In Parliament – Session 2021 - 2022

HS2

# High Speed Rail (Crewe – Manchester) Environmental Statement

## Volume 5: Appendix SV-003-0MA05

### Sound, noise and vibration

MA05: Risley to Bamfurlong

Operational sound, noise and vibration report

M271

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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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## Tables

# 1 Introduction

1.1.1 This report is an appendix to the sound, noise and vibration assessment relating to the Risley to Bamfurlong area (MA05). This appendix presents detailed operational sound, noise and vibration levels.

1.1.2 This appendix should be read in conjunction with:

- Volume 2, Community Area reports;
- Volume 3, Route-wide effects;
- Volume 4, Off-route effects; and
- Volume 5, Appendices.

1.1.3 The sound, noise and vibration appendices comprise three sections. The first of these is an introduction to relevant policy and assessment methodology (see Volume 5, Appendix SV-001-00000); this relates to the sound, noise and vibration assessment for all areas.

1.1.4 In addition to this report for the Risley to Bamfurlong area, a baseline and construction sound, noise and vibration report is set out (see Volume 5, Appendix SV-002-0MA05). This includes details of regional and local policy guidance and engagement.

1.1.5 The outcomes of the sound, noise and vibration assessments are summarised in the Volume 2, Community Area reports, including commentary regarding any likely significant effects identified in the assessment.

1.1.6 Maps referred to throughout the sound, noise and vibration appendices are contained in the Volume 2, MA05 Map Book and Volume 5, Sound, noise and vibration Map Book.

# 2 Scope, assumptions and limitations

## 2.1 Methodology

2.1.1 The methodology used for the assessment of airborne sound, ground-borne sound and vibration impacts and the determination of significant effects is defined in the Environmental Impact Assessment Scope and Methodology Report (SMR) (see Volume 5, Appendix CT-001-00001).

## 2.2 Assumptions

2.2.1 Route-wide assumptions are outlined in Volume 1, Section 8, and are further detailed in Volume 5, Appendix SV-001-00000. Local assumptions that apply to the assessment of operational sound, noise and vibration within this area are set out in Volume 2, Community Area report: Risley to Bamfurlong (MA05), Section 13.

## 2.3 Limitations

2.3.1 The route-wide limitations and the approach adopted to ensure that they will not compromise the robust assessment of sound, noise and vibration are presented in Volume 5, Appendix SV-001-00000 and Volume 2, Community Area report: Risley to Bamfurlong (MA05), Section 13.

# 3 Operational

## 3.1 Evaluation of impacts and effects

3.1.1 This appendix provides a quantitative assessment of operational noise and vibration impacts and effects and a qualitative assessment of likely significant effects, based on the impacts and effects identified and other local context information consistent with the scope and methodology defined for the Proposed Scheme.

3.1.2 Indirect effects arising from permanent changes in traffic patterns on the existing road and rail networks as a consequence of the Proposed Scheme are also reported in this appendix, where they would occur within the study area as defined in Volume 5, Appendix SV-001-00000.

3.1.3 Route-wide impacts, effects and significant effects associated with noise or vibration from the operation of the Proposed Scheme are reported in Volume 3, Route-wide effects.

3.1.4 Off-route effects of noise or vibration arising from the operation of the Proposed Scheme, including those likely to arise from permanent changes in traffic patterns on roads or railways outside of the study area for direct effects are reported in Volume 4, Off-route effects.

3.1.5 In undertaking the assessment of sound, noise and vibration, consistent with Environmental Impact Assessment (EIA) Directive[1] and planning practice and guidance on noise[2] a differentiation between impacts, effects, adverse effects and significant effects is made. Further information is provided in Volume 5, Appendix SV-001-00000.

3.1.6 The assessment of impacts has been undertaken at assessment locations that are representative of a number of dwellings or other sensitive receptors. The operational assessment locations employed in this assessment are presented on Volume 5, Sound, noise and vibration Map Book, Map Series SV-02.

3.1.7 Baseline sound level data have been collected at locations representative of the airborne sound-sensitive receptors and presented in Volume 5, Appendix SV-002-0MA05, Table 1.

[1] European Commission, *Environmental Impact Assessment – EIA.* Available online at: Environmental Impact Assessment - EIA - Environment - European Commission (europa.eu).

[2] Ministry of Housing Communities & Local Government (2019), *National Planning Policy Framework*. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf.

# 3.2 Effects arising during operation

## Introduction

3.2.1 The assessment is reported first for ground-borne sound and vibration and then for airborne sound. Under each of these headings, the results of the quantitative identification of impacts, effects and significant effects are presented. The significant effects and the evidence used to support these conclusions are presented in Volume 2, Community Area report: Risley to Bamfurlong (MA05), Section 13.

## Avoidance and mitigation measures

3.2.2 These are set out in Volume 2, Community Area report: Risley to Bamfurlong (MA05), Section 13.

## Quantitative identification of impacts and effects

### Ground-borne sound and vibration

3.2.3 Assessment locations defined for the quantitative assessment of impacts are shown on Volume 5, Sound, noise and vibration Map Book, Map Series SV-02. SV-02 also displays ground-borne noise and vibration impacts and any resultant significant effects.

3.2.4 For each assessment location, the assessment results for residential and non-residential receptors are presented in Table 2. Explanation of the information in Table 2 is provided in Volume 5, Appendix SV-001-00000, with the following additional notes in Table 1.

**Table 1: Explanatory notes for assessment results**

| Symbol | Explanation |
|---|---|
| V1-V4 | Type of receptor (ground-borne vibration) – (V1) vibration sensitive research and manufacturing; hospitals with vibration sensitive equipment/operations; universities with vibration sensitive research equipment/operations, (V2) hotels, hospital wards and education dormitories, (V3) offices, schools and places of worship, (V4) workshops. |
| G1-G4 | Type of receptor (ground-borne sound) – (G1) theatres/large auditoria and concert halls, (G2) sound recording/broadcast studios, (G3) places of meeting for religious worship/courts/cinemas/lecture theatres/museums/small auditoria or halls, (G4) offices/schools/colleges/hospitals/hotels/libraries. |
| NA | Type of effect - Generally no adverse effect. |
| A | Ground-borne sound or vibration levels from the Proposed Scheme exceed Lowest Observed Adverse Effect Level (LOAEL): the significance criteria set out in Volume 5: Appendix SV-001-00000, Annex A, Section 1.3 are considered when establishing significant effects. |
| S | Ground-borne sound or vibration levels from the Proposed Scheme exceed Significant Observed Adverse Effect Level (SOAEL). |
| VDV | Vibration Dose Value. |

| Symbol | Explanation |
|---|---|
| ~ | When considered under the significance criteria set out in Volume 5: Appendix SV-001-00000, Annex A, Section 1.3, these adverse effects are not considered to be significant on a community basis. |
| <> | The quantitative impact methodology has identified an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not gives rise to a significant effect. |
| | Where the significant effect column is highlighted in pink, then a significant effect is identified at the referenced residential community area, or individual receptor. |
| | For residential receptors yellow denotes a low ground-borne noise impact or a minor ground-borne vibration impact. |
| | For residential receptors orange denotes a medium ground-borne noise impact or a moderate ground-borne vibration impact. |
| | For residential receptors red denotes a high ground-borne noise impact or a major ground-borne vibration impact. |
| | For residential receptors dark red denotes a very high ground-borne noise impact. |

**Table 2: Operational ground-borne sound and vibration levels, noise and vibration impacts and effects for residential and non-residential receptors**

| Assessment location | | Impact criteria | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Ground-borne sound level dB $L_{pASmax}$ | VDV m/s$^{1.75}$ Daytime (07:00 – 23:00) | VDV m/s$^{1.75}$ Night-time (23:00 – 07:00 | % increase or decrease in VDV | Number of impacts represented | Type of effect | Type of receptor | Receptor design | Existing environment | Unique feature | Combined impact | Mitigation effect | |
| 617703 | Wigshaw Lane, Culcheth | - | 0.09 | 0.05 | - | 2 | NA | R | T | - | - | - | - | |
| 617712 | Robins Lane, Culcheth | - | 0.08 | 0.05 | - | 1 | NA | R | T | - | - | - | - | |
| 617793 | Brancaster Drive, Lowton | - | 0.09 | 0.05 | - | 5 | NA | R | T | - | - | - | - | |
| 617808 | Hesketh Meadow Lane, Lowton | - | 0.08 | 0.05 | - | 13 | NA | R | T | - | - | - | - | |
| 617967 | Stradbroke Close, Lowton | - | 0.09 | 0.05 | - | 4 | NA | R | T | - | - | - | - | |
| 618081 | Balmer's Farm, Wigan Road, Golborne | - | 0.07 | 0.04 | - | 1 | NA | R | T | - | - | - | - | |
| 618088 | Hesketh Meadow Lane, Lowton | - | 0.08 | 0.05 | - | 22 | NA | R | T | - | - | - | - | |
| 618200 | Wigshaw Lane, Culcheth | - | 0.11 | 0.06 | - | 1 | NA | R | T | - | - | - | - | |
| 618211 | Stradbroke Close, Lowton | - | 0.10 | 0.06 | - | 4 | NA | R | T | - | - | - | - | |
| 618221 | Taylor Business Park (Lower Sensitivity Offices), Risley | - | 0.12 | 0.07 | - | 13 | NA | G4/ V3 | T | - | - | - | - | |
| 618273 | Wigshaw Lane, Culcheth | - | 0.02 | 0.01 | - | 2 | NA | R | T | - | - | - | - | |
| 618278 | Fishery, Wigshaw, Culcheth[3] | - | 0.02 | 0.01 | - | 1 | NA | - | T | - | - | - | - | |

[3] The operational vibration results at this location have been used by other disciplines, namely socio economics, in their assessment.

| Assessment location | | Impact criteria | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Ground-borne sound level dB $L_{pASmax}$ | VDV m/s$^{1.75}$ Daytime (07:00 – 23:00) | VDV m/s$^{1.75}$ Night-time (23:00 – 07:00 | % increase or decrease in VDV | Number of impacts represented | Type of effect | Type of receptor | Receptor design | Existing environment | Unique feature | Combined impact | Mitigation effect | |
| 618283 | Fishery, Wigshaw, Culcheth[3] | - | 0.02 | 0.01 | - | 1 | NA | - | T | - | - | - | - | |

# Ground-borne sound and vibration impact summary

3.2.5 The operational ground-borne noise and vibration impacts identified in Table 2 are summarised in Table 3 and Table 4.

**Table 3: Summary of operational ground-borne noise impacts**

| Property type | Number of ground-borne noise impacts | | | |
|---|---|---|---|---|
| | Low | Medium | High | Very high |
| Residential properties | 0 | 0 | 0 | 0 |
| Non-residential properties | | | | 0 |

**Table 4: Summary of operational ground-borne vibration impacts**

| Property type | Number of ground-borne vibration impacts | | | |
|---|---|---|---|---|
| | Minor | Moderate | Major | Risk of building damage |
| Residential properties | 0 | 0 | 0 | 0 |
| Non-residential properties | | | 0 | 0 |

# Airborne sound: direct impacts and effects

3.2.6 The direct effects from the operation of the Proposed Scheme as well as any new, amended or altered roads or railway lines, which are identified as part of the Proposed Scheme, are presented in Table 6 for residential receptors and Table 7 for non-residential receptors.

3.2.7 The assessment information, impact criteria and significance criteria for the assessment of the incorporated mitigation case at residential and non-residential receptors are presented in Table 6 and Table 7 respectively. The results should be considered in conjunction with the information contained in Volume 5, Sound, noise and vibration Map Book, Map Series SV-02.

3.2.8 Explanation of the information in Table 6 and Table 7 is provided in Volume 5, Appendix SV-001-00000, with the following additional notes in Table 5.

**Table 5: Explanatory notes for operational assessment results**

| Symbol | Explanation |
|---|---|
| | Where the significant effect column is marked, then a significant effect is identified at the referenced group of dwellings, or individual residential or non-residential receptor. |
| | Yellow denotes a minor impact at a residential building. A minor impact is identified where the "Proposed Scheme only (year 15 traffic)" is greater than LOAEL, and either the change is ≥3dB – <5dB, or where a high baseline is identified during the corresponding period the change is ≥1dB – <3dB. |
| | Orange denotes a moderate impact at a residential building. A moderate impact is identified where the "Proposed Scheme only (year 15 traffic)" is greater than LOAEL, and either the change is ≥5dB – <10dB, or where a high baseline is identified during the corresponding period the change is of ≥3dB – <5dB. |
| | Red denotes a major impact at a residential building. A major impact is identified where the "Proposed Scheme only (year 15 traffic)" is greater than LOAEL, and either the change is ≥10dB, or where a high baseline is identified during the corresponding period the change is of ≥5dB. |
| | Green denotes a beneficial impact at a residential building. A beneficial impact is identified where the relevant baseline value is greater than LOAEL and the change is of >3dB. |

| Symbol | Explanation |
|---|---|
| * | Day - $L_{pAeq,07:00 – 23:00.}$ |
| ** | Night - $L_{pAeq,23:00 – 07:00.}$ |
| *** | Max - $L_{pAFmax}$. In the 'Proposed Scheme only' column where two train noise level values are presented. The first value represents the highest maximum noise level from HS2 services. The second value is provided where there are additional services (Northern Powerhouse Rail) operating on the HS2 Scheme and where maximum noise levels from additional services are anticipated to be higher than from HS2 services.<br>In the 'Without Proposed Scheme' column, the value is the arithmetic average $L_{pAFmax,5min}$ as presented in the corresponding baseline technical appendix.<br>For further information refer to Volume 5: Appendix SV-001-00000. |
| **** | Where the Proposed Scheme modifies an existing source, i.e. road or railway realignments, the *Proposed Scheme only* and *(Opening year baseline + Year 15 traffic)* levels in the table include the sound from the modified source. |
| A | Sound levels from the Proposed Scheme exceed LOAEL: the significance criteria set out in Appendix SV-001-00000, Annex A, Section 1.3 are considered when establishing significant effects. |
| B | For non-residential receptors further detail about the type of effect is set out in the text of Appendix SV-001-00000. |
| CD | Committed Development. The 'Area represented' column contains information about the potential number of impacts included in the development. |
| A1 – A4 | Type of receptor (airborne sound) - (A1) large and small auditoria; concert halls, sound recording & broadcast studios and theatres (A2) places of meeting for religious worship, courts, cinemas, lecture theatres, museums and small auditoria or halls, (A3) schools; colleges; hospitals, hotels and libraries (A4) offices and amenity spaces. |
| H | High existing ambient sound level. Defined as >65dB $L_{Aeq, day}$ and/or >55dB $L_{Aeq, night.}$ |
| L | Low existing ambient sound level. Defined as <42dB $L_{Aeq, day}$ and/or <32dB $L_{Aeq, night.}$ |
| LD | Landscape receptor. |
| NA | Sound levels from the Proposed Scheme do not exceed LOAEL, therefore, generally no adverse effect. |
| NI | The receptor is predicted to qualify for mitigation, which shall be provided to the specification defined in the Noise Insulation (Railways and other Guided Rail Systems) Regulations 1996[4]. |
| R | Residential receptor. |
| RM | Residential mooring. |
| S | Sound levels from the Proposed Scheme exceed SOAEL: noise insulation therefore provided. |
| T | Type of receptor: Typical. |
| + | The use and sensitivity of this non-residential receptor or land use is very sensitive to noise and has been included in the detailed assessment (presented in Volume 2) where there is a change less than 3dB. In each case specific information is presented in an associated footnote. |
| # | A change of 3dB or greater has been identified however, the assessment methodology only defines an impact where the absolute sound level from the Proposed Scheme is greater or equal to 50dB $L_{pAeq,07:00 – 23:00}$ during the daytime or 40dB $L_{pAeq,23:00 – 07:00}$ at night. At the receptor denoted the absolute level condition is not met and therefore no impact is identified. |
| ~ | When considered under the significance criteria set out in Annex A, Section 1.3 Volume 5: Appendix SV-001-00000, these adverse effects are not considered to be significant on a community basis. |

[4] *The Noise Insulation (Railway and Other Guided Transport Systems) Regulations 1996*. Her Majesty's Stationery Office, London.

| Symbol | Explanation |
|---|---|
| $ | The impact methodology for non-residential receptors includes a screening criterion for A1 building use of 50dB $L_{pAeq,07:00 - 23:00}$ and 50dB $L_{pAeq,23:00 - 07:00}$, A2 building use of 50dB $L_{pAeq,07:00 - 23:00}$, A3 building use of 50dB $L_{pAeq,07:00 - 23:00}$, and 45dB $L_{pAeq,23:00 - 07:00}$ and for A4 building use 55dB $L_{pAeq,07:00 - 23:00}$. At the receptor denoted, the screening criteria is met but a change of 3dB or greater has not been identified and therefore no impact is identified. Further information is provided in Volume 5: Appendix SV-001-00000. |
| <> | The quantitative impact methodology has identified an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not gives rise to a significant effect. |

**Table 6: Operational airborne sound, noise impacts and significant effects: residential receptors**

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617637 | School Lane, Risley | 36 | 29 | 52/-- | 45 | 39 | 44 | 45 | 39 | 0 | 0 | NA | 2 | R | T | - | - | - | - | |
| 617643 | Inglewood Close, Birchwood | 34 | 28 | 50/-- | 49 | 42 | 48 | 52 | 45 | 3 | 3 | NA | 25 | R | T | - | - | - | - | # |
| 617647 | Risley Remand Centre East, Warrington Road, Risley | 43 | 36 | 52/-- | 47 | 40 | 45 | 46 | 39 | -1 | -1 | NA | 1 | R | T | - | - | - | - | |
| 617648 | Clare's Farm, Warrington Road, Risley | 35 | 29 | 48/-- | 49 | 46 | 52 | 49 | 46 | 0 | 0 | NA | 1 | R | T | - | - | - | - | |
| 617649 | Warrington Road, Risley | 53 | 46 | 52/-- | 64 | 58 | 63 | 64 | 58 | <1 | <1 | A | 4 | R | T | H | - | - | - | |
| 617650 | Hole Mill Farm, Holcroft Lane, Culcheth | 38 | 32 | 55/-- | 64 | 58 | 63 | 64 | 58 | 0 | 0 | NA | 1 | R | T | H | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617655 | New Hall Farm, Severn Road, Culcheth | 45 | 39 | 66/-- | 40 | 33 | <40 | 46 | 40 | 7 | 6 | A | 1 | R | T | L | - | - | - | # |
| 617657 | Holcroft Lane, Culcheth | 42 | 35 | 60/-- | 44 | 38 | 43 | 46 | 40 | 2 | 2 | A | 14 | R | T | - | - | - | - | |
| 617658 | Mustard Lane, Croft | 38 | 32 | 52/-- | 50 | 44 | 49 | 50 | 44 | 0 | 0 | NA | 12 | R | T | - | - | - | - | |
| 617659 | Mustard Lane, Croft | 40 | 34 | 53/-- | 51 | 44 | 49 | 51 | 44 | 0 | 0 | NA | 5 | R | T | - | - | - | - | |
| 617661 | Howard Road, Culcheth | 42 | 35 | 59/-- | 46 | 42 | 47 | 48 | 43 | 1 | 1 | A | 34 | R | T | - | - | - | - | |
| 617662 | Howard Road, Culcheth | 40 | 33 | 58/-- | 46 | 42 | 47 | 47 | 42 | 1 | 0 | A | 31 | R | T | - | - | - | - | |
| 617663 | Howard Road, Culcheth | 39 | 33 | 57/-- | 46 | 42 | 47 | 47 | 42 | 1 | 1 | NA | 26 | R | T | - | - | - | - | |
| 617666 | Severn Road, Culcheth | 40 | 34 | 59/-- | 46 | 42 | 47 | 47 | 42 | 1 | 1 | A | 26 | R | T | - | - | - | - | |
| 617672 | Severn Road, Culcheth | 40 | 33 | 57/-- | 46 | 42 | 47 | 47 | 42 | 1 | 0 | NA | 20 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617674 | Severn Road, Culcheth | 39 | 33 | 57/-- | 46 | 42 | 47 | 47 | 42 | 1 | 0 | NA | 29 | R | T | - | - | - | - | |
| 617675 | Howard Road, Culcheth | 38 | 32 | 57/-- | 46 | 42 | 47 | 47 | 42 | 1 | 0 | NA | 58 | R | T | - | - | - | - | |
| 617676 | Severn Road, Culcheth | 39 | 32 | 57/-- | 40 | 33 | <40 | 42 | 36 | 2 | 2 | NA | 24 | R | T | L | - | - | - | |
| 617680 | Severn Road, Culcheth | 40 | 33 | 60/-- | 46 | 42 | 47 | 47 | 42 | 1 | 0 | A | 35 | R | T | - | - | - | - | |
| 617682 | Downham Avenue, Culcheth | 39 | 32 | 57/-- | <40 | 33 | <40 | 42 | 35 | >2 | 3 | NA | 40 | R | T | L | - | - | - | # |
| 617686 | Crossfield Avenue, Culcheth | 44 | 37 | 56/-- | 43 | 36 | 41 | 45 | 38 | 2 | 2 | NA | 40 | R | T | - | - | - | - | |
| 617689 | Medway Road, Culcheth | 40 | 33 | 59/-- | 46 | 42 | 47 | 47 | 42 | 1 | 1 | A | 26 | R | T | - | - | - | - | |
| 617692 | Ratcliffe House Farm, Medway Road, Culcheth | 38 | 32 | 55/-- | 41 | 35 | 40 | 42 | 36 | 2 | 2 | NA | 1 | R | T | L | - | - | - | |
| 617695 | Crossfield Avenue, Culcheth | 45 | 39 | 54/-- | 45 | 39 | 44 | 46 | 40 | 1 | 1 | NA | 4 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617699 | Newchurch Lane, Culcheth | 51 | 44 | 54/-- | 50 | 44 | 49 | 51 | 45 | 1 | 1 | A | 14 | R | T | - | - | - | - | |
| 617702 | Crossfield Avenue, Culcheth | 40 | 34 | 52/-- | 41 | 35 | 40 | 43 | 36 | 2 | 2 | NA | 16 | R | T | L | - | - | - | |
| 617703 | Wigshaw Lane, Culcheth | 53 | 47 | 71/-- | 59 | 53 | 58 | 54 | 47 | -6 | -6 | A | 2 | R | T | - | - | - | - | |
| 617706 | Warrington Road, Culcheth | 59 | 52 | 54/-- | 62 | 56 | 61 | 62 | 56 | 0 | 0 | A | 8 | R | T | H | - | - | - | |
| 617708 | Wigshaw Lane, Culcheth | 53 | 46 | 64/-- | 52 | 48 | 54 | 56 | 50 | 4 | 2 | A | 4 | R | T | - | - | - | - | MA05-O-C1 |
| 617713 | Pendle Gardens, Culcheth | 47 | 41 | 57/-- | 45 | 39 | 44 | 48 | 42 | 3 | 3 | A | 5 | R | T | - | - | - | - | ~ |
| 617717 | Blakeley Farm, Wigshaw Lane, Culcheth | 47 | 41 | 65/-- | <40 | 30 | <40 | 47 | 41 | >8 | 11 | A | 1 | R | T | L | - | - | - | ~ |
| 617718 | Glebeland, Culcheth | 47 | 41 | 54/-- | 49 | 43 | 48 | 50 | 44 | 1 | 1 | A | 11 | R | T | - | - | - | - | |
| 617719 | Pendle Gardens, Culcheth | 47 | 41 | 59/-- | 46 | 40 | 45 | 49 | 43 | 3 | 3 | A | 12 | R | T | - | - | - | - | ~ |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617720 | Pendle Gardens, Culcheth | 42 | 36 | 56/-- | 46 | 40 | 45 | 47 | 41 | 1 | 1 | NA | 4 | R | T | - | - | - | - | |
| 617721 | Pendle Gardens, Culcheth | 49 | 42 | 60/-- | 52 | 48 | 54 | 58 | 51 | 6 | 3 | A | 2 | R | T | - | - | - | - | ~ |
| 617723 | Pendle Gardens, Culcheth | 43 | 37 | 56/-- | 54 | 48 | 53 | 54 | 48 | 0 | 0 | NA | 33 | R | T | - | - | - | - | |
| 617724 | Pendle Gardens, Culcheth | 41 | 34 | 56/-- | 46 | 40 | 45 | 47 | 40 | 1 | 1 | NA | 88 | R | T | - | - | - | - | |
| 617725 | Wigshaw Lane, Culcheth | 49 | 43 | 58/-- | 57 | 50 | 55 | 57 | 50 | 0 | 0 | A | 5 | R | T | - | - | - | - | |
| 617730 | Wigshaw Lane, Culcheth | 43 | 37 | 57/-- | 63 | 57 | 62 | 63 | 56 | 0 | 0 | NA | 8 | R | T | H | - | - | - | |
| 617742 | Rilston Avenue, Culcheth | 41 | 35 | 54/-- | 40 | 34 | <40 | 43 | 36 | 3 | 3 | NA | 62 | R | T | L | - | - | - | # |
| 617746 | Clifton Avenue, Culcheth | 39 | 33 | 53/-- | 40 | 33 | <40 | 42 | 36 | 2 | 2 | NA | 26 | R | T | L | - | - | - | |
| 617748 | Brookfield Road, Culcheth | 40 | 34 | 56/-- | <40 | 31 | <40 | 41 | 35 | >2 | 4 | NA | 17 | R | T | L | - | - | - | # |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617751 | Brookfield Road, Culcheth | 41 | 34 | 56/-- | 40 | 33 | <40 | 43 | 36 | 3 | 3 | NA | 40 | R | T | L | - | - | - | # |
| 617754 | Kenyon Lane, Kenyon | 36 | 30 | 51/-- | 51 | 45 | 51 | 51 | 45 | 0 | 0 | NA | 17 | R | T | - | - | - | - | |
| 617755 | Brookfield Road, Culcheth | 43 | 36 | 59/-- | 40 | 34 | <40 | 44 | 38 | 4 | 4 | A | 10 | CD-R | T | L | - | - | - | # |
| 617757 | Brookfield Road, Culcheth | 42 | 35 | 58/-- | <40 | 33 | <40 | 43 | 37 | >3 | 4 | A | 21 | R | T | L | - | - | - | # |
| 617760 | Beechwood Lane, Culcheth | 38 | 32 | 55/-- | <40 | 33 | <40 | 41 | 35 | >2 | 2 | NA | 17 | R | T | L | - | - | - | |
| 617764 | Common Lane, Culcheth | 38 | 31 | 53/-- | 55 | 48 | 53 | 55 | 48 | 0 | 0 | NA | 4 | R | T | - | - | - | - | |
| 617767 | Broseley Lane, Kenyon | 38 | 32 | 53/-- | 62 | 56 | 61 | 62 | 56 | 0 | 0 | NA | 38 | R | T | H | - | - | - | |
| 617768 | Broseley Lane, Kenyon | 39 | 32 | 52/-- | 60 | 54 | 59 | 60 | 54 | 0 | 0 | NA | 6 | R | T | - | - | - | - | |
| 617769 | Kenyon Lane, Kenyon | 52 | 46 | 64/-- | 53 | 47 | 51 | 53 | 47 | 1 | 1 | A | 2 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617771 | Broseley Lane, Kenyon | 41 | 34 | 50/-- | 51 | 46 | 49 | 51 | 46 | 0 | 0 | NA | 10 | R | T | - | - | - | - | |
| 617772 | Wilton Lane, Culcheth | 43 | 36 | 53/-- | 59 | 57 | 61 | 66 | 63 | 7 | 6 | NA | 6 | R | T | H | - | - | - | # |
| 617773 | Kenyon Lane, Lowton | 37 | 31 | 49/-- | 47 | 39 | 44 | 47 | 40 | 0 | 0 | NA | 25 | R | T | - | - | - | - | |
| 617774 | Clough Farm, Wilton Lane, Culcheth | 54 | 47 | 63/-- | 53 | 47 | 51 | 54 | 48 | 1 | 1 | A | 1 | R | T | - | - | - | - | |
| 617775 | Laylands Farm, Broseley Lane, Culcheth | 57 | 51 | 50/-- | 58 | 51 | 61 | 58 | 52 | 0 | 0 | A | 3 | R | T | - | - | - | - | |
| 617776 | Newton Road, Lowton and committed development (Map Book ref: MA05/287) | 34 | 28 | 43/-- | 54 | 46 | 51 | 55 | 47 | 1 | 1 | NA | 26 | CD-R | T | - | - | - | - | |
| 617777 | East Lancashire Road, Lowton | 33 | 26 | 45/-- | 69 | 62 | 67 | 69 | 62 | 0 | 0 | NA | 24 | R | T | H | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617778 | East Lancashire Road, Lowton | 34 | 28 | 44/-- | 70 | 62 | 67 | 70 | 62 | 0 | 0 | NA | 24 | R | T | H | - | - | - | |
| 617779 | Newton Road, Lowton | 33 | 26 | 43/-- | 68 | 60 | 65 | 68 | 60 | 0 | 0 | NA | 23 | R | T | H | - | - | - | |
| 617783 | Rowan Avenue, Lowton | 36 | 30 | 49/-- | 58 | 50 | 55 | 58 | 50 | 0 | 0 | NA | 138 | CD-R | T | - | - | - | - | |
| 617784 | Maple Avenue, Lowton | 37 | 31 | 51/-- | 54 | 47 | 52 | 54 | 47 | 0 | 0 | NA | 18 | R | T | - | - | - | - | |
| 617785 | Rowan Avenue, Lowton | 35 | 28 | 48/-- | 47 | 40 | 45 | 47 | 40 | 0 | 0 | NA | 31 | R | T | - | - | - | - | |
| 617786 | Cedar Avenue, Lowton | 40 | 34 | 55/-- | 51 | 43 | 48 | 51 | 43 | 0 | 0 | NA | 30 | R | T | - | - | - | - | |
| 617788 | Kings Avenue, Lowton | 38 | 31 | 52/-- | 45 | 38 | 43 | 46 | 38 | 0 | 1 | NA | 47 | R | T | - | - | - | - | |
| 617789 | Beech Avenue, Lowton | 35 | 29 | 51/-- | 47 | 39 | 44 | 47 | 39 | 0 | 1 | NA | 71 | R | T | - | - | - | - | |
| 617790 | Cedar Avenue, Lowton | 38 | 32 | 54/-- | 49 | 41 | 46 | 50 | 42 | 1 | 1 | NA | 41 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617791 | Brancaster Drive, Lowton | 44 | 38 | 63/-- | 47 | 40 | 45 | 49 | 42 | 2 | 2 | A | 21 | R | T | - | - | - | - | |
| 617793 | Brancaster Drive, Lowton | 43 | 36 | 60/-- | 45 | 37 | 42 | 46 | 39 | 2 | 2 | A | 5 | R | T | - | - | - | - | |
| 617799 | Newton Road, Lowton | 41 | 34 | 59/-- | 64 | 55 | 60 | 63 | 55 | 0 | 0 | A | 5 | R | T | H | - | - | - | |
| 617800 | Stradbroke Close, Lowton | 42 | 36 | 59/-- | 45 | 37 | 42 | 47 | 40 | 2 | 3 | A | 14 | R | T | - | - | - | - | # |
| 617801 | Moorfield Crescent, Lowton | 39 | 33 | 55/-- | 44 | 37 | 42 | 45 | 38 | 1 | 1 | NA | 44 | R | T | - | - | - | - | |
| 617802 | Planewood Gardens, Lowton | 40 | 33 | 56/-- | 49 | 41 | 46 | 49 | 41 | 0 | 0 | NA | 41 | R | T | - | - | - | - | |
| 617803 | Elm Tree Road, Lowton | 35 | 29 | 51/-- | 42 | 35 | 40 | 43 | 36 | 1 | 1 | NA | 61 | R | T | - | - | - | - | |
| 617804 | Newton Road Childrens Home, Hesketh Meadow Lane, Lowton | 43 | 37 | 62/-- | 57 | 49 | 54 | 56 | 48 | 0 | 0 | A | 1 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617805 | Pocket Nook Lane, Lowton | 37 | 30 | 50/-- | 47 | 39 | 44 | 47 | 39 | 0 | 0 | NA | 7 | R | T | - | - | - | - | |
| 617808 | Hesketh Meadow Lane, Lowton | 45 | 39 | 62/-- | 47 | 39 | 44 | 50 | 43 | 3 | 4 | A | 13 | R | T | - | - | - | - | # |
| 617809 | Oaklands Road, Lowton | 40 | 34 | 55/-- | 45 | 37 | 42 | 46 | 39 | 1 | 2 | NA | 34 | R | T | - | - | - | - | |
| 617811 | Alder Road, Lowton | 37 | 31 | 54/-- | 43 | 36 | 41 | 44 | 37 | 1 | 1 | NA | 41 | R | T | - | - | - | - | |
| 617812 | Cherry Tree Road, Lowton | 36 | 30 | 53/-- | 42 | 35 | 40 | 43 | 36 | 1 | 1 | NA | 61 | R | T | - | - | - | - | |
| 617813 | Newton Road, Lowton | 44 | 38 | 62/-- | 61 | 53 | 58 | 61 | 53 | 0 | 0 | A | 41 | R | T | - | - | - | - | |
| 617815 | Waddington Close, Lowton | 38 | 32 | 55/-- | 42 | 34 | <40 | 43 | 36 | 1 | 2 | NA | 49 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617816 | Morgans Way, Lowton and committed development (Map Book ref: MA05/088) | 38 | 31 | 54/-- | 47 | 40 | 45 | 48 | 40 | 0 | 1 | NA | 91 | CD-R | T | - | - | - | - | |
| 617817 | Newton Road, Lowton | 47 | 40 | 65/-- | 55 | 47 | 52 | 55 | 47 | 0 | 1 | A | 13 | R | T | - | - | - | - | |
| 617819 | Waddington Close, Lowton | 41 | 35 | 57/-- | 43 | 36 | 41 | 46 | 39 | 2 | 3 | NA | 23 | R | T | - | - | - | - | # |
| 617821 | Barford Drive, Lowton | 36 | 29 | 51/-- | 44 | 38 | 45 | 45 | 38 | 1 | 0 | NA | 23 | R | T | - | - | - | - | |
| 617822 | Newton Road, Lowton | 40 | 33 | 61/-- | 46 | 38 | 43 | 47 | 39 | 1 | 2 | A | 25 | R | T | - | - | - | - | |
| 617824 | Edgerton Road | 36 | 29 | 53/-- | 41 | 33 | <40 | 42 | 35 | 1 | 1 | NA | 202 | R | T | L | - | - | - | |
| 617826 | Barford Drive, Lowton | 36 | 30 | 52/-- | 47 | 39 | 44 | 47 | 39 | 0 | 0 | NA | 9 | R | T | - | - | - | - | |
| 617828 | Horncastle Close, Lowton | 40 | 34 | 58/-- | 40 | 33 | <40 | 43 | 36 | 3 | 4 | A | 89 | R | T | L | - | - | - | # |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617829 | Cheetham Fold, Lowton | 41 | 35 | 62/-- | 45 | 37 | 42 | 47 | 40 | 2 | 2 | A | 1 | R | T | - | - | - | - | |
| 617830 | Lane Head Avenue, Lowton | 36 | 30 | 53/-- | 41 | 33 | <40 | 42 | 35 | 1 | 2 | NA | 13 | R | T | L | - | - | - | |
| 617831 | Tyrer Walk, Lowton | 39 | 33 | 56/-- | <40 | 32 | <40 | 42 | 35 | >3 | 3 | NA | 34 | R | T | L | - | - | - | # |
| 617833 | Newton Road, Lowton | 39 | 32 | 59/-- | 53 | 45 | 50 | 54 | 46 | 0 | 0 | A | 12 | R | T | - | - | - | - | |
| 617834 | Horncastle Close, Lowton | 44 | 37 | 62/-- | 40 | 33 | <40 | 45 | 39 | 5 | 6 | A | 13 | R | T | L | - | - | - | # |
| 617835 | Silsden Avenue, Lowton | 35 | 29 | 53/-- | 54 | 46 | 51 | 54 | 46 | 0 | 0 | NA | 294 | R | T | - | - | - | - | |
| 617836 | Alfred Road, Lowton | 35 | 29 | 52/-- | 49 | 41 | 46 | 49 | 41 | 0 | 0 | NA | 35 | R | T | - | - | - | - | |
| 617837 | Newton Road, Lowton | 36 | 29 | 54/-- | 51 | 44 | 49 | 51 | 44 | 0 | 0 | NA | 1 | R | T | - | - | - | - | |
| 617838 | Alfred Road, Lowton | 38 | 32 | 56/-- | 43 | 35 | 40 | 44 | 37 | 1 | 2 | NA | 26 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617841 | The Pipers, Lowton | 41 | 34 | 58/-- | 41 | 34 | <40 | 44 | 37 | 3 | 3 | A | 11 | R | T | L | - | - | - | # |
| 617842 | St Nicholas Road, Lowton | 37 | 31 | 55/-- | 43 | 35 | 40 | 44 | 36 | 1 | 1 | NA | 66 | R | T | - | - | - | - | |
| 617843 | Bodden Street, Lowton | 43 | 36 | 63/-- | 42 | 35 | 40 | 45 | 39 | 3 | 4 | A | 22 | R | T | - | - | - | - | # |
| 617844 | Brook Lynn Avenue, Lowton | 41 | 34 | 56/-- | 41 | 33 | <40 | 44 | 37 | 3 | 4 | NA | 71 | R | T | L | - | - | - | # |
| 617845 | Bodden Street, Lowton | 39 | 33 | 63/-- | 44 | 36 | 41 | 45 | 38 | 1 | 2 | A | 25 | R | T | - | - | - | - | |
| 617847 | Stone Pit Close, Lowton | 42 | 36 | 58/-- | 41 | 34 | <40 | 45 | 38 | 4 | 4 | A | 11 | R | T | L | - | - | - | # |
| 617849 | Stone Pit Close, Lowton | 40 | 34 | 58/-- | 42 | 35 | 40 | 44 | 37 | 2 | 2 | A | 15 | R | T | - | - | - | - | |
| 617850 | Holtswell Close, Lowton | 39 | 32 | 56/-- | 43 | 36 | 41 | 45 | 38 | 2 | 2 | NA | 43 | R | T | - | - | - | - | |
| 617851 | Green House Close, Lowton | 36 | 29 | 55/-- | 45 | 38 | 43 | 45 | 38 | 1 | 1 | NA | 55 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617852 | Sandy Lane, Lowton | 39 | 32 | 59/-- | 65 | 57 | 62 | 65 | 57 | 0 | 0 | A | 33 | R | T | H | - | - | - | |
| 617853 | Linbeck Grove, Lowton | 41 | 35 | 59/-- | 42 | 35 | 40 | 45 | 38 | 3 | 3 | A | 36 | R | T | - | - | - | - | # |
| 617854 | Ryecroft Avenue, Lowton | 39 | 33 | 60/-- | 45 | 38 | 43 | 46 | 39 | 1 | 2 | A | 24 | R | T | - | - | - | - | |
| 617857 | Warren's Croft Farm, Garton Common, Lowton | 43 | 37 | 60/-- | 45 | 38 | 43 | 47 | 40 | 2 | 2 | A | 1 | R | T | - | - | - | - | |
| 617859 | Slag Lane, Lowton | 42 | 36 | 61/-- | 61 | 54 | 59 | 61 | 54 | 0 | 0 | A | 30 | R | T | - | - | - | - | |
| 617860 | Slag Lane, Lowton | 40 | 34 | 61/-- | 49 | 42 | 47 | 49 | 43 | 1 | 1 | A | 10 | R | T | - | - | - | - | |
| 617861 | Garton Common, Lowton | 45 | 38 | 62/-- | 45 | 38 | 43 | 48 | 41 | 3 | 4 | A | 1 | R | T | - | - | - | - | # |
| 617862 | Belmont Avenue, Golborne | 33 | 27 | 49/-- | 45 | 41 | 48 | 45 | 41 | 0 | 0 | NA | 42 | R | T | - | - | - | - | |
| 617864 | Slag Lane, Lowton | 45 | 38 | 64/-- | 66 | 59 | 64 | 66 | 59 | 0 | 0 | A | 26 | R | T | H | - | - | - | |
| 617865 | Marmion Close, Lowton | 41 | 34 | 58/-- | 42 | 35 | 40 | 44 | 38 | 2 | 2 | A | 25 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617868 | Scott Road, Lowton | 35 | 29 | 52/-- | <40 | 30 | <40 | <40 | 32 | >0 | 3 | NA | 12 | R | T | L | - | - | - | # |
| 617870 | Scott Road, Lowton | 44 | 37 | 62/-- | <40 | 30 | <40 | 45 | 38 | >5 | 8 | A | 8 | R | T | L | - | - | - | # |
| 617872 | Rothwell Road, Golborne | 34 | 27 | 49/-- | 45 | 41 | 48 | 47 | 41 | 2 | 0 | NA | 30 | R | T | - | - | - | - | |
| 617873 | Apple Dell Avenue, Golborne | 37 | 31 | 54/-- | <40 | 32 | <40 | 41 | 34 | >1 | 2 | NA | 86 | R | T | L | - | - | - | |
| 617874 | Slag Lane, Lowton | 44 | 38 | 62/-- | 69 | 63 | 68 | 70 | 63 | <1 | <1 | A | 1 | R | T | H | - | - | - | |
| 617876 | Scott Road, Lowton | 41 | 35 | 59/-- | 40 | 33 | <40 | 43 | 37 | 4 | 4 | A | 28 | R | T | L | - | - | - | # |
| 617878 | Scott Road, Lowton | 44 | 38 | 62/-- | <40 | 31 | <40 | 45 | 38 | >5 | 7 | A | 21 | R | T | L | - | - | - | # |
| 617880 | Pendle Road, Golborne | 38 | 31 | 55/-- | <40 | 33 | <40 | 41 | 35 | >2 | 2 | NA | 43 | R | T | L | - | - | - | |
| 617881 | Lowton Road, Golborne | 39 | 32 | 56/-- | <40 | 33 | <40 | 42 | 36 | >2 | 2 | NA | 2 | R | T | L | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617883 | Haddon Road, Lowton | 41 | 34 | 59/-- | <40 | 32 | <40 | 43 | 36 | >3 | 4 | A | 8 | R | T | L | - | - | - | # |
| 617884 | Haddon Road, Lowton | 42 | 35 | 60/-- | <40 | 30 | <40 | 43 | 36 | >3 | 6 | A | 32 | R | T | L | - | - | - | # |
| 617885 | Haddon Road, Lowton | 45 | 38 | 61/-- | <40 | 31 | <40 | 45 | 39 | >6 | 8 | A | 15 | R | T | L | - | - | - | # |
| 617886 | Ashton Road, Golborne | 36 | 30 | 48/-- | 65 | 60 | 62 | 65 | 60 | 0 | 0 | NA | 19 | R | T | H | - | - | - | |
| 617887 | Saddle Tree Fold, Lowton | 46 | 40 | 65/-- | 47 | 40 | 45 | 49 | 43 | 3 | 3 | A | 4 | CD-R | T | - | - | - | - | ~ |
| 617888 | Slag Lane, Lowton | 50 | 44 | 68/-- | 49 | 42 | 47 | 53 | 46 | 4 | 4 | A | 2 | R | T | - | - | - | - | ~ |
| 617889 | Wigan Road, Golborne | 51 | 45 | 54/-- | 55 | 49 | 53 | 55 | 49 | 0 | 0 | A | 6 | R | T | - | - | - | - | |
| 617890 | Slag Lane, Lowton | 40 | 34 | 56/-- | <40 | 30 | <40 | 42 | 35 | >2 | 5 | NA | 2 | R | T | L | - | - | - | # |
| 617891 | Lightshaw Lane, Golborne | 50 | 44 | 67/-- | 44 | 38 | 45 | 51 | 45 | 7 | 7 | A | 3 | R | T | - | - | - | - | ~ |
| 617892 | Wigan Road, Golborne | 46 | 40 | 64/-- | 49 | 44 | 48 | 46 | 41 | -3 | -3 | A | 3 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617894 | Locker Lane, Ashton-in-Makerfield | 38 | 32 | 57/-- | 50 | 44 | 50 | 51 | 45 | 1 | 1 | NA | 8 | R | T | - | - | - | - | |
| 617895 | Aye Bridge Road, Abram | 54 | 47 | 72/-- | 47 | 47 | 50 | 54 | 50 | 7 | 3 | A | 1 | R | T | - | - | - | - | ~ |
| 617896 | Riding Lane, Ashton-in-Makerfield | 31 | 25 | 47/-- | 58 | 52 | 57 | 58 | 52 | 0 | 0 | NA | 29 | R | T | - | - | - | - | |
| 617897 | Crankwood Road, Abram | 44 | 37 | 55/-- | 46 | 41 | 44 | 47 | 42 | 1 | 1 | NA | 59 | R | T | - | - | - | - | |
| 617898 | Warrington Road, Abram | 47 | 41 | 60/-- | 54 | 49 | 52 | 54 | 48 | 0 | -1 | A | 1 | R | T | - | - | - | - | |
| 617899 | Warrington Road, Abram | 36 | 30 | 50/-- | 70 | 63 | 68 | 70 | 63 | 0 | 0 | NA | 182 | R | T | H | - | - | - | |
| 617900 | Crown Wood Court, Bamfurlong | 36 | 29 | 56/-- | 47 | 41 | 43 | 47 | 41 | 0 | 0 | NA | 103 | R | T | - | - | - | - | |
| 617901 | Kinterbury Street, Bamfurlong | 38 | 32 | 58/-- | 43 | 42 | 44 | 45 | 42 | 1 | 1 | A | 16 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617903 | Lily Lane, Bamfurlong | 33 | 27 | 53/-- | 66 | 58 | 63 | 66 | 58 | 0 | 0 | NA | 84 | R | T | H | - | - | - | |
| 617905 | Lily Lane, Bamfurlong | 41 | 34 | 68/-- | 58 | 59 | 62 | 58 | 60 | 0 | 0 | A | 3 | R | T | H | - | - | - | |
| 617906 | Lily Lane, Bamfurlong | 37 | 31 | 62/-- | 47 | 46 | 49 | 47 | 46 | 1 | 0 | A | 18 | R | T | - | - | - | - | |
| 617908 | Warrington Road, Abram | 35 | 29 | 55/-- | 52 | 46 | 51 | 52 | 46 | 0 | 0 | NA | 103 | R | T | - | - | - | - | |
| 617909 | Lily Lane, Bamfurlong | 33 | 26 | 65/-- | 65 | 63 | 65 | 64 | 63 | 0 | 0 | A | 104 | CD-R | T | H | - | - | - | |
| 617910 | Lily Lane, Bamfurlong | 37 | 30 | 61/-- | 46 | 45 | 48 | 47 | 46 | 1 | 0 | A | 1 | R | T | - | - | - | - | |
| 617913 | Warrington Road, Abram | 35 | 29 | 56/-- | 51 | 45 | 49 | 51 | 45 | 0 | 0 | NA | 19 | R | T | - | - | - | - | |
| 617914 | Dorothy Walk, Bamfurlong | 31 | 25 | 63/-- | 62 | 63 | 66 | 62 | 63 | 0 | 0 | A | 20 | R | T | H | - | - | - | |
| 617915 | Winstanley Road, Bamfurlong | <30 | 23 | 56/-- | 47 | 45 | 47 | 47 | 45 | 0 | 0 | NA | 13 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617916 | Lily Lane, Bamfurlong | <30 | <20 | 57/-- | 69 | 65 | 66 | 69 | 65 | 0 | 0 | NA | 12 | R | T | H | - | - | - | |
| 617918 | Winstanley Road, Bamfurlong | <30 | 20 | 57/-- | 60 | 61 | 64 | 60 | 61 | 0 | 0 | NA | 3 | R | T | H | - | - | - | |
| 617919 | Bodmin Drive, Platt Bridge | <30 | 21 | 50/-- | 58 | 50 | 54 | 58 | 50 | 0 | 0 | NA | 16 | R | T | - | - | - | - | |
| 617920 | Portland Close, Platt Bridge | <30 | <20 | 49/-- | 54 | 49 | 59 | 54 | 49 | 0 | 0 | NA | 48 | R | T | - | - | - | - | |
| 617921 | Stratton Drive, Platt Bridge | <30 | <20 | <40/-- | 59 | 60 | 63 | 59 | 60 | 0 | 0 | NA | 46 | R | T | H | - | - | - | |
| 617923 | Warrington Road, Abram | <30 | 20 | 48/-- | 47 | 41 | 45 | 47 | 41 | 0 | 0 | NA | 4 | R | T | - | - | - | - | |
| 617924 | Tram Street, Platt Bridge | <30 | <20 | 46/-- | 57 | 49 | 54 | 57 | 49 | 0 | 0 | NA | 137 | R | T | - | - | - | - | |
| 617925 | Warrington Road, Abram | <30 | <20 | 45/-- | 67 | 61 | 66 | 67 | 61 | 0 | 0 | NA | 21 | R | T | H | - | - | - | |
| 617950 | Emerald Drive, Croft | 38 | 31 | 50/-- | 43 | 36 | 41 | 43 | 37 | 1 | 1 | NA | 28 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617951 | Mustard Lane, Croft | 32 | 26 | 47/-- | 56 | 49 | 54 | 56 | 49 | 0 | 0 | NA | 6 | R | T | - | - | - | - | |
| 617952 | Heath Lane, Croft | 33 | 27 | 47/-- | 43 | 37 | 42 | 44 | 37 | 1 | 1 | NA | 1 | R | T | - | - | - | - | |
| 617953 | Wigshaw Lane, Culcheth | 58 | 52 | 59/-- | 62 | 55 | 60 | 58 | 52 | -4 | -4 | A | 5 | R | T | H | - | - | - | |
| 617954 | Kenyon Farm, Heath Lane, Croft | 37 | 30 | 52/-- | <40 | <30 | <40 | <40 | 32 | >0 | >2 | NA | 1 | R | T | L | - | - | - | # |
| 617955 | Hill Top Farm, Heath Lane, Croft | 39 | 33 | 55/-- | <40 | <30 | <40 | 40 | 34 | >0 | >4 | NA | 1 | R | T | L | - | - | - | # |
| 617956 | Sandy Lane, Lowton | 45 | 38 | 64/-- | 47 | 40 | 45 | 49 | 42 | 2 | 2 | A | 16 | R | T | - | - | - | - | |
| 617957 | Sandy Lane, Lowton | 36 | 29 | 53/-- | 44 | 37 | 42 | 45 | 37 | 1 | 1 | NA | 4 | R | T | - | - | - | - | |
| 617958 | Sandy Lane, Lowton | 43 | 36 | 62/-- | 56 | 49 | 54 | 56 | 49 | 0 | 0 | A | 3 | R | T | - | - | - | - | |
| 617959 | Belle Vue, Lowton | 44 | 38 | 62/-- | 44 | 36 | 41 | 47 | 40 | 4 | 4 | A | 4 | R | T | - | - | - | - | # |
| 617960 | Slag Lane, Lowton | 51 | 44 | 71/-- | 51 | 48 | 51 | 58 | 52 | 7 | 4 | A | 1 | R | T | - | - | - | - | ~ |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617961 | Green Lane, Lowton | 35 | 28 | 51/-- | 44 | 37 | 42 | 44 | 37 | 0 | 1 | NA | 6 | R | T | - | - | - | - | |
| 617962 | Byrom Lane, Lowton | 39 | 33 | 57/-- | 53 | 45 | 50 | 53 | 45 | 0 | 0 | NA | 11 | R | T | - | - | - | - | |
| 617963 | Byrom Lane, Lowton | 37 | 30 | 53/-- | 45 | 38 | 43 | 46 | 39 | 1 | 1 | NA | 1 | R | T | - | - | - | - | |
| 617967 | Stradbroke Close, Lowton | 47 | 41 | 65/-- | 46 | 38 | 43 | 50 | 43 | 4 | 5 | A | 4 | R | T | - | - | - | - | ~ |
| 617968 | Warrington Road, Abram | <30 | 21 | 45/-- | 46 | 39 | 44 | 46 | 39 | 0 | 0 | NA | 35 | R | T | - | - | - | - | |
| 617969 | Warrington Road, Abram | 31 | 25 | 54/-- | 46 | 41 | 44 | 46 | 41 | 0 | 0 | NA | 58 | R | T | - | - | - | - | |
| 617970 | Portland Close, Platt Bridge | <30 | <20 | 49/-- | 54 | 49 | 59 | 54 | 50 | 0 | 1 | NA | 19 | R | T | - | - | - | - | |
| 617971 | Lily Lane, Bamfurlong | 38 | 32 | 61/-- | 45 | 44 | 47 | 46 | 45 | 1 | 0 | A | 53 | R | T | - | - | - | - | |
| 617973 | Epsom Drive, Bamfurlong | 41 | 34 | 61/-- | 46 | 46 | 48 | 47 | 46 | 1 | 1 | A | 12 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617977 | Porlock Close, Platt Bridge | <30 | <20 | <40/-- | 47 | 42 | 51 | 47 | 43 | 0 | 1 | NA | 230 | R | T | - | - | - | - | |
| 617978 | Warrington Road, Risley | 47 | 41 | 58/-- | 44 | 38 | 43 | 48 | 42 | 4 | 4 | A | 2 | R | T | - | - | - | - | ~ |
| 617983 | Thrilmere Avenue, Abram | <30 | 21 | 46/-- | 43 | 37 | 42 | 43 | 37 | 0 | 0 | NA | 314 | R | T | - | - | - | - | |
| 617984 | Warrington Road, Abram | 36 | 29 | 55/-- | 51 | 45 | 50 | 51 | 45 | 0 | 0 | NA | 25 | R | T | - | - | - | - | |
| 617985 | Elm Road, Abram | 32 | 26 | 47/-- | <40 | 32 | <40 | <40 | 32 | >0 | 1 | NA | 352 | R | T | L | - | - | - | |
| 617986 | Warrington Road, Abram | 35 | 29 | 54/-- | 44 | 39 | 42 | 44 | 40 | 1 | 0 | NA | 25 | R | T | - | - | - | - | |
| 617987 | Warrington Road, Abram | 40 | 34 | 56/-- | 47 | 43 | 45 | 48 | 43 | 1 | 0 | NA | 21 | R | T | - | - | - | - | |
| 617990 | Kaye Avenue, Culcheth | 40 | 34 | 51/-- | 42 | 36 | 41 | 43 | 37 | 1 | 1 | NA | 162 | R | T | - | - | - | - | |
| 617991 | Warrington Road, Culcheth | 33 | 27 | 47/-- | 69 | 62 | 67 | 69 | 62 | 0 | 0 | NA | 2 | R | T | H | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617992 | Chatburn Court, Warrington Road, Culcheth | 47 | 40 | 52/-- | 61 | 55 | 60 | 61 | 55 | 0 | 0 | A | 17 | R | T | H | - | - | - | |
| 617997 | Ridgeway, Lowton | 33 | 26 | 48/-- | 44 | 36 | 41 | 44 | 37 | 0 | 0 | NA | 351 | R | T | - | - | - | - | |
| 617999 | Ullswater Road, Golborne | 33 | 27 | 49/-- | 41 | 35 | <40 | 42 | 35 | 1 | 1 | NA | 1 | R | T | L | - | - | - | |
| 618003 | Stonechat Close, Lowton | 33 | 26 | 48/-- | 42 | 35 | 40 | 43 | 35 | 0 | 1 | NA | 240 | R | T | - | - | - | - | |
| 618004 | Redmain Grove, Lowton | 36 | 29 | 54/-- | 41 | 34 | <40 | 42 | 35 | 1 | 1 | NA | 281 | R | T | L | - | - | - | |
| 618013 | Warrington Road, Abram | 43 | 36 | 58/-- | 53 | 48 | 52 | 53 | 48 | 0 | 0 | A | 29 | R | T | - | - | - | - | |
| 618015 | Warrington Road, Risley | 48 | 41 | 64/-- | 58 | 52 | 57 | 49 | 42 | -9 | -9 | A | 1 | R | T | - | - | - | - | |
| 618016 | Fieldfare Close, Lowton | 32 | 26 | 48/-- | 43 | 36 | 41 | 43 | 36 | 0 | 0 | NA | 131 | R | T | - | - | - | - | |
| 618017 | Sundial House, Warrington Road, Culcheth | 36 | 29 | 48/-- | 48 | 41 | 46 | 48 | 41 | 0 | 0 | NA | 1 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618035 | Newchurch Old Rectory, Culcheth | 52 | 46 | 60/-- | 57 | 51 | 56 | 52 | 46 | -5 | -5 | A | 1 | R | T | - | - | - | - | |
| 618067 | Rockingham Close, Birchwood | 38 | 32 | 56/-- | 48 | 42 | 47 | 48 | 42 | 0 | 0 | NA | 97 | R | T | - | - | - | - | |
| 618068 | Rowan Avenue, Lowton | 36 | 29 | 49/-- | 65 | 57 | 62 | 65 | 57 | 0 | 0 | NA | 35 | R | T | H | - | - | - | |
| 618069 | Abbotsford Close, Lowton | 39 | 33 | 56/-- | 43 | 37 | 42 | 45 | 38 | 1 | 1 | NA | 217 | R | T | - | - | - | - | |
| 618070 | Burley Avenue, Lowton | 38 | 32 | 54/-- | 41 | 34 | <40 | 43 | 36 | 2 | 2 | NA | 64 | R | T | L | - | - | - | |
| 618071 | Lowton Road, Golborne | 33 | 27 | 48/-- | 59 | 52 | 57 | 59 | 52 | 0 | 0 | NA | 38 | R | T | - | - | - | - | |
| 618072 | Warrington Road, Abram | <30 | 22 | 48/-- | 51 | 45 | 49 | 51 | 45 | 0 | 0 | NA | 64 | R | T | - | - | - | - | |
| 618073 | Warrington Road, Abram | <30 | <20 | 46/-- | 50 | 44 | 49 | 50 | 44 | 0 | 0 | NA | 49 | R | T | - | - | - | - | |
| 618074 | Finchdale Gardens, Lowton | 34 | 28 | 45/-- | 44 | 37 | 42 | 44 | 37 | 0 | 0 | NA | 196 | R | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618075 | The Limes, Culcheth | 37 | 30 | 49/-- | 45 | 39 | 44 | 45 | 39 | 0 | 0 | NA | 99 | R | T | - | - | - | - | |
| 618076 | Ellesmere Road, Culcheth | 32 | 25 | 44/-- | 47 | 41 | 46 | 47 | 41 | 0 | 0 | NA | 77 | R | T | - | - | - | - | |
| 618080 | Slag Lane, Lowton | 50 | 43 | 69/-- | 51 | 48 | 51 | 55 | 49 | 4 | 1 | A | 2 | R | T | - | - | - | - | ~ |
| 618081 | Balmer's Farm, Wigan Road, Golborne | 52 | 45 | 71/-- | 53 | 49 | 51 | 53 | 49 | -1 | 0 | A | 1 | R | T | - | - | - | - | |
| 618082 | Warrington Road, Abram | 43 | 36 | 58/-- | 56 | 50 | 54 | 56 | 50 | 0 | 0 | A | 11 | R | T | - | - | - | - | |
| 618083 | Rothwells Farm (Residential), Lowton | 41 | 35 | 56/-- | 42 | 38 | <40 | 44 | 40 | 2 | 1 | NA | 35 | CD-R | T | - | - | - | - | |
| 618084 | Rothwells Farm (Residential), Lowton | 42 | 36 | 58/-- | <40 | 35 | <40 | 43 | 38 | >4 | 3 | A | 36 | CD-R | T | L | - | - | - | # |
| 618085 | Rothwells Farm (Residential), Lowton | 38 | 32 | 54/-- | <40 | 34 | <40 | 40 | 35 | >1 | 2 | NA | 118 | CD-R | T | L | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618086 | Rothwells Farm (Residential), Lowton | 37 | 31 | 52/-- | 40 | 36 | <40 | 41 | 37 | 1 | 1 | NA | 47 | CD-R | T | L | - | - | - | |
| 618087 | Rothwells Farm (Residential), Lowton | 36 | 30 | 51/-- | <40 | 34 | <40 | 41 | 35 | >1 | 1 | NA | 52 | CD-R | T | L | - | - | - | |
| 618088 | Hesketh Meadow Lane, Lowton | 46 | 39 | 63/-- | 42 | 35 | 40 | 47 | 41 | 5 | 6 | A | 22 | CD-R | T | - | - | - | - | # |
| 618089 | Hesketh Meadow Lane, Lowton | 43 | 37 | 60/-- | 41 | 34 | <40 | 45 | 39 | 4 | 5 | A | 9 | CD-R | T | L | - | - | - | # |
| 618111 | Lowton Road, Golborne | 33 | 27 | 48/-- | 45 | 39 | 42 | 45 | 39 | 0 | 0 | NA | 4 | R | T | - | - | - | - | |
| 618201 | Robins Lane, Culcheth | 53 | 47 | 65/-- | 45 | 39 | 44 | 54 | 47 | 8 | 8 | A | 2 | R | T | - | - | - | - | MA05-O-C1 |
| 618209 | Warrington Road, Risley | 50 | 44 | 54/-- | 64 | 58 | 63 | 55 | 49 | -9 | -9 | A | 2 | R | T | H | - | - | - | |
| 618211 | Stradbroke Close, Lowton | 45 | 39 | 63/-- | 44 | 37 | 42 | 48 | 41 | 4 | 5 | A | 4 | R | T | - | - | - | - | # |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618212 | Eldridge Court, Robson Way, Lowton | 39 | 32 | 56/-- | 40 | 33 | <40 | 42 | 35 | 2 | 3 | NA | 42 | R | T | L | - | - | - | # |
| 618230 | Holcroft Grange Care Home, Jackson Avenue, Culcheth | 41 | 34 | 50/-- | 43 | 37 | 42 | 45 | 38 | 2 | 2 | NA | 1 | R | T | - | - | - | - | |
| 618231 | High Peak Care Home, Main Lane, Culcheth | 35 | 28 | 49/-- | 42 | 36 | 41 | 43 | 36 | 0 | 0 | NA | 1 | R | T | - | - | - | - | |
| 618247 | Warrington Road, Risley | 44 | 38 | 50/-- | 63 | 57 | 62 | 62 | 56 | -1 | -1 | NA | 10 | R | T | H | - | - | - | |
| 618248 | Warrington Road, Risley | 39 | 33 | 49/-- | 61 | 54 | 59 | 61 | 55 | 0 | 0 | NA | 5 | R | T | - | - | - | - | |
| 618251 | Church Lane, Culcheth | 36 | 30 | 51/-- | 41 | 34 | <40 | 42 | 35 | 1 | 1 | NA | 109 | R | T | L | - | - | - | |
| 618252 | Warrington Road, Culcheth | 52 | 45 | 53/-- | 62 | 56 | 61 | 62 | 56 | 0 | 0 | A | 12 | R | T | H | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618253 | Warrington Road, Culcheth | 47 | 41 | 52/-- | 47 | 41 | 46 | 48 | 42 | 1 | 1 | A | 20 | R | T | - | - | - | - | |
| 618254 | Pendle Gardens, Culcheth | 43 | 37 | 56/-- | 46 | 40 | 45 | 47 | 41 | 1 | 1 | NA | 17 | R | T | - | - | - | - | |
| 618255 | Wigshaw Lane, Culcheth | 43 | 36 | 54/-- | 42 | 36 | 41 | 45 | 39 | 3 | 3 | NA | 11 | R | T | - | - | - | - | # |
| 618256 | Kenyon Lane, Kenyon | 46 | 39 | 62/-- | 64 | 58 | 63 | 64 | 58 | 0 | 0 | A | 8 | R | T | H | - | - | - | |
| 618257 | Moorfield Crescent, Lowton | 39 | 33 | 56/-- | 43 | 35 | 40 | 44 | 37 | 2 | 2 | NA | 16 | R | T | - | - | - | - | |
| 618258 | Newton Road, Lowton | 40 | 33 | 57/-- | 62 | 53 | 58 | 62 | 53 | 0 | 0 | NA | 50 | R | T | - | - | - | - | |
| 618259 | Wigan Road, Golborne | 49 | 43 | 52/-- | 66 | 60 | 65 | 65 | 59 | -1 | -1 | A | 24 | R | T | H | - | - | - | |
| 618260 | Lily Lane, Bamfurlong | <30 | <20 | 51/-- | 68 | 60 | 65 | 68 | 60 | 0 | 0 | NA | 14 | R | T | H | - | - | - | |
| 618261 | Lily Lane, Bamfurlong | <30 | <20 | 50/-- | 68 | 60 | 64 | 68 | 60 | 0 | 0 | NA | 7 | R | T | H | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618263 | Chatburn Court, Warrington Road, Culcheth and committed development (Map book ref: MA05/038) | 47 | 41 | 52/-- | 66 | 60 | 65 | 66 | 60 | 0 | 0 | A | 2 | CD-R | T | H | - | - | - | |
| 618272 | Robins Lane, Culcheth | 54 | 48 | 68/-- | 41 | 35 | 40 | 54 | 48 | 13 | 13 | A | 1 | R | T | L | - | - | - | MA05-O-C1 |
| 618273 | Wigshaw Lane, Culcheth | 54 | 48 | 74/-- | 49 | 43 | 48 | 55 | 48 | 5 | 5 | A | 2 | R | T | - | - | - | - | MA05-O-C1 |
| 618274 | Wigshaw Lane, Culcheth | 56 | 50 | 69/-- | 44 | 37 | 42 | 56 | 50 | 12 | 12 | A | 1 | R | T | - | - | - | - | MA05-O-C1 |
| 618276 | Wigshaw Lane, Culcheth | 52 | 45 | 65/-- | 51 | 44 | 49 | 52 | 46 | 1 | 2 | A | 3 | R | T | - | - | - | - | |

**Table 7: Operational airborne sound, noise impacts and significant effects: non-residential receptors**

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617646 | UK Waste Management (Lower Sensitivity Offices), Birchwood Way, Warrington | <30 | 21 | 45/-- | 48 | 41 | 46 | 48 | 41 | 0 | 0 | B | 1 | A4 | T | - | - | - | - | |
| 617652 | Yew Tree Court (Office), Taylor Business Park, Risley | 48 | 41 | 63/-- | 55 | 48 | 53 | 48 | 42 | -6 | -6 | B | 3 | A4 | T | - | - | - | - | |
| 617656 | St Lewis' Catholic Primary School, Mustard Lane, Croft | 34 | 28 | 50/-- | 43 | 37 | 42 | 43 | 37 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |
| 617711 | Newchurch Community Primary School, Glebeland, Culcheth | 51 | 44 | 54/-- | 53 | 47 | 52 | 53 | 47 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | $ |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617758 | Christian Fellowship Church, Hob Hey Lane, Culcheth | 37 | 31 | 49/-- | 46 | 40 | 44 | 46 | 40 | 0 | 0 | B | 1 | A2 | T | - | - | - | - | |
| 617792 | Lowton Social Club, Newton Road, Lowton | 34 | 28 | 49/-- | 69 | 61 | 66 | 69 | 61 | 0 | 0 | B | 1 | A2 | T | H | - | - | - | |
| 617795 | Lowton Junior & Infant School, Newton Road, Lowton | 41 | 35 | 57/-- | 48 | 40 | 45 | 49 | 42 | 2 | 2 | B | 1 | A3 | T | - | - | - | - | |
| 617796 | Lowton Youth and Community Centre, Newton Road, Lowton | 39 | 33 | 57/-- | 58 | 49 | 54 | 57 | 49 | 0 | 0 | B | 1 | A4 | T | - | - | - | - | |
| 617798 | Gymetc (Lower Sensitivity Offices), Newton Road, Lowton | 44 | 37 | 63/-- | 65 | 57 | 62 | 65 | 57 | 0 | 0 | B | 1 | A4 | T | H | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617823 | Lowton St Mary's C of E Primary School, Newton Road, Lowton | 34 | 27 | 51/-- | 44 | 38 | 45 | 44 | 38 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |
| 617832 | St Mary's Church, Newton Road, Lowton | 36 | 29 | 52/-- | 57 | 49 | 54 | 57 | 49 | 0 | 0 | B | 1 | A2 | T | - | - | - | - | |
| 617840 | Lowton Independent Methodist Church, Newton Road, Lowton | 34 | 28 | 52/-- | 49 | 41 | 46 | 49 | 41 | 0 | 0 | B | 1 | A2 | T | - | - | - | - | |
| 617848 | Exact Property services (Offices), Moss Industrial Estate, Leigh | 33 | 26 | 47/-- | 45 | 38 | 43 | 45 | 38 | 0 | 0 | B | 1 | A4 | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617856 | Allied Infrastructure Management (Lower Sensitivity Offices), Moss Industrial Estate, Leigh | 34 | 28 | 54/-- | 42 | 35 | 40 | 43 | 36 | 1 | 1 | B | 1 | A4 | T | - | - | - | - | |
| 617875 | Golborne High School, Lowton Road, Golborne | 35 | 29 | 50/-- | 45 | 41 | 48 | 45 | 41 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |
| 617902 | Abram Bryn Gates Primary School, Lily Lane, Abram | 35 | 29 | 56/-- | 58 | 50 | 55 | 58 | 50 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |
| 617904 | Church of the Good Shepherd, Lily Lane, Abram | 35 | 29 | 56/-- | 65 | 57 | 62 | 65 | 57 | 0 | 0 | B | 1 | A2 | T | H | - | - | - | |
| 617922 | St John's C. of E. Primary School, Simpkin Street, Abram | <30 | <20 | 42/-- | 46 | 38 | 47 | 46 | 38 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 617927 | Holy Family Catholic Primary School, Wigan Street, Platt Bridge | <30 | <20 | 44/-- | 41 | 37 | <40 | 41 | 37 | 0 | 0 | B | 1 | A3 | T | L | - | - | - | |
| 617966 | Green Meadow Independent Primary School and First Steps Day Nursery, Robson Way, Lowton | 37 | 30 | 55/-- | 41 | 34 | <40 | 42 | 35 | 1 | 2 | B | 1 | A3 | T | L | - | - | - | |
| 618008 | Smithy Garage (Lower Sensitivity Offices), Church Lane, Culcheth | 35 | 29 | 50/-- | 44 | 38 | 43 | 45 | 38 | 0 | 0 | B | 1 | A4 | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618009 | Arcon Construction Supplies (Lower Sensitivity Offices), Leacroft Road, Birchwood | 30 | 24 | 49/-- | 75 | 69 | 74 | 75 | 69 | 0 | 0 | B | 12 | A4 | T | H | - | - | - | |
| 618010 | Bamfurlong Police Station (Office), Bryn Gates Lane, Bamfurlong | 31 | 25 | 50/-- | 42 | 37 | <40 | 42 | 37 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |
| 618011 | Newchurch Parish Church, Church Lane, Culcheth | 36 | 29 | 51/-- | 41 | 35 | 40 | 42 | 36 | 1 | 1 | B | 1 | A2 | T | L | - | - | - | |
| 618012 | St Catherine's Roman Catholic Primary School, Cranham Avenue, Lowton | 31 | 25 | 45/-- | 43 | 35 | 40 | 43 | 36 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |

| Assessment location | | Impact criteria | | | | | | | | | Significance criteria | | | | | | | | Significant effect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Type of effect | Number of impacts represented | Type of receptor | Receptor design | Existing environment | Unique features | Combined impact | Mitigation effect | |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | | | | | | |
| 618014 | Lowton Church of England High School, Newton Road, Lowton | 33 | 27 | 45/-- | 46 | 39 | 44 | 46 | 39 | 0 | 0 | B | 1 | A3 | T | - | - | - | - | |
| 618110 | Taylor Business Park (Lower Sensitivity Offices), Risley | 46 | 40 | 62/-- | 41 | 35 | 40 | 47 | 41 | 6 | 6 | B | 5 | A4 | T | L | - | - | - | |
| 618221 | Taylor Business Park (Lower Sensitivity Offices), Risley | 49 | 43 | 67/-- | 40 | 34 | <40 | 50 | 43 | 10 | 9 | B | 13 | A4 | T | L | - | - | - | |
| 618249 | Estate Office, Taylor Business Park, Risley | 46 | 39 | 65/-- | 56 | 50 | 55 | 47 | 41 | -9 | -9 | B | 1 | A4 | T | - | - | - | - | |

## Direct impact – summary

3.2.9 The operational airborne noise impacts identified in Table 6 and Table 7 are summarised in Table 8.

**Table 8: Summary of operational airborne sound impacts**

| Receptor type | Numbers of impacts (Number of impacts excluding those in committed developments) | | | | |
|---|---|---|---|---|---|
| | Above LOAEL | Above SOAEL | Impacts | | |
| | | | Minor | Moderate | Major |
| Residential properties | 1400 (1213) | 0 (0) | 29 (25) | 14 (14) | 2 (2) |
| Non-residential properties | N/A | N/A | | | 0 |
| Schools | N/A | N/A | | | 0 |
| Quiet areas | N/A | N/A | | | 0 |

## Airborne sound: indirect impacts and effects

3.2.10 The transport assessment presented in Volume 5, Appendices TR-001, TR-002, TR-003 and TR-005, has been used to identify those roads or railways within this study area where the alignment remains as at present, but a change in flow or composition is identified which is greater than the screening criteria defined in Volume 5, Appendix SV-001-00000.

3.2.11 No roads or railways which exceed the criteria defined in Volume 5, Appendix SV-001-00000 have been identified in this study area. The assessment of operational noise and vibration indicates that significant indirect effects on residential receptors are unlikely to occur in this area.

## Airborne sound levels used in other assessments

3.2.12 The operational sound results contained in this document have been used by other disciplines, namely agriculture, historic environment, landscape and visual, communities and socio economics, in their assessments. This includes the information in Table 6 and Table 7. Locations of interest to these other disciplines which may not appear in Table 6 and Table 7 are presented in Table 9.

**Table 9: Operational airborne sound levels for use in cross-discipline assessments**

| Assessment location | | Impact criteria | | | | | | | | | | Discipline | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Agriculture | Ecology | Socio economics | Landscape and visual |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | |
| 618081 | Balmer's Farm, Wigan Road, Golborne (MA05/35) | 52 | 45 | 71/-- | 53 | 49 | 51 | 53 | 49 | 0 | 0 | Y | - | - | - |
| 618119 | 72 Slag Lane, Lowton (Livestock) (MA05/26) | 57 | 50 | 77/-- | 51 | 48 | 51 | 58 | 52 | 7 | 4 | Y | - | - | - |
| 618120 | Aye Bridge Farm (Livestock) (MA05/36) | 56 | 50 | 77/-- | 47 | 48 | 51 | 56 | 52 | 9 | 4 | Y | - | - | - |
| 618129 | Silver Lane Ponds | 55 | 49 | 74/-- | 40 | 33 | <40 | 55 | 49 | 16 | 16 | - | - | - | Y |
| 618130 | Silver Lane Ponds | 50 | 43 | 67/-- | 41 | 35 | 40 | 50 | 44 | 9 | 9 | - | - | - | Y |
| 618131 | Holcroft Moss | 55 | 49 | 77/-- | 47 | 41 | 46 | 56 | 49 | 9 | 9 | - | - | - | Y |
| 618132 | Holcroft Moss | 50 | 44 | 71/-- | 48 | 42 | 47 | 52 | 46 | 4 | 4 | - | - | - | Y |
| 618133 | Holcroft Moss | 43 | 36 | 61/-- | 50 | 44 | 49 | 51 | 44 | 1 | 1 | - | - | - | Y |
| 618139 | Pennington Flash | 34 | 27 | 51/-- | 42 | 34 | <40 | 42 | 35 | 1 | 1 | - | - | - | Y |
| 618141 | Abram Flashes SSSI[5] | 49 | 43 | 59/-- | 54 | 49 | 53 | 52 | 47 | -3 | -2 | - | Y | - | Y |
| 618142 | Abram Flashes SSSI | 39 | 33 | 54/-- | <40 | 30 | <40 | 40 | 34 | >1 | 4 | - | Y | - | Y |
| 618143 | Abram Flashes SSSI | 38 | 31 | 51/-- | <40 | 32 | <40 | <40 | 34 | >0 | 1 | - | Y | - | Y |
| 618144 | Ponds near Lightshaw Lane | 53 | 47 | 72/-- | <40 | 30 | <40 | 54 | 47 | >14 | 17 | - | - | - | Y |

[5] Site of Special Scientific Interest.

| Assessment location | | Impact criteria | | | | | | | | | | Discipline | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Area represented | Proposed Scheme only (year 15) | | | Without Proposed Scheme (opening year baseline) | | | With Proposed Scheme (opening year baseline + year 15 traffic) **** | | Change | | Agriculture | Ecology | Socio economics | Landscape and visual |
| | | Day * | Night ** | Max *** | Day * | Night ** | Max *** | Day * | Night ** | Day * | Night ** | | | | |
| 618145 | Lightshaw Lime Beds | 42 | 36 | 60/-- | <40 | 32 | <40 | 43 | 37 | >4 | 5 | - | - | - | Y |
| 618146 | Park Lane Colliery | 38 | 32 | 50/-- | <40 | 34 | <40 | 40 | 35 | >0 | 1 | - | - | - | Y |
| 618278 | Fishery, Wigshaw, Culcheth | 54 | 47 | 71/-- | 63 | 57 | 62 | 54 | 47 | -9 | -9 | - | - | Y | - |
| 618279 | Fishery, Wigshaw, Culcheth | 58 | 52 | 61/-- | 65 | 58 | 63 | 58 | 52 | -6 | -6 | - | - | Y | - |
| 618280 | Fishery, Wigshaw, Culcheth | 50 | 43 | 62/-- | 52 | 45 | 50 | 50 | 44 | -2 | -2 | - | - | Y | - |
| 618281 | Fishery, Wigshaw, Culcheth | 47 | 41 | 57/-- | 47 | 41 | 46 | 48 | 42 | 1 | 1 | - | - | Y | - |
| 618282 | Fishery, Wigshaw, Culcheth | 47 | 40 | 62/-- | 46 | 40 | 45 | 47 | 41 | 1 | 1 | - | - | Y | - |
| 618283 | Fishery, Wigshaw, Culcheth | 54 | 48 | 74/-- | 53 | 46 | 51 | 55 | 48 | 2 | 2 | - | - | Y | - |
| 618284 | Fishery, Wigshaw, Culcheth | 50 | 43 | 67/-- | 51 | 45 | 50 | 50 | 44 | -1 | -1 | - | - | Y | - |

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