

The Great Grid Upgrade

Chesterfield to Willington

Preliminary Environmental Information Report

Volume 1: Chapter 12 Traffic and Transport

March 2026

nationalgrid

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12. Traffic and Transport

12.1 Overview

12.1.1 This chapter reports the preliminary assessment of the likely significant traffic and transport effects that could result from the Chesterfield to Willington Project (the 'Project') during construction and operation and describes:

- relevant legislation and planning policy context;
- consultation and engagement undertaken to date;
- the methodology for assessment;
- relevant baseline information;
- potential effects of the construction phase;
- potential effects of the operational phase;
- potential additional mitigation measures; and
- residual effects.

12.1.2 This chapter covers effects on the following receptors during construction and operation:

- users of the affected transport networks and/or those associated with uses of land adjacent to the affected transport networks. The transport networks consist of the following:
 - road network – Local Road Network (LRN) and Strategic Road Network (SRN);
 - Public Rights of Way (PRoWs), long distance and regional paths and National Cycle Network (NCN) routes; and
 - navigable waterways network.

12.1.3 This chapter should be read in conjunction with the following:

- **Chapter 4 Description of the Project.** This chapter provides a description of the Project.
- **Chapter 5 Approach to Preliminary Environmental Information Report.** This chapter sets out the approach and general methodology for the Preliminary Environmental Information Report (PEIR) for the topic chapters.
- **Chapter 6 Landscape and Visual.** This chapter includes elements related to landscape character and visual receptors which may be affected by changes in traffic and transport, such as increased vehicle movements, construction activities and associated infrastructure.
- **Chapter 9 Hydrology and Land Drainage.** This chapter includes elements related to water quality and land drainage, which may be affected by changes in traffic and transport such as increased surface runoff, potential pollution incidents, or alterations to drainage patterns due to construction activities.

- **Chapter 13 Air Quality.** This chapter includes elements relating to air quality from traffic which is associated with the Project;
- **Chapter 14 Noise and Vibration.** This chapter includes elements relating to noise and vibration from traffic which is associated with the Project;
- **Chapter 15 Socio-economics, Recreation and Tourism.** This chapter considers potential in-combination effects to users of promoted/recreational routes including PRowS and nearby tourist attractions; and
- **Chapter 17 Cumulative Effects.** This chapter includes both the combined and cumulative effects – interactions including on traffic and transport with other topic areas and other committed schemes.

12.1.4 This chapter is supported by the following figures in **Volume 2**:

- **Figure 12.1 Traffic and Transport Study Area;**
- **Figure 12.2 Navigable Waterways and the Rail Network;**
- **Figure 12.3 Public Rights of Way and Other Active Travel Routes;**
- **Figure 12.4 Public Transit Summary;**
- **Figure 12.5 Highway Collisions in the Traffic and Transport Study Area;**
- **Figure 12.6 Light Vehicle Distribution Areas and Points;** and
- **Figure 12.7 Daily Peak Construction Traffic Flow Diagram.**

12.1.5 This chapter is supported by the following appendices in **Volume 3**:

- **Appendix 12A Transport Statement: Construction Traffic Estimation**
- **Appendix 12B Preliminary Public Rights of Way Management Plan;** and
- **Appendix 12C Baseline Transport Context Information.**

12.2 Legislation, Planning Policy and Guidance Context

Legislation

12.2.1 A summary of the key legislation in the scope of assessing the effects on traffic and transport is outlined below:

- **Transport Act 2000 (Ref 12.1).** This Act makes provisions for transport networks and systems, introducing measures for integrated and sustainable transport policies including, but not limited to, local transport, bus services, rail networks and highways street works;
- **Highways Act 1980 (Ref 12.2).** This Act provides a comprehensive framework for the management of highways, covering a wide range of topics including, but not limited to, the stopping up and diversion of highways and accesses, restriction of rights over highways and lawful/unlawful interference with highways and streets;
- **New Roads and Street Works Act 1991 (Ref 12.3).** This Act enables new means for road provision and updates regulations relating to street works; and

- Traffic Management Act 2004 (Ref 12.4). This Act sets out provisions for the management of road networks and regulations relating to works and activities undertaken in the street.

National Policy Statements

12.2.2 **Chapter 2 Legislative, Regulatory and Planning Policy Context** sets out the overarching policy relevant to the Project including the Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 12.6) and NPS for Electricity Networks Infrastructure (EN-5) (Ref 12.7). **Table 12.1** sets out the requirements of NPS EN 1 relevant to traffic and transport, and how these have been considered within this chapter. NPS EN-5 does not include any specific requirements relevant to traffic and transport.¹

¹ *The updated NPSs came into force on 6 January 2026; however, this post-dated the drafting and assessment work within this chapter and so are not reflected within the relevant policy descriptions in this chapter, which are instead based on the 2023 versions of the NPSs that were in force at the time of preparing the Chapter. These sections will be updated in the ES as part of the Application; however, after initial review and consideration, it is not anticipated that the updates to the NPS will result in any material changes to the assessment methodology or the conclusions in this chapter.*

Table 12.1: Overarching National Policy Statement for Energy (EN-1) references relevant to traffic and transport

Policy Reference	Policy Context	How it will be Considered
Overarching National Policy Statement for Energy (EN-1)		
Paragraph 5.14.5	Specifies that ' <i>If a project is likely to have significant transport implications, the applicant's ES (see Section 4.3) should include a transport appraisal. The DfT's Transport Analysis Guidance (TAG) and Welsh Governments WelTAG provides guidance on modelling and assessing the impacts of transport schemes</i> '.	<p>This chapter has been included in this PEIR to provide a preliminary screening assessment of potentially significant traffic and transport effects of the Project. A further detailed assessment will be included in the ES.</p> <p>The Project is located within England, therefore the Department for Transport (DfT) TAG is applicable. The TAG Unit A3 (Ref 12.5) makes reference to comprehensive guidance on EIA within the Design Manual for Roads and Bridges (DMRB). DMRB guidance has been referred to in the development of this PEIR and will be referred to in the development of the ES.</p>
Paragraph 5.14.6	Identifies National Highways and the highway authorities as statutory consultees in relation to Nationally Significant Infrastructure Projects (NSIPs) applications that are likely to impact the SRN/LRN. It states that applicants ' <i>...should consult with National Highways and Highway Authorities as appropriate on the assessment and mitigation to inform the application</i> ' for development consent.	<p>This PEIR chapter has been informed by engagement with Derbyshire County Council highways officers and National Highways.</p> <p>Engagement with National Highways and the relevant highway authorities (Derbyshire County Council and Derby City Council) will occur throughout the development of the Project proposals. Records of engagement will be documented as part of the ES and agreements noted within relevant Statements of Common Ground.</p>

Policy Reference	Policy Context	How it will be Considered
Paragraph 5.14.7	States that ' <i>the applicant should prepare a travel plan including demand management and monitoring measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by active, public and shared transport...</i> '.	<p>An Outline Construction Traffic Management Plan (CTMP) will be developed in consultation with the highway authorities to provide details regarding traffic and transport management measures during construction. The Outline CTMP will include an Outline Construction Worker Travel Plan (CWTP) which will set out measures to facilitate and promote sustainable travel. The Outline CTMP will set out the measures which would be put in place to manage construction traffic on the road network. The final CTMP would be developed, post-consent, and put for agreement with the highway authorities.</p> <p>In the Scoping Opinion, the Planning Inspectorate has agreed the traffic generated by the operation and maintenance of the Project is not likely to result in significant traffic and transport impacts on the road network. Therefore, an operational travel plan is not required for the Project.</p>
Paragraph 5.14.8	States ' <i>the assessment should also consider disruption to services and infrastructure (such as road, rail and airports)</i> '.	<p>No traffic and transport impact to rail or airports is anticipated. Table 12.2 notes the Planning Inspectorate agreed that the impacts of the Project on the rail network could be scoped out of the traffic and transport assessment of effects subject to discussions with Network Rail.</p> <p>A specialist aviation consultant has been engaged by National Grid to support in ongoing discussion and analysis relating to the operational safety of airports, aerodromes and heliports in the vicinity of the Project and currently no adverse operational or safety impacts on these facilities are anticipated.</p>

Policy Reference	Policy Context	How it will be Considered
Paragraph 5.14.9	States that if <i>'additional transport infrastructure is needed or proposed, it should always include good quality walking, wheeling and cycle routes, and associated facilities (changing/storage etc.) needed to enhance active transport provision'</i> .	<p>Further engagement will be undertaken with airfield owners and operators as the Project progresses and impacts on aerodrome receptors will be reported within the DCO as appropriate.</p> <p>This PEIR chapter presents a preliminary screening assessment of the likely significant traffic and transport effects of the Project on the road network. Further detailed assessment will be included in the ES.</p> <p>An Outline CTMP will be developed in consultation with the highway authorities to provide details regarding traffic and transport management measures during construction. The Outline CTMP will include an Outline CWTP. The Outline CTMP will set out the measures which would be put in place to manage construction traffic on the road network. The final CTMP would be developed, post-consent, and put for agreement with the highway authorities.</p> <p>As previously identified, the traffic generated by the operation and maintenance of the Project is not considered to result in the need for mitigation measures. The Project is not expected to require additional transport infrastructure for its operation.</p>

Policy Reference	Policy Context	How it will be Considered
Paragraphs 5.14.11 to 5.14.16	<p>The paragraphs are within a section that addresses the topic of ‘Mitigation’ and specifies that where mitigation is needed, demand management measures must be considered; these could include the following opportunities:</p> <ul style="list-style-type: none"> • <i>‘reduce the need to travel by consolidating trips,</i> • <i>locate development in areas already accessible by active travel and public transport,</i> • <i>provide opportunities for shared mobility,</i> • <i>re-mode by shifting travel to a sustainable mode that is more beneficial to the network,</i> • <i>retime travel outside of the known peak times</i> • <i>reroute to use parts of the network that are less busy’.</i> <p>Specifies that only after these have been considered should new infrastructure be proposed as mitigation. It notes freight and freight driver facilities should be considered and that requirements may be attached to consent where significant Heavy Goods Vehicle (HGV) traffic is anticipated, such as volume control at certain times, parking provision and arrangements for abnormal disruption. There is also reference to the water preferred policy guidelines for the movement of abnormal indivisible loads (AILs) policy.</p>	<p>An Outline CTMP will be developed in consultation with the highway authorities to provide details regarding traffic and transport management measures during construction. The Outline CTMP will include an Outline CWTP which will set out measures to facilitate and promote sustainable travel by construction workers. The Outline CTMP will set out the measures which would be put in place to manage construction traffic on the road network. The final CTMP would be developed, post-consent, and put for agreement with the highway authorities.</p> <p>As previously identified, the traffic generated by the operation and maintenance of the Project is not considered to result in the need for mitigation measures.</p>

Policy Reference	Policy Context	How it will be Considered
<p>Paragraph 5.14.18 – 5.14.20</p>	<p>States the following: <i>'A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the Secretary of State should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development and by enhancing active, public and shared transport provision and accessibility.'</i></p> <p>[...]</p> <p><i>'Development consent should not be withheld provided that the applicant is willing to enter into planning obligations for funding new infrastructure or requirements can be imposed to mitigate transport impacts'.</i></p> <p><i>'The Secretary of State should only consider refusing development on highways grounds if there would be an unacceptable impact on highway safety, residual cumulative impacts on the road network would be severe, or it does not show how consideration has been given to the provision of adequate active public or shared transport access and provision.'</i></p>	<p>The ES will assess the likely significant traffic and transport effects of the Project and will identify a suitable package of mitigation measures to reduce impacts to an acceptable level. Appendix 12B Preliminary Public Rights of Way Management Plan (PRoWMP) sets out overarching mitigation measures that will be expanded and refined as they are developed into the Outline PRoWMP. An Outline CTMP will be produced to accompany the ES. A final PRoWMP and final CTMP (which would include a CWTP) would be produced for agreement with the relevant highway authorities following DCO consent.</p>

Other National Policy

12.2.3 Other relevant national policy considered in the scope of effects on traffic and transport include:

- National Planning Policy Framework (NPPF) (Ref 12.8).

Regional and Local Policy

12.2.4 **Chapter 2 Legislative, Regulatory and Planning Policy Context** sets out relevant regional and local policy considered by the Project.

12.2.5 Relevant local policy specific to traffic and transport includes:

- North East Derbyshire Local Plan 2014 - 2034 Adopted November 2021 (Ref 12.9);
- Bolsover District Council Local Plan 2020 (Ref 12.10);
- Amber Valley Borough Local Plan 2006 (Ref 12.11);
- Erewash Core Strategy 2014 (Ref 12.12);
- City of Derby Local Plan – Core Strategy 2017(Ref 12.13);
- City of Derby Local Plan Review 2006 (Ref 12.14);
- South Derbyshire Local Plan Part 1 2016 and Part 2 2017 (Ref 12.15);
- Emerging Amber Valley Local Plan (Ref 12.16);
- Chesterfield Borough Local Plan 2020 (Ref 12.17);
- Derbyshire Local Transport Plan 3 (LTP3) 2011 – 2026 (Ref 12.18);
- Derby City Council Local Transport Plan 3 (LTP3) 2011-2026 (Ref 12.19); and
- vision and strategy documents by relevant parties will also be considered in the ES where relevant, such as Midlands Connect: Strategic Transport Plan for the Midlands (Ref 12.20) and Our shared vision for the East Midlands: Transport for the East Midlands & Midlands Connect (Ref 12.21).

Guidance

12.2.6 Relevant guidance specific to traffic and transport, which has informed this PEIR and will inform the assessment within the ES, includes:

- DMRB LA 104 Environmental assessment and monitoring (Ref 12.24). This provides an overview of assessing, reporting and monitoring environmental effects of a project on motorways and all-purpose trunk roads. It includes guidance on sensitivity, magnitude of change and significance assignment.
- Environmental Assessment of Traffic and Movement (henceforth referred to as the EATM guidance) (Ref 12.25). This provides key guidance on the methodology for assessing the likely significant traffic and transport effects of a project including the period of assessment, likely significant effects and assessment criteria.

- Travel Plans, Transport Assessments and Statements (Ref 12.26). This guidance note outlines the principles and typical content expected within a travel plan and transport assessment (or statement).
- Circular 01/2022 Strategic Road Network and the Delivery of Sustainable Development (Ref 12.27). This circular sets out policy relating to the SRN and how National Highways is to engage with various parties including development promoters, including engagement in relevant screening or scoping processes where a potential impact on the SRN is noted.
- Safety at Street Works and Road Works: A Code of Practice (Ref 12.28). A code of practice which highlights legal requirements and good practice for street/highway works on roads excluding motorways and dual carriageways with a speed limit over 50 mph. It includes, but is not limited to, information on signage, traffic control, lighting and pedestrian provision.

12.3 Scoping Opinion and Consultation

Scoping Opinion and Stakeholder Engagement

- 12.3.1 A Scoping Report (Ref 12.23) was prepared and submitted by National Grid to the Planning Inspectorate in October 2024. The Planning Inspectorate provided a Scoping Opinion (Ref 12.22) on behalf of the Secretary of State (SoS) for the Department for Energy Security and Net Zero (DESNZ) in December 2024. Responses from the Planning Inspectorate in relation to traffic and transport and how these requirements will be addressed by the applicant are set out in **Table 12.2**.

Table 12.2: Summary of Planning Inspectorate’s Scoping Opinion comments in relation to traffic and transport

ID	Planning Inspectorate’s comments	Response
3.7.1	<p><i>‘Effects on the existing road network – Operation (including maintenance) The Inspectorate agrees that the number of vehicle trips generated by the operation and maintenance of the Proposed Development are not likely to result in significant effects and agrees this matter can be scoped out. The description of the development within the ES should clearly set out the likely number and type of operation and maintenance vehicles to evidence that operational and maintenance traffic would be below relevant assessment thresholds.’</i></p>	<p>The traffic and transport impacts on the existing road network during operation have been scoped out of the traffic and transport assessment.</p> <p>As required, details of the type and frequency of operational vehicles anticipated are set out within this PEIR in Chapter 4 Description of the Project. Overall, the majority of operational activities would be undertaken with vans and pickup trucks, with only repair/modification/refurbishment works requiring the use of HGVs.</p> <p>This shows low vehicle numbers, below assessment thresholds, would be anticipated. These details will be expanded/refined within the ES.</p>
3.7.2	<p><i>‘Effects on the existing rail network – Construction and Operation (including maintenance)’ ‘The Scoping Report acknowledges the potential for rail service interruptions during construction to facilitate netting of scaffolding protection over railways for overhead line crossings and for remedial/upgrade works to railway bridges to accommodate construction traffic. The Inspectorate agrees that subject to discussions with Network Rail, any necessary line blockages or possessions are not likely to result in significant effects and that this matter can be scoped out of the ES.’</i></p>	<p>Traffic and transport impacts on the rail network, during both construction and operation, have been scoped out. Engagement with Network Rail will continue as part of the design and pre-construction planning.</p>
3.7.3	<p><i>‘Effects on the existing watercourses – Construction and Operation (including maintenance)’ ‘The Inspectorate notes that the Proposed Development could cross the Trent and Mersey Canal (Figure 9.1) and that other canals are located in proximity including Cromford Canal and Nottingham canal. The Scoping Report states that crossing methods would be employed to</i></p>	<p>As required, the traffic and transport impacts on waterways during construction have been scoped into the assessment. Section 12.4 sets out the methodology, section 12.5 provides further information including regarding waterways crossings and relevant stakeholders and section 12.7 presents the preliminary</p>

ID	Planning Inspectorate's comments	Response
	<p><i>minimise effects during construction and relevant stakeholders would be engaged prior to works being undertaken. However, crossing methods have not been detailed, nor is it clear who relevant stakeholders would be.</i></p> <p><i>As a result, and given there is no certainty at this stage on where the Proposed Development would cross waterways, the Inspectorate considers that there is insufficient evidence to scope this matter out. The ES should assess any likely significant effects on waterway users from the construction activities.</i></p> <p><i>The Inspectorate agrees that significant effects during operation (including maintenance) are not likely and that this matter can be scoped out of the ES.'</i></p>	<p>traffic and transport assessment for waterways during construction.</p> <p>Engagement with the Canal & River Trust and associated restoration groups, the Friends of the Cromford Canal, and the Derby and Sandiacre Canal Trust, will continue as part of the design and pre-construction planning.</p> <p>As agreed, traffic and transport impacts on waterways during operation have been scoped out of the assessment.</p>
3.7.4	<p><i>'Study Area' 'National Highways has advised that the proposed study area is not acceptable in terms of the Strategic Road Network. The Applicant is advised to consult with National Highways to identify links and junctions on the Strategic Road Network to be included in the study area.'</i></p>	<p>This is noted, along with the full National Highways response addressed in Table 12.4. Engagement with National Highways regarding impacts on the SRN, and agreeing an appropriate Study Area, will continue to be undertaken as part of the development of the traffic and transport assessment for the ES.</p>
3.7.5	<p><i>'Significance of effect' 'Paragraph 12.8.36 states that significance would be derived using the matrix set out in Chapter 5. However, the sensitivity and magnitude criterion used in Table 12.5 and Table 12.5 respectively do not accord with those presented in Table 5.3. The Applicant should ensure consistency in its approach or provide clear explanations where aspect specific approaches depart from the overarching methodology.'</i></p>	<p>This inconsistency within the Scoping Report is acknowledged. Section 12.4 of this chapter sets out the significance matrix to be used for the assessment of traffic and transport effects, along with the reason why this differs to that set out within Chapter 5 Approach to Preliminary Environmental Information Report.</p>
3.7.6	<p><i>'Emergency services' 'The ES should consider the potential for significant effects on emergency services associated with any temporary road closures and/or temporary roadworks.'</i></p>	<p>A preliminary screening assessment has been undertaken regarding the existing road network within this chapter. Section 12.4 specifies that the ES will provide further detailed assessment of traffic and transport effects during construction that will consider delay to emergency service vehicles.</p>

12.3.2 **Table 12.3** provides a summary of the consultation feedback from specific stakeholders provided as part of the Scoping Opinion to inform the traffic and transport assessment to date.

Table 12.3: Summary of stakeholder Scoping Opinion responses in relation to traffic and transport

Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
Canal & River Trust	The Canal & River Trust response identifies the Trent and Mersey Canal as being within the proposed corridor presented within the Scoping Report, along with two former canals subject to restoration, the former Cromford Canal and former Sandiacre Canal.	Comments that include an element of traffic and transport, relate to the use of the canal for leisure and recreation and the need to consider impact on all canal users. Section 12.5 identifies the navigable waterway within the draft Order Limits. Appendix 12B Preliminary Public Rights of Way Management Plan outlines PRoWs and other routes that would be impacted by the Project. This document will be developed into an Outline PRoWMP for the ES as part of the DCO application, and then would be further developed into a final PRoWMP for agreement with the relevant highway authority post-consent. The PRoWMP will set out a package of measures to mitigate the impact on the routes identified within it, in order to minimise disruption.
Draycott and Church Wilne Parish Council	Draycott and Church Wilne Parish Council identified that the A6005, a busy major road, would be affected by construction work and that there are busy, narrow, minor roads connecting to the A6005 towards the A52. Consideration should be given to traffic issues during construction. Construction would significantly impact on traffic flows in this area, including as traffic re-routes, resulting in congestion.	As shown in Figure 12.1 Traffic and Transport Study Area , a section of the A6005 is proposed for use by Heavy Duty Vehicle (HDV) construction traffic and is included in the traffic and transport assessment, and mitigation measures identified if required.

Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
National Highways	<p>In relation to traffic and transport, National Highways wishes to be consulted on the Transport Assessment given the potential for impacts on the SRN. The Transport Assessment should be prepared in accordance with Planning Practice Guidance on Travel Plans, Transport Assessments and Statements, and the DfT Circular 01/2022: The SRN and the Delivery of Sustainable Development (Ref 12.27).</p> <p>Further liaison with National Highways is required to identify acceptable thresholds for assessment and SRN links and junctions for inclusion within the Study Area.</p> <p>A list of content recommendations for the Transport Assessment is provided, including development details, trip generation (maximum daily and SRN peak hours), traffic routeing, impacts including consideration of committed developments where relevant to the scale and distribution of trips. Further assessment should focus on the start of construction year.</p> <p>It is recommended by National Highways that a staged approach is taken with National Highways in respect to trip generation and distribution and discussion of the need for further assessment of the SRN.</p> <p>A list of expected content for the CTMP is provided, including working times and dates/durations, daily anticipated construction traffic, access arrangements and routeing (including any abnormal load movements on the SRN, contact details and control measures).</p>	<p>Further consultation will be undertaken with National Highways relating to the traffic and transport chapter of the ES and associated transport documents including the Transport Statement and regarding the Outline CTMP to be produced to accompany the ES.</p> <p>Appendix 12A Transport Statement: Construction Traffic Estimation sets out the assumptions regarding the Project’s construction traffic generation and distribution on the LRN to the SRN junctions proposed for construction traffic HDV access and egress from the SRN. This Transport Statement will be expanded to include assumptions relating to the distribution of construction traffic movements on the SRN. The details of the SRN Study Area, impacts and assessment will be discussed with National Highways during the development of further detail for the ES.</p> <p>An Outline CTMP will be developed for the ES to provide details regarding traffic and transport management measures during construction. The final CTMP will be developed, post-consent, and put for agreement with the relevant highway authorities.</p>

Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
North West Leicestershire District Council	The traffic and transport chapter should assess impacts to the North West Leicestershire District Road network resulting from construction traffic movements.	<p>As shown in Figure 12.1 Traffic and Transport Study Area, the proposed access routes for HDVs between the SRN and construction access points do not utilise roads within the North West Leicestershire area. It is considered that once on the SRN, construction traffic would disperse across the network and thus would not result in significant traffic and transport effects. Light Duty Vehicle (LDV) traffic may route along roads within North West Leicestershire, however, LDV trips would disperse from the traffic and transport Study Area across the network and thus would not be anticipated to result in significant traffic and transport effects in locations outside the traffic and transport Study Area.</p> <p>No significant impact is anticipated on roads within the North West Leicestershire District area.</p>
Stanley and Stanley Common Parish Council	Road users should be scoped into the assessment for both construction and operation where there is significant traffic, particularly regarding busy routes and the involvement of roadworks/closures.	<p>The impact on road users in the construction phase of the Project has been subject to a preliminary screening assessment (set out in section 12.7). Further detailed assessment will be provided within the ES.</p> <p>As agreed by the Planning Inspectorate (Table 12.2), there are not likely to be any significant traffic and transport effects resulting from operation and thus it has been scoped out. Chapter 4 Description of the Project presents the number and type of vehicles for operation to evidence and support the scoping out.</p>

12.3.3 **Table 12.4** provides a summary of the consultations undertaken to inform the traffic and transport assessment to date.

Table 12.4: Summary of stakeholder engagement in relation to traffic and transport

Date and Method of Consultation	Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
Meetings February 2025 and September 2025	Canal & River Trust	Matters relating to potential traffic and transport impacts on the Canal & River Trust’s assets, including listed bridges, were raised.	<p>The Project will seek to follow the Canal & River Trust’s Code of Practice for third-party works.</p> <p>Engagement with the Canal & River Trust and associated restoration groups (Friends of the Cromford Canal and the Derby and Sandiacre Canal Trust) will continue as part of the design and pre-construction planning.</p>
July 2025	Derby and Sandiacre Canal Trust	Requested cognisance of users of the Derby and Sandiacre Canal.	<p>The comment relates to the need to consider impacts on all canal users.</p> <p>Section 12.5 identifies the navigable waterway within the draft Order Limits. Appendix 12B Preliminary Public Rights of Way Management Plan outlines PRowWs and other routes that would be impacted by the Project. This document will be developed into an Outline PRowWMP for the ES as part of the DCO application, and then would be further developed into a final PRowWMP for agreement with the relevant highway authority post-consent. The PRowWMP will set out a package of measures to mitigate the impact on the routes identified within it, in order to minimise disruption.</p> <p>Engagement with the Derby and Sandiacre Canal Trust will continue as part of the design and pre-construction planning.</p>

Date and Method of Consultation	Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
Meetings held April 2025, May 2025 and July 2025	Derbyshire County Council	<p>Traffic and transport elements of the Project were discussed with Derbyshire County Council highways officers, including access and routeing strategy, assessment methodology and Study Area. Derbyshire County Council provided access to their traffic flow database.</p> <p>Engagement with Derbyshire County Council has occurred in relation to Stage 1 Road Safety Audit (RSA1) for the proposed bellmouths, crossovers and interventions.</p>	<p>Section 12.5 sets out the traffic and transport Study Area. Details of the LRN within the Study Area in the Derbyshire County area are identified within Appendix 12C Baseline Transport Context Information. Traffic flows sourced from the Derbyshire County Council have been used within the assessment (as identified within Appendix 12C Baseline Transport Context Information).</p> <p>The RSA1 brief for the proposed bellmouths, crossovers and interventions was agreed with Derbyshire County Council in October 2025.</p> <p>Engagement with the transport teams at Derbyshire County Council will continue during the development of the ES.</p>
March 2025	Friends of the Cromford Canal	Requested cognisance of users of the Cromford Canal.	<p>The comment relates to the need to consider impact on all canal users.</p> <p>Section 12.5 identifies the navigable waterway within the draft Order Limits. Appendix 12B Preliminary Public Rights of Way Management Plan outlines PRoWs and other routes that would be impacted by the Project. This document will be developed into an Outline PRoWMP for the ES as part of the DCO application, and then would be further developed into a final PRoWMP for agreement with the relevant highway authority post-consent. The PRoWMP will set out a package of measures to mitigate the impact on the routes identified within it, in order to minimise disruption.</p> <p>Engagement with the Friends of the Cromford Canal will continue as part of the design and pre-construction planning.</p>

Date and Method of Consultation	Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
Meetings February 2025 and October 2025	National Highways	Traffic and transport elements of the Project were discussed with National Highways, including access points and routeing strategy, assessment methodology and Study Area. An overview of the future ES assessment was provided.	Further engagement will be undertaken as the ES progresses, including in conjunction with the local highway authorities if felt appropriate.
Meetings August 2024 and February 2025	Network Rail	Initial meetings have been held with Network Rail Asset Protection and Planning teams.	Engagement with Network Rail will continue as part of the design and pre-construction planning.
Email April 2025	Chesterfield and North-East Derbyshire Ramblers Association (CNEDRA)	As a result of the construction of the new Chesterfield substation there is a need to divert existing PRoWs (NE5/25 and NE5/16/1) on National Grid owned land. The proposed diversion strategy has been shared with no major concerns raised pending further dialogue on programme updates.	Appendix 12B Preliminary Public Rights of Way Management Plan outlines PRoWs and other routes that would be impacted by the Project. This document will be developed into an Outline PRoWMP for the ES as part of the DCO application and then would be further developed into a final PRoWMP for agreement with the relevant highway authority post-consent. The PRoWMP will set out a package of measures to mitigate the impact on the routes identified within it, in order to minimise disruption.

12.3.4 **Table 12.5** provides a summary of the Stage 1 (non-statutory) consultation responses relating to traffic and transport, together with a response by the Applicant.

Table 12.5: Summary of Stage 1 (non-statutory) consultation in relation to traffic and transport

Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
Canal & River Trust	<p>The Canal & River Trust response identified the Trent and Mersey Canal as being within the proposed corridor presented for the Stage 1 (non-statutory) consultation, along with two former canals subject to restoration, the former Cromford Canal (promoted by Friends of the Cromford Canal) and the former Derby and Sandiacre Canal (promoted by the Derby and Sandiacre Canal Trust).</p> <p>The response highlighted the importance of the canal as a leisure and recreation route, and that the impact on all canal users be considered.</p>	<p>The Canal & River Trust provided subsequent comments relating to traffic and transport in the Scoping Opinion and through additional engagement as summarised within Table 12.3 and Table 12.4.</p> <p>Section 12.5 identifies the navigable waterway within the PEIR draft Order Limits. Appendix 12B Preliminary Public Rights of Way Management Plan outlines the PRoWs and other routes that would be impacted by the Project. This document will be developed into an Outline PRoWMP for the ES as part of the DCO application, and then would be further developed into a final PRoWMP for agreement with the relevant highway authority post-consent. The PRoWMP will set out a package of measures to mitigate the impact on the routes identified within it, in order to minimise disruption.</p> <p>Engagement with the Canal & River Trust and associated restoration groups (Friends of the Cromford Canal and the Derby and Sandiacre Canal Trust) will continue as part of the design and pre-construction planning.</p>

Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
HS2 Ltd.	<p>In their response to the Stage 1 (non-statutory) consultation, HS2 Ltd had no specific views on the Project in safeguarding terms but outlined that a future DCO application will need to be considered in the context of potential safeguarding in place for potential future Northern Powerhouse Rail schemes.</p>	<p>Since the Stage 1 consultation it was announced that the Eastern Leg of the HS2 Project had been cancelled, and it has now been announced that this designated land will have its ‘development safeguarding’ lifted. As such, no further dialogue is anticipated with HS2.</p>
National Highways	<p>The primary concern for National Highways in their Stage 1 (non-statutory) response was safeguarding the SRN M1, A38, A52, A50 and A6. The response highlighted the need for consideration of the DfT Circular 01/2022 (Ref 12.27) and that further detail will make it easier to assess the potential impact.</p> <p>National Highways noted that the Project would have minimal traffic during the operational phase and therefore would likely not impact the SRN during operation. However, it stated that information regarding vehicle trips in the operational phase must be set out. It noted that impact during the construction phase should be scoped in for assessment and should provide information on access (stating no new accesses, including temporary accesses, will be permitted from motorways/high-speed SRN sections).</p> <p>National Highways provided a list of expected content of the transport documents, including setting out expectations for a Transport Statement and its content, a Travel Plan (relating to minimising private vehicle use by workers) and a CTMP and its content.</p> <p>The communication outlined that a staged approach to engagement with National Highways was suggested, beginning with agreement regarding trip generation and</p>	<p>National Highways provided subsequent comments relating to traffic and transport in the Scoping Opinion and through additional engagement as summarised within Table 12.3 and Table 12.4.</p> <p>The ES will set out details of the anticipated operational traffic associated with the Project, which, as National Highways notes, is to be minimal – associated with inspection and maintenance activities.</p> <p>Further consultation will be undertaken with National Highways relating to the traffic and transport chapter of the ES and associated transport documents including the Transport Statement and regarding the Outline CTMP to be produced to accompany the ES. Appendix 12A Transport Statement: Construction Traffic Estimation sets out the assumptions regarding the Project’s construction traffic generation and distribution on the LRN to the SRN junctions proposed for construction traffic HDV access and egress from the SRN. This Transport Statement will be expanded to include assumptions relating to the distribution of construction traffic movements on the SRN.</p>

Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
	<p>distribution to then allow determination of whether further assessment of the SRN is required.</p> <p>The response outlined the National Highways' requirements relating to work near the SRN and road/lane closure booking and the abnormal load notification process.</p>	<p>The details of the SRN Study Area, impacts and assessment will be discussed with National Highways during the development of further detail for the ES.</p> <p>An Outline CTMP will be developed for the ES to provide details regarding traffic and transport management measures during construction. No access points are currently proposed off the motorways/ high-speed sections of the SRN, as shown in Figure 12.1 Traffic and Transport Study Area. The final CTMP would be developed, post-consent, and put for agreement with the relevant highway authorities.</p>
National Trust	<p>The National Trust response highlighted, in relation to traffic and transport, a preliminary concern regarding potential disruption due to temporary haul roads and construction compounds, and noted the consultation document mentioned potential disruption due to construction traffic. Concern was raised regarding impacts on visitors and users of networks and wider business/tourism impacts, and thus sought formal consultation and engagement.</p>	<p>The traffic and transport impact of construction traffic will be assessed within the ES regarding users of the LRN, SRN, PRoWs, long distance and regional paths, NCN routes, other routes and navigable waterways. The ES assessment of traffic and transport effects will identify any locations where there are significant traffic and transport effects and will set out mitigation to minimise impacts.</p> <p>Section 12.7 sets out a preliminary screening assessment of traffic flow increases due to estimated Project construction traffic at key locations in the traffic and transport Study Area (on the Project construction HDV routes, as shown on Figure 12.1 Traffic and Transport Study Area). Detailed assessment of locations that have the potential for likely significant traffic</p>

Consultee	Summary of Key Topics Discussed and Key Outcomes	Response
South Derbyshire District Council	<p>In terms of traffic and transport, the council raised the need to consider the effects of traffic and transport.</p> <p>The response highlighted that the Draft Local Plan includes a strategic housing-led allocation at Infinity Garden Village north of the A50 between Chellaston and Stenson/Sinfin (3,950 new dwellings, 1,950 already allocated; new employment land, school, access onto the A50 and walking/cycling routes between Derby and villages south of the A50 via the site).</p> <p>The A50 A6 interchange is also highlighted (relating to infrastructure crossing the trunk roads and nearby developments set to bring forward infrastructure) as a key location.</p>	<p>and transport effects will be provided within the ES.</p> <p>The ES will present assessment of traffic and transport effects scoped into assessment (set out in section 12.7). Section 12.7 sets out a preliminary screening assessment of traffic flow increases due to estimated Project construction traffic at key locations in the traffic and transport Study Area (on the Project construction HDV routes, as shown on Figure 12.1 Traffic and Transport Study Area).</p> <p>As set out in section 12.5, there will be engagement with the local authorities regarding pertinent committed developments and highways schemes that need to be considered in relation to traffic and transport, beyond the increase in traffic growth already accounted for within TEMPro.</p>

12.4 Assessment Methodology

- 12.4.1 **Chapter 5 Approach to Preliminary Environmental Information Report** sets out the overarching approach used in developing the preliminary environmental information. This section describes the technical methods used to determine the baseline conditions, receptor sensitivity and magnitude of change for the screening assessment undertaken within this PEIR. This section also identifies the proposed methodology for the further detailed assessment that will be undertaken and reported in the ES.

Technical Guidance

- 12.4.2 The assessment principally draws on the EATM guidance (Ref 12.25) which specifies that the assessment represents the realistic worst case in terms of traffic and movement demand. The temporal scope for the assessment of the traffic and transport effects should be the year when the Project traffic 'is at the largest proportion of the total flow'. As already identified, in this case this would be during the construction phase. The effects of the operational phase that are scoped into the assessment are any permanent changes to the PRowS and other routes.
- 12.4.3 The EATM guidance specifies the need to identify the Study Area or spatial scope of the assessment which would comprise the transport network to be used by the construction traffic. It is then recommended the following two rules are applied as criteria to assist in delimiting the scale and extent of the environmental assessment:
- Rule 1: Include highway links where the total traffic flows are predicted to increase by more than 30 per cent (or where the number of HGVs is predicted to increase by more than 30 per cent); and
 - Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10 per cent or more.
- 12.4.4 The EATM guidance notes that increases below 10 per cent are considered insignificant given that daily variations in background traffic flow would usually fluctuate by this amount. Therefore, changes in traffic flow below this level are assumed to result in no discernible environmental effects.

Affected parties/sensitive receptors

- 12.4.5 The EATM guidance states that sensitive receptors within a Study Area should be assigned to the nearest road link. The overall sensitivity of the road link is assigned as the greatest sensitivity associated with its length.
- 12.4.6 The classification of the link sensitivity is based on the presence of sensitive receptors and professional judgement, with consideration of the EATM guidance on defining sensitive receptors, which includes the following:
- people at home;
 - people at work;
 - sensitive and/or vulnerable groups (including young age; older age; income; health status; social disadvantage; and access and geographic factors);

- locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools);
- retail areas;
- recreational areas;
- tourist attractions;
- collision clusters and routes with road safety concerns; and
- junctions and highway links at (or over) capacity.

12.4.7 The EATM guidance also sets out the following key user groups: non-motorised users, PRoW users, motorists/freight vehicles, public transport and emergency services.

Likely significant traffic and transport effects

12.4.8 The criteria for assessing the traffic and transport effects are defined within the EATM guidance as follows, noting that where there is reference to non-motorised users, this includes pedestrians (walkers and wheelers), cyclists and horse riders where applicable.

- Severance and amenity (non-motorised users): severance is the separation of people from places and other people or impedance of non-motorised user access to essential facilities, particularly due to difficulty experienced in crossing a heavily trafficked route. Non-motorised user amenity is the relative pleasantness of a journey, which may change due to traffic flow, traffic composition and separation from traffic changes.
- Driver delay including delays for public transport users and emergency services: traffic delays to non-development traffic including delays resulting from changes to bus stop/services and taxi facilities. It should be noted that the CTMP will specify management measures designed to ensure continued access for emergency service vehicles during construction if there is a risk of disruption as a result of construction traffic or activities.
- Non-motorised user delay: delays to journey times which can occur due to changes to the ability of people to cross roads resulting from changes in traffic volume, composition and speed, the level of pedestrian activity, visibility and general physical conditions of the Project.
- Accident and road safety: effects on road safety relate to the risk of accidents occurring where the Project is expected to produce a change in the character of traffic.
- Parking and loading: effects on parking and loading relate to the availability of parking and loading spaces for residents and businesses for various vehicle types.
- Fear and intimidation: the change in fear and intimidation levels experienced by non-motorised users as a result of a change to the traffic flow (volume, speed or composition) and/or its proximity, or the lack of protection caused by such factors as narrow pavement widths.
- Hazardous and large loads: the impact of the movement of dangerous or hazardous loads or AILs.

- 12.4.9 There are anticipated to be some AIL movements for the Project construction. AIL movements require notification of highway, police and bridge authorities. Mitigation resulting from an AIL route assessment and AIL management measures (which will be detailed within the Outline CTMP (to be produced for the ES) and discussed and agreed with National Highways and the relevant local highway authorities) would minimise the impact of AIL movements as far reasonably practicable. Therefore, the movement of AILs is not considered further within the traffic and transport assessment and will not be assessed within the traffic and transport assessment as part of the ES.
- 12.4.10 **Table 12.6** outlines which of the traffic and transport effects will be assessed for each of the three transport networks.

Table 12.6: Traffic and transport effects for assessment per transport network

Traffic and Transport Effect	Transport Network
Severance and amenity (non-motorised users)	Road network
	PRoWs, long distance and regional paths, NCN routes and other routes
	Navigable waterways
Driver delay	Road network
Non-motorised user delay	Road network
	PRoWs, long distance and regional paths, NCN routes and other routes
	Navigable waterways
Accident and road safety	Road network
Parking and loading	Road network
Fear and intimidation	Road network

Sensitivity

- 12.4.11 The general criteria for defining the sensitivity of a road link are set out in **Table 12.7**.

Table 12.7: Traffic and transport receptor sensitivity criteria

Sensitivity	Criteria
High	Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident blackspots, retirement homes, urban/residential roads without footways, routes that are used by high volumes of pedestrians and/or cyclists.
Medium	Traffic flow sensitive receptors including: congested junctions, GP surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, unsegregated cycleways, community centres, parks and recreational facilities. Footways/routes that are used by some pedestrians and/or cyclists.
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision or where footways/routes are used by low volumes of pedestrians and/or cyclists.
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distant from impacted roads and junctions, where footways/routes are used by no (or very limited volumes of) pedestrians and/or cyclists.

12.4.12 Rule 2 will apply to roads/road sections of high or medium sensitivity and Rule 1 to roads/road sections of low or negligible sensitivity.

Magnitude

12.4.13 The magnitude of change will be quantified based on the anticipated percentage change in traffic flows due to the Project traffic and associated metrics based on guidance and professional judgement.

12.4.14 According to the DMRB LA 104 Environmental Assessment and Monitoring (Ref 12.23), magnitude may be quantified as follows:

- Major – Total loss (or total gain) or major alteration to principal elements or features of the baseline conditions to the extent that post-scenario character or composition of baseline conditions would be fundamentally changed.
- Moderate – Loss (or gain) or alteration to one or more principal elements or features of the baseline conditions to the extent that post-scenario character or composition of the baseline conditions would be materially changed.
- Minor – A change or shift away from baseline conditions. Changes arising would be detectable but not material; the underlying character or composition of the baseline conditions would be similar to the pre-scenario situation.
- Negligible – Very little change from baseline conditions. Change is barely distinguishable, approximating to a ‘no change’ situation.

12.4.15 EATM guidance and professional judgement will be key components to categorising the magnitude of impact. The following sections outline the key criteria and thresholds for each of the traffic and transport effects.

Severance and amenity (non-motorised user amenity)

- 12.4.16 Magnitude of change regarding severance can be assigned based on increase in traffic:
- major – a change in total traffic or HGV flows of 91 per cent or over;
 - moderate – a change in total traffic or HGV flows of 61 per cent to 90 per cent;
 - minor – a change in total traffic or HGV flows of 31 to 60 per cent; and
 - negligible – a change in total traffic or HGV flows of 30 per cent or less.
- 12.4.17 The pedestrian amenity key threshold for a negative impact on amenity is a doubling of total traffic flow or HGV traffic flow (an increase of 100 per cent or more). Pedestrian amenity is also impacted by traffic composition, footway width/separation from traffic, visibility, crossing facilities and level of pedestrian activity.
- 12.4.18 An additional consideration for determining the magnitude of change of severance and of amenity for non-motorised users of PRoWs, long distance and regional paths and NCN routes is provided. A temporary increase is forecast where there is more than a 30 per cent increase in HGVs or total flow on a route intersecting a PRoW, bridleway or near an equestrian centre, for more than four weeks in any 12-month period. A permanent impact on a PRoW will be assigned a magnitude based on the context and scale of the permanent impact.

Driver delay (including delays for public transport users and emergency services)

- 12.4.19 Driver delay is reflected in queuing levels at junctions or congestion on road links. Magnitude of change assignment can, therefore, be assigned based on the increase in traffic:
- major – a change in total traffic or HGV flows of 91 per cent and above;
 - moderate – a change in total traffic or HGV flow of 61 per cent to 90 per cent;
 - minor – a change in total traffic or HGV flows of 31 to 60 per cent; and
 - negligible – a change in total traffic or HGV flows of 30 per cent or less.
- 12.4.20 This will be considered in conjunction with the highway context of the link, e.g. the baseline traffic flow/congestion level. Caution should be used in applying the per cent change thresholds to road links with low baseline flows. A key threshold for consideration regarding passenger delay will be changes to bus services, bus stops or taxi facilities for more than four weeks in any 12-month period.

Non-motorised user delay

- 12.4.21 Generally, increases in traffic may lead to greater delay, though this is dependent on the level of non-motorised users' activity in the area. Magnitude is assigned on pedestrian delay experienced when crossing roads considering a range of factors including crossing type, pedestrian flows, traffic levels, visibility and general highway condition. The key threshold for magnitude of change will be a temporary maximum increase in journey length along a road or route for more than four weeks in any 12-month period.

12.4.22 An additional consideration for determining magnitude of change specifically relating to delays for non-motorised users of PRowWs, long distance and regional paths and NCN routes, is a forecast temporary increase of more than 30 per cent in HGVs or total flow on a route intersecting a PRowW, bridleway or near an equestrian centre for more than four weeks in any 12-month period. A permanent impact on a PRowW will be assigned a magnitude based on the context and scale of the permanent impact.

Accident and road safety

12.4.23 The EATM guidance states that *'professional judgement will be needed to assess the implications of local circumstances, or factors, which may elevate or lessen risks of accidents, e.g., junction conflicts'*.

12.4.24 By reviewing existing collision patterns and trends, it is possible to ascertain how the forecast increase in traffic may change the risk of serious and fatal injuries. The following criteria will be used for identifying existing accident cluster locations:

- where junctions have had ten or more collisions in a three-year period; and
- where links have recorded ten or more collisions per 100 m lengths in a three-year period.

12.4.25 The criteria used to determine the magnitude of impact (due to the construction traffic) to be applied to accidents and road safety are set out below:

- major – expected change in accident risk of 15 per cent or above at the location of existing accident cluster;
- moderate – expected change in accident risk of 10 per cent – 14 per cent at the location of existing accident cluster;
- minor – expected change in accident risk of 5 per cent – 9 per cent at the location of existing accident cluster; and
- negligible – expected change in accident risk of less than 5 per cent at the location of existing accident cluster.

12.4.26 These thresholds along with the highway environment context together form the basis for determining the magnitude of change based on professional judgement.

Parking and loading

12.4.27 The following criteria will be used as a key threshold for magnitude of change: Loss of more than four weeks in any 12-month period of:

- one or more on-street loading bay;
- five or more on-street residential/business bays;
- five or more cycle/motorcycle spaces; or
- 20 general parking spaces or equivalent length of unrestricted kerbside spaces.

12.4.28 The magnitude of change will also be reflective of the highway/parking context, such as volume of parking provision in the immediate area and demand for parking. Both elements are considered together and professional judgement used to assign the appropriate magnitude of change category.

Fear and intimidation

- 12.4.29 Magnitude is assigned based on the scoring system provided in EATM (which is dependent on 18 hr average traffic flow; 18 hr average HGV traffic flow and vehicle speed). The scores comprise extreme (71+); great (41 to 70); moderate (21 to 40) and small (0 to 20). The baseline score and the Project score are compared to determine the magnitude of change as follows:
- major: a two-step change in level of fear and intimidation;
 - moderate: a one-step change in level of fear and intimidation and >400 average 18 hr vehicle increase or >500 HGV 18 hr vehicle increase;
 - minor: a one-step change in level of fear and intimidation and <400 average 18 hr vehicle increase or <500 HGV 18 hr vehicle increase; and
 - negligible: no change in level of fear and intimidation.

Significance of effects

- 12.4.30 Significance of effect is derived by considering the sensitivity of the defined receptors, and the magnitude of impact likely to be caused by the activities of the Project. These factors are combined to give an overall significance of effect, as set out in **Table 12.8**. Effects predicted to be ‘major’ or ‘moderate’ are considered significant, whilst effects predicted to be ‘minor’ or ‘negligible’ are considered not significant.

Table 12.8: Traffic and transport significance matrix

Magnitude of Change	Sensitivity of Receptor			
	High	Medium	Low	Negligible
Major	Major	Major	Moderate	Negligible
Moderate	Major	Moderate	Minor	Negligible
Minor	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

- 12.4.31 The traffic and transport significance matrix is consistent with the EATM guidance, noting that this does differ from that set out within **Chapter 5 Approach to Preliminary Environmental Information Report** which sets out five categories of sensitivity and of magnitude.

Preliminary Assessment Assumptions and Limitations

- 12.4.32 The assessment has been undertaken based on the preliminary project design information. This information is iterative and will be updated in the ES as the design evolves.
- 12.4.33 The following sets out additional specific assumptions and limitations relevant to the development of this chapter:

- **Appendix 12A Transport Statement: Construction Traffic Estimation** details the full methodology and assumptions relating to the calculation of construction traffic. The principal limitations to the preliminary assumptions are outlined below:
 - Construction traffic generation accounts for activities where construction vehicles utilise designated access points, including the new Chesterfield Substation works. Other construction-related activities may also contribute to traffic generation, such as highways works or National Grid Electricity Distribution Plc works. However, these additional activities are expected to occur in limited numbers compared to currently estimated peak construction traffic levels. Details of them are not known at this stage in the design process and they have not been included.
 - Construction traffic distributions consider only movements between the Project construction access points and the SRN or other major roads/routes. The distribution does not account for any additional Project construction activities that may occur along the LRN, such as road improvement works.
 - HDV construction traffic is assumed to travel between the SRN and construction access points, representing a worst-case scenario for the traffic and transport Study Area as some HDV movements may occur solely between construction access points.
 - Assumptions on the distribution of construction staff LDVs on the road network are based on journey-to-work data from the 2011 Census (Ref 12.63) with respect to the origin of workers. In the absence of specific construction worker data, this approach provides the best estimate.
 - LDV construction traffic has been assumed to consist of worker LDVs travelling from an origin location outside the traffic and transport Study Area, to and from the construction access points. This forms a worst-case assessment in terms of impact on the traffic and transport Study Area as in reality, LDV movements may differ in several ways:
 - some trips would be to construction compound locations, with workers then being transported to work locations via a shared vehicle such as a minibus;
 - some movements may involve travel between access points. These trips reflect workers moving between access points as part of the working day thus impacting a smaller section of the LRN; and
 - some movements could be deliveries to the Site rather than worker movements. These deliveries might be consolidated at construction compounds, for example, before being transported to working locations.
 - For a worst-case assessment of the construction traffic volume per day, it has been assumed that the weekly traffic is spread over only five days per week (i.e. only five days per week are working days), as this results in a higher average number of daily movements than assuming a seven-day working week (which is expected).
 - A high-level indicative construction programme has been used (set out in **Appendix 12A Transport Statement: Construction Traffic Estimation**), with vehicle movement assumptions provided by the Main Works Contractor for movements relating to the proposed 400 kV overhead line. Where vehicle movement assumptions were provided for Project sections, these have been

based on an average per access point. For vehicle movements relating to the new Chesterfield Substation, construction traffic assumptions across the indicative construction programme were provided by Jacobs.

- All construction HDV traffic is formed of HGVs. Baseline HDV traffic includes both HGVs and buses/coaches.
- The identification of future baseline traffic flows is based on an industry standard approach using growth factors and does not account for additional specific committed highway schemes or developments. Consideration of specific committed highway schemes or developments will be discussed with the highway authorities during consultation for the more detailed assessment within the ES.
- As part of the data collection for this chapter, traffic surveys were undertaken, however, a small number did not record data for the full survey duration, as summarised within section 12.5. The missing data are not expected to impact on the outcome of the preliminary assessment provided within section 12.7. Consideration will be given to any additional traffic data collection required to support the ES based on engagement with the highway authorities.
- Baseline traffic flow is not available for all roads that form the traffic and transport Study Area within this PEIR. Locations for additional traffic survey/traffic flow data collection will be considered, if necessary, to inform the ES.

12.4.34 All of the above assumptions/parameters will be revisited during the development of the traffic and transport assessment for the ES and updated or incorporated into a revised methodology of assessment as appropriate. The traffic and transport assessment for the ES will present detailed assessment of the likely significant traffic and transport effects.

Further Assessment within the ES

12.4.35 This PEIR presents an initial screening assessment of traffic and transport environmental effects within the Study Area based on professional judgement. The ES will be informed by the public consultation and further engagement with the highway authorities which may result in the need for additional data collection. This will include assessment of the impact on the SRN, to the requirements of National Highways.

12.4.36 In addition, assumptions regarding construction traffic generation and distribution will be refined as the Project is developed further, and more detail becomes available.

12.5 Baseline Conditions

Study Area

Road network

12.5.1 The traffic and transport Study Area for this PEIR chapter is shown in **Figure 12.1 Traffic and Transport Study Area**. It consists of the roads on the LRN which are proposed to be used by HDV construction traffic (the primary assessment phase for traffic and transport is the construction phase, as set out in section 12.4). These are the roads that would be most impacted by construction traffic.

- 12.5.2 HDV traffic reaches each Project construction access via the Primary Access Routes (PARs) and Secondary Access Routes (SARs) shown on **Figure 12.1 Traffic and Transport Study Area** and described within **Appendix 12C Baseline Transport Context Information**.
- 12.5.3 To undertake an assessment of likely traffic and transport impacts on the road network during the construction phase, a number of Traffic and Transport Assessment Locations (TTALs) were identified. Each TTAL is located on a PAR or SAR; full details on this are set out in within **Appendix 12C Baseline Transport Context Information**. The majority of TTALs are within the Derbyshire County area, however there are seven within, or on the border of, the Derby City area. **Appendix 12C Baseline Transport Context Information** also identifies the assigned sensitivity of each TTAL for the preliminary traffic and transport assessment at PEIR, and the rationale (based on the criteria within for the assignment. Within the traffic and transport Study Area relating to the LRN, only TTALs in exceedance of the relevant Rule 1/Rule 2 threshold (as set out in section 12.4) will be taken forward for detailed assessment.
- 12.5.4 As noted previously, the traffic and transport Study Area, and associated TTALs, may change as a result of the further development of the Project proposals, including, but not limited to, HDV construction routes and construction traffic volumes and distribution assumptions.
- 12.5.5 The traffic and transport Study Area within the ES will include sections of the SRN impacted by the Project. The spatial scope for assessment will be discussed and agreed with National Highways.

Public Rights of Way, long distance and regional paths, and NCN routes

- 12.5.6 The traffic and transport Study Area also includes all PRoWs, long distance and regional paths and NCN routes that interact with the Project by way of being within the draft Order Limits.

Navigable waterways

- 12.5.7 The traffic and transport Study Area includes navigable waterways that are within the draft Order Limits.

Data Collection

- 12.5.8 The baseline assessment has been informed by a desktop study and traffic surveys.

Desktop study

- 12.5.9 **Table 12.9** sets out the desktop study data sources used to develop this chapter.

Table 12.9: Desktop data sources

Data	Source Reference
Transport network and highway environment information	Google Maps (Ref 12.30) and Bing Maps (Ref 12.31)
Bus stops information	OS Vector Data (Ref 12.32)
Bus routes and services information	Various bus service operators (Ref 12.32 to Ref 12.40), Traveline (Ref 12.41), Data Cutter Routelines (Ref 12.42) and bus times (Ref 12.43).
Collision data	DfT (Ref 12.44)
Traffic flow data which include Annual Average Daily Traffic (AADT)	DfT (Ref 12.45)
Traffic flow data within Derbyshire County Council Area	Derbyshire County Council – Drakewell C2 system (Ref 12.46)
Traffic flow data within Derby City Council Area	Derby City Council – Drakewell C2 system
Road traffic estimates data, for distribution of traffic movements across a day	DfT (Ref 12.47) and DfT (Ref 12.48)
PRoWs information	Derbyshire County Council (Ref 12.49) and Derby City Council (Ref 12.50)
Open access land (OAL) and common land information	Natural England (Ref 12.51)
Other routes with public access (ORPA) and permissive path information	Bing maps – Ordnance Survey (Ref 12.52)
Long distance paths and regional routes information	National Trails (Ref 12.53) and Derbyshire County Council (Ref 12.54)
NCN information	Walk Wheel Cycle Trust (formerly Sustrans) (Ref 12.55).
Railway lines and station information	National Rail (Ref 12.56) and OpenStreetMap (Ref 12.57)
Navigable waterways information	Inland Waterway Association (Ref 12.58) and Canal & River Trust (Ref 12.59).
SRN information	National Highways (Ref 12.60)
Trip End Model Presentation Program (TEMPro)	DfT (Ref 12.61)
National Road Traffic Projections data	DfT (Ref 12.62)
Travel to work data	Nomis (Ref 12.63)

Traffic surveys

- 12.5.10 **Appendix 12C Baseline Transport Context Information** presents baseline traffic data including details of traffic surveys that were undertaken at locations on the LRN for a seven-day period between 24 June 2025 and 30 June 2025 by Streetwise Services Ltd. The traffic surveys were traffic flow counts classified by vehicle type via tube-based Automatic Traffic Counters (ATCs) and also collected vehicle speed data.
- 12.5.11 As noted previously, four of the ATCs did not record full data for the seven-day survey period, however this is not considered to impact on the outcomes of this preliminary traffic and transport assessment based on checks of nearby traffic data.

Further data to be collected to inform the ES

- 12.5.12 In addition to the data collected for the PEIR, the ES will be informed by the following, if identified as a requirement through the Project refinement and engagement process:
- On-site route observations of PARs and SARs.
 - PRoW user surveys where there are significant impacts.
 - Additional traffic flow and speed data, which could include:
 - locations on PARs/SARs not surveyed for this PEIR;
 - changes to traffic routeing as a consequence of the PEIR stage consultation; or
 - emergence of other locations of interest on the road network such as haul road cross-over points and access points that come to light from ongoing landowner discussions and design development.
 - The relevant highway authorities will be engaged on the need, scope, and locations of any additional traffic surveys for the ES.
 - Committed highway schemes that are relevant to the traffic and transport future baseline information, sourced from the relevant authorities.
 - Committed development relevant to the traffic and transport future baseline information, sourced from the relevant authorities.
 - Traffic flow data for key roads and junctions on the SRN, likely sourced from the DfT and/or National Highways.
 - Updates to the baseline data in this document to reflect changes over time. Desktop baseline information will be revised for the ES where new data are available. The need for updated traffic flow surveys, for example, will be discussed with the relevant highway authorities.

Existing Baseline

- 12.5.13 This section provides an overview of the existing transport network baseline within the traffic and transport Study Area and the vicinity of the Project that are subject to the assessment of the traffic and transport environmental effects. The key baseline transport context information is shown in **Figures 12.1 to 12.5**. Given the spatial extent of the traffic and transport Study Area, some of the detailed existing transport network information is presented within **Appendix 12C Baseline Transport Context Information**; where this is the case it is noted in the relevant subsection of this section.

Local Road Network

- 12.5.14 A description of every road or road section that forms part of a PAR or SAR has been compiled within **Appendix 12C Baseline Transport Context Information**. **Table 12C.2** sets out the description for all road/road sections in the Derbyshire County area and **Table 12C.3** those in the Derby City area. The descriptions of the roads include the following aspects which have been used to inform the traffic and transport assessment:
- Carriageway type – including whether the road is single or dual carriageway, narrow/single track, and if the road routes through a rural or urban area or both.
 - Speed limit – the speed limits in force along the road.
 - Footway and crossing provisions – including where any footway provision is and the forms of crossing facility present.
 - Streetlighting – whether it is present or not.
 - Traffic/speed management infrastructure – whether any is present, for example horizontal deflection such as build outs, or vertical deflections such as raised tables or speed cushions.
 - Restrictions (weight or height) – any vehicle weight or height restrictions that apply to the road/road section.
 - Active bus stops – if any currently operational bus stops are present.
 - Bus routes along any part of the road section – if any buses route along the road as part of local bus services (regardless of whether those buses serve bus stops on the road or not).
 - Potentially sensitive receptors – notes the presence of any sensitive receptors in terms of land-use adjacent to the carriageway, based on the sensitivity criteria set out in **Table 12.7**.
- 12.5.15 Section 12C.4 within **Appendix 12C Baseline Transport Context Information** sets out data on road collisions and casualties sourced from the DfT STATS19 dataset for 2021 to 2023, the most recently available three years of data. For each road/road section and junction between these within the traffic and transport Study Area, the number of collisions is identified (along with the injury severity of the casualties), as is the number of collisions that resulted in a casualty who was a vulnerable road user (pedestrians including walkers/wheelers, or cyclists). The accident records for 2021 to 2023 for the junctions between the traffic and transport Study Area (the LRN) and the SRN are provided within **Table 12C.5** in **Appendix 12C**. **Figure 12C.5 Highway Collisions in the Traffic and Transport Study Area** shows the accident search area and accidents recorded within the search area for 2021, 2022 and 2023 and the injury severity category.
- 12.5.16 Section 12C.5 within **Appendix 12C Baseline Transport Context Information** presents traffic flow data for the TTALs within the traffic and transport Study Area. The traffic data come from one of four sources: 2025 traffic count surveys undertaken for the Project; DfT AADT data, Derbyshire County Council or Derby City Council. Section 12.5 sets out in detail the traffic data source for each TTAL and any calculations undertaken to process the data into the 2025 AADT baseline traffic flows, including but not limited to the application of TEMPro growth factors. The AADT flows were converted into annual average weekday traffic flows (AAWT) and

12 hr AAWT by applying an appropriate factor based on the DfT's TRA307 traffic distribution by time of day and day of the week dataset (Ref 12.48). The resultant traffic flows are set out in **Table 12C.7** within **Appendix 12C Baseline Transport Context Information**.

- 12.5.17 Should additional TTALs be required as part of the traffic and transport assessment for the ES, supplementary traffic flow data would be sourced.
- 12.5.18 Section 12C.6 within **Appendix 12C Baseline Transport Context Information** sets out the sensitivity level of each TTAL which has been determined based on the criteria outlined within section 12.4, specifically **Table 12.7**. The TTAL sensitivity assignments are detailed in **Table 12C.7** of **Appendix 12C Baseline Transport Context Information**, together with the key information supporting the rationale for each sensitivity classification.

Strategic Road Network

- 12.5.19 The SRN consists of roads managed by National Highways. The SRN roads in the vicinity of the Project are outlined in **Table 12.10**. The SRN junctions in the traffic and transport Study Area (the junctions between the LRN and SRN, proposed to be used to access and egress the SRN by HDV construction traffic) are also listed in **Table 12.10**. The chapter does not provide a preliminary assessment of impacts on the SRN, as the requirements for this will be identified through engagement with National Highways and included in the ES.

Table 12.10: Strategic Road Network roads in the vicinity of the Project

SRN Road	Description	Junction Proposed to be used to Access/Egress the SRN by HDV Construction Traffic
M1	The M1 routes in a north-south orientation near the Project. It connects north towards Leeds and south east towards London.	Junction 29A and Junction 29
A50	The A50 routes in an east-west orientation near the Project. It connects east towards the M1 and west towards Stoke-on-Trent.	Derby Southern Bypass Junction 3
A52	The section of the A52 that is part of the SRN routes north from the A50 into the eastern side of Derby before routeing east to the M1 and onward towards Nottingham.	A52/A6005
A38	The part of the A38 that is part of the SRN, routes from the M1 near Alfreton, south through the western side of Derby and onward to the M6 Toll.	A38/A61 (Alfreton), A38/A610, A38/B6179, A38/A61 (Derby) and A38/Kingsway

12.5.20 The number of accidents recorded within the DfT STATS19 data for 2021 to 2023 for the junctions set out in **Table 12.10** are presented within **Table 12C.5** of **Appendix 12C Baseline Transport Context Information**.

PROWs, long distance and regional paths and NCN routes

12.5.21 The existing PRoW network has been investigated along with ORPAs, permissive paths, OALs and common land, NCN routes and long distance and regional paths, where these are likely to interact with the Project, not on the LRN. The exception is those NCN routes on the LRN that intersect with PAR and SARs which are noted. This is detailed in **Appendix 12C Baseline Transport Context Information**.

12.5.22 The following are potentially impacted by the Project, as shown in **Figure 12.3 Public Rights of Way and Other Active Travel Routes**:

- 213 PRoWs (footpaths, bridleways and restricted byways all within the Derbyshire County area);
- three ORPAs (located on Stony Lane and Watering Lane (Holbrook); Derby Road (Borrowash) and Moor Lane (south of the Derby Southern Bypass);
- four NCN routes (6, 54, 67 and 672); and
- four regional routes (Five Pits Trail, Centenary Way, Midshires Way and Derwent Valley Heritage Way).

12.5.23 No OALs, common land or permissive paths have been identified as being of relevance to the traffic and transport Study Area and the Project and therefore none form a part of the baseline transport context.

Navigable waterways network

12.5.24 **Figure 12.2 Navigable Waterways and the Rail Network** shows the navigable waterways that interact with the Project or are in the vicinity of the Project. These are described within **Table 12.11**.

Table 12.11: Summary of navigable waterways near the Project

Navigable Waterway	Managed By/ Restoration Stakeholder	Route	Location Near the Project
Erewash Canal	Canal & River Trust	Routes from the River Trent (south of Long Eaton) to the Cromford Canal (Langley Mill).	Routes north-south to the east of the Project, through Ilkeston.
Trent & Mersey Canal	Canal & River Trust	Routes from the River Trent (south of Long Eaton) north west to Bridgewater Canal (near Preston Brook).	Routes east-west across the Project draft Order Limits near Barrow upon Trent.
Derby & Sandiacre Canal	Derby and Sandiacre Canal Trust.	Routes between the River Trent (south of Derby) through the eastern side of	Route east-west across the Project draft Order Limits near Borrowash.

Navigable Waterway	Managed By/ Restoration Stakeholder	Route	Location Near the Project
		Derby and then east to Sandiacre.	
Cromford Canal	Canal & River Trust, Derbyshire County Council and Friends of the Cromford Canal	Routes between the Erewash Canal (Langley Mill) and Cromford.	Routes east-west across the Project draft Order Limits north of Ripley.
Chesterfield Canal	Canal & River Trust	Routes between the River Trent (East Stockwith) into Chesterfield.	North of the Project's northern extent.
River Trent	Canal & River Trust and Associated British Ports Humber.	Trent and Mersey Canal (south of Long Eaton) to the Humber Estuary.	South east of the Project.

Future Baseline

- 12.5.25 The future baseline relates to known or foreseeable changes to the current baseline in the future, against which the effects of the Project during construction and operation can be assessed. Specifically, it accounts for anticipated changes including those caused by changing climatic conditions, policy, legislation and by other confirmed development projects which would be complete prior to construction of the Project.
- 12.5.26 The future baseline for traffic and transport should include known or anticipated changes to the existing baseline in the future which are relevant to the assessment of the traffic and transport effects of the Project.
- 12.5.27 The future baseline year is 2029 or 2030, depending on the TTAL (with each TTAL assessed for the future year in which the peak daily total construction traffic movements are generated which cross the TTAL, as detailed within section 12.7).
- 12.5.28 A set of growth factors were derived for all vehicles from TEMPro (Ref 12.62) and for HDVs from the DfT's National Road Traffic Projections (Ref 12.63). The growth factors were applied to the baseline traffic flows (presented with **Appendix 12C Baseline Transport Context Information**) to increase the background traffic from 2025 to 2029 or to 2030, whichever is relevant for each TTAL. The growth factors including an outline of the methodology from which they were derived and the resulting future baseline traffic flows, are presented within section 12C.7 of **Appendix 12C Baseline Transport Context Information**.
- 12.5.29 The future baseline will be further refined and developed for inclusion within the ES, with engagement with the relevant highway authorities. It is likely that this would include, but not be limited to, committed highway schemes and committed developments.

12.6 Design Embedded and Good Practice Mitigation Measures

12.6.1 As set out in **Chapter 5 Approach to Preliminary Environmental Information Report**, mitigation measures comprise design embedded measures, good practice measures, and additional mitigation measures. Those measures relevant to the assessment of traffic and transport effects are set out below.

Design Embedded Mitigation Measures

12.6.2 The key embedded measure relevant to traffic and transport is the development of the HDV construction traffic access routeing. The HDV construction traffic access routeing considered the following potential constraints:

- road geometry, gradient layout and alignment;
- visibility;
- height and weight restrictions;
- road classification;
- existing pedestrian infrastructure;
- sensitive receptors; and
- congestion-prone areas.

12.6.3 The design of the Project is ongoing and embedded mitigation measures will continue to be developed and agreed with key stakeholders. This could result in targeted mitigation measures to address specific impacts, for example, adapting construction hours on particular routes at certain times or temporary traffic regulation orders.

Good Practice Mitigation Measures

12.6.4 A range of standard good practice mitigation measures would be implemented for the Project. **Appendix 4A Draft Outline Code of Construction Practice** presents the likely good practice mitigation measures relevant to traffic and transport during the construction period.

12.6.5 The measures which are relevant to traffic and transport are as follows:

- GG02 – which includes that both a PRowMP and CTMP will be produced prior to construction. These plans would be in accordance with, and build from, the Outline CTMP and Outline PRowMP which will be submitted as part of the ES. The Outline PRowMP will be developed from the Preliminary PRowMP (**Appendix 12B Preliminary Public Rights of Way Management Plan**) that sets out overarching control measures relating to mitigating impacts on PRowWs (and other routes identified within the PRowMP) and construction traffic routes.
- GG04 – which outlines briefings (e.g. site inductions, toolbox talks) where relevant for construction workers including information on agreed traffic routes and access points.
- GG09 – which outlines managing vehicles entering or leaving site, especially at the beginning and end of the working day. Controls will be developed for the Outline CTMP.

- GG18 – which outlines that wheel washing facilities would be provided where appropriate, and road sweepers would be deployed on public roads where necessary to prevent excessive dust or mud deposits.
- TT01 – Traffic and transport construction phase mitigation will be set out in an Outline CTMP and Outline PRowMP submitted with the DCO application; these will be finalised prior to construction start. Consultation will be undertaken with relevant stakeholders regarding specific mitigation measures. The Outline CTMP will identify mitigation measures which will include designated Heavy Duty Vehicles construction routes, the use of haul roads from dedicated or existing easements, suitable highways signage, implementation of temporary traffic controls and restrictions, and a construction staff travel plan. Mitigation measures would result in minimised disruption to existing users of the transport network and land uses surrounding the Local Road Network (LRN). Both management plans will be secured by DCO requirement.
- TT02 – Crossing schedules would be developed for the overhead line and access works including for roads, railway lines, Public Rights of Way (PRowWs) and watercourse crossings.

12.6.6 **Appendix 4A Draft Outline Code of Construction Practice** presents further measures relating to traffic and transport in combination with other disciplines. **Chapter 13 Air Quality**, for example, identifies mitigation within **Appendix 4A Draft Outline Code of Construction Practice**, intended to mitigate dust from vehicle movements as part of the construction phase.

12.7 Preliminary Assessment of Effects

12.7.1 This section sets out the likely significant effects on traffic and transport arising from the construction and operation of the Project. A description of each of these stages is set out in **Chapter 4 Description of the Project**.

12.7.2 The review of likely significant effects assumes that the design embedded and good practice mitigation measures described in section 12.6 and outlined within **Appendix 4A Draft Outline Code of Construction Practice**, and **Appendix 12B Public Rights of Way Management Plan** (once developed into the Outline and then finalised PRowMP) and those that will be identified within the Outline CTMP (once developed into the finalised CTMP) are in place before assessing the effects.

Construction phase

12.7.3 Potential traffic and transport effects on the transport networks in the Study Area that are scoped into the assessment of the construction phase, are as follows:

- LRN – severance and amenity (non-motorised users); driver delay (including delays for public transport users and emergency services); non-motorised user delay; accidents and road safety; parking and loading; and fear and intimidation.
- SRN – to be assessed within the ES based on a scope to be agreed with National Highways.
- PRow, long distance and regional paths and NCN routes – severance and amenity (non-motorised users) and non-motorised user delay.

- Navigable waterways network – amenity (non-motorised users) and non-motorised user delay.

Operational phase

12.7.4 Potential traffic and transport effects on the transport networks in the Study Area that are scoped into the assessment of the operational phase, are as follows:

- PRowS, long distance and regional paths and NCN routes – severance and amenity (non-motorised users); and non-motorised user delay.

Preliminary Construction Effects

Local Road Network

12.7.5 This PEIR presents a preliminary screening assessment of the traffic and transport effects on the LRN based on the changes to traffic flows as a result of the construction traffic and the application of the Rule 1 and Rule 2 criteria set out in section 12.4. The ES will provide a detailed assessment of the effects for each TTAL that met the screening threshold.

Construction traffic generation and distribution

12.7.6 The impact on the existing road network would be a direct result of an increase in traffic flow on the roads used by construction vehicles, in some cases changing the traffic flow composition (HDVs and LDVs), particularly where baseline flows are low.

12.7.7 **Appendix 12A Transport Statement: Construction Traffic Estimation** details the construction traffic generation and distribution assumptions and calculations to determine the peak daily construction traffic generation at each TTAL. With the exception of movements relating to the new Chesterfield Substation, the calculations were based on an indicative construction programme (with construction traffic movements commencing January 2029 (week 1) and ending December 2031 (week 153)) and high-level preliminary construction traffic generation estimations provided by the Main Works Contractors. These estimates cover both HDV and LDV movements related to construction activities and vehicle movements to/from the construction access points, including staff arrivals and departures, deliveries and removal of waste. The construction traffic movements relating to the new Chesterfield Substation were provided by the Project's design team. As set out within **Chapter 4 Description of the Project**, the new Chesterfield Substation pre-commencement construction works would be expected to start in 2026 and demobilisation works to be complete by the end of 2031.

12.7.8 Construction traffic distributions were based on the PAR and SAR routes for HDVs. For LDVs, assumptions were based on census data and likely routes to key network distribution points (shown in **Figure 12.6 Light Vehicle Distribution Areas and Points**). Full details are provided within **Appendix 12A Transport Statement: Construction Traffic Estimation**.

12.7.9 The result of the construction traffic calculations was the identification of the week during the construction programme when the average daily construction traffic generation was at its peak, for each TTAL. For all TTALs, the peak week fell either within 2029 or 2030. The peak week for each TTAL is identified within **Appendix 12A Transport Statement: Construction Traffic Estimation**. The peak average daily

construction traffic at each TTAL is presented in **Figure 12.7 Daily Peak Construction Traffic Flow Diagram**.

- 12.7.10 For each TTAL, the year with the highest projected daily construction traffic is selected as the future assessment year. The 2025 baseline traffic flows for each TTAL have been adjusted using a growth factor to project traffic volumes for the relevant future year. Both the 2025 baseline and the projected future baseline for each TTAL are detailed in **Appendix 12C Baseline Transport Context Information**.

Preliminary screening assessment

- 12.7.11 As shown in **Table 12.12**, there are 40 TTALs that have been identified for assessment of traffic and transport effects. For each TTAL the table shows the 12 hour AAWT in the future baseline, the anticipated peak 12-hour construction traffic and the percentage change in traffic flow as a result of the Project. The table also shows the level of sensitivity assigned to the TTAL (high, medium, low or negligible), as set out in **Appendix 12C Baseline Transport Context Information**, and the subsequent screening criteria, Rule 1 or Rule 2. On the basis of the magnitude of change and the screening criteria, the table provides an indication of whether the preliminary information suggests that the TTAL would require a comprehensive assessment of traffic and transport effects. This takes into account both the level of change in total vehicles and HDVs.

Table 12.12: Preliminary screening assessment of traffic and transport assessment locations

TTAL ID	Location	Future Year	Future Year Baseline Flow – 12 hr AAWT		Peak Daily Construction Traffic Flow		Future Year Baseline + Peak Daily Construction Traffic Flow – 12 hr AAWT		Sensitivity	EATM Rule	Change in 12 hr AAWT Flows (%)		Detailed Assessment Would be Required?
			Total Vehicles	HDVs	Total Vehicles	HDVs	Total Vehicles	HDVs			Total Vehicles	HDVs	
1-1	PAR-1	2029	18,853	1,603	604	263	19,368	1,851	Low	Rule 1	2.7%	15.4%	No
1-2	PAR-2	2029	2,356	251	263	88	2,581	334	High	Rule 2	9.5%	32.9%	Yes
1-3	PAR-3	2029	7,653	719	293	88	7,903	801	Negligible	Rule 1	3.3%	11.5%	No
1-4	PAR-4	2029	1,747	189	493	175	2,167	353	Low	Rule 2	24.1%	87.2%	Yes
1-5	PAR-5	2029	1,991	237	550	175	2,461	402	High	Rule 2	23.6%	69.4%	Yes
1-6	PAR-7	2029	11,216	1,531	560	283	11,694	1,797	Medium	Rule 2	4.3%	17.4%	Yes
1-7	SAR-1	2029	3,970	243	301	175	4,227	408	High	Rule 2	6.5%	67.6%	Yes
1-8	SAR-1	2029	2,524	255	367	175	2,828	419	High	Rule 2	12.4%	64.7%	Yes
1-9	PAR-10	2029	7,054	733	158	80	7,189	809	High	Rule 2	1.9%	10.3%	Yes
2-1	PAR-10	2029	2,085	212	184	80	2,242	287	High	Rule 2	7.6%	35.5%	Yes
2-2	PAR-12	2029	12,635	691	450	160	13,019	841	High	Rule 2	3.0%	21.8%	Yes
2-3	PAR-14	2029	11,851	326	462	80	12,245	401	High	Rule 2	3.3%	23.1%	Yes
2-4	PAR-16	2029	9,677	224	807	320	10,366	525	High	Rule 2	7.1%	134.7%	Yes
2-5	PAR-19	2030	151	11	367	70	465	77	Medium	Rule 2	207.4%	582.2%	Yes
2-6	PAR-21	2029	1,822	NO DATA	421	160	2,181	NO DATA	Medium	Rule 2	19.7%	NO DATA	Yes
2-7	SAR-2	2029	3,381	23	160	160	3,518	173	Low	Rule 1	4.0%	656.5%	Yes
3-1	PAR-22	2030	6,161	59	465	140	6,558	191	Medium	Rule 2	6.4%	221.8%	Yes
3-2	SAR-3	2030	4,897	27	172	140	5,044	159	Medium	Rule 2	3.0%	491.0%	Yes
3-3	SAR-3	2030	7,606	42	172	140	7,753	174	High	Rule 2	1.9%	312.5%	Yes
3-4	SAR-3	2030	4,832	57	140	140	4,951	188	High	Rule 2	2.5%	233.0%	Yes
3-5	PAR-26	2030	7,648	112	448	350	8,030	441	High	Rule 2	5.0%	293.8%	Yes
3-6	PAR-26	2030	8,626	820	351	350	8,926	1,150	High	Rule 2	3.5%	40.1%	Yes
3-7	PAR-28	2029	2,276	176	211	140	2,456	308	Low	Rule 1	7.9%	74.8%	Yes
3-8	PAR-33	2029	5,689	494	129	0	5,799	494	Medium	Rule 2	1.9%	0.0%	No
4-1	PAR-23	2029	36,786	1,149	643	560	37,334	1,676	Negligible	Rule 1	1.5%	45.8%	Yes
4-2	PAR-23	2029	22,540	1,580	670	560	23,111	2,107	Negligible	Rule 1	2.5%	33.4%	Yes

TTAL ID	Location	Future Year	Future Year Baseline Flow – 12 hr AAWT		Peak Daily Construction Traffic Flow		Future Year Baseline + Peak Daily Construction Traffic Flow – 12 hr AAWT		Sensitivity	EATM Rule	Change in 12 hr AAWT Flows (%)		Detailed Assessment Would be Required?
			Total Vehicles	HDVs	Total Vehicles	HDVs	Total Vehicles	HDVs			Total Vehicles	HDVs	
4-3	PAR-23	2029	13,602	1,080	675	560	14,178	1,607	Low	Rule 2	4.2%	48.8%	Yes
4-4	PAR-23	2029	8,328	683	675	560	8,904	1,210	Medium	Rule 1	6.9%	77.1%	Yes
4-5	PAR-25	2029	11,669	942	599	420	12,180	1,337	High	Rule 2	4.4%	42.0%	Yes
4-6	PAR-36	2029	9,921	905	206	140	10,097	1,037	Low	Rule 1	1.8%	14.5%	No
5-1	PAR-37	2029	6,935	547	577	480	7,428	998	High	Rule 2	7.1%	82.6%	Yes
5-2	PAR-38	2029	9,158	713	583	240	9,655	939	Low	Rule 1	5.4%	31.7%	Yes
5-3	SAR-5	2029	4,618	343	432	240	4,987	569	Low	Rule 1	8.0%	65.8%	Yes
5-4	PAR-44	2029	7,470	665	417	160	7,826	816	Low	Rule 1	4.8%	22.6%	No
5-5	PAR-47	2029	8,884	539	208	80	9,061	614	Low	Rule 1	2.0%	14.0%	No
6-1	PAR-48	2030	17,045	230	1,174	467	18,047	669	Negligible	Rule 1	5.9%	191.0%	Yes
6-2	PAR-50	2030	4,084	236	542	187	4,547	411	Medium	Rule 2	11.3%	74.5%	Yes
6-3	PAR-52	2030	4,277	309	157	93	4,411	397	Medium	Rule 2	3.1%	28.4%	Yes
6-4	PAR-52	2030	12,300	80	349	93	12,597	168	High	Rule 2	2.4%	109.1%	Yes
6-5	PAR-52	2030	25,881	693	376	93	26,202	780	High	Rule 2	1.2%	12.7%	Yes

12.7.12 The results show the following:

- Five of the 40 TTALs would experience a change in total vehicle flows that would warrant further detailed assessment of the traffic and transport effects at these locations. The detailed assessment within the ES will include identification of the level of significance of each of the traffic and transport effects and the need for additional mitigation to be implemented to reduce the impact where a significant effect is identified.
- A further 29 of the 40 TTALs would experience a change in HDVs that would warrant further detailed assessment of the traffic and transport effects at these locations. Again, the detailed assessment within the ES will include identification of the level of significance of each of the traffic and transport effects and the need for additional mitigation to be implemented to reduce the impact where a significant effect is identified.
- Six of the 40 TTALs would not experience a level of increase in total flows or HDV flows that would warrant further detailed assessment. These TTALs would, therefore, not be expected to experience significant traffic and transport effects.

12.7.13 For the ES, this screening approach will be revisited on the following basis:

- The extent of the Study Area and TTAL receptors will be agreed with the relevant highway authority.
- The level of sensitivity of the TTAL receptor will be agreed with the relevant highway authority.
- The construction traffic generation and distribution will be refined based on further development of the Project design and construction programme.

12.7.14 For those TTALs that exceed the threshold, an assessment of the following traffic and transport effects will be undertaken:

- severance and amenity (non-motorised users);
- driver delay (including delays for public transport users and emergency services);
- non-motorised user delay;
- accident and road safety;
- parking and loading; and
- fear and intimidation.

12.7.15 The assessment of traffic and transport effects will identify the significance of the effects based on the matrix in **Table 12.8** and the need for mitigation to address the impact of the construction traffic.

Strategic Road Network

12.7.16 The ES will also include an assessment of effects on the SRN following further engagement with National Highways.

Public Rights of Way, long distance and regional paths, and NCN routes

12.7.17 Overall, 213 PRowS, three ORPAs, four regional routes and four NCN routes would be temporarily affected by the construction of the Project (as set out in **Appendix 12C Baseline Transport Context Information** and shown on **Figure 12.3 Public Rights of Way and Other Active Travel Routes**). It should be noted that some PRowS may be affected during both construction and operation (those affected during operation are discussed within section 12.7.21). The majority of effects on these routes during the construction phase are anticipated to be not significant. Only a minority of routes would potentially be significantly affected by construction activities and will need minor re-routing or diversion during the construction phase. These are as follows:

- PRowS which interact with pylon working and structure areas:
 - B13/9/1 which includes an overlap with the pylon structure area for pylon 4CW36;
 - AV/12/24 which includes an overlap with the pylon foundation area of pylon 4CW96;
 - E9/12/1 which includes an overlap with the pylon foundation working area of pylon 4CW108; and
 - E10/18/1 which includes an overlap with the pylon structure area for pylon 4CW123.
- PRowS with other interactions with the Project: B1/13/3, B1/9/1, B13/26/4, B13/7/1, AV27/45/1, AV23/38/2, AV6/92/1, AV12/15/1 and E9/13/1.

12.7.18 Other notable, potentially significant, interactions between the Project and PRowS are:

- E3/57/1 which includes an overlap with the proposed construction compound adjacent to Dale Road A6096. This would likely require a temporary diversion of the PRow during the construction phase.
- NE5/25/1 which crosses the new Chesterfield Substation area. This would require a temporary closure and diversion during the construction phase.
- NE5/16/1 which crosses the new Chesterfield Substation area. This would require a temporary realignment during the construction phase.

12.7.19 **Appendix 12B Preliminary Public Rights of Way Management Plan** presents indicative PRow diversions during construction.

12.7.20 The ES will present a detailed assessment of likely significant traffic and transport effects for each PRow that may be significantly impacted, focusing on severance and amenity impacts for non-motorised users and potential delays to non-motorised users. This will be informed by further work on the detailed design and proposed approach to construction.

Navigable waterways network

12.7.21 No significant effects on navigable waterways are anticipated due to the Project. The methods employed for overhead line crossing navigable waterways would be such as to minimise any impacts on the operation of navigable waterways during the construction of the Project. This will be embedded mitigation set out in the CTMP

which would aim to minimise disruption to the navigable waterway. There are no current proposals for temporary structures over any navigable watercourses as part of the Project.

Preliminary Operational Effects

Public Rights of Way, long distance and regional paths and National Cycle Network routes

- 12.7.22 Effects during the operational phase would include the potential for minor realignments of the following PRowWs:
- B13/9/1 which includes an overlap with the pylon structure area for pylon 4CW36.
 - AV/12/24 which includes an overlap with the pylon foundation area of pylon 4CW96.
 - E9/12/1 which includes an overlap with the pylon foundation working area of pylon 4CW108.
 - E10/18/1 which includes an overlap with the pylon structure area for pylon 4CW123.
- 12.7.23 Two PRowWs in the Derbyshire County area near the new Chesterfield Substation would require a diversion. These are identified below:
- NE5/25/1 which crosses the new Chesterfield Substation area. This would require a temporary closure and diversion during construction and then a minor realignment during the operation of the Project.
 - NE5/16/1 which crosses the new Chesterfield Substation area and would require a permanent diversion during the operation of the Project.
- 12.7.24 The ES will set out a detailed assessment of likely significant traffic and transport effects for each of the PRowWs in terms of severance and non-motorised user amenity and non-motorised user delay. This will be informed by further work on the detailed design and proposed approach to construction.

12.8 Potential Additional Mitigation Measures

- 12.8.1 Additional mitigation measures are those required to reduce likely significant adverse environmental effects which may still occur despite the inclusion of the embedded design and control measures described in section 12.6 above.
- 12.8.2 The requirement for additional mitigation measures will remain under review during the refinement of the Project design and the completion of further assessment and development of the ES.

12.9 Monitoring

- 12.9.1 The Preliminary PRowWMP sets out the framework and mechanisms for monitoring the traffic and transport impacts of the Project on routes within its scope, and the implementation and effectiveness of mitigation measures. This will be further developed within the Outline PRowWMP that will be part of the ES. Additionally, an Outline CTMP that will be produced for the ES, will set out the framework and

mechanisms for monitoring the traffic and transport impacts of the Project and the implementation and effectiveness of mitigation measures.

- 12.9.2 The finalised CTMP and PRowMP that would be produced pending DCO approval and prior to commencement of the Project, would include detailed information on monitoring. This would include the roles and responsibilities of the main contractor and construction contractors, the management structure and actions to be taken if non-compliance occurs, or if, as a result of review, further mitigation and control measures are required.

12.10 Residual Effects

- 12.10.1 The ES will identify the residual effects following the detailed assessment of the level of significance of each of the traffic and transport effects at the TTALs where the threshold of traffic increase has been exceeded. The assessment of residual effects will consider the design embedded and good practice mitigation and any additional mitigation that has been identified. It is anticipated that these mitigation measures will address the impacts so that there will be no significant residual effects. This will however be confirmed in the ES.

12.11 Summary

- 12.11.1 **Table 12.13** summarises the preliminary assessment of effects, potential additional mitigation measures and residual effects.

Table 12.13: Summary of residual effects for traffic and transport

Description of the Effect	Sensitive Receptor	Significance of Effect with Design Embedded and Good Practice Mitigation	Additional Mitigation Measure	Residual Effect
Construction Phase				
Severance and amenity (non-motorised users)	Road network	Generally anticipated to be Not Significant with the good practice mitigation of a CTMP. Potentially Significant at certain locations particularly where the sensitivity of the receptor is high and the magnitude of change is major or medium.	Additional targeted mitigation for specific impacts will be identified in the ES, which could include adapting construction hours on certain routes at certain times. These will be embedded in the Outline CTMP.	Anticipated to be Not Significant .
	PRoWs, long distance and regional paths, NCN routes and other routes	Anticipated to be Not Significant with the good practice mitigation of a PRoWMP.	None identified in the preliminary assessment.	Anticipated to be Not Significant .
	Navigable waterways	Anticipated to be Not Significant with the good practice mitigation of a CTMP.	None identified in the preliminary assessment.	Anticipated to be Not Significant .

Description of the Effect	Sensitive Receptor	Significance of Effect with Design Embedded and Good Practice Mitigation	Additional Mitigation Measure	Residual Effect
Driver delay	Road network	<p>Generally anticipated to be Not Significant with the good practice mitigation of a CTMP.</p> <p>Potentially Significant at certain locations particularly where the sensitivity of the receptor is high and the magnitude of change is major or medium.</p>	<p>Additional targeted mitigation for specific impacts will be identified in the ES, which could include adapting construction hours on certain routes at certain times. These will be embedded in the Outline CTMP.</p>	Anticipated to be Not Significant .
Non-motorised user delay	Road network	<p>Generally anticipated to be Not Significant with the good practice mitigation of a CTMP.</p> <p>Potentially Significant at certain locations particularly where the sensitivity of the receptor is high and the magnitude of change is major or medium.</p>	<p>Additional targeted mitigation for specific impacts will be identified in the ES, which could include adapting construction hours on certain routes at certain times. These will be embedded in the Outline CTMP.</p>	Anticipated to be Not Significant .
	PRoWs, long distance and regional paths, NCN routes and other routes	Anticipated to be Not Significant with the good practice mitigation of a PRoWMP.	None identified in the preliminary assessment.	Anticipated to be Not Significant .

Description of the Effect	Sensitive Receptor	Significance of Effect with Design Embedded and Good Practice Mitigation	Additional Mitigation Measure	Residual Effect
	Navigable waterways	Anticipated to be Not Significant with the good practice mitigation of a CTMP.	None identified in the preliminary assessment.	Anticipated to be Not Significant .
Accident and road safety	Road network	Generally anticipated to be Not Significant with the good practice mitigation of a CTMP. Potentially Significant at certain locations particularly where the sensitivity of the receptor is high and the magnitude of change is major or medium.	Additional targeted mitigation for specific impacts will be identified in the ES, which could include adapting construction hours on certain routes at certain times, or temporary traffic regulation orders. These will be embedded in the Outline CTMP.	Anticipated to be Not Significant .
Parking and loading	Road network	Generally anticipated to be Not Significant with the good practice mitigation of a CTMP. Potentially Significant at certain locations particularly where the sensitivity of the receptor is high and the magnitude of change is major or medium.	Additional targeted mitigation for specific impacts will be identified in the ES, which could include adapting construction hours on certain routes at certain times, or temporary traffic regulation orders. These will be embedded in the Outline CTMP.	Anticipated to be Not Significant .

Description of the Effect	Sensitive Receptor	Significance of Effect with Design Embedded and Good Practice Mitigation	Additional Mitigation Measure	Residual Effect
Fear and intimidation	Road network	Generally anticipated to be Not Significant with the good practice mitigation of a CTMP. Potentially Significant at certain locations particularly where the sensitivity of the receptor is high and the magnitude of change is major or medium.	Additional targeted mitigation for specific impacts will be identified in the ES, which could include adapting construction hours on certain routes at certain times, or temporary traffic regulation orders. These will be embedded in the Outline CTMP.	Anticipated to be Not Significant .
Operational Phase				
Severance and amenity (non-motorised users)	PRoWs, long distance and regional paths, NCN routes and other routes	Anticipated to be Not Significant with the good practice mitigation of a PRoWMP.	None identified in the preliminary assessment.	Anticipated to be Not Significant .
Non-motorised user delay	PRoWs, long distance and regional paths, NCN routes and other routes	Anticipated to be Not Significant with the good practice mitigation of a PRoWMP.	None identified in the preliminary assessment.	Anticipated to be Not Significant .

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