adamsway)	29619	34318	15.86%	7.61%	5.66%	75.08	75.59	0.51
17	A6117, Adamsway	14223	19382	36.27%	5.61%	5.50%	81.36	81.65	0.29
18	A617, MARR (Adamsway to A6191)	16844	23320	38.44%	9.08%	6.49%	58.26	59.58	1.32
20	A38, Mansfield Rd	23746	23317	-1.81%	5.41%	5.20%	#N/A	#N/A	#N/A
21	B6023, Mansfield Rd	18291	17449	-4.60%	5.08%	5.00%	77.45	77.11	-0.34
22	B6139 (East of A38)	14070	13982	-0.63%	4.77%	4.41%	76.23	75.83	-0.40
23	Coxmoor Rd (West of A38)	12282	11736	-4.44%	4.35%	4.32%	74.11	74.73	0.62
24	A38 (South of B6139)	40074	40746	1.68%	7.15%	7.16%	73.39	71.69	-1.70
25	B6020 East	9913	9415	-5.02%	0.15%	0.15%	82.60	82.49	-0.10
26	A60 (South of B6020)	28750	28845	0.33%	6.26%	6.16%	70.95	72.69	1.74
27	B6020 West	14751	15767	6.89%	7.58%	5.94%	77.63	#N/A	#N/A

Notes:

% : link to be assessed

Lindhurst, Mansfield

Road Traffic Noise Assessment

MARR - 2019 With Development Scenario - With Mitigation Measures

Table 1: Source Noise Calculations

	2019 With Dev 18 Hour Traffic Flows	HGVs	%HGVs	Speed Limit	Gradient	dBa based on 18-hour Traffic Flow	Adjustment for mean speed and HGVs (dBA)	Adjustment for gradient (dBA)	Correction for surface type (dBA)	Basic Noise Level (dBA)
Segment A	34318	-	5.7%	97	2.7	74.455	2.254	0.8	-1.07905	76.44
Segment B	34318	-	5.7%	97	0.2	74.455	2.254	0.1	-1.07905	75.69
Segment C (a)	34318	-	5.7%	97	3.9	74.455	2.254	1.2	-1.07905	76.80
Segment C (b)	34318	-	5.7%	97	3.9	74.455	2.254	1.2	-1.07905	76.80
Segment D (a)	34318	-	5.7%	97	4.5	74.455	2.254	1.4	-1.07905	76.98
Segment D (b)	34318	-	5.7%	97	4.5	74.455	2.254	1.4	-1.07905	76.98
Segment E	34318	-	5.7%	97	2.6	74.455	2.254	0.8	-1.07905	76.41
Segment F	23320	-	6.5%	97	3.1	72.777	2.256	0.9	-1.07905	74.88
Segment G	23320	-	6.5%	97	1.4	72.777	2.256	0.4	-1.07905	74.37
Segment H	23320	-	6.5%	97	1.0	72.777	2.256	0.3	-1.07905	74.25

Table 2: Correction for Distance

	Distance from edge of carriageway to receptor (m)	height of receptor (m)	h	d' - Shortest Slant Distance (m)	Correction for Distance (dBA)
Segment A	90	8.7	8.2	93.86	-8.421
Segment B	95	3.62	3.12	98.55	-8.633
Segment C (a)	24	6.54	6.04	28.16	-3.192
Segment C (b)	18	5.55	5.05	22.09	-2.138
Segment D (a)	24	6.75	6.25	28.20	-3.199
Segment D (b)	20	2.88	2.38	23.62	-2.430
Segment E	22	1.93	1.43	25.54	-2.769
Segment F	20	6.64	6.14	24.29	-2.551
Segment G	22	3.76	3.26	25.71	-2.797
Segment H	21	6.01	5.51	25.11	-2.695

Table 3: Correction for Barrier

	Distance from edge of carriageway to barrier (m)	Distance from barrier to receptor (m)	Height of barrier (m)	Barrier Height Value (m)	Difference between Barrier Height and Receptor Height	SB	BR	SR	Noise Barrier Path Difference (m)	CRTN Chart 9b - Shadow Zone Correction (dBA)
Segment A				0	0	0.00	0.00	0.00	0.00	
Segment B				0	0	0.00	0.00	0.00	0.00	
Segment C (a)	10	14	2	1.5	4.54	13.58	14.72	28.16	0.15	-10.1
Segment C (b)	10	8	2	1.5	3.55	13.58	8.75	22.09	0.25	-11.3
Segment D (a)	10	14	2	1.5	4.75	13.58	14.78	28.20	0.17	-10.4
Segment D (b)	5	15	2	1.5	0.88	8.63	15.03	23.62	0.04	-7.9
Segment E	10	12	2	1.5	-0.07	13.58	12.00	25.54	0.04	-7.9
Segment F	10	10	2	1.5	4.64	13.58	11.02	24.29	0.32	-11.9
Segment G	10	12	2	1.5	1.76	13.58	12.13	25.71	0.00	-5
Segment H	10	11	2	1.5	4.01	13.58	11.71	25.11	0.18	-10.5

Table 4: Correction for ground absorption

	Percentage of absorbent ground cover within segment	Value I	Average height (H)	d+5/6	Correction for Ground Absorption (dBA)
Segment A	90%	1	4.6	15.83	-2.882
Segment B	90%	1	2.06	16.67	-4.980
Segment C(a)	75%	0.75	3.52	4.83	-0.572
Segment C (b)	75%	0.75	3.025	3.83	-0.433
Segment D (a)	75%	0.75	3.625	4.83	-0.518
Segment D (b)	75%	0.75	1.69	4.17	-1.695
Segment E	75%	0.75	1.215	4.50	-2.511
Segment F	75%	0.75	3.57	4.17	-0.280
Segment G	75%	0.75	2.13	4.50	-1.382
Segment H	75%	0.75	3.255	4.33	-0.519

Table 5: Correction for façade reflection

	Angle of View	Angle of reflection	Façade Correction (dBA)
Segment A	180	45	0.38
Segment B	180	60	0.50
Segment C (a)	180	150	1.25
Segment C (b)	180	150	1.25
Segment D (a)	180	150	1.25
Segment D (b)	180	150	1.25
Segment E	180	140	1.17
Segment F	180	60	0.50
Segment G	180	5	0.04
Segment H	180	5	0.04

Table 6: Initial Results

	Reception Point Noise	Category
Segment A	65.51	C
Segment B	62.58	B
Segment C (a)	64.19	C
Segment C (b)	64.18	C
Segment D (a)	64.11	C
Segment D (b)	66.21	C
Segment E	64.40	C
Segment F	60.65	B
Segment G	65.24	C
Segment H	60.58	B

Table 7: Correction for façade and category and Final Estimated Category

1 metre façade correction -3 db(A)	Category C & D correction -2 db(A)	Category
62.51	62.51	B
59.58	59.58	B
61.19	61.19	B
61.18	61.18	B
61.11	61.11	B
63.21	61.21	B
61.40	61.40	B
57.65	57.65	B
62.24	62.24	B
57.58	57.58	B

Lindhurst, Mansfield

Road Traffic Noise Assessment

MARR - 2019 With Development Scenario - Including PPG24 db(A) reductions

Table 1: Source Noise Calculations

	2019 With Dev 18 Hour Traffic Flows	HGVs	%HGVs	Speed Limit	Gradient	dBA based on 18-hour Traffic Flow	Adjustment for mean speed and HGVs (dBA)	Adjustment for gradient (dBA)	Correction for surface type (dBA)	Basic Noise Level (dBA)
Segment A	34318	-	5.7%	97	2.7	74.455	2.254	0.8	-1.07905	76.44
Segment B	34318	-	5.7%	97	0.2	74.455	2.254	0.1	-1.07905	75.69
Segment C (a)	34318	-	5.7%	97	3.9	74.455	2.254	1.2	-1.07905	76.80
Segment C (b)	34318	-	5.7%	97	3.9	74.455	2.254	1.2	-1.07905	76.80
Segment D (a)	34318	-	5.7%	97	4.5	74.455	2.254	1.4	-1.07905	76.98
Segment D (b)	34318	-	5.7%	97	4.5	74.455	2.254	1.4	-1.07905	76.98
Segment E	34318	-	5.7%	97	2.6	74.455	2.254	0.8	-1.07905	76.41
Segment F	23320	-	6.5%	97	3.1	72.777	2.256	0.9	-1.07905	74.88
Segment G	23320	-	6.5%	97	1.4	72.777	2.256	0.4	-1.07905	74.37
Segment H	23320	-	6.5%	97	1.0	72.777	2.256	0.3	-1.07905	74.25

Table 2: Correction for Distance

	Distance from edge of carriageway to receptor (m)	height of receptor (m)	h	d' - Shortest Slant Distance (m)	Correction for Distance (dBA)
Segment A	90	8.7	8.2	93.86	-8.421
Segment B	95	3.62	3.12	98.55	-8.633
Segment C (a)	24	6.54	6.04	28.16	-3.192
Segment C (b)	18	5.55	5.05	22.09	-2.138
Segment D (a)	24	6.75	6.25	28.20	-3.199
Segment D (b)	20	2.88	2.38	23.62	-2.430
Segment E	22	1.93	1.43	25.54	-2.769
Segment F	20	6.64	6.14	24.29	-2.551
Segment G	22	3.76	3.26	25.71	-2.797
Segment H	21	6.01	5.51	25.11	-2.695

Table 3: Correction for Barrier

	Distance from edge of carriageway to barrier (m)	Distance from barrier to receptor (m)	Height of barrier (m)	Barrier Height Value (m)	Difference between Barrier Height and Receptor Height	SB	BR	SR	Noise Barrier Path Difference (m)	CRTN Chart 9b - Shadow Zone Correction (dBA)
Segment A				0	0	0.00	0.00	0.00	0.00	
Segment B				0	0	0.00	0.00	0.00	0.00	
Segment C (a)				0	0	0.00	0.00	0.00	0.00	
Segment C (b)				0	0	0.00	0.00	0.00	0.00	
Segment D (a)				0	0	0.00	0.00	0.00	0.00	
Segment D (b)				0	0	0.00	0.00	0.00	0.00	
Segment E				0	0	0.00	0.00	0.00	0.00	
Segment F				0	0	0.00	0.00	0.00	0.00	
Segment G				0	0	0.00	0.00	0.00	0.00	
Segment H				0	0	0.00	0.00	0.00	0.00	

Table 4: Correction for ground absorption

	Percentage of absorbant ground cover within segment	Value I	Average height (H)	d+5/6	Correction for Ground Absorption (dBA)
Segment A	90%	1	4.6	15.83	-2.882
Segment B	90%	1	2.06	16.67	-4.980
Segment C(a)	75%	0.75	3.52	4.83	-0.572
Segment C (b)	75%	0.75	3.025	3.83	-0.433
Segment D (a)	75%	0.75	3.625	4.83	-0.518
Segment D (b)	75%	0.75	1.69	4.17	-1.695
Segment E	75%	0.75	1.215	4.50	-2.511
Segment F	75%	0.75	3.57	4.17	-0.280
Segment G	75%	0.75	2.13	4.50	-1.382
Segment H	75%	0.75	3.255	4.33	-0.519

Table 5: Correction for façade reflection

	Angle of View	Angle of reflection	Façade Correction (dBA)
Segment A	180	45	0.38
Segment B	180	60	0.50
Segment C (a)	180	150	1.25
Segment C (b)	180	150	1.25
Segment D (a)	180	150	1.25
Segment D (b)	180	150	1.25
Segment E	180	140	1.17
Segment F	180	60	0.50
Segment G	180	5	0.04
Segment H	180	5	0.04

Table 6: Initial Results

	Reception Point Noise	Category
Segment A	65.51	C
Segment B	62.58	B
Segment C (a)	74.29	D
Segment C (b)	75.48	D
Segment D (a)	74.51	D
Segment D (b)	74.11	D
Segment E	72.30	D
Segment F	72.55	D
Segment G	70.24	C
Segment H	71.08	C

Table 7: Correction for façade and category and attenuation required for Category B

1 metre facade correction -3 db(A)	Category C & D correction -2 db(A)	Category	Attenuation Required for Category B	
62.51	62.51	B	-0.49	No Mitigation Required
59.58	57.58	B	-5.42	No Mitigation Required
71.29	69.29	C	6.29	Require Mitigation
72.48	70.48	C	7.48	Require Mitigation
71.51	69.51	C	6.51	Require Mitigation
71.11	69.11	C	6.11	Require Mitigation
69.30	67.30	C	4.30	Require Mitigation
69.55	67.55	C	4.55	Require Mitigation
67.24	65.24	C	2.24	Require Mitigation
68.08	66.08	C	3.08	Require Mitigation