The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Environmental Statement
5 – Transport

The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

Drax Power Limited

Drax Repower Project

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5.1 Introduction

5.1.1. This Chapter considers the environmental impacts of the Proposed Scheme in terms of traffic, transport and access.

5.1.2. The Chapter describes the assessment methodology, the baseline conditions at the Site and in the surrounding area, the likely significant effects taking into account relevant guidance, any embedded mitigation adopted for the purposes of the assessment, and any further mitigation measures required to prevent, reduce or offset any significant negative effects, and the likely residual effects.

5.2 Policy, Legislation and Guidance

Policy

5.2.1. The applicable policy framework is summarised as follows:

- National Policy Statement EN-1 (Ref. 5.1)
- National Policy Statement EN-2 (Ref 5.2)
- National Planning Policy Framework (Ref 5.3)
- North Yorkshire County Council Local Transport Plan (2016-2045) (Ref 5.4)
- Selby District Local Plan (Ref 5.5)

National Policy Statement

Department for Energy and Climate Change (2011) Overarching National Policy Statement for Energy (EN-1) (Ref 5.1)

5.2.2. The overarching NPS for Energy (EN-1) explains the assessment principles to which the Secretary of State (SoS) will have regard in the examination of an energy nationally significant infrastructure projects (NSIP) (such as the Proposed Scheme), and explains the generic traffic and transport impacts with regard to energy infrastructure.

5.2.3. Section 5.13 of NPS EN-1 considers the impacts of traffic and transport. Paragraph 5.13.2 states that 'The consideration and mitigation of transport impacts is an essential part of the Government's wider policy objectives for sustainable development', therefore, it is necessary for projects that are likely to have significant transport implications a Transport Assessment and if appropriate a Travel Plan should be included.

5.2.4. NPS EN-1 states at Section 5.13.11 that where substantial impacts arise on the surrounding transport infrastructure, applicants should seek to mitigate them, including during the construction phase. The SoS may attach requirements where there is likely to be substantial Heavy Goods Vehicle (HGV) traffic, to control HGV numbers, parking and disruption.

Department for Energy and Climate Change (2011) National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2) (Ref 5.2)

5.2.5. NPS EN – 2 states at paragraph 2.2.6 that "Applicants should locate new fossil fuel generating stations in the vicinity of existing transport routes wherever possible. Although there may in some instances be environmental advantages to rail or water transport,

whether or not such methods are viable is likely to be determined by the economics of the scheme. Road transport may be required to connect the site to the rail network, waterway or port. Any application should therefore incorporate suitable access leading off from the main highway network. If the existing access is inadequate and the applicant has proposed new infrastructure, the SoS should satisfy itself that the impacts of the new infrastructure are acceptable as set out in Section 5.13 of EN-1".

Other National Policy

Department for Communities and Local Government (2012) National Planning Policy Framework (Ref 5.3)

5.2.6. The National Planning Policy Framework (NPPF) replaced the previous Planning Policy Statements and Planning Policy Guidance used to determine planning applications under the Town and Country Planning Act 1990.

5.2.7. The document states the need for a Transport Statement (TS) or Transport Assessment (TA) to support developments likely to generate significant numbers of trips. It suggests that development should take advantage of opportunities for sustainable travel, facilitated by a Travel Plan. The transport objectives of the NPPF are to:

- Facilitate economic growth by taking a positive approach to planning for development; and
- Support reductions in greenhouse gas emissions and congestion, and promote accessibility through planning for the location and mix of development.

5.2.8. NPPF states that “All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people; and
- Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe”

Local Government Planning Policy

North Yorkshire County Council (2016) North Yorkshire County Council Local Transport Plan (2016-2045) (Ref 5.4)

5.2.9. The North Yorkshire County Council Local Transport Plan sets out key transport aims and priorities for the North Yorkshire area. This includes key information on how transport can contribute towards achieving the North Yorkshire Shared Vision.

5.2.10. The objectives and commitments to achieve the vision are:

- Contributing to economic growth by delivering reliable and efficient transport network and services;
- Improving road and transport safety;
- Improving equality of opportunity by facilitating access to services;
- Managing the adverse impact of transport on the environment; and

- Promoting healthier travel opportunities.

5.2.11. The vision and objectives are proposed to be achieved through NYCC commitment to manage, maintain, and improve transport networks and services.

Selby District Council (2005) Selby District Local Plan (Ref 5.5)

5.2.12. The Selby District Local Plan (SDLP) provides a comprehensive land-use framework for the Selby District in terms of promoting, co-ordinating and controlling future development in the area. The Local Plan is of relevance as it is important to consider the transport and traffic-based impacts associated with the scale, nature and type of new developments.

5.2.13. The saved policies of the SDLP and those that are yet to be replaced by the adopted core strategy include T1, T2, T7, and T8. These polices have been considered in the preparation of this Environmental Statement – Transport chapter.

Selby District Council (2013) Selby District Core Strategy Local Plan (Ref 5.6)

5.2.14. The Selby District Council Core Strategy Local Plan (CSLP) states it provides:

- A spatial vision for Selby District and strategic objectives to achieve that vision.
- A development strategy which establishes:
  - The context for designating areas where specific policies will apply, either encouraging development to meet economic and/or social objectives or constraining development in the interests of environmental protection.
  - The identification of strategic development sites for housing and economic development to accommodate major growth in Selby and a District-wide framework for the subsequent allocation of sites for specific uses (including housing, retail, leisure and other activities).
  - Policies setting out the context for more detailed policies and guidance to be included in other local plan documents.

5.2.15. The CSLP acknowledges the energy sector will continue to be important to the economy of the district.

East Riding of Yorkshire Council (2016) East Riding Local Plan – Strategy Document (Ref 5.7)

5.2.16. East Riding of Yorkshire Council is the neighbouring planning authority. The East Riding Local Plan (ERLP) is comprised of a number of documents:

- Strategy Document;
- Allocations Document; and
- Bridlington Town Centre Area Action Plan.

5.2.17. The Strategy Document includes policies on how growth and development will be manged in East Riding to 2029. In relation to the proposed scheme the importance of supporting the energy sector (Policy EC5) and the role of the port at Goole and its links to Drax are recognised.

Legislation

5.2.18. The legislative framework applicable to the transport related issues which form the focus of this chapter have been summarised below:

- **Highways Act (1980) (Ref 5.8)** which sets out requirements pertaining to delivering infrastructure, managing existing highways and managing highway activity.
- **Traffic Management Act (2004) (Ref 5.9)** which was introduced to tackle congestion and disruption on the road network; requires local authorities to ensure that traffic can move quickly and freely on their roads, where possible.
- **Planning Act (2008) (Ref 5.10)** which is intended to speed up the process for approving major new infrastructure projects including airport, roads, harbours and energy facilities such as nuclear power.
- **Local Transport Act (2008) (Ref 5.11)** relating to bus services and other passenger transport, transport policy and integrated transport authorities. The Act is applicable to policy making and public transport service areas of local authorities.
- **Infrastructure Planning (Environmental Impact Assessment) Regulations (2017) (Ref 5.12)** which sets out the circumstances where an EIA may be needed, as well as the specific requirements which must be met.

Guidance

5.2.19. The following guidance documents have been used during the preparation of this Chapter:

- Highways England (2015) Planning for the Future (Ref 5.13)
- Ministry of Housing, Communities & Local Government Planning Practice Guidance Travel Plans, Transport Assessments and Statements (2014) (Ref 5.14).
- Institute of Environmental Management and Assessment (1993) Guidelines for the Environmental Assessment of Road Traffic (Ref 5.15)
- Design Manual for Roads and Bridges: Volume 11 (2009) (Ref 5.16)
- Guidance on Transport Assessment, Department for Transport (DfT) (2007). (Ref 5.17)

5.3 Scoping Opinion and Consultation

Consultation

5.3.1. A Scoping Report was submitted to the Secretary of State, who issued the Report to key consultees, which sets out the proposed scope and approach to the assessment of traffic and transport impacts (further detail is below).

5.3.2. In addition, engagement with North Yorkshire County Council (NYCC), the East Riding of Yorkshire Council (ERoY) and Highways England (HE) has been carried out to confirm the study area and sensitive receptors in relation to traffic, transport and access.

5.3.3. Table 5-1 provides a summary of the consultation activates undertaken in support of the preparation of this Chapter.

Table 5-1 - Summary of Consultation (Transport)

Ref	Body/ Organisation	Meeting Dates and Forms of Consultation	Summary of Outcomes	Location in DCO Application Documents
1	WSP	18 January 2018 – Scoping Note	Transport Scoping note detailing 24 items for scoping with Highways England, NYCC and ERoY.	Items detailed in the Transport Scoping Note formed the basis for consultation with NYCC, ERoY, and HE as outlined further in this table and discussed in Sections 1.1, 1.4, 1.5, and 1.6.
2	NYCC	Jan 18 – May 18 Email scoping discussions	Agreed project scope and junctions to be assessed within the study area falling with NYCC's administrative area.	The agreed study area comprises 6 junctions and is detailed in paragraph 5.3.9.
3	NYCC	Feb 18 Response to the PEIR	Email raising following points: 1. There is no apparent reduction in the original coal infrastructure, cooling system or older legacy development on the site. The ES should explain the retention of the original infrastructure and any known plans for its use within the context of existing site or technological constraints.	Paragraphs 1.3.11 - 1.3.14 outline the proposed plans for the site in relation to the transport implications. Table 5-28 and 5-29 outline the forecasted reduction weekly HGV and rail deliveries.
			2. The repowering of Unit 4 to biomass and proposed Units 5 & 6 to gas does mean that there will be no more coal going to Drax, in line with the Govt. commitment for all power stations to stop using coal by 2025.	Paragraphs 5.3.11 - 5.3.14 outline the proposed plans for the site in relation to the transport implications. Table 5-28 and 5-29 outline the forecasted reduction weekly HGV and rail deliveries.

			3. The extent to which there will be a reduction in gypsum and limestone transport coming into and leaving the site by rail also needs clarifying. The ES should address these changes since it can have advantages in making capacity on the freight slots on the network for other users/proposals that might be able to take advantage of the 'freed-up' rail slots. There will also be a longer term need and advantages to refer to the longer term opportunities for the coal yard.	Paragraphs 5.3.11 - 5.3.14 outline the proposed plans for the site in relation to the transport implications. Table 5-28 and 5-29 outline the forecasted reduction weekly HGV and rail deliveries.
			4. The PEIR report has also included • Existing traffic flows near to the site and along the routes to the SRN. • Road accident information over a five year period close to the site. • Pedestrian and cycle facilities close to the site. • Bus service/ Rail service which could assist people in travelling to the site. All the above information needs to be included in the transport assessment for the development when prepared.	The baseline conditions related to traffic flows, accident data, pedestrian/cycle facilities, bus/rail services are discussed in section 5.5.
			5. The construction of the Gas Pipeline is expected to generate low traffic lows. However this work will require a number of road closures which are likely to disrupt traffic flows. This work needs to be included in The TA.	Table 5-52 contains details of the roads effected by the construction of the gas pipeline and the impact.

			6. SDC/NYCC response to the PEIR acknowledged the transport section identified the road network which is acceptable to route vehicles from the development to the Strategic Road Network (S.R.N.) They are M62(J36) , A645 /A1041/ A63, all are principal roads and therefore suitable to carry this additional traffic for a temporary period. The project and suggested route will need a transport assessment and North Yorkshire County Council as Local Highway Authority (L.H.A) is already in discussion with the developer in preparing this document for the development which will highlight any problems either existing or in the future due to the increase in traffic expected from the development.	This ES chapter reflects the discussions with NYCC.
			8. The developer when implementing the construction phase will need support from the L.H.A in the form of traffic orders and how best to accommodate the expected AIL deliveries. The developer needs to be aware there is a cost associated with administrating the orders and they will be included in D.C.O documents as required.	Acknowledgement that the haulage companies will need to agree modifications, temporary or permanent, to the highway network is included in the CTMP (see Appendix 5.2)
			9. A Construction traffic management plan has been proposed along with a Travel Plan to manage traffic generated by the site which will need input from the L.H.A to gain its support.	A CTMP has been prepared and has taken into consideration comments by the LHA (see Appendix 5.2)
4	ERoY	Jan 18 – Mar 18	Email to confirm junction scope as part of	The agreed study area comprises

		Email scoping discussions	area within ERoY.	6 junctions and is detailed in paragraph 5.3.9.
5	Highways England	Jan 18 – May 18 Email scoping discussions	Agreement of project scope and assessment of M62 Junction 63 as part of the assessment. Updated approach to traffic generation and distribution assessment following feedback in the form of a technical note.	The agreed study area comprises 6 junctions and is detailed in paragraph 5.3.9. Vehicle trip generation and distribution is explained in section 5.7 and takes into consideration comments received during the consultation process including assigning trips to requested route. Appendix 5.5 and 5.7 includes further detail of the methodology adopted.
6	Highways England (correspondence received from CH2M on Highways England's behalf)	08th February 2018	Email raising following points: 1. A full breakdown of the calculation of the predicted construction and operational traffic movements will need to be supplied within a forthcoming Transport Assessment [TA].	Appendix 5.5 contains a full breakdown of the predicted construction and operational traffic movements.
			2. Should the proposals result in an exercise involving netting off existing traffic as part of the TA, then the traffic operations associated with the existing use will need to be confirmed within the TA.	Table 5-11 and Table 5-12 outline the existing weekly HGV and rail deliveries. Table 5-28 and 5-29 outline the forecasted reduction weekly HGV

	and rail deliveries.
3. The proposals that there will be: no increases in staffing numbers as a result of the proposals, and a decrease in HGV deliveries during the operational phase post construction will need to be fully substantiated with appropriate justification within the TA.	Paragraph 5.10.2 outlines the reasons for there being no increase in staffing levels during the operational phase. Table 5-28 and 5-29 outline the forecasted reduction weekly HGV and rail deliveries.
4. Suitable data/calculations evidencing the total volume of construction traffic flows should be supplied to Highways England. It would be useful if any traffic generation / distribution calculations are provided in Excel format alongside the TA.	Appendices 5.5, 5.6, and 5.7 contain the traffic and distribution calculations.
5. Depending on the level of development traffic at M62 Junction 36, there could be a need to consider existing traffic survey data at this junction.	Appendix 5.3 contains the baseline traffic flows collected during 2018.
6. Should surveys at the SRN be deemed necessary, it is advised that Highways England would generally expect them to have been undertaken within the last three-year period.	Appendix 5.3 contains the baseline traffic flows collected during 2018.
7. Committed developments should then be included within any weekday peak hour capacity analysis of SRN junctions (should they be deemed necessary). Appropriate sites within East Riding will also need to be included as committed developments.	Appendix 17.1 contains a review of the committed development and an explanation within 15 km of the site.

8. Should junction modelling for the M62 not be required, committed development flows do not need to be disclosed to HE.	Appendix 5.8 contains the traffic flows associated.
9. The M62 Junction 36 has been identified for improvement as part of the East Riding of Yorkshire Local Plan. Confirmation should be sought from the East Riding of Yorkshire [ERoY] in relation to this improvement.	Paragraph 5.6.10 outlines the improvement scheme is not included due to uncertainty of delivery and design.
10. The worst-case traffic flows displayed on the chart - the data and calculations feeding in to the charts provided by WSP should be supplied to Highways England, in order to substantiate the peak trips per day.	Appendix 5.5 contains the trip generation methodology and data used to calculate the worst case traffic scenario.
11. Addition to months 18-22, principally months 65-69, could impact on the network surrounding the site given the significant volume of construction traffic expected during this period. As such, the potential impact upon the SRN network as a result of this site should not be understated.	Table 5-27 outlines the scenarios assessed and the stage of the Proposed Scheme.
12. HE would expect assessments of the SRN to be undertaken in the weekday AM and PM peak periods.	Table 5-27 outlines the scenarios assessed and the stage of the Proposed Scheme.
13. Provided evidence is supplied to confirm that there will be no increase in the development traffic during the	Appendix 5.5 contains the trip generation methodology and data used to calculate the worst case traffic

operational phase of the site, a 10-year assessment would not be required in this instance.	scenario. Paragraph 5.10.2 confirms staffing levels will not increase beyond existing levels as there will be less material handling.
14. HE would welcome further discussion of the Site's trip distribution within a dedicated technical note that further evidences the methodology utilised by WSP including details of any routing assumptions made. It would be useful for all data and Excel spreadsheets utilised by WSP to be provided.	Appendix 5.4 contains the gravity model taking into consideration HE comments throughout the consultation process.
15. The number of development trips during the weekday peak hours will need to be agreed for Junction 36.	Appendix 5.8 contains the traffic flows at Junction 36.
16. Further discussions will need to be held with Highways England in relation to how often these trips will occur and whether operational analysis of the M62 Junction 36 is required.	Operational analysis of Junction 36 has been undertaken. Appendix 5.5 and 5.8 contain the trip generation and distribution.
17. Should the development's impact exceed the 30-two-way trip threshold at any other SRN location, consideration may also need to be given to undertaking capacity analysis for that location.	Appendix 5.8 contains the gravity model distribution.
18. Any SRN capacity assessments undertaken will need to consider the AM and PM peak periods.	Table 5-27 outlines the scenarios assessed and the stage of the Proposed Scheme.

19. The provision of raw traffic survey data will need to confirm that these are the peak hours for any SRN location.	Appendix 5.3 contains the 2018 baseline traffic flows.
20. Ensure base models are validated appropriately, and that all sections and junctions of the SRN within the vicinity of the site are appropriately assessed.	Appendix 5.4 contains the full junction results for review by HE.
21. Further details on the car parking for construction traffic will need to be supplied within the TA/TS, in order to demonstrate that this is in line with the trip generation assumptions.	Appendix 5.1 contains the Outline Construction Worker Travel Plan including details of the proposed parking provision.
22. Due consideration should also be given to assessing and evaluating all relevant sustainable travel modes within the forthcoming Framework Travel Plan [FTP], in addition to inclusion within the site TA.	Appendix 5.1 contains the Outline Construction Worker Travel Plan including details of access to the site by sustainable modes and methods of promoting sustainable travel.
23. Highways England would usually expect a review of the most recent three-year period of personal injury [PIA] data for any SRN location where the development traffic could potentially have an impact. The accidents will need to be considered for the same location as where traffic surveys have been considered for the SRN.	A review of the accident data is included at section 5.5.
24. Highways England would welcome the submission of abnormal load numbers in addition to the timescale these movements	A construction traffic management plan is included at Appendix 5.2 and contains details of the

			will be taking place once confirmed by the developer. Such data should be included with the site's CTMP.	abnormal deliveries.
			25. The routing of loads from Goole as displayed on Appendix E requires further discussion with Highways England due to the route appearing to depict loads performing a U turn on the M62 between Junction 36 and 35.	A construction traffic management plan is included at Appendix 5.2 and contains details of the abnormal deliveries.
			26. Further discussions should be undertaken with the appropriate team within Highways England in relation to the proposed abnormal loads deliveries where they impact on the M62.	A construction traffic management plan is included at Appendix 5.2 and contains details of the abnormal deliveries as discussed throughout the consultation period.
7	WSP	16 February 2018 - Issued Scoping Technical Note (TRA1) to Highways England	Technical note issued relating to trip generation and distribution across the transport network as requested in the email from Highways England on 8th February.	N/A
8	Highways England (correspondence received from CH2M on Highways England's behalf)	March 2018	1. The trip generation spreadsheet provided contains technical terminology with no explanation of the different stages of the build. CH2M has been unable to relate the data in the spreadsheet to a real life process and thus cannot confirm acceptability of the trip generation at this time. It is advised that a meeting is arranged with WSP so that the Consultant can explain the technical build process, in	Appendix 5.5 contains a full breakdown of the predicted construction and operational traffic movements.

			addition to the workings of the spreadsheet, assumptions made with regards to vehicle occupancy, number of working days per year etc, and the composition of flows that feed into the total trip summary tables. A meeting was held with Highways England to discuss responses to the feedback received, as well as other matters and outstanding items, on 16th April 2018.	
			2. Whilst the majority of trip assignments are considered to be suitable, CH2M has reservations with regards to the route choices to both Leeds and Bradford, both of which are likely to be through M62(W). This should be addressed by WSP in any forthcoming revised submissions.	Appendix 5.7 contains the gravity model taking into consideration HE comments throughout the consultation process.
			3. The population data for the trip distribution does not follow the traditional gravity model format as it has not been weighted by travel distance. This should also be addressed, as it is considered that the population closer to the site would have a greater propensity to choose to travel to work there.	Appendix 5.7 contains the gravity model taking into consideration HE comments throughout the consultation process.
9	Highways England (correspondence received from CH2M on Highways England's	Email to WSP March 2018	Highways England Review of Technical Scoping Note (TRA 1) issued by WSP on the methodology of undertaking the trip generation and distribution – queried some	Appendix 5.5 contains a full breakdown of the predicted construction and operational traffic movements.

	behalf)		aspects which were then addressed.	
10	WSP	29 March 2018	Technical Note (TRA2) issued to Highways England with further information and justification of proposed assumptions to be used.	N/A
11	Meeting with HE (and NYCC and ERYC)	16 April	Updated information relating to the construction period, number of construction workers, gravity model, contents of construction worker travel plan (CWTP), explanation of embedded CTMP embedded mitigation, and emerging results of the ES were supplied to HE, NYCC, and ERYC. HE requested further information in relation to junction modelling.	Further information is provided in this Chapter
12	HE email to Drax (WSP)	20 April	HE review of Technical Note (TM0003). Further clarification required to agree trip generation and gravity model. HE highlighted a key method of controlling the traffic generation will be the construction management plan with further discussions required to agree how this is controlled.	Appendix 5.1 contains the Outline Construction Worker Travel Plan including details of the proposed parking provision. Appendix 5.2 contains a construction traffic management plan Appendices 5.5, 5.6, and 5.7 contain the traffic and distribution calculations.
13	Royal Mail	April 2018	A consultation response was received from Royal Mail outlining comments	Appendix 5.2 contains a construction traffic management

			/observations in relation to the PEIR and a request the ES includes information in relation to major road users, consultation throughout the DCO application process including on the CTMP, inclusion in the public communications strategy, and to be kept informed of any road closures.	plan including details regarding liaising with local businesses.

Scope of the Assessment

5.3.4. This section explains how the scope of the assessment has developed, and re-iterates the evidence base for insignificant effects (which have therefore been scoped out of the assessment), following further iterative assessment.

5.3.5. An EIA Scoping Report was submitted to the Secretary of State in September 2017.

5.3.6. A Scoping Opinion was received by the Applicant from the Planning Inspectorate (on behalf of the SoS) on 23 October 2017, including formal responses from statutory consultees. The responses from the SoS in relation to traffic and transport, and how those requirements should be addressed by the Applicant, are set out below in Table 5-2.

Table 5-2 - Scoping Opinion Summary Table (Transport)

Section of Scoping Report	Applicant's Proposed Matter	Planning Inspectorate Comments	Response
7.1.4	Study Area	The Scoping Report notes that a 'suitably defined study area' would be identified for the assessment, but does not indicate what this would be. The ES should clearly identify the study area used in the assessment. This should be discussed and agreed with Highways England and North Yorkshire County Council	Discussions have been undertaken with North Yorkshire County Council, ERoY and Highways England and the study area was agreed and is referred to in this chapter.
7.1.4	Transport Assessment	The ES should describe the predicted distribution of traffic movements across the study area during the construction phase. The applicant is advised to discuss the input parameters for the construction phase assessment with Highways England and North Yorkshire County Council.	Discussions have been undertaken with North Yorkshire County Council, ERoY and Highways England, and the parameters for construction phase traffic assessment were agreed and are referred to in this chapter.
General	Management Plans	The Inspectorate recommends that a construction traffic management plan is prepared to manage traffic during demolition and construction. A draft of this document should be provided with the DCO application. It should be clear how the implementation of such a plan would be secured in the DCO.	A draft Construction Traffic Management Plan has been submitted as part of the DCO Application which outlines how the traffic impact will be managed.

Section of Scoping Report	Applicant's Proposed Matter	Planning Inspectorate Comments	Response
		The Inspectorate notes the comments from Highways England regarding the detail that should be provided in such a plan and agrees that the following information should be included: hours of operation of the site; the timing of deliveries; routing of HGV and abnormal road traffic to/from the site; and measures that will manage down the sites trip generation during the peak hours.	
General	Impacts on Navigation	The Inspectorate advises that potential impacts on navigation of the River Ouse should be assessed. This should be discussed with the Environment Agency (EA) and the Canal and River Trust. (See also Table 12: Water Resource, Quality and Hydrology)	Use of the jetty and the River Ouse is no longer proposed by the Applicant. As such, this is no longer relevant.
7.1.2	Impacts from traffic during operation	The Scoping Report states at section 7.1.2 that there would be no additional trips to facilitate operation and maintenance. However, section 7.1.5 goes on to state that it is an 'assumption' that additional staff/deliveries/trips would be negligible during operation. The Inspectorate does not consider that the Scoping Report includes sufficient certainty regarding the absence of an increase in operational traffic movements, although this does seem likely. The ES should confirm and justify that there is no discernible increase to operational traffic movements. If this can be demonstrated, the Inspectorate agrees that this can be scoped out.	The operational phase will see a reduction in HGV movements to and from the Power Station Site (following the construction phase) and also no increase in staffing levels. Further, and more detailed, supporting information including the result of the traffic surveys, are outlined within this chapter of the ES.
7.1.1	Sensitive receptors	The Applicant should discuss and agree with the relevant local authorities what are the sensitive	Sensitive receptors, included in this document, have been previously

Section of Scoping Report	Applicant's Proposed Matter	Planning Inspectorate Comments	Response
		receptors for the purpose of the assessment	discussed and agreed with the relevant local authorities to inform the assessment process.
7.1.2	Abnormal loads	The ES should explain the frequency of transporting abnormal loads/plant equipment from the jetty to the application site and the types of vehicles required.	Use of the jetty and the River Ouse is no longer proposed by the Applicant. As such, this is no longer relevant. This chapter does however assess the transportation of abnormal loads by road instead.

5.3.9. Following consultation with NYCC, ERoY and Highways England, the highway study area was confirmed. The study area was initially composed of the following key junctions and highway links:

1. M62 Junction 36 Dumbbell Roundabout (Highways England)
2. A614 / Services Roundabout (ERoY)
3. A614 / A645 Roundabout (ERoY)
4. A645 / New Rd Roundabout (at Drax) (NYCC)
5. A645 / A1041 Station Road Roundabout (At Camblesforth) (NYCC)
6. A63 / A1041 Roundabout (NYCC)
7. A63 / A162 Roundabout (NYCC) junctions and highway links

5.3.10. As described in Section 5.7, Junction 7 (A63/A162) was removed from the in-scope junctions as only two vehicles were predicted to use this junction during the construction of the Proposed Scheme (Stages 1 and 2 - considered to represent the worst case transport scenario).

Insignificant Effects

5.3.11. The traffic impacts associated with both Stage 0 and Stage 3 (as described in Chapter 3 of the ES) of the Proposed Scheme have been deemed insignificant. The scoping opinion noted this appeared reasonable but requested further clarification that there is no discernible increase in traffic movements (stage 3).

5.3.12. Stage 0, the Site Reconfiguration Works, includes the demolition, removal and relocation of existing facilities at the Power Station Site. The traffic impact on the local transport network is expected to be minimal for this stage as evidenced by the planning application (PP-06688208v1).

5.3.13. Stage 3, the operation of the Proposed Scheme (when both Units X and Y are operational), will not represent a significant change when compared to current baseline conditions in

areas such as hours of working and the number of staff on site and travelling to/from the Existing Drax Power Station Complex. As such, any impact on the local transport network during this stage of the Proposed Scheme is deemed to be negligible. Furthermore there is expected to be a reduction in HGV and rail deliveries in Stage 3 when compared to the existing situation because there would no longer be a need to transport Pond and Ash Fines to the two coal fired power units being upgraded to gas as outlined in Tables 5-27 and 5-28 later in this chapter.

5.3.14. The effects of Stages 0 (Site Reconfiguration Works) and 3 (operation of the Proposed Scheme) have been considered insignificant and, as such, they have not been assessed elsewhere within the ES. Stages 1 and 2, the main construction phase, have been used as a worst case scenario for the purposes of assessing transport impact.

5.4 Assessment Methodology and Significance Criteria

Extent of the Study Area

5.4.1. The extent of the study area is shown in Figure 5.1, the Transport Study Area Map.

Scenarios Assessed

5.4.2. The assessment carried out within this chapter is based on the stages outlined in Chapter 3 (Site and Project Description) of the ES consisting of: Construction of Unit X (Stage 1), Construction of Unit Y and Operation of Unit X (Stage 2),

5.4.3. Stage 1 and 2 are considered to generate the most vehicular traffic of any of the stages, and is therefore considered to be the worst case scenario for the purposes of this assessment. Stage 1 and 2 are assessed against the future baseline of four biomass fired units and 2 coal fired units.

Guidance used for the Assessment

5.4.4. The guidance used to develop the methodology for the traffic, transport and access assessment includes:

- Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment (1993). (Ref 5.14)
- Guidance on Transport Assessment, Department for Transport (DfT) (2007). (Ref 5.16)

5.4.5. The Transport Assessment has been incorporated into this Chapter to provide a single source for all the analysis of transport impacts. This is in line with the approach taken on Environmental Statements undertaken in relation to other Nationally Significant Infrastructure Projects.

5.4.6. It is expected that the transport effects of the Proposed Scheme will primarily manifest themselves during the construction activities (Stage 1 and 2), as the number of movements associated with the permanent operation of the plant (Stage 3) is deemed to be minimal. As such, this assessment primarily focuses on the construction of the Proposed Scheme where the greatest transport impact is expected.

Method of Baseline Data Collation

5.4.7. The following data sources have been used to establish the baseline:

- Traffic Data Collected on Site

- Public Transport Scheduling Information and Timetables
- Multiple map sources including Public Rights of Way and Cycle Routes
- WebTris Traffic Count Data
- Personal Injury Accident (PIA) data for 2014-16 (most recent years available)

5.4.8. In addition, a site visit was undertaken by members of the transport team responsible for the Transport Assessment. This undertaken on 05 February 2018 and covered the road network around the identified key junctions and highway links.

Assessment Methodology

5.4.9. The impact of the Proposed Scheme has been established by adding trips associated with the Proposed Scheme to the 'do minimum' future baseline assessment year scenario to create a 'do something' scenario.

5.4.10. The cumulative effects of other significant development within the study area have also been considered these are detailed in Chapter 17 of the ES.

5.4.11. The transport related environmental effects (as defined by IEMA guidelines) have been assessed based on the key areas summarised in the table below:

Table 5-3 - Transport Environmental Effects - Key Areas

Key Area	Description
Traffic Flows	Increase in traffic flows on existing roads
Delay	• Traffic delays to non-development traffic can occur : • On key roads passing the site where there may be additional concentrations of traffic flow. At key junctions on the highway network near-by the site location.
Road Safety	• Personal Injury Collision (PIC) records for the local highway have been examined for the most recently available five year period. The impact of the proposed works is assessed in terms of its likely effect on the existing accident record, and any potential increase in the number of accidents.
Intimidation and Fear	Intimidation and fear criteria are considered to be dependent on the volume of traffic, the proportion of HGVs, proximity to people and any deficiencies in protection offered which can be caused by issues such as narrow pavement widths.
Severance	• Severance can occur when there is a perceived division within a community which becomes separated by a major traffic route. The assessment of severance considers specific local conditions and, in particular, the location of pedestrian routes to key local facilities including crossings.
Pedestrian Amenity	Some developments can bring about increases in the number of vehicle and pedestrian movements which can lead to greater increases in delay to pedestrians seeking to cross the road.

5.4.12. The effects of traffic in relation to noise and vibration, and air quality are considered in Chapter 06 (Air Quality) and 07 (Noise and Vibration) respectively.

Significance Criteria

5.4.13. The traffic generated by all aspects of the Proposed Scheme has been used to assess the impacts on the key links and junctions on the surrounding network. The likely effects of the Proposed Scheme in environmental terms have been evaluated in accordance with the Institute of Environmental Assessment's (IEA) 'Guidelines for the Environmental Assessment of Road Traffic' (1993). The transport related environmental effects (as defined by IEA guidelines) include the following receptors:

- Traffic flows.
- Delay.
- Road safety.
- Fear and intimidation.
- Severance.
- Pedestrian amenity.

5.4.14. The significance of the impact is judged on the relationship between the sensitivity of the receptor and the magnitude of the impact assessed. The sensitivity criteria for each receptor differ but a common approach has been used with classifications as either: high, medium, or low. The specific sensitivity criteria are set out below under the receptor headings.

5.4.15. Similarly, the magnitude of impact for each receptor differs but a common approach has been used with classifications as either: major, moderate, minor, or negligible. The specific sensitivity criteria are set out below under the receptor headings.

5.4.16. The resultant matrix of significance is shown in Table 5-4.

Table 5-4 - Significance of Effect Method

Key Area		**Magnitude of Impact**			
		Negligible	**Minor**	**Moderate**	**Major**
Receptor Sensitivity	**High**	Slight	Moderate	Large	Large
	Medium	Slight	Slight	Moderate	Large
	Low	Slight	Slight	Slight	Moderate

5.4.17. For many receptors, there are no simple rules or formulae which define thresholds of significance and there is, therefore, a need for interpretation and the application of professional judgement on the part of the assessor, backed-up by data or quantified information wherever possible. Consultation with stakeholders can determine the sensitivity of each receptor. The specific impact magnitude and significance criteria of each receptor are outlined amongst the subsequent headings.

5.4.18. Effects that are assessed as moderate or large are considered to be "significant" for EIA purposes.

Traffic Flows

5.4.19. The changes in traffic flow have been assessed in terms of impacts on key junctions and links within the study area as outlined above. The impact of flow changes at these locations have been assessed for the traffic related to the construction of the Proposed Scheme. Ratios of flow to capacity (RFC) are used as a standard way of assess the operational capability of a junction, and this approach has been adopted for the proposed scheme

5.4.20. In order to classify the receptor sensitivity and magnitude of impact of traffic flow the assumptions in Table 5-5 are made. The criteria have been specified using best judgement in interpretation of the IEA Guidelines for the Assessment of Road Traffic (1993).

Table 5-5 - Traffic Flow Receptor Sensitivity and Magnitude of Impact Criteria

Sensitivity	Criteria
High	Junction with flow greater than 2,000 vehicles per hour
Medium	Junction with flow between 1,000 vehicles and 2,000 vehicles per hour
Low	Junction with flow less than 1,000 vehicles per hour

Magnitude	Criteria
Major	Considerable change in condition (90+% increase in flow or RFC, or RFC increases above >1.0)
Moderate	Readily apparent change in conditions (60-90% increase in flow or RFC, or RFC increases above >0.85)
Minor	Perceptible change in conditions (30-60% increase in flow or RFC)
Negligible	No discernible change in conditions (0-30% increase in flow or RFC)

Delay

5.4.21. The changes in delay have been assessed by analysing the impacts at the assessed junctions. In order to classify the receptor sensitivity and magnitude of impact of junction delay the assumptions in Table 5-6 are made.

Table 5-6 - Delay Receptor Sensitivity and Magnitude of Impact Criteria

Sensitivity	Criteria
High	Junction delay greater than 60 seconds per vehicle
Medium	Junction delay between 30 to 60 seconds per vehicle
Low	Junction delay less than 30 seconds per vehicle

Magnitude	Criteria
Major	Considerable change in condition (90+% increase in delay)

Magnitude	Criteria
Moderate	Readily apparent change in conditions (60-90% increase in delay)
Minor	Perceptible change in conditions (30-60% increase in delay)
Negligible	No discernible change in conditions (0-30% increase in delay)

Road Safety

5.4.22. The number of collisions on a road is an indicator of the current road safety conditions, therefore, an analysis of collisions over a five-year period has been undertaken to identify any significant patterns or clusters in the vicinity of the Proposed Scheme. It is standard practice to assess collisions over a five-year period. The Proposed Scheme may have road safety implications, either in terms of an improvement or deterioration of the effect.

5.4.23. A cluster of collisions is considered to have a high sensitivity. Anything other than a cluster of collisions should be considered as low sensitivity.

Table 5-7 - Road Safety Receptor Sensitivity and Magnitude of Impact Criteria

Sensitivity	Criteria
High	A cluster of collisions
Medium	N/A
Low	No clusters

Magnitude	Criteria
Major	Considerable change in condition (90+% increase in flow)
Moderate	Readily apparent change in conditions (60-90% increase in flow)
Minor	Perceptible change in conditions (30-60% increase in flow)
Negligible	No discernible change in conditions (0-30% increase in flow)

Fear and Intimidation

5.4.24. Fear and intimidation is the impact traffic may have on pedestrians and is dependent on the volumes of traffic, its HGV composition, and its proximity to people. In order to classify the receptor sensitivity and magnitude of impact of fear and intimidation the assumptions in Table 5-8 are made.

Table 5-8 - Fear and Intimidation Receptor Sensitivity and Magnitude of Impact Criteria

Sensitivity	Criteria
High	Total flow greater than 1800 vehicles per hour or HGV flow greater than 3000 HGVs per day.

Sensitivity	Criteria
Medium	Total flow between 1200 and 1800 vehicles per hour or HGV flow between 2000 and 3000 HGVs per day.
Low	Total flow between 600 and 1200 vehicles per hour or HGV flow between 1000 and 2000 HGVs per day.

Magnitude	Criteria
Major	Considerable change in condition (90+% increase in HGV flow)
Moderate	Readily apparent change in conditions (60-90% increase in HGV flow)
Minor	Perceptible change in conditions (30-60% increase in HGV flow)
Negligible	No discernible change in conditions (0-30% increase in HGV flow)

Severance

5.4.25. The IEA guidelines describe severance as a perceived division that can occur within a community when it becomes separated by a major traffic artery. This, for example, may be a pedestrian unable to cross a road as a result of a large volume of traffic, or the loss of a PRoW or cycle lane.

5.4.26. No surveys on footpath or PRoW usage have been undertaken and so the sensitivity has been assumed to be high in line with Chapter 10 (Landscape and Visual). The Department for Transport classifies severance over four broad levels which have been used to determine the magnitude of the impact. These are listed in Table 5-9. A qualitative assessment will be provided based on traffic volumes, and impacts on footways and PRoW within the study area.

Table 5-9 - Severance Receptor Sensitivity and Magnitude of Impact Criteria

Sensitivity	Criteria
High	Assumed as a worst case
Medium	N/A
Low	N/A

Magnitude	Criteria
Major	People are likely to be deterred from making pedestrian journeys to an extent sufficient to induce a reorganisation of their activities. In some cases, this could lead to a change in the location of centres of activity or to a permanent loss of access to certain facilities for a particular community. Those who do make journeys on foot will experience considerable hindrance
Moderate	Some people, particularly children and old people, are likely to be dissuaded

Magnitude	Criteria
	from making journeys on foot. For others, pedestrian journeys will be longer or less attractive
Minor	All people wishing to make pedestrian movements will be able to do so, but there will probably be some hindrance to movement
Negligible	Little or no hindrance to pedestrian movement

Pedestrian amenity

5.4.27. Pedestrian amenity is defined within the IEA guidelines as the 'relative pleasantness of a journey'. This is affected by traffic flow, traffic composition, pavement width and separation from traffic. The definition is also determined by fear and intimidation. Pedestrian amenity is usually assessed by the composition of HGVs within the traffic flow. The assessment will therefore be based on the same criteria as Fear and Intimidation.

Embedded Mitigation

5.4.28. Embedded mitigation measures are provided in the form of both the draft Construction Worker Travel Plan (CWTP) (Appendix 5.1) and the draft Construction Traffic Management Plan (CTMP) (Appendix 5.2). Requirements in Schedule 2 to the draft DCO (document reference 3.1) provide for the approval of the final versions of both plans by the relevant planning authority (in consultation with the highway authority) and for the construction of the Proposed Scheme to be carried out in accordance with the approved plans.

5.4.29. The draft CWTP will require further development before adoption as travel patterns become more certain. It outlines how sustainable transport options will be promoted through the lifecycle of the Proposed Scheme.

5.4.30. This embedded mitigation will assist in terms of controlling the impact on the local network associated with construction staff during the construction period and, where necessary, enforcing or promoting more sustainable travel options.

5.4.31. The CTMP will be used as a basis for the effective management of traffic impacts associated with both the construction and decommissioning phase of the Proposed Scheme.

5.5 Baseline Conditions

5.5.1. This section considers the existing transport conditions within the study area under analysis including existing traffic flows and junction performance, public transport provision and active travel (walking and cycling).

Highway Network

5.5.2. The Existing Drax Power Station Complex is located in North Yorkshire. The Power Station Site is located to the south of the town of Selby, and is accessed from the A645 to the south. The A1041 and the A645 serve to connect the Existing Drax Power Station Complex to the wider road network. The Strategic Road Network is accessed at Junction 36 M62, via A645 and A614 approximately 6 km south.

5.5.3. At present, staff and visitors access the Existing Drax Power Station Complex via the 'South Gate' on the A645, whereas, site contractors, deliveries and HGV traffic make use of the site entrances on New Road to the eastern boundary of the Site, known formally as 'North Gate'.

5.5.4. The Existing Drax Power Station Complex is also currently served by rail for deliveries of fuel and access to the River Ouse via a jetty located off Redhouse Lane.

5.5.5. The Site lies to the north of the M62, with access via Junction 36 and the A614, A645, and New Road, which are single carriageways and adopt the national speed limit. The A1041 lies adjacent to the Site connecting to the town of Selby to the North and Snaith in the South.

5.5.6. There are a number of unclassified roads within close proximity to the Site, with Main Road and Carr Lane providing access to neighbouring villages such as Drax and Long Drax, in a west-east direction. Main Road is of varying width alternating from a single carriageway on approach to Drax village but converts to a narrow rural road. Through the settlement the road has a speed limit of 30 mph but increases to the national speed limit along the rural road between Drax and the Redhouse Lane.

Traffic Flows

5.5.7. Base traffic flow conditions have been sourced from traffic surveys carried out at a range of locations near the identified in-scope junctions. This has been used to carry out a further assessment of baseline traffic conditions at the critical junctions.

5.5.8. Table 5-10 summarises the traffic flow data at the key in-scope roads by direction for the AM and PM peaks, as well as AADT. From the ATC data, the peak periods were identified to be 08.00-09.00 for the AM and 17.00-18.00 for the PM (for full hrs analysed).

Table 5-10 - Traffic Flow Data Summary

Road	Direction	AM Peak	PM Peak	AADT
A645 (310m south of Key Lane)	Northbound	490	314	4208
	Southbound	309	462	4096
A614 Rawcliffe Road (100m west of Local Access)	Eastbound	616	678	7082
	Westbound	704	607	7420
A614 Rawcliffe Road, 55m east of Rawcliffe Road	Eastbound	781	825	9538
	Westbound	731	724	9492

Road	Direction	AM Peak	PM Peak	AADT
A1041, 335m south of Hardenshaw Lane	Northbound	707	606	6792
	Southbound	575	606	6627
A645, 170m east of A1041	Eastbound	466	332	4610
	Westbound	396	488	4495
A645, 235m west of Drax Power Station South Entrance	Eastbound	479	322	4332
	Westbound	419	543	4491
New Road, 285m south of Wren Hall Lane	Northbound	102	29	1045
	Southbound	80	216	1145
A1041, 120m south of Thief Lane	Northbound	774	622	7235
	Southbound	548	645	7012
A63, 615m east of A1041 Bawtry Road	Eastbound	444	457	6163
	Westbound	475	560	6329
A63, 710m west of A1041 Bawtry Road	Eastbound	677	581	7404
	Westbound	518	655	7263

Rail Deliveries (Stages 2 and 3)

5.5.1. It should be noted that no rail infrastructure will be used for the construction of the Proposed Scheme.

5.5.2. Table 5-11 shows the existing frequency of rail journeys.

Table 5-11 - Existing Weekly Rail Deliveries

Existing Weekly Rail Deliveries	
	Existing
Coal	56
Pond Fines	0
Ash	2
Limestone	2
Gypsum	2
Total	**62**

Road Deliveries

5.5.3. Table 5-12 summarises the existing frequency of HGV deliveries.

Table 5-12 - Existing Weekly Road (HGV) Deliveries

Existing Weekly Road (HGV Deliveries	
	Existing
Coal	0
Pond Fines	147
Ash	245
Limestone	0
Gypsum	0
Total	**392**

Existing Accident Records

5.5.4. Personal Injury Collision (PIC) data has been obtained for the study area for the full years 2014-16. A Traffic Accident Data map (larger scale) has been included in Figure 5.5.

5.5.5. Analysis of the accident records has focused on sections of the road network which connect with in-scope junctions.

5.5.6. Accident data from the most recent last three years' worth of data has been extracted and is presented below for the area identified within the PIC study area shown in blue.

Table 5-13 - Accidents Statistics within the PIC Study Area

Severity	Year			Total
	2014	2015	2016	
Slight	13	27	10	50

Severity	Year			Total
	2014	2015	2016	
Serious	2	5	1	8
Total	15	32	11	58

5.5.7. From an examination of the map, it is possible to identify a number of accident clusters as summarised in Table 5-14 below.

Table 5-14 - Summary of Accidents on Key Roads

Road	Description	Specific Location
A1041 / A63	A cluster of slight accidents at this junction	Approaches to the junction and the junction itself.
A614 / Airmyn Rd / Services	A cluster of slight accidents at this junction	Approaches to the junction and the junction itself.
A645 over River Aire	A cluster of slight accidents at this junction	Approaches to the bridge over the River Aire, and at the bridge itself

Pedestrian and Cycle Facilities

5.5.8. There is a pedestrian footway on one side of New Road along the eastern boundary of the Existing Drax Power Station Complex, with additional footways along the A645 westbound towards A1041.

5.5.9. There are a number of Public Rights of Way (PRoW) which are shown on the plan in ES Chapter 3 (Site and Project Description) Figure 3.1.

5.5.10. There is no dedicated cycling infrastructure in place within the vicinity of the Proposed Scheme. National Cycle Route 62 is on the A1041 approximately 2.5 miles south west of the Site, and travels along Hirst Road on and off road towards Selby and then further afield to York as shown in Figure 5.6

Bus Services

5.5.11. There is one bus route which is within close proximity to the Proposed Scheme with an additional route serving the village of Camblesforth.

5.5.12. The nearest bus stop is located on the A645 within close proximity to the Existing Drax Power Station Complex entrance as shown in Figure 5.7. An additional service can be accessed at Brigg Lane, Camblesforth less than 1 mile from the Existing Drax Power Station Complex, both stops are served by route 42 which is operated by Transdev York linking Drax Village to Selby Town Centre and York. All routes serving Camblesforth are detailed in Table 5-15.

Table 5-15 - Bus Services

Service	Operator	Route	Frequency	First Service	Last Service
400/401	Arriva	Selby – Goole	Irregular	06:30	18:10
		Goole – Selby		07:02	19:10
42	Transdev York	Drax – Selby - York	90mins	08:35	16:10
		York – Selby - Drax		07:15	17:45

Rail Services

5.5.13. The nearest railway station is Snaith which lies 4.3 miles south west of the Existing Drax Power Station Complex. This railway station is served by Northern Rail operating only limited services to Leeds and Goole, and is accessible by private car via the A1041 and A645. Alternatively, Selby railway station lies 7 miles northwest of the Existing Drax Power Station Complex, and provides a wider range of rail connection services and is easily accessible via bus route 42.

5.5.14. There are four routes that serve Selby railway station, these are operated by Hull Trains, Northern, Trans Pennine Express and Virgin East Coast. There are 10 daily services between Hull and Doncaster; 36 services between York and Hull; 48 services between Selby and Leeds; 24 services between Hull and Manchester.

Baseline Traffic Conditions

Critical Junctions Assessment

5.5.15. The baseline assessment of the junctions is presented below. Each of the junctions identified in Paragraph 5.3.9 has been assessed for a base year 2018 traffic for both the AM and PM peak. Traffic flows are presented in Appendix 5.3.

5.5.16. The peak period across the network was determined to be 07:45 to 08:45 for the AM, and 16:30 to 17:30 for the PM. This was based on traffic survey date collected on 6th March 2018.

5.5.17. The results analyse the capacity, flow, queue length and delay at each junction. Full results are presented in Appendix 5.4.

5.5.18. The junctions have been modelled using an industry standard software package, Junctions 9. Junction 1, Junction 2 and Junction 3 (as described in Para.12.5.6) have been modelled together to capture the effects of the interactions between the roundabouts including any blocking back.

5.5.19. The results from the assessment of the respective junctions have been presented in Table 5-16 to 5-21.

Table 5-16 - A614 Rawcliffe Road/A645 Junction - 2018 Base

Time Period	Arm	RFC	Queue (Passenger Car Unit (PCU))	Delay (s)
AM Peak	A - A645 (West)	0.49	1.1	10.87
	B - A614 Rawcliffe Road (East)	0.47	1	4.20
	C - A614 Rawcliffe Road (South)	0.56	1.3	10.98
PM Peak	A - A645 (West)	0.66	2.1	14.32
	B - A614 Rawcliffe Road (East)	0.42	0.8	3.64
	C - A614 Rawcliffe Road (South)	0.41	0.7	7.17

Table 5-17 - A614/Airmyn Road/Rawcliffe Road Junction - 2018 Base

Time Period	Arm	RFC	Queue (PCU)	Delay (s)
AM Peak	A - A614 Rawcliffe Road (West)	0.61	1.8	8.65
	B - Local Access	0.01	0.0	8.01
	C - Airmyn Road	0.37	0.6	10.14
	D - A614 Rawcliffe Road (East)	0.41	0.8	3.67
	E - Rawcliffe Road	0.42	0.9	9.29
PM Peak	A - A614 Rawcliffe Road (West)	0.70	2.4	10.88
	B - Local Access	0.03	0.0	6.58
	C - Airmyn Road	0.29	0.4	9.12
	D - A614 Rawcliffe Road (East)	0.41	0.8	3.54
	E - Rawcliffe Road	0.44	1.0	9.12

Table 5-18 - M62/A614 Junction - 2018 Base

Time Period	Arm	RFC	Queue (PCU)	Delay (s)
AM Peak	3E - A	0.52	1.3	3.91

Time Period	Arm	RFC	Queue (PCU)	Delay (s)
	3E - B - M62 Southbound Off-Ramp	0.25	0.4	2.81
	3E - C - A614 Rawcliffe Road (East)	0.33	0.6	3.36
	3E - D - A161	0.4	0.7	5.41
	3W - A - A614 Rawcliffe Road (West)	0.64	2.1	8.14
	3W - C - Link	0.55	1.4	5.88
	3W - D - M62 Northbound Off-Ramp	0.42	0.9	4.09
PM Peak	3E - A	0.56	1.5	4.14
	3E - B - M62 Southbound Off-Ramp	0.17	0.2	2.47
	3E - C - A614 Rawcliffe Road (East)	0.39	0.7	3.35
	3E - D - A161	0.47	1	6.13
	3W - A - A614 Rawcliffe Road (West)	0.69	2.5	9.4
	3W - C - Link	0.59	1.6	6.15
	3W - D - M62 Northbound Off-Ramp	0.48	1.2	4.78

Table 5-19 - A645/New Road/Main Road Junction – 2018 Base

Time Period	Arm	RFC	Queue (PCU)	Delay (s)
AM Peak	A - A645 (West)	0.29	0.5	3.27
	B - New Road	0.07	0.1	3.55
	C - Main Road	0.08	0.1	2.5
	D - A645 (South)	0.43	0.8	4.76
	E - Sports And Social Club Access	0.01	0	5.94
PM Peak	A - A645 (West)	0.39	0.7	3.47
	B - New Road	0.17	0.2	3.67
	C - Main Road	0.07	0.1	2.73
	D - A645 (South)	0.28	0.4	3.88
	E - Sports And Social Club Access	0.02	0	5.43

Table 5-20 - 1041/A645 Junction – 2018 Base

Time Period	Arm	RFC	Queue (Passenger Car Unit (PCU))	Delay (s)
AM Peak	A - A1041	0.71	2.6	12.6
	B - A645	0.41	0.8	5.82
	C - A1041 Station Road	0.5	1	7.5
PM Peak	A - A1041	0.62	1.7	9.17
	B - A645	0.55	1.3	7.43
	C - A1041 Station Road	0.47	0.9	7.37

Table 5-21 - A63/A1041 Bawdry Junction - 2018 Base

Time Period	Arm	RFC	Queue (Passenger Car Unit (PCU))	Delay (s)
AM Peak	A - A63 (West)	0.53	1.3	5.69
	B - A1041 Bawdry Road (North)	0.4	0.7	3.71
	C - A63 (East)	0.39	0.8	4.53
	D - A1041 Bawdry Road (South)	0.45	0.9	3.37
PM Peak	A - A63 (West)	0.48	1	4.86
	B - A1041 Bawdry Road (North)	0.6	1.5	5.03
	C - A63 (East)	0.47	1	5.37
	D - A1041 Bawdry Road (South)	0.45	0.8	3.49

Junction Assessment Summary

5.5.20. Table 5-22 displays a summary showing the maximum saturation, maximum flow, maximum queue length, and maximum delay per vehicle of each junction assessed during both the AM and PM peak.

Table 5-22 - Junction Assessment Summary

Road	RFC (Ratio to Flow Capacity)		Queue (veh)		Delay (s)	
	AM	PM	AM	PM	AM	PM
A614 Rawcliffe Road/A645 Junction	0.56	0.66	1.3	2.1	10.98	14.32
A614/Airmyn Road/Rawcliffe Road Junction	0.61	0.7	1.8	2.4	10.14	10.88
M62/A614 Junction	0.64	0.69	2.1	2.5	8.14	9.4
A645/New Road/Main Road Junction	0.43	0.39	0.8	0.7	5.94	5.43
A1041/A645 Junction	0.71	0.62	2.6	1.7	12.6	9.17
A63/A1041 Bawtry Junction	0.53	0.48	1.3	1.5	5.69	5.37

5.6 Future Conditions

5.6.1. In order to inform an assessment of future traffic conditions (future baseline) within the study area, the following sources of information have been examined:

- National Trip End Model (NTEM) projections accessed through TEMPro (Trip End Model Presentation Software) showing future trip rate growth by different transport modes (Ref 5.17).
- Fuel and Income Adjustments.
- NRTF Traffic Growth for LGVs and HGVs.
- Developments within the area under analysis with an overall assessment of the cumulative impact associated with these developments.

TEMPro Trip Rate Projections

5.6.2. National Trip End Model (NTEM) projections have been extracted from TEMPro (Version 7.2) to inform an assessment of future traffic conditions.

5.6.3. The TEMPro forecasts consider a range of factors including population, employment, households by car ownership, trip ends and traffic growth factors. As such, TEMPro represents the forecasted change in homes and jobs within the area under analysis.

5.6.4. Table 5-23 summarises future trip rate growth for car driver from 2018-2022 & 2026. The TEMPro criteria used to calculate the growth factor are:

- Base year of 2018 and future year of 2022 and 2026
- Location of Selby and East Riding
- NTM Adjusted (Using NTM AF15 Dataset)
- Trip end origin/destination
- AM (7.00-9.59), PM (16.00- 18.59)

Table 5-23 - TEMPRO (NTM Adjusted) Growth Rates (Car Driver)

Selby / E .Riding Average	**TEMPro Growth**			
	2018 - 2022		2018 - 2026	
	AM	PM	AM	PM
	1.05	1.05	1.10	1.09

5.6.5. The TEMPro growth factors are required to be adjusted using Fuel and Income factors supplied by the DfT (Tag Data Book, July 2017). The adjustments represent the final growth factors to be applied to car growth.

Table 5-24 - TEMPRO Fuel and Income Adjusted Growth Rates

Fuel+Income Adj	**Tempro Growth + Fuel and Income Adjustment**			
	2018 - 2022		2018 - 2026	
	AM	PM	AM	PM
	1.06	1.05	1.15	1.14

5.6.6. These growth factors have been applied to the base (2018) traffic data counts for car to derive the future year scenarios of 2022 and 2026.

NRTF for LGVs and HGVs

5.6.7. Growth factors for LGVs and HGVs are calculated differently to cars and are derived from the Road Traffic Forecasts, DfT, 2015. As is best practice, data from Scenario 1 is used to derive the forecasts. The forecast growth rates are presented in Table 5- 25.

Table 5-25 - NRTF Traffic Growth for LGVs and HGVs (Scenario 1, Yorkshire and Humber, Road Traffic Forecasts 2015, DfT)

	LGV and HGV Growth			
	2018 – 2022		**2018 - 2026**	
	AM	PM	AM	PM

	LGV and HGV Growth			
	2018 – 2022		2018 - 2026	
NRTF (LGVs)	1.10	1.10	1.20	1.20
NRTF (HGVs)	1.03	1.03	1.06	1.06

5.6.8. These growth factors have been applied to the base (2018) traffic data counts for LGVs and HGVs to derive the future year scenarios of 2022 and 2026.

5.6.9. Network changes

5.6.10. There are no known committed network changes on the in-scope transport network. There is a strategic proposal for signalisation of J36 of the M62 identified in East Riding of Yorkshire Core Strategy for 2024 to 2029, however, no further details are available and are not included within the assessment due to the uncertainty of delivery timescales and uncertainty of the design layout.

5.7 Proposed Scheme

Vehicle Trip Generation

5.7.1. Trip generation for the Proposed Scheme has been calculated using a “first principles” approach to estimating the amount of material to be taken to and from the Site, and the workforce required throughout the programme of the Proposed Scheme.

5.7.2. Appendix 5.5 presents the methodology for calculating of trips for the Proposed Scheme construction duration.

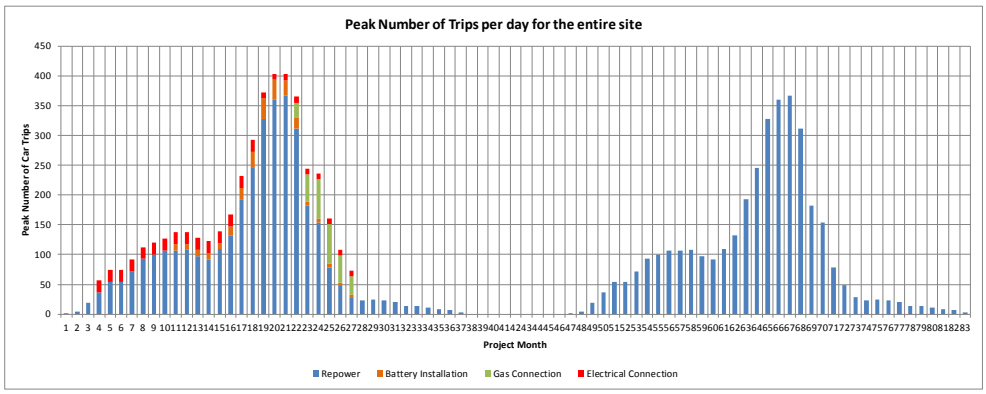
5.7.3. As detailed in Section 3, the start date of construction is anticipated to be 2020 following the granting of the DCO. As such, it is assumed for the purposes of the Transport Assessment, that construction would begin in April of 2020, which would mean that two peaks of traffic occur at the start of Q8 (2022) and Q24 (2026) of the construction programme.

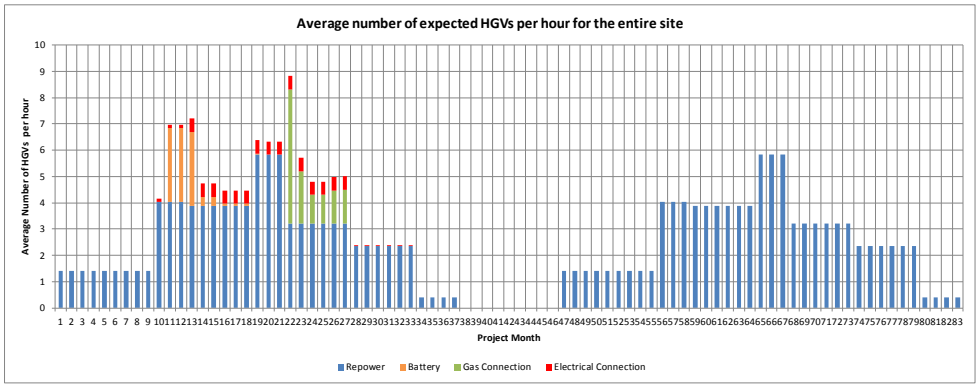
5.7.4. For Stage 1, the worst case scenario is in Q8 (2022) and involves construction works in relation to Unit X, along with the construction of the Gas Pipeline, the GRF, the AGI, the battery storage facility for Unit X, and the building to house the battery storage (for both Units X and Y), as well as development associated with these works. Although there is a predicted peak month (month 21 in Stage 1 and month 67 in Stage 2) the duration of high intensity trip generation is estimated to last for four months for both Stages 1 (months 19 to 22) and 2 (months 65 to 69) as shown in Diagram 5-1.

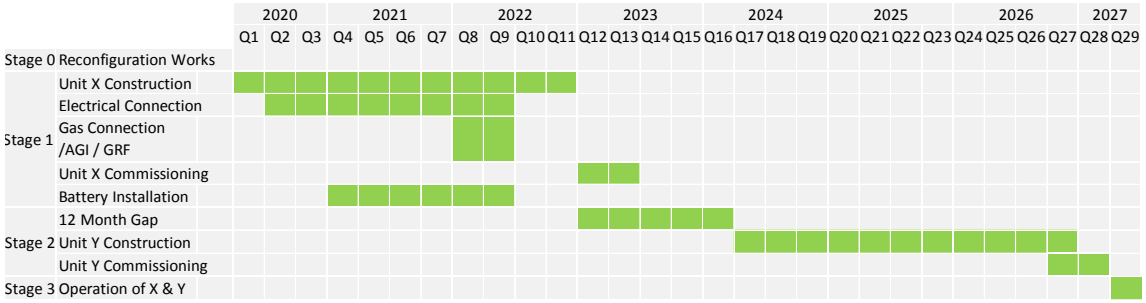
5.7.5. For Stage 2, the worst case scenario is in Q24 (2026) and is representative of the construction of Unit Y and the reinstatement of construction laydown associated with the Pipeline Area.

5.7.6. Diagram 5-1 shows the trip generation and programme.

Diagram 5-1 - Trip Generation and Programme







Proposed Scheme Vehicle Trip Arrival and Departure Profile

5.7.7. During the construction phases, it is expected that standard working hours will be Monday to Friday from 07:00 to 19:00; personnel will work a 9 hour period within this timeframe. Therefore, all construction worker related trips will arrive on site between 6.00 and 10.00 and depart the site between 16:00 and 20:00. On Saturdays, standard working hours will be 07:00 and 13:00. Start-up and shutdown activities would take place during a 1 hour window either side of standard working hours. Delivery or removal of materials, plant and machinery must not take place on Sundays, bank holidays nor otherwise outside the hours of 0800 to 1800 hours on Monday to Friday; and 0800 to 1300 hours on a Saturday.

5.7.8. It is likely that some construction activities and deliveries will be required to be 24 hours at certain times. Where work is required outside of core construction hours this will be agreed in advance with Selby District Council.

5.7.9. In order to estimate a realistic arrival and departure profile of workers for the Site, it is common practice to use an existing flow profile in a similar area to the Proposed Scheme representative of an existing trend and travel pattern. The use of TRADS (now Webtris) which shows the hourly variation of traffic on the M62 (reflective of the area of Drax), is therefore an appropriate way of deriving this profile between the hours of 06.00-10.00 and 16.00-20.00.

5.7.10. This method has been applied on previous, similar construction projects in the Humber Region. For example, this method was agreed between C.Gen and Highways England as an appropriate way of estimating the arrival and departure of construction workers at the North Killingholme Power Project.

5.7.11. It is therefore deemed an appropriate method of deriving the arrival and departure profile of construction workers for this type of development in a similar part of the UK. For clarity, the following datasets have been used to derive the profile.

Table 5-26 - Vehicle Arrivals and Departures

Time Period	Arrivals		Departures	
	Eastbound		Westbound	
	Count Site (M62/2564A)		Count Site (M62/2564B)	
	Vehicles	Proportion	Vehicles	Proportion
0800-0700	1,588	19%		
0700-0800	2,457	30%		
0800-0900	2,213	27%		
0900-1000	1,888	23%		
1600-1700			2,479	34%
1700-1800			2,318	32%
1800-1900			1,545	21%
1900-2000			905	12%

5.7.12. The full datasets used to derive these figures are attached as Appendix 5.6.

5.7.13. For HGVs, these are assumed to be spread evenly (per hour) across the working day.

Proposed Scheme Vehicle Trip Distribution

5.7.14. A gravity model has been developed which estimates the likely distribution of worker traffic to and from the Site. The gravity model has been calibrated with an average trip length of 30km, which reflects the remote nature of the Site, and the likely source of workers from the neighbouring major urban centres of Hull, York, Leeds and Doncaster.

5.7.15. The Gravity Model distribution has been reviewed by Highways England and subsequently updated to take on board comments and is contained in Appendix 5.7. The majority of car trips 70% are via the M62 J36, the other 30% route via Selby.

5.7.16. The gravity model shows that only 2% of trips generated from the Proposed Scheme pass through the section of the A1041/A63, which was originally scoped into the assessment. However, this has now been excluded from the study area due to the low levels of trips generated. In terms of the worst case scenario, this equates to less than 3 vehicles/hr at this junction.

5.7.17. HGVs are distributed on fixed routes to and from the Site on the M62, A614 and A645 (as shown in Figure 5.3). They are assumed to travel on the SRN via the M62 west of J36 as this provides connectivity to the majority of the UK.

5.7.18. Abnormal Indivisible Loads (AILs) will be routed via the M62, A614 and A645. The largest AILs will originate from Goole Inland Port and the routes to the M62 are subject to further consultation. Further details are provided in Appendix 5.2.and Figure 5.4. The routes of AILs will be subject to final agreement between the haulage company responsible for transporting large loads, and the local highway authority and Highways England.

Committed Development

5.7.19. A number of key developments have been identified within the vicinity of the study area under analysis, to identify whether they should be included in a cumulative assessment. This assessment is presented in Appendix 17.1 of Chapter 17 of the ES.

5.7.20. Our assessment reveals that there are no developments that will have any significant impact (>30 vehicles in any of worst case scenarios) on any of the in-scope junctions for the Proposed Scheme. Therefore, the future year assessments include only background growth derived from TEMPRO and NRTF.

Scenarios Assessed

5.7.21. As an outcome of the above process, the following transport demand scenarios have been modelled and assessed which are aligned to the following Stages of the Proposed Scheme:

Table 5-27 - Demand Scenarios Assessed for the Proposed Scheme

Scenarios	Stage of Proposed Scheme
2022 AM Do Minimum	Stage 1
2022 AM Do Something	Stage 1
2022 PM Do Minimum	Stage 1
2022 PM Do Something	Stage 1
2026 AM Do Minimum	Stage 2
2026 AM Do Something	Stage 2
2026 PM Do Minimum	Stage 2
2026 PM Do Something	Stage 2

5.7.22. These scenarios will enable the assessment of impacts of the realistic worst case scenario of the Proposed Scheme.

5.7.23. The time periods of assessment have been derived through analysis of the peak traffic data in the AM and PM peak. These were:

- AM 07.45 – 08.45
- PM 16.30 – 17.30

5.7.24. Highest hour trips from the Proposed Scheme arrival and departure profiles (for AM this is 07.00-08.00 and for PM this is 16.00 – 17.00) have been added to the AM and PM peaks for the future years of 2022 and 2026. With and Without Development Flows are presented in Appendix 5.8.

Rail Deliveries (Stages 2 and 3)

5.7.25. Table 5-28 shows the forecasted weekly rail deliveries during the respective stages (these are rail deliveries associated with the operation of the Existing Drax Power Station Complex).

5.7.26. The information presented in the table shows that there is an overall reduction in rail frequency from the current situation when compared with Stage 2 (when Unit X is operational) and Stage 3. As such, this is deemed to be a beneficial outcome when compared with the existing situation.

Table 5-28 - Forecasted Weekly Rail Deliveries

	Forecasted Weekly Rail Deliveries				
	Existing	**Stage 0**	**Stage 1**	**Stage 2**	**Stage 3**
Coal	56	56	56	28	0
Pond Fines	0	0	0	0	0
Ash	2	2	2	1	0
Limestone	2	2	2	1	0
Gypsum	2	2	2	1	0
Total	**62**	**62**	**62**	**31**	**0**

Road Deliveries

5.7.27. The pattern of reduced movements is also similar for existing HGV deliveries to the Existing Drax Power Station Complex. Stages 2 and 3see a reduction of these deliveries when compared with the current baselines, and, as such, this is deemed to be a beneficial outcome when compared to the existing situation.

Table 5-29 - Forecasted Weekly Road (HGV) Deliveries

	Forecasted Weekly Road (HGV) Deliveries				
	Existing	**Stage 0**	**Stage 1**	**Stage 2**	**Stage 3**
Coal	0	0	0	0	0
Pond Fines	147	147	147	70	0
Ash	245	245	245	126	0
Limestone	0	0	0	0	0
Gypsum	0	0	0	0	0
Total	**392**	**392**	**392**	**196**	**0**

5.8 Assessment of Effects

5.8.1. The Assessment of Effects considers the impacts and effects in relation to the transport network, during four stages of the Proposed Scheme:

- Stage 0 – Site Reconfiguration Works
- Stage 1 – Construction of Unit X
- Stage 2 – Operation of Unit X and Construction of Unit Y
- Stage 3 – Operation of Units X and Y

5.8.2. Stage 0 and Stage 3 are considered to have insignificant effects and are therefore considered to be no worse than the assessment of Stage 1 and Stage 2 of the Proposed Scheme. As explained above, effects of Stages 0 and 3 are therefore not assessed. The assessment of Stage 1 and Stage 2 represents the worst case scenario due to the peak number of trips for these stages and the following results are presented for each transport related environmental effect.

Traffic Flows and Delay

5.8.3. The traffic generated at the peak of construction activity, as shown in Diagram 5-1 has then been assessed against the background traffic at each of the six junctions identified as in scope.

5.8.4. Scenarios tested were in line with Table 5- 27.

5.8.5. The subsequent tables show the results of this assessment in terms of flow, Ratio of Flow to Capacity (RFC), and queue length at each of the seven junctions. Full reports of results can be found in Appendix 5.4.

5.8.6. The RFC provides an indication of the junction performance. The ratio is total flow to available capacity and therefore a ratio of 1.000 shows the junction is operating at capacity. Ratios less than 1.000 shown the junction is operating under capacity and ratios greater than 1.000 show the junction is operating over capacity. Typically, junctions begin to see increased levels of queuing and delay once the ratio becomes greater than 0.850.

5.8.7. The overall level of traffic flow has been assessed to determine the sensitivity of the receptor and the increases in flow, RFC, and delay have been assessed to determine the magnitude of the impact.

5.8.8. Significance has been defined earlier in this chapter.

Table 5-30 - Rawcliffe Road/A645 Junction Flow (PCU)

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	364	377	4%	Negligible	Slight Adverse
B - A614 Rawcliffe Road (East)	824	923	12%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	428	428	0%	No Change	NA
Total	1616	1727	7%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	510	620	22%	Negligible	Slight Adverse
B - A614 Rawcliffe Road (East)	717	730	2%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	358	358	0%	No Change	NA
Total	1585	1707	8%	Negligible	Slight Adverse
AM Peak					
A - A645 (West)	391	403	3%	Negligible	Slight Adverse
B - A614 Rawcliffe Road	890	978	10%	Negligible	Slight Adverse

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
(East)					
C - A614 Rawcliffe Road (South)	462	462	0%	Negligible	Slight Adverse
Total	1743	1843	6%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	551	649	18%	Negligible	Slight Adverse
B - A614 Rawcliffe Road (East)	775	786	2%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	386	386	0%	No Change	NA
Total	1712	1822	6%	Negligible	Slight Adverse

Table 5-31 - Rawcliffe Road/A645 Junction RFC

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	0.53	0.55	4%	Negligible	Slight Adverse
B - A614 Rawcliffe Road (East)	0.5	0.56	12%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	0.6	0.66	10%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	0.71	0.86	21%	Moderate	Moderate Adverse

B - A614 Rawcliffe Road (East)	0.44	0.45	2%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	0.44	0.44	0%	No Change	NA
Arm	2026 Do Minimum RFC	2026 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	0.58	0.6	3%	Negligible	Slight Adverse
B - A614 Rawcliffe Road (East)	0.54	0.6	11%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	0.68	0.73	7%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	0.78	0.92	18%	Moderate	Moderate Adverse
B - A614 Rawcliffe Road (East)	0.48	0.48	0%	No Change	NA
C - A614 Rawcliffe Road (South)	0.48	0.48	0%	No Change	NA

Table 5-32 - Rawcliffe Road/A645 Junction Delay (Seconds)

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	10	10.41	4%	Negligible	Slight Adverse
B - A614 Rawcliffe Road (East)	3.98	4.53	14%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	11.6	14.56	26%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	15.46	30.88	100%	Major	Moderate

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
					Adverse
B - A614 Rawcliffe Road (East)	3.59	3.64	1%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	7.07	7.18	2%	Negligible	Slight Adverse
Arm	2026 Do Minimum Delay	2026 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	11.64	12.11	4%	Negligible	Slight Adverse
B - A614 Rawcliffe Road (East)	4.34	4.92	13%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	14.69	19.02	29%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	20.92	47.99	129%	Major	Moderate Adverse
B - A614 Rawcliffe Road (East)	3.85	3.9	1%	Negligible	Slight Adverse
C - A614 Rawcliffe Road (South)	7.82	7.96	2%	Negligible	Slight Adverse

Table 5-33 - A614/Airmyn Road/Rawcliffe Road Junction Flow (PCU)

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A614 Rawcliffe Road (West)	718	731	2%	Negligible	Slight Adverse
B - Local Access	7	7	0%	Negligible	Slight Adverse
C - Airmyn Road	208	208	0%	No Change	NA
D - A614 Rawcliffe Road (East)	758	857	13%	Negligible	Slight Adverse
E - Rawcliffe Road	332	332	0%	No Change	NA
Total	2023	2134	5%	Negligible	Slight Adverse
PM Peak					

A - A614 Rawcliffe Road (West)	787	897	14%	Negligible	Slight Adverse
B - Local Access	17	17	0%	No Change	NA
C - Airmyn Road	158	158	0%	No Change	NA
D - A614 Rawcliffe Road (East)	767	780	2%	Negligible	Slight Adverse
E - Rawcliffe Road	362	362	0%	No Change	NA
Total	2091	2214	6%	Negligible	Slight Adverse
Arm	2026 Do Minimum Flow	2026 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A614 Rawcliffe Road (West)	773	785	2%	Negligible	Slight Adverse
B - Local Access	8	8	0%	No Change	NA
C - Airmyn Road	225	225	0%	No Change	NA
D - A614 Rawcliffe Road (East)	815	903	11%	Negligible	Slight Adverse
E - Rawcliffe Road	356	356	0%	Negligible	Slight Adverse
Total	2177	2277	5%	Negligible	Slight Adverse
PM Peak					
A - A614 Rawcliffe Road (West)	849	948	12%	Negligible	Slight Adverse
B - Local Access	18	18	0%	No Change	NA
C - Airmyn Road	171	171	0%	No Change	NA
D - A614 Rawcliffe Road (East)	825	836	1%	Negligible	Slight Adverse
E - Rawcliffe Road	388	388	0%	No Change	NA
Total	2252	2362	5%	Negligible	Slight Adverse

Table 5-34 - A614/Airmyn Road/Rawcliffe Road Junction RFC

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A614 Rawcliffe Road (West)	0.65	0.66	2%	Negligible	Slight Adverse
B - Local Access	0.01	0.01	0%	No Change	NA
C - Airmyn Road	0.41	0.41	0%	No Change	NA
D - A614 Rawcliffe Road (East)	0.44	0.49	11%	Negligible	Slight Adverse
E - Rawcliffe Road	0.46	0.5	9%	Negligible	Slight Adverse
PM Peak					
A - A614 Rawcliffe Road (West)	0.74	0.84	14%	Negligible	Slight Adverse
B - Local Access	0.04	0.04	0%	No Change	NA
C - Airmyn Road	0.32	0.35	9%	Negligible	Slight Adverse
D - A614 Rawcliffe Road (East)	0.44	0.44	0%	No Change	NA
E - Rawcliffe Road	0.48	0.48	0%	No Change	NA
Arm	2026 Do Minimum RFC	2026 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A614 Rawcliffe Road (West)	0.71	0.72	1%	Negligible	Slight Adverse
B - Local Access	0.02	0.02	0%	No Change	NA

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
C - Airmyn Road	0.47	0.47	0%	No Change	NA
D - A614 Rawcliffe Road (East)	0.47	0.52	11%	Negligible	Slight Adverse
E - Rawcliffe Road	0.52	0.56	8%	Negligible	Slight Adverse
PM Peak					
A - A614 Rawcliffe Road (West)	0.81	0.9	11%	Moderate	Large Adverse
B - Local Access	0.04	0.05	25%	Negligible	Slight Adverse
C - Airmyn Road	0.37	0.41	11%	Negligible	Slight Adverse
D - A614 Rawcliffe Road (East)	0.47	0.48	2%	Negligible	Slight Adverse
E - Rawcliffe Road	0.54	0.54	0%	No Change	NA

Table 5-35 - A614/Airmyn Road/Rawcliffe Road Junction Delay (Seconds)

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A614 Rawcliffe Road (West)	8.39	8.68	3%	Negligible	Slight Adverse
B - Local Access	5.87	5.94	1%	Negligible	Slight Adverse
C - Airmyn Road	10.75	10.96	2%	Negligible	Slight Adverse
D - A614 Rawcliffe Road (East)	3.33	3.71	11%	Minor	Slight Adverse
E - Rawcliffe Road	8.37	9.78	17%	Minor	Slight Adverse
PM Peak					
A - A614 Rawcliffe	11.76	19.16	63%	Major	Moderate

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
Road (West)					Adverse
B - Local Access	6.98	7.9	13%	Negligible	Slight Adverse
C - Airmyn Road	9.63	11.29	17%	Negligible	Slight Adverse
D - A614 Rawcliffe Road (East)	3.3	3.34	1%	Negligible	Slight Adverse
E - Rawcliffe Road	8.25	8.4	2%	Negligible	Slight Adverse
Arm	2026 Do Minimum Delay	2026 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A614 Rawcliffe Road (West)	10.11	10.5	4%	Negligible	Slight Adverse
B - Local Access	6.3	6.38	1%	Negligible	Slight Adverse
C - Airmyn Road	12.74	13.01	2%	Negligible	Slight Adverse
D - A614 Rawcliffe Road (East)	3.57	3.95	11%	Minor	Slight Adverse
E - Rawcliffe Road	9.92	11.69	18%	Minor	Slight Adverse
PM Peak					
A - A614 Rawcliffe Road (West)	16.23	29.61	82%	Moderate	Slight Adverse
B - Local Access	7.73	8.72	13%	Negligible	Slight Adverse
C - Airmyn Road	11.09	13.03	17%	Negligible	Slight Adverse
D - A614 Rawcliffe Road (East)	3.53	3.58	1%	Negligible	Slight Adverse
E – Rawcliffe Road	9.75	9.95	2%	Negligible	Slight Adverse

Table 5-36 - M62/A614 Junction Flow (PCU)

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
3E - A	1174	1187	1%	Negligible	Slight Adverse

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
3E - B - M62 Southbound Off-Ramp	483	493	2%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	589	589	0%	Negligible	Slight Adverse
3E - D - A161	477	477	0%	No Change	NA
3W - A - A614 Rawcliffe Road (West)	912	924	1%	Negligible	Slight Adverse
3W - C - Link	824	834	1%	Negligible	Slight Adverse
3W - D - M62 Northbound Off-Ramp	770	858	11%	Negligible	Slight Adverse
Total	5229	5364	3%	Negligible	Slight Adverse
PM Peak					
3E - A	1255	1353	8%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	313	313	0%	No Change	NA
3E - C - A614 Rawcliffe Road (East)	719	719	0%	No Change	NA
3E - D - A161	543	543	0%	No Change	NA
3W - A - A614 Rawcliffe Road (West)	920	1030	12%	Negligible	Slight Adverse
3W - C - Link	892	892	0%	No Change	NA
3W - D - M62 Northbound Off-Ramp	856	869	1%	Negligible	Slight Adverse

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
Total	5497	5718	4%	Negligible	Slight Adverse
Arm	2026 Do Minimum Flow	2026 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
3E - A	1259	1271	1%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	519	529	2%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	635	635	0%	No Change	NA
3E - D - A161	507	507	0%	No Change	NA
3W - A - A614 Rawcliffe Road (West)	924	991	7%	Negligible	Slight Adverse
3W - C - Link	834	895	7%	Negligible	Slight Adverse
3W - D - M62 Northbound Off-Ramp	858	903	5%	Negligible	Slight Adverse
Total	5538	5733	4%	Negligible	Slight Adverse
PM Peak					
3E - A	1347	1435	7%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	337	337	0%	No Change	NA
3E - C - A614 Rawcliffe Road (East)	777	777	0%	No Change	NA
3E - D - A161	581	581	0%	No Change	NA
3W - A -	990	1088	10%	Negligible	Slight

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
A614 Rawcliffe Road (West)					Adverse
3W - C - Link	963	963	0%	No Change	NA
3W - D - M62 Northbound Off-Ramp	916	928	1%	Negligible	Slight Adverse
Total	5910	6108	3%	Negligible	Slight Adverse

Table 5-37 - M62/A614 Junction RFC

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
3E - A	0.55	0.55	0%	No Change	NA
3E - B - M62 Southbound Off-Ramp	0.27	0.28	4%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	0.36	0.36	0%	No Change	NA
3E - D - A161	0.43	0.44	2%	Negligible	Slight Adverse
3W - A - A614 Rawcliffe Road (West)	0.69	0.7	1%	Negligible	Slight Adverse
3W - C - Link	0.58	0.58	0%	No Change	NA
3W - D - M62 Northbound Off-Ramp	0.45	0.51	13%	Negligible	Slight Adverse
PM Peak					
3E - A	0.59	0.63	7%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	0.18	0.19	6%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	0.42	0.44	5%	Negligible	Slight Adverse
3E - D - A161	0.51	0.51	0%	No Change	NA

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
3W - A - A614 Rawcliffe Road (West)	0.73	0.82	12%	Negligible	Slight Adverse
3W - C - Link	0.62	0.62	0%	No Change	NA
3W - D - M62 Northbound Off-Ramp	0.52	0.52	0%	No Change	NA
Arm	2026 Do Minimum RFC	2026 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
3E - A	0.59	0.59	0%	No Change	NA
3E - B - M62 Southbound Off-Ramp	0.3	0.31	3%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	0.4	0.4	0%	No Change	NA
3E - D - A161	0.48	0.48	0%	No Change	NA
3W - A - A614 Rawcliffe Road (West)	0.75	0.76	1%	Negligible	Slight Adverse
3W - C - Link	0.62	0.63	2%	Negligible	Slight Adverse
3W - D - M62 Northbound Off-Ramp	0.49	0.54	10%	Negligible	Slight Adverse
PM Peak					
3E - A	0.63	0.67	6%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	0.2	0.21	5%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	0.47	0.48	2%	Negligible	Slight Adverse
3E - D - A161	0.58	0.58	0%	No Change	NA
3W - A - A614 Rawcliffe Road (West)	0.81	0.89	10%	Moderate	Large Adverse
3W - C - Link	0.67	0.67	0%	No Change	NA
3W - D - M62	0.57	0.57	0%	No Change	NA

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
Northbound Off-Ramp					

Table 5-38 - M62/A614 Junction Delay (Seconds)

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
3E - A	3.38	3.42	1%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	2.54	2.58	2%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	3.13	3.17	1%	Negligible	Slight Adverse
3E - D - A161	5.26	5.31	1%	Negligible	Slight Adverse
3W - A - A614 Rawcliffe Road (West)	7.91	8.16	3%	Negligible	Slight Adverse
3W - C - Link	5.38	5.48	2%	Negligible	Slight Adverse
3W - D - M62 Northbound Off-Ramp	3.51	3.9	11%	Negligible	Slight Adverse
PM Peak					
3E - A	3.68	4.14	13%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	2.34	2.46	5%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	3.32	3.55	7%	Negligible	Slight Adverse
3E - D - A161	6.36	6.36	0%	No Change	NA
3W - A - A614 Rawcliffe Road (West)	9.65	14.19	47%	Minor	Slight Adverse
3W - C - Link	6.06	6.06	0%	No Change	NA
3W - D - M62	4.06	4.12	1%	Negligible	Slight

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
Northbound Off-Ramp					Adverse
Arm	2026 Do Minimum Delay	2026 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
3E - A	3.7	3.75	1%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	2.75	2.79	1%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	3.43	3.48	1%	Negligible	Slight Adverse
3E - D - A161	6	6.06	1%	Negligible	Slight Adverse
3W - A - A614 Rawcliffe Road (West)	10.21	10.6	4%	Negligible	Slight Adverse
3W - C - Link	5.99	6.09	2%	Negligible	Slight Adverse
3W - D - M62 Northbound Off-Ramp	3.89	4.32	11%	Minor	Slight Adverse
PM Peak					
3E - A	4.11	4.61	12%	Negligible	Slight Adverse
3E - B - M62 Southbound Off-Ramp	2.49	2.61	5%	Negligible	Slight Adverse
3E - C - A614 Rawcliffe Road (East)	3.71	3.96	7%	Negligible	Slight Adverse
3E - D - A161	7.73	7.73	0%	No Change	NA
3W - A - A614 Rawcliffe Road (West)	13.78	22.83	66%	Moderate	Slight Adverse
3W - C - Link	6.97	6.97	0%	No Change	NA
3W - D - M62 Northbound Off-Ramp	4.65	4.73	2%	Negligible	Slight Adverse

Table 5-39 - A645/New Road/Main Road Junction Flow (PCU)

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	475	513	8%	Negligible	Slight Adverse
B - New Road	91	104	14%	Negligible	Slight Adverse
C - Main Road	124	124	0%	No Change	NA
D - A645 (South)	601	699	16%	Negligible	Slight Adverse
E - Sports and Social Club Access	6	6	0%	No Change	NA
Total	1297	1446	11%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	655	655	0%	No Change	NA
B - New Road	203	356	75%	Moderate	Slight Adverse
C - Main Road	102	102	0%	No Change	NA
D - A645 (South)	377	390	3%	Negligible	Slight Adverse
E - Sports and Social Club Access	13	13	0%	No Change	NA
Total	1350	1516	12%	Negligible	Slight Adverse
AM Peak					
A - A645 (West)	512	546	7%	Negligible	Slight Adverse
B - New Road	97	109	12%	Negligible	Slight Adverse
C - Main Road	134	134	0%	No Change	NA
D - A645 (South)	649	737	14%	Negligible	Slight Adverse
E - Sports and Social Club Access	7	7	0%	No Change	NA

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
Total	1399	1532	10%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	708	708	0%	No Change	NA
B - New Road	220	356	62%	Moderate	Slight Adverse
C - Main Road	110	110	0%	No Change	NA
D - A645 (South)	407	419	3%	Negligible	Slight Adverse
E - Sports and Social Club Access	14	14	0%	No Change	NA
Total	1459	1607	10%	Negligible	Slight Adverse

Table 5-40 - A645/New Road/Main Road RFC

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	0.3	0.34	13%	Negligible	Slight Adverse
B - New Road	0.07	0.08	14%	Negligible	Slight Adverse
C - Main Road	0.08	0.08	0%	No Change	NA
D - A645 (South)	0.45	0.53	18%	Negligible	Slight Adverse
E - Sports and Social Club Access	0.01	0.01	0%	No Change	NA
PM Peak					
A - A645 (West)	0.41	0.41	0%	No Change	NA
B - New Road	0.18	0.32	78%	Moderate	Moderate Adverse
C - Main Road	0.08	0.08	0%	No Change	NA
D - A645	0.30	0.31	3%	Negligible	Slight

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
(South)					Adverse
E - Sports and Social Club Access	0.02	0.02	0%	No Change	NA
AM Peak					
A - A645 (West)	0.33	0.36	9%	Negligible	Slight Adverse
B - New Road	0.08	0.09	13%	Negligible	Slight Adverse
C - Main Road	0.09	0.09	0%	No Change	NA
D - A645 (South)	0.49	0.56	14%	Negligible	Slight Adverse
E - Sports and Social Club Access	0.01	0.01	0%	No Change	NA
PM Peak					
A - A645 (West)	0.44	0.44	0%	No Change	NA
B - New Road	0.2	0.33	65%	Moderate	Moderate Adverse
C - Main Road	0.08	0.09	13%	Negligible	Slight Adverse
D - A645 (South)	0.32	0.34	6%	Negligible	Slight Adverse
E - Sports and Social Club Access	0.02	0.02	0%	No Change	NA

Table 5-41 - A645/New Road/Main Road Delay (Seconds)

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A645 (West)	3	3.29	10%	Negligible	Slight Adverse
B - New Road	2.83	2.86	1%	Negligible	Slight Adverse
C - Main Road	2.34	2.36	1%	Negligible	Slight Adverse

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
D - A645 (South)	4.53	5.25	16%	Negligible	Slight Adverse
E - Sports and Social Club Access	6.13	6.66	9%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	3.41	3.43	1%	Negligible	Slight Adverse
B - New Road	3.54	4.25	20%	Negligible	Slight Adverse
C - Main Road	2.63	2.85	8%	Negligible	Slight Adverse
D - A645 (South)	3.68	3.82	4%	Negligible	Slight Adverse
E - Sports And Social Club Access	5.54	5.78	4%	Negligible	Slight Adverse
AM Peak					
A - A645 (West)	3.12	3.41	9%	Negligible	Slight Adverse
B - New Road	2.89	2.92	1%	Negligible	Slight Adverse
C - Main Road	2.39	2.4	1%	Negligible	Slight Adverse
D - A645 (South)	4.9	5.66	16%	Negligible	Slight Adverse
E - Sports and Social Club Access	6.44	6.97	8%	Negligible	Slight Adverse
PM Peak					
A - A645 (West)	3.62	3.65	1%	Negligible	Slight Adverse
B - New Road	3.74	4.43	18%	Negligible	Slight Adverse
C - Main Road	2.72	2.94	8%	Negligible	Slight Adverse
D - A645 (South)	3.85	4	4%	Negligible	Slight Adverse
E - Sports and Social Club Access	5.76	5.99	4%	Negligible	Slight Adverse

Table 5-42 - A1041/A645 Junction Flow (PCU)

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A1041	726	764	5%	Negligible	Slight Adverse
B - A645	469	469	0%	No Change	NA
C - A1041 Station Road	481	481	0%	No Change	NA
Total	1676	1714	2%	Negligible	Slight Adverse
PM Peak					
A - A1041	647	647	0%	No Change	NA
B - A645	611	653	7%	Negligible	Slight Adverse
C - A1041 Station Road	419	419	0%	No Change	NA
Total	1677	1720	3%	Negligible	Slight Adverse
AM Peak					
A - A1041	784	818	4%	Negligible	Slight Adverse
B - A645	505	505	0%	No Change	NA
C - A1041 Station Road	521	521	0%	No Change	NA
Total	1811	1844	2%	Negligible	Slight Adverse
PM Peak					
A - A1041	700	700	0%	No Change	NA
B - A645	660	698	6%	Negligible	Slight Adverse
C - A1041 Station Road	454	454	0%	No Change	NA
Total	1814	1852	2%	Negligible	Slight Adverse

Table 5-43 - A1041/A645 Junction RFC

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A1041	0.75	0.79	5%	Negligible	Slight Adverse
B - A645	0.44	0.44	0%	No Change	NA
C - A1041 Station Road	0.54	0.54	0%	No Change	NA
PM Peak					
A - A1041	0.66	0.66	0%	No Change	NA
B - A645	0.59	0.63	7%	Negligible	Slight Adverse
C - A1041 Station Road	0.50	0.51	2%	Negligible	Slight Adverse
AM Peak					
A - A1041	0.81	0.85	5%	Moderate	Moderate Adverse
B - A645	0.48	0.48	0%	No Change	NA
C - A1041 Station Road	0.59	0.59	0%	No Change	NA
PM Peak					
A - A1041	0.71	0.71	0%	No Change	NA
B - A645	0.65	0.69	6%	Negligible	Slight Adverse
C - A1041 Station Road	0.55	0.57	4%	Negligible	Slight Adverse

Table 5-44 - A1041/A645 Junction Delay (Seconds)

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A1041	13.28	15.66	18%	Negligible	Slight Adverse
B - A645	5.42	5.42	0%	No Change	NA
C - A1041 Station Road	7.93	7.93	0%	No Change	NA
PM Peak					
A - A1041	9.66	9.66	0%	No Change	NA

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
B - A645	7.66	8.52	11%	Negligible	Slight Adverse
C - A1041 Station Road	7.78	8.27	6%	Negligible	Slight Adverse
AM Peak					
A - A1041	17.89	21.76	22%	Negligible	Slight Adverse
B - A645	5.91	5.91	0%	No Change	NA
C - A1041 Station Road	9.16	9.16	0%	No Change	NA
PM Peak					
A - A1041	11.66	11.66	0%	No Change	NA
B - A645	9.11	10.18	12%	Negligible	Slight Adverse
C - A1041 Station Road	8.96	9.53	6%	Negligible	Slight Adverse

Table 5-45 - A63/A1041 Bawtry Junction Flow (PCU)

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A63 (West)	773	775	1%	Negligible	Slight Adverse
B - A1041 Bawtry Road (North)	691	716	4%	Negligible	Slight Adverse
C - A63 (East)	577	587	2%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	906	906	0%	No Change	NA
Total	2946	2984	1%	Negligible	Slight Adverse
PM Peak					
A - A63 (West)	683	721	6%	Negligible	Slight Adverse
B - A1041	1000	1054	5%	Negligible	Slight

Arm	2022 Do Minimum Flow	2022 Do Something Flow	Percentage change	Magnitude of Impact	Significance of Effect
Bawtry Road (North)					Adverse
C - A63 (East)	584	611	5%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	788	873	11%	Negligible	Slight Adverse
Total	3054	3260	7%	Negligible	Slight Adverse
AM Peak					
A - A63 (West)	832	834	1%	Negligible	Slight Adverse
B - A1041 Bawtry Road (North)	746	769	3%	Negligible	Slight Adverse
C - A63 (East)	620	629	1%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	980	980	0%	No Change	NA
Total	3178	3211	1%	Negligible	Slight Adverse
PM Peak					
A - A63 (West)	779	779	0%	No Change	NA
B - A1041 Bawtry Road (North)	1141	1141	0%	No Change	NA
C - A63 (East)	660	660	0%	No Change	NA
D - A1041 Bawtry Road (South)	898	936	4%	Negligible	Slight Adverse
Total	3478	3516	1%	Negligible	Slight Adverse

Table 5-46 - A63/A1041 Bawtry Junction RFC

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A63 (West)	0.56	0.56	0%	No Change	NA
B - A1041 Bawtry Road (North)	0.43	0.44	2%	Negligible	Slight Adverse
C - A63 (East)	0.42	0.43	2%	Negligible	Slight Adverse
D - A1041 Bawdty Road (South)	0.48	0.48	0%	No Change	NA
PM Peak					
A - A63 (West)	0.48	0.53	10%	Negligible	Slight Adverse
B - A1041 Bawtry Road (North)	0.6	0.64	7%	Negligible	Slight Adverse
C - A63 (East)	0.47	0.5	6%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	0.45	0.5	11%	Negligible	Slight Adverse
AM Peak					
A - A63 (West)	0.62	0.62	0%	No Change	NA
B - A1041 Bawtry Road (North)	0.47	0.49	4%	Negligible	Slight Adverse
C - A63 (East)	0.46	0.47	2%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	0.53	0.53	0%	No Change	NA
PM Peak					
A - A63 (West)	0.58	0.58	0%	No Change	NA
B - A1041	0.7	0.7	0%	No Change	NA

Arm	2022 Do Minimum RFC	2022 Do Something RFC	Percentage change	Magnitude of Impact	Significance of Effect
Bawtry Road (North)					
C - A63 (East)	0.56	0.56	0%	No Change	NA
D - A1041 Bawtry Road (South)	0.53	0.55	4%	Negligible	Slight Adverse

Table 5-47 - A63/A1041 Bawtry Junction Delay (Seconds)

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
AM Peak					
A - A63 (West)	5.42	5.44	1%	Negligible	Slight Adverse
B - A1041 Bawtry Road (North)	3.55	3.65	3%	Negligible	Slight Adverse
C - A63 (East)	4.06	4.18	3%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	3.37	3.37	0%	No Change	NA
PM Peak					
A - A63 (West)	4.49	5.06	13%	Negligible	Slight Adverse
B - A1041 Bawtry Road (North)	4.89	5.53	13%	Negligible	Slight Adverse
C - A63 (East)	4.93	5.4	10%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	3.34	3.75	12%	Negligible	Slight Adverse
AM Peak					
A - A63 (West)	6.47	6.48	1%	Negligible	Slight Adverse

Arm	2022 Do Minimum Delay	2022 Do Something Delay	Percentage change	Magnitude of Impact	Significance of Effect
B - A1041 Bawtry Road (North)	3.9	4.02	3%	Negligible	Slight Adverse
C - A63 (East)	4.49	4.63	3%	Negligible	Slight Adverse
D - A1041 Bawtry Road (South)	3.76	3.76	0%	No Change	NA
PM Peak					
A - A63 (West)	5.7	5.89	3%	Negligible	Slight Adverse
B - A1041 Bawtry Road (North)	6.75	6.83	1%	Negligible	Slight Adverse
C - A63 (East)	6.41	6.41	0%	No Change	NA
D - A1041 Bawtry Road (South)	4.04	4.24	5%	Negligible	Slight Adverse

Table 5-48 - Summary of Significance of Effects for Junctions Assessed (Worst Case Impact for Stages 1 or 2)

Receptor	Item Assessed	Sensitivity	Magnitude of Impact	Significance of Effect
A614/A645	Flow	Medium	Negligible	Slight Adverse
	RFC	Medium	Moderate	Moderate Adverse
	Delay	Low	Major	Moderate Adverse
A614/Airmyn Road	Flow	High	Negligible	Slight Adverse
	RFC	High	Moderate	Large Adverse
	Delay	Low	Major	Moderate Adverse
M62/A614	Flow	High	Negligible	Slight Adverse
	RFC	High	Moderate	Large Adverse
	Delay	Low	Moderate	Slight Adverse
A645/New Road/Main	Flow	Medium	Negligible	Slight Adverse

Road	RFC	Medium	Moderate	Moderate Adverse
	Delay	Low	Negligible	Slight Adverse
A1041/A645	Flow	Medium	Negligible	Slight Adverse
	RFC	Medium	Moderate	Moderate Adverse
	Delay	Low	Negligible	Slight Adverse
A63/A1041	Flow	High	Negligible	Slight Adverse
	RFC	High	Negligible	Slight Adverse
	Delay	Low	Negligible	Slight Adverse

Road Safety

5.8.9. The baseline information shows the following collision clusters:

- A1041 / A63 - A cluster of slight accidents at this junction
- A614 / Airmyn Rd / Services - A cluster of slight accidents at this junction
- A645 over River Aire - A cluster of slight accidents at this junction

5.8.10. There were no increases greater than 30% of traffic throughout the day on the collision cluster locations. Therefore, the impact is slight.

Fear and Intimidation

5.8.11. Fear and intimidation is assessed by the volume and composition of road traffic within close proximity of a receptor. The magnitude of this impact is assessed by the percentage increases in HGV traffic passing the receptor, which in this case would be users of the local highway network and local residential areas.

5.8.12. There is an agreed HGV route to Drax (see Figure 5.3), which will be used for all HGV deliveries for the Proposed Scheme. Therefore the impact of the Proposed Scheme in terms of fear and intimidation would be limited to A614, A645 and New Road.

5.8.13. The following Tables show the impact of HGV traffic for Stages 1 (2022) and 2 (2026), the peak construction years.

Table 5-49 - Impact of HGV Traffic Stage 1 (2022)

		Stage 1 2022											
		Northbound HGVs				Southbound				Total 2 Way			
		2022 Network	DEV	% increase	Magnitude	2022 Network	DEV	% increase	Magnitude	2022 Network	DEV	% increase	Magnitude
Site 1	AM	21	6	28%	Negligible	23	6	27%	Negligible	44	12	27%	Negligible
	PM	13	6	47%	Minor	20	6	30%	Minor	33	12	36%	Minor
	DAILY	321	70	22%	Negligible	324	70	22%	Negligible	645	140	22%	Negligible
Site 2	AM	23	6	27%	Negligible	33	6	18%	Negligible	56	12	22%	Negligible
	PM	19	6	32%	Minor	22	6	28%	Minor	40	12	30%	Minor
	DAILY	353	70	20%	Negligible	428	70	16%	Negligible	781	140	18%	Negligible
Site 3	AM	42	6	14%	Negligible	58	6	10%	Negligible	100	12	12%	Negligible
	PM	42	6	14%	Negligible	43	6	14%	Negligible	85	12	14%	Negligible
	DAILY	839	70	8%	Negligible	847	70	8%	Negligible	1686	140	8%	Negligible
Site 7	AM	15	6	40%	Minor	13	6	45%	Minor	28	12	43%	Minor
	PM	13	6	48%	Minor	13	6	46%	Minor	26	12	47%	Minor
	DAILY	221	70	32%	Minor	212	70	33%	Minor	434	140	32%	Minor

Table 5-50 - Impact of HGV Traffic Stage Two (2026)

		Stage 2 2026											
		Northbound HGVs				Southbound				Total 2 Way			
		2026 Network	DEV	% increase	Magnitude	2026 Network	DEV	% increase	Magnitude	2026 Network	DEV	% increase	Magnitude
Site 1	AM	22	6	27%	Negligible	23	6	26%	Negligible	45	12	27%	Negligible
	PM	13	6	46%	Minor	21	6	29%	Negligible	34	12	36%	Minor
	DAILY	329	64	19%	Negligible	333	64	19%	Negligible	662	128	19%	Negligible
Site 2	AM	23	6	26%	Negligible	34	6	18%	Negligible	57	12	21%	Negligible
	PM	19	6	32%	Minor	22	6	27%	Minor	41	12	29%	Negligible
	DAILY	362	64	18%	Negligible	439	64	15%	Negligible	802	128	16%	Negligible
Site 3	AM	43	6	14%	Negligible	59	6	10%	Negligible	102	12	12%	Negligible
	PM	43	6	14%	Negligible	44	6	14%	Negligible	88	12	14%	Negligible
	DAILY	861	64	7%	Negligible	869	64	7%	Negligible	1730	128	7%	Negligible
Site 7	AM	15	6	39%	Minor	14	6	44%	Minor	29	12	41%	Minor
	PM	13	6	47%	Minor	14	6	44%	Minor	26	12	45%	Minor
	DAILY	227	64	28%	Negligible	218	64	29%	Negligible	445	128	29%	Negligible

5.8.14. The results of the assessment show that there is generally a negligible impact on fear and intimidation as a result of the Proposed Scheme. Some instances of Minor impacts are predicted, although this is a result of an already low number of HGVs in an hour on that particular route.

Pedestrian Amenity

5.8.15. The increase in HGV traffic has been used to assess the impacts on pedestrian amenity. Table 5-49 and 5-50 shows the impacts of the increase in HGV traffic for fear and intimidation and pedestrian amenity has been assessed in the same way. Therefore, the sensitivity has been determined as low and the impact magnitude has been assessed as minor, and the significance of effect is slight adverse.

Severance

5.8.16. During the construction phase of Stage 1, a number of Public Rights of Way (PRoW) may need to be temporarily closed in order to remove any potential for conflict between pedestrians and construction vehicles for the construction of the Gas Pipeline. In Stage 2, the Gas Pipeline will be complete, and there will be no impacts for severance.

5.8.17. The PRoW map including site boundary has been provided in Figure 3.1.

5.8.18. Access routes have been assessed with the impacts set out in Table 5-51 and 5-52.

Table 5-51 - PRoW Impact Summary

PRoW	Conflict	Impact / Details
35.47/6/1	Runs along the north of the Power Station Site	**Negligible** - Will remain open during construction with a parallel diversion provided. Will be permanently stopped up if CCS is taken forward.
35.47/1/1	Crosses Area A of the Power Station Site	**Negligible** - Will remain open during construction with a parallel diversion provided. Will be permanently stopped up if CCS is taken forward.
35.47/4/1	Crosses Gas Pipeline	**Minor** - Temporary Closure for up to 6 months in Stage 1
35.47/5/1	Crosses Gas Pipeline	**Minor** - Temporary Closure for up to 6 months in Stage 1
35.47/9/1	Crosses Gas Pipeline	**Minor** - Temporary Closure for up to 6 months in Stage 1
35.49/2/1	Crosses Gas Pipeline	**Minor** - Temporary Closure for up to 6 months in Stage 1

Table 5-52 - Existing Access Roads Mitigation Summary

Access Road	Conflict	Impact
New Road	Temporary restrictions due to Gas Pipeline	Temporary restrictions during Stage 1, although maintaining vehicular access at all times
Main Road	Temporary restrictions due to Gas Pipeline	Temporary restrictions during Stage 1, although maintaining vehicular access at all times

Access Road	Conflict	Impact
Rusholme Lane	Temporary restrictions due to Gas Pipeline	Temporary restrictions during Stage 1, although maintaining vehicular access at all times
Wren Hall Lane	Temporary restrictions due to Gas Pipeline	Temporary restrictions during Stage 1, although maintaining vehicular access at all times
Drax Materials Handling Gateway Entrance	Temporary restrictions due to Gas Pipeline	Temporary restrictions during Stage 1, although maintaining vehicular access at all times

5.8.19. As a result of the above, PRoW users may be affected by short duration closures (of up to 6 months) during the construction period of the Gas Pipeline (Stage 1). The draft DCO (document reference 3-1) submitted with the Application proposes provisions to mitigate the impact of temporarily closed PRoW by providing that an alternative route be provided and that publicity and signage be provided in advance of the temporary closure.

5.8.20. Vehicle access will be maintained across all identified roads that cross the pipeline area and if required, temporary traffic management would be used in line with Chapter 8 of the Traffic Signs Manual, as is standard practice for any road works required on the road network.

5.8.21. It is currently planned that the contractor would use trenchless techniques under roads in order to maintain access. However, if required, temporary traffic management would be used in line with Chapter 8 of the Traffic Signs Manual, as is standard practice for any road works required that affect the operation of the road network.

5.8.22. There is no usage data available for the above footpaths. As such, sensitivity has been assessed as high in order to capture a worst case scenario. The impact magnitude is anticipated to be minor for the PRoW, as users will still be able to make a pedestrian movement via the alternative routes provided (in accordance with the DCO requirements) to get to their destination. Therefore, the significance of the effect is slight adverse.

5.9 Mitigation and Enhancement Measures

5.9.1. Mitigation is proposed for the Proposed Scheme for each receptor:

Table 5-53 - Proposed Mitigation (excluding measures contained in the CWTP and CTMP)

Receptor	Worst Case Impact	Proposed Mitigation / Justification
Traffic Flows	Slight Adverse	None
Delay	Moderate Adverse	None - This refers to two junctions only which are the A614 / A645 and A614 / Airmyn Road. Although the delay has increased to create a Moderate Adverse impact in Stages 1 and 2, the

Receptor	Worst Case Impact	Proposed Mitigation / Justification
		junction, and the arm with the greatest impact, still operates well within theoretical capacity with an RFC <1. Given the temporary nature of the peak of construction, it is not deemed necessary to provide mitigation to reduce this impact.
RFC	Moderate Adverse	None - This refers to one junction only which is the A645 / New Road / Main Road. Although the RFC has increased to create a Moderate Adverse impact in Stages 1 and 2, the junction, and the arm with the greatest impact, still operates well within theoretical capacity with an RFC <1. Given the temporary nature of the peak of construction, it is not deemed necessary to provide mitigation to reduce this impact.
Road Safety	Minor	None
Fear and intimidation	Minor	None
Severance	Minor	Temporary Traffic Management
Pedestrian Amenity	Minor	None

5.10 Residual Effects

Stage 0 – Reconfiguration Works, Stage 3 - Operation of Units X and Y

5.10.1. The effects of the stages 0 and 3 have been considered insignificant and, as such, they have not been considered or assessed elsewhere within the ES. Stages 1 and 2, the main construction phase, has been used as a worst case scenario for the purposes of assessing transport impact.

5.10.2. In Stage 3, staffing levels will not increase beyond existing levels as there will be less material handling operations compared to the existing situation.

Stage 1 – Construction of Unit X

5.10.3. The following residual effects will be present. No mitigation, other than that contained in the CWTP and CTMP is proposed therefore the pre and post mitigation effects are the same.

Table 5-54 - Residual Effects of Stage 1 (Transport)

Receptor	Pre-mitigation significance of effect	Post-mitigation significance of effect	Duration of Effect
Traffic Flows	Slight	Slight	Effect felt at its greatest for approximately 4 months during Stage 1 Peak Construction

Receptor	Pre-mitigation significance of effect	Post-mitigation significance of effect	Duration of Effect
RFC	Moderate	Moderate	Effect felt at its greatest for approximately 4 months during Stage 1 Peak Construction
Delay	Moderate	Moderate	Effect felt at its greatest for approximately 4 months during Stage 1 Peak Construction)
Road Safety	Minor	Minor	Throughout programme
Fear and intimidation	Minor	Minor	Throughout programme
Severance	Minor	Minor	6 month duration construction of Gas Pipeline
Pedestrian Amenity	Minor	Minor	6 month duration construction of Gas Pipeline

Stage 2 – Operation of Unit X and Construction of Unit Y

5.10.4. The following residual effects will be present with the proposed mitigation in place.

Table 5-55 - Residual Effects of Stage 2 (Transport)

Receptor	Post-mitigation significance of effect	Duration of Effect	Duration of Effect
Traffic Flows	Slight	Effect felt at its greatest for approximately 4 months during Stage 2 Peak Construction	Traffic Flows
RFC	Moderate	Effect felt at its greatest for approximately 4 months during Stage 2 Peak Construction	RFC
Delay	Moderate	Effect felt at its greatest for approximately 4 months during Stage 2 Peak Construction	Delay
Road Safety	Minor	Throughout Programme	Road Safety
Fear and intimidation	Minor	Throughout Programme	Fear and intimidation
Severance	Negligible	NA	Severance

Receptor	Post-mitigation significance of effect	Duration of Effect	Duration of Effect
Pedestrian Amenity	Negligible	NA	Pedestrian Amenity

Decommissioning

5.10.5. The range of mitigation measures to be implemented in the construction phase will also be adopted for the decommissioning phase of the Proposed Scheme. These measures will primarily mitigate the likely lesser impacts associated with the decommissioning works on the local area.

5.10.6. The mitigation measures consider the highway network at the time of decommissioning and can be formalised through the development of a decommissioning traffic management plan (DTMP). The effects will be no worse than Stages 1 and 2.

5.11 Limitations and Assumptions

5.11.1. Assumptions relating to the assessment of transport impacts and operational traffic, including scoping of the impacted transport network, have been agreed with Highways England, North Yorkshire County Council and East Riding of Yorkshire Council.

5.11.2. Traffic Data was collected in March 2018.

5.11.3. The CTMP and CWTP contain details of the proposed embedded mitigation measures.

5.12 Summary

Table 5-56 - Summary of Effects (Transport)

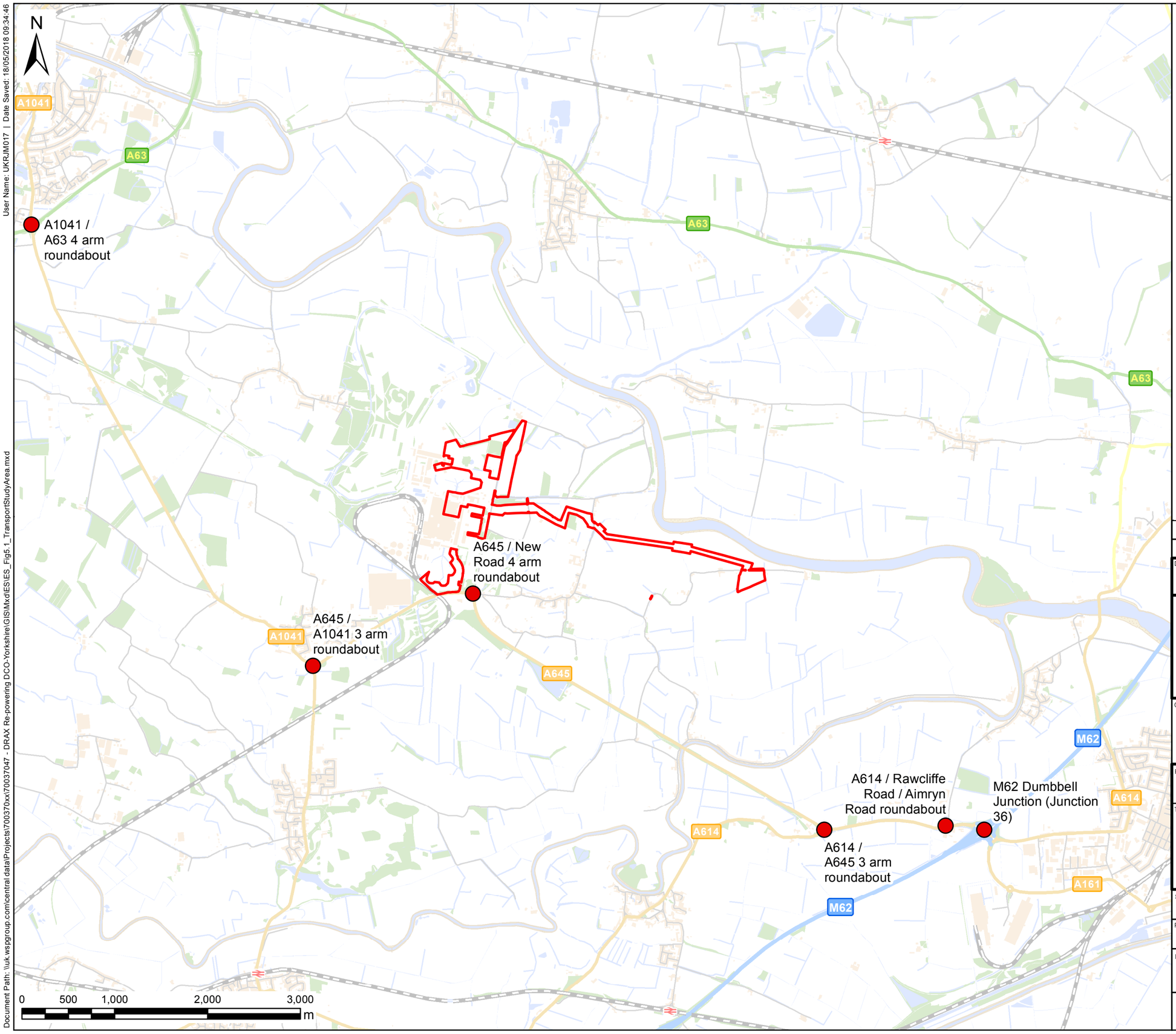
Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
Stage 0 – Reconfiguration Works				
Not Assessed as effects will be no greater than Stage 1 or 2 considered to be the worst case scenario				
Stage 1 – Construction of Unit X				
Increase in vehicular delay	Delay	Moderate – T D ST	This refers to two junctions only which are the A614 / A645 and A614 / Airmyn Road. Although the delay has increased to create a Moderate Adverse impact in Stages 1 and 2, the junction, and the arm with the greatest impact, still operates well within theoretical capacity with an RFC <1. Given the temporary nature of the peak of construction (2 months), it is not deemed necessary to provide junction-specific mitigation to reduce this impact. The CTMP will be used to mitigate, monitor and manage traffic during construction.	Moderate – T D ST
Worsening of Junction Performance	RFC	Moderate – T D ST	None - This refers to two junctions which are the A614 / A645 and A645 / New Road / Main Road. Although the RFC has increased to create a Large Adverse impact in Stages 1 and 2, the junction, and	Moderate – T D ST

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
			the arm with the greatest impact, still operates well within theoretical capacity with an RFC <1. Given the temporary nature of the peak of construction (2 months), it is not deemed necessary to provide junction-specific mitigation to reduce this impact. The CTMP will be used to mitigate, monitor and manage traffic during construction.	
Stage 2 – Construction of Unit Y				
Increase in vehicular delay	Delay	Moderate – T D ST	This refers to two junctions only which are the A614 / A645 and A614 / Airmyn Road. Although the delay has increased to create a Moderate Adverse impact in Stages 1 and 2, the junction, and the arm with the greatest impact, still operates well within theoretical capacity with an RFC <1. Given the temporary nature of the peak of construction (2 months), it is not deemed necessary to provide junction-specific mitigation to reduce this impact. The CTMP will be used to mitigate, monitor and manage traffic during construction.	Moderate – T D ST
Worsening of Junction Performance	RFC	Moderate – T D ST	None - This refers three junctions which are the A614 / A645, A645 / New Road / Main Road and the A1041 / A645.	Moderate – T D ST

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
			Although the RFC has increased to create a Large Adverse impact in Stages 1 and 2, the junction, and the arm with the greatest impact, still operates well within theoretical capacity with an RFC <1. Given the temporary nature of the peak of construction (2 months), it is not deemed necessary to provide junction-specific mitigation to reduce this impact. The CTMP will be used to mitigate, monitor and manage traffic during construction.	
Worsening of Junction Performance	RFC	Large – T D ST	None - This refers to two junctions which are the A614 / Airmyn Road, M62 / A614 Although the RFC has increased to create a Large Adverse impact in Stages 1 and 2, the junction, and the arm with the greatest impact, still operates well within theoretical capacity with an RFC <1. Given the temporary nature of the peak of construction (2 months), it is not deemed necessary to provide junction-specific mitigation to reduce this impact. The CTMP will be used to mitigate, monitor and manage traffic during construction.	Large – T D ST
Stage 3 – Operation of Units X and Y				
Not Assessed as effects will be no greater than Stage 1 or 2 considered to be the worst case scenario				

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
Decommissioning				
Not Assessed as effects will be no greater than Stage 1 or 2 considered to be the worst case scenario				

NB: Aspects of the proposed scheme considered as part of the pre-mitigation scenario are summarised above in Section 1.6, and within Chapter 18: Summary of Environmental Statement.



Key

- Site Boundary
- Junctions

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A	23/04/2018	RMcC	FIRST ISSUE	PH	CT

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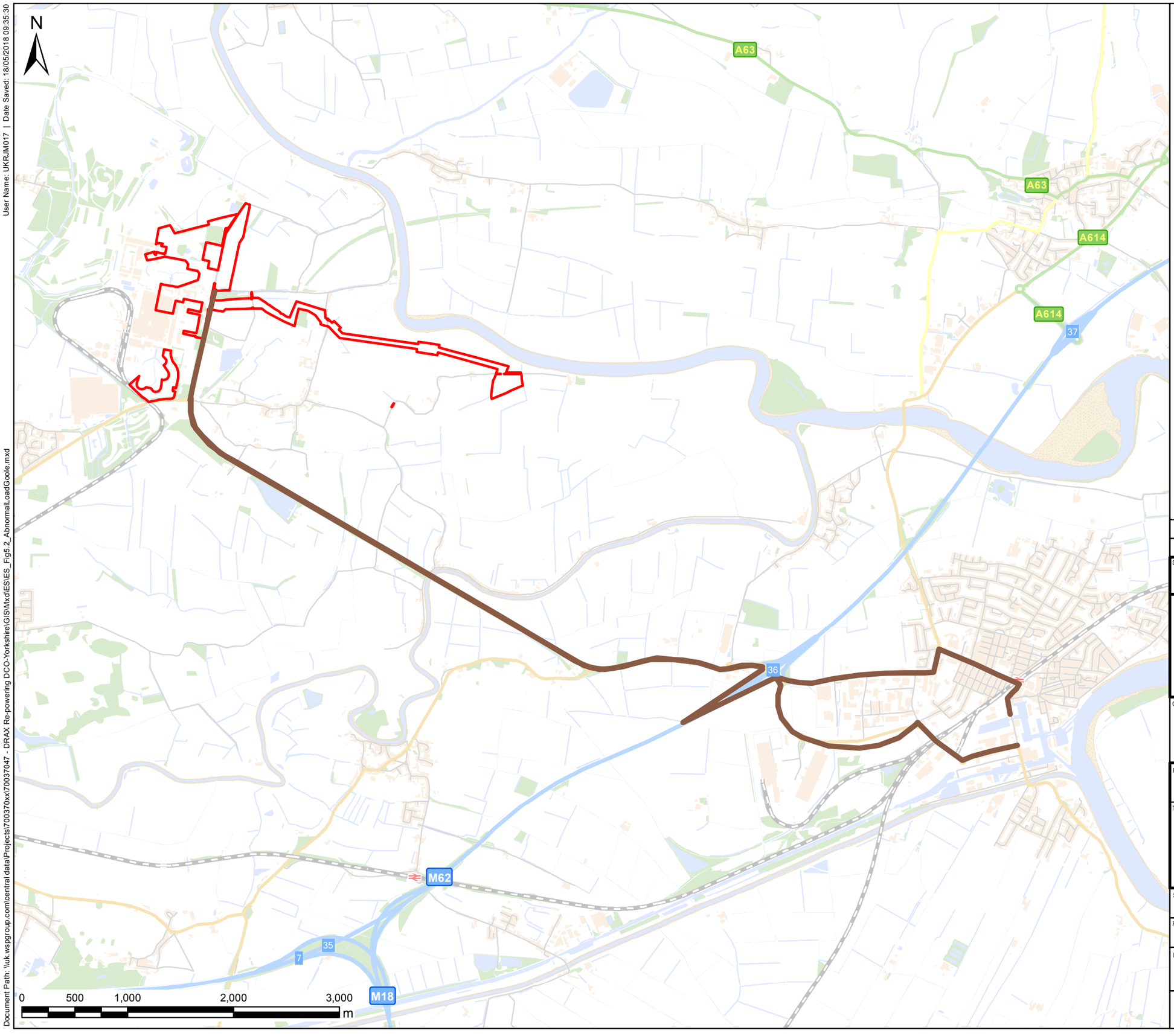
PROJECT: The Drax Power (Generating Stations) Order

TITLE:

Figure 5.1
Transport Study Area

SCALE @ A3:	CHECKED:		APPROVED:
40,000 @ A3	PH		CT
PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	PH	RMcC	23/04/2018

DRAWING No: 70037047-5.1 REV: A



Key

- Site Boundary
- Preliminary Assumption Abnormal Load Route from Goole

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Figure 5.2
Abnormal Load Route from Goole

SCALE @ A3:	CHECKED:	APPROVED:
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70037047	PH	RMcC	23/04/2018

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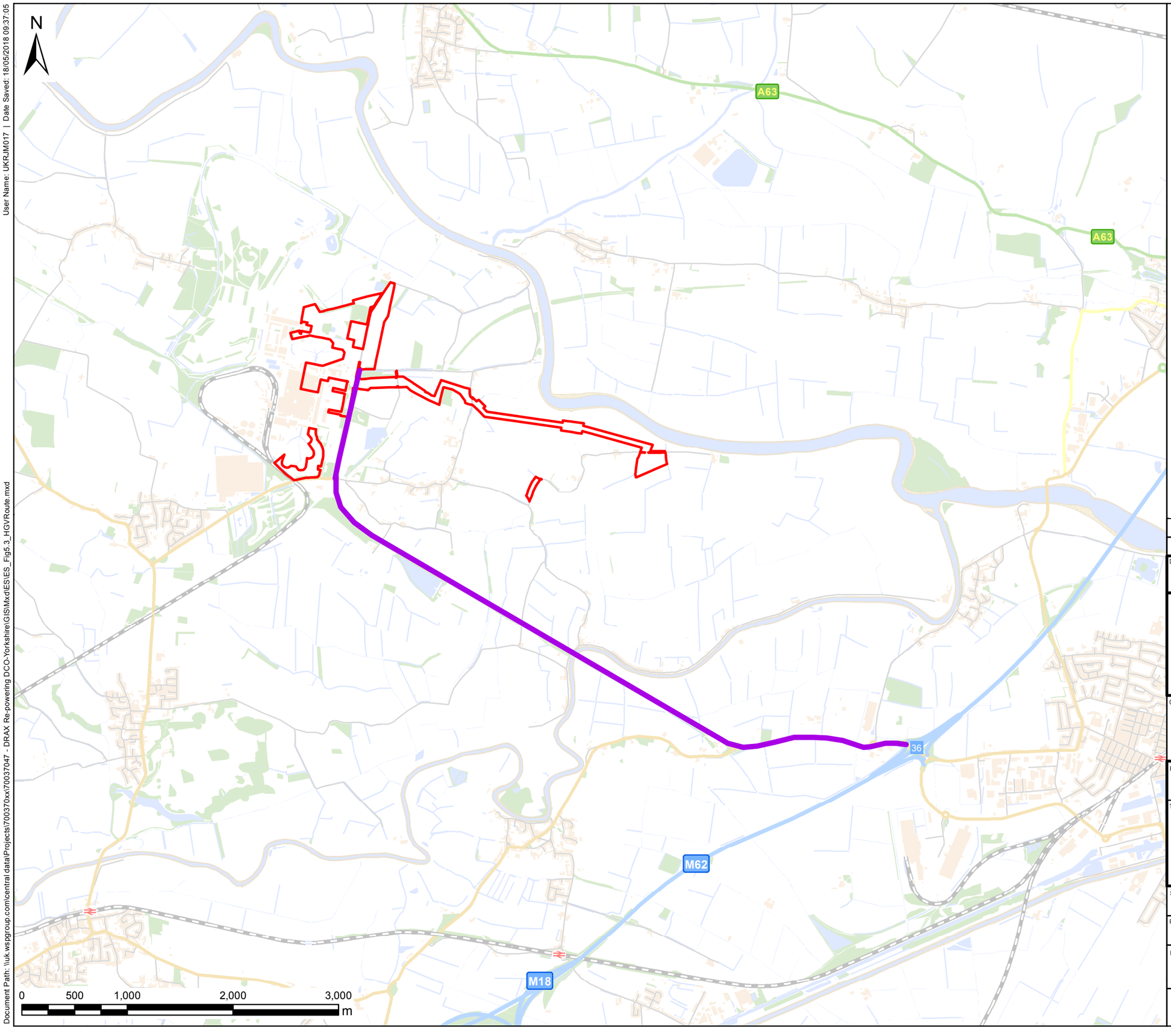

Key

- Site Boundary
- Preliminary Assumption HGV Route

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TITLE: Figure 5.3 HGV Route

SCALE @ A3:	CHECKED:		APPROVED:
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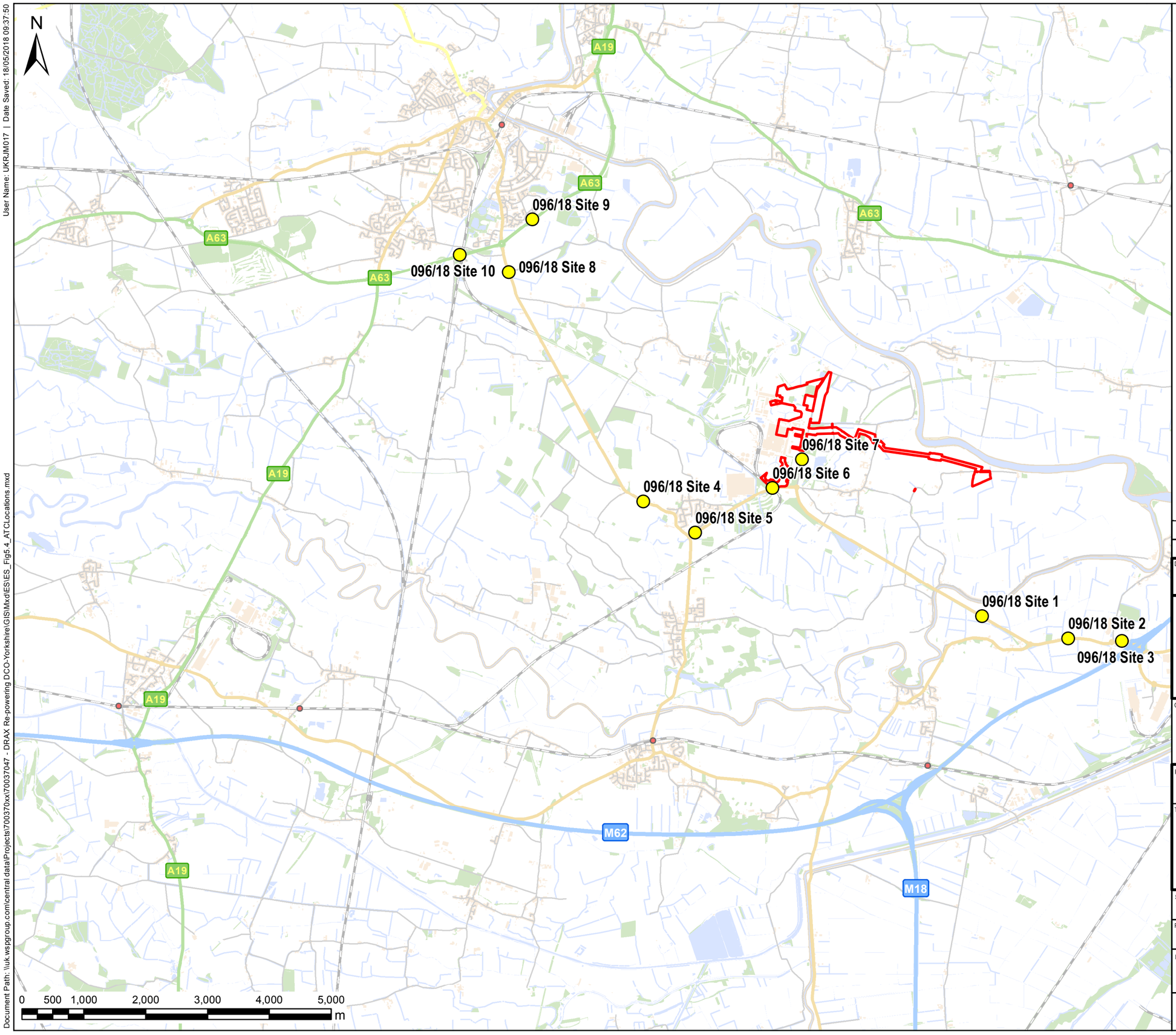

Key

- Site Boundary
- ATC Location

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TITLE:

Figure 5.4
ATC Locations

SCALE @ A3:	CHECKED:		APPROVED:
60,000 @ A3	PH		CT
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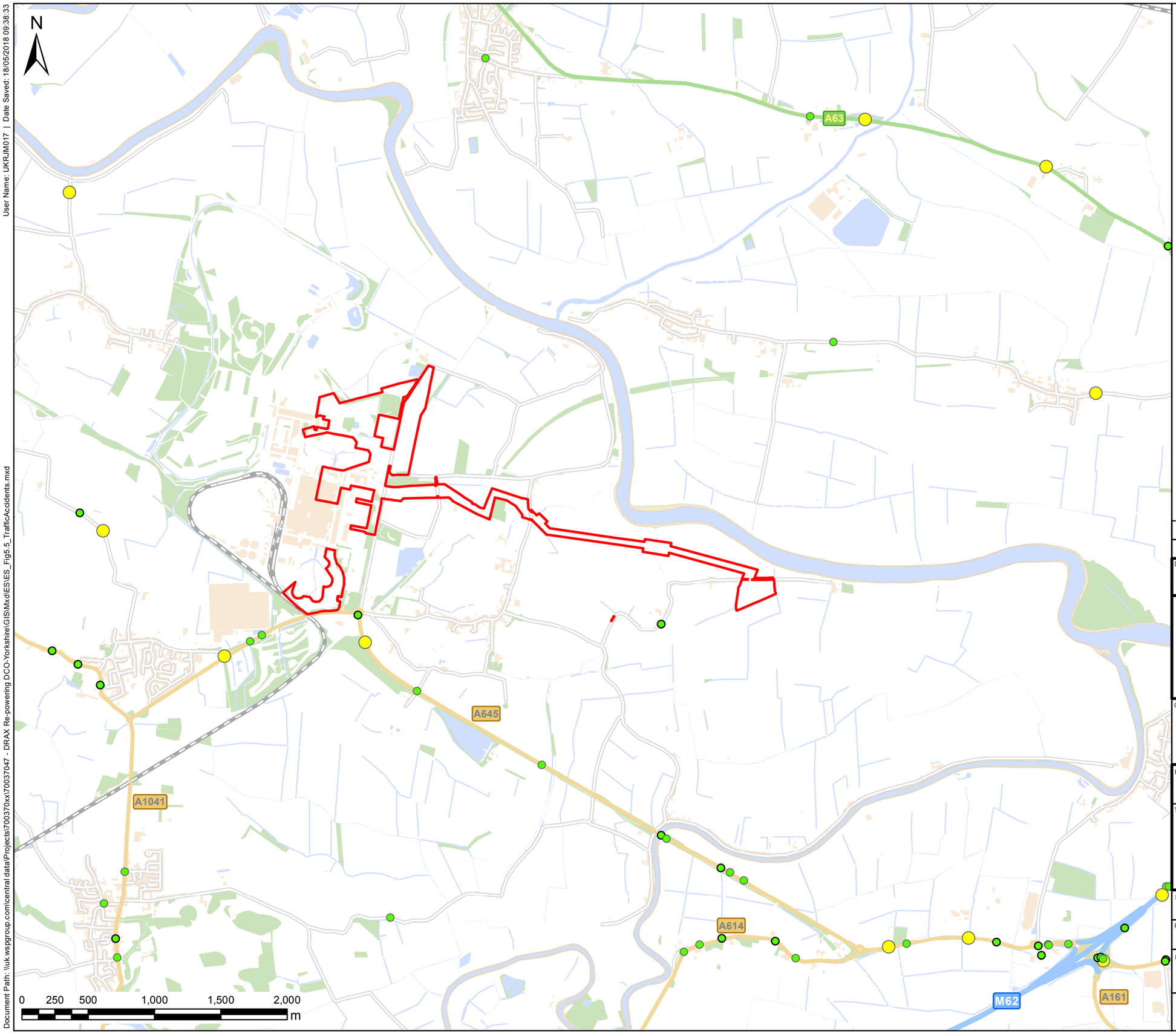
70037047	PH	RMcC	23/04/2018

DRAWING No: 70037047-5.4 REV: A



Key

Site Boundary

Accident Severity

Fatal

Severe

Slight

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TITLE:

Figure 5.5
Road Safety Accidents 2014-2016

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28,000 @ A3	PH	CT

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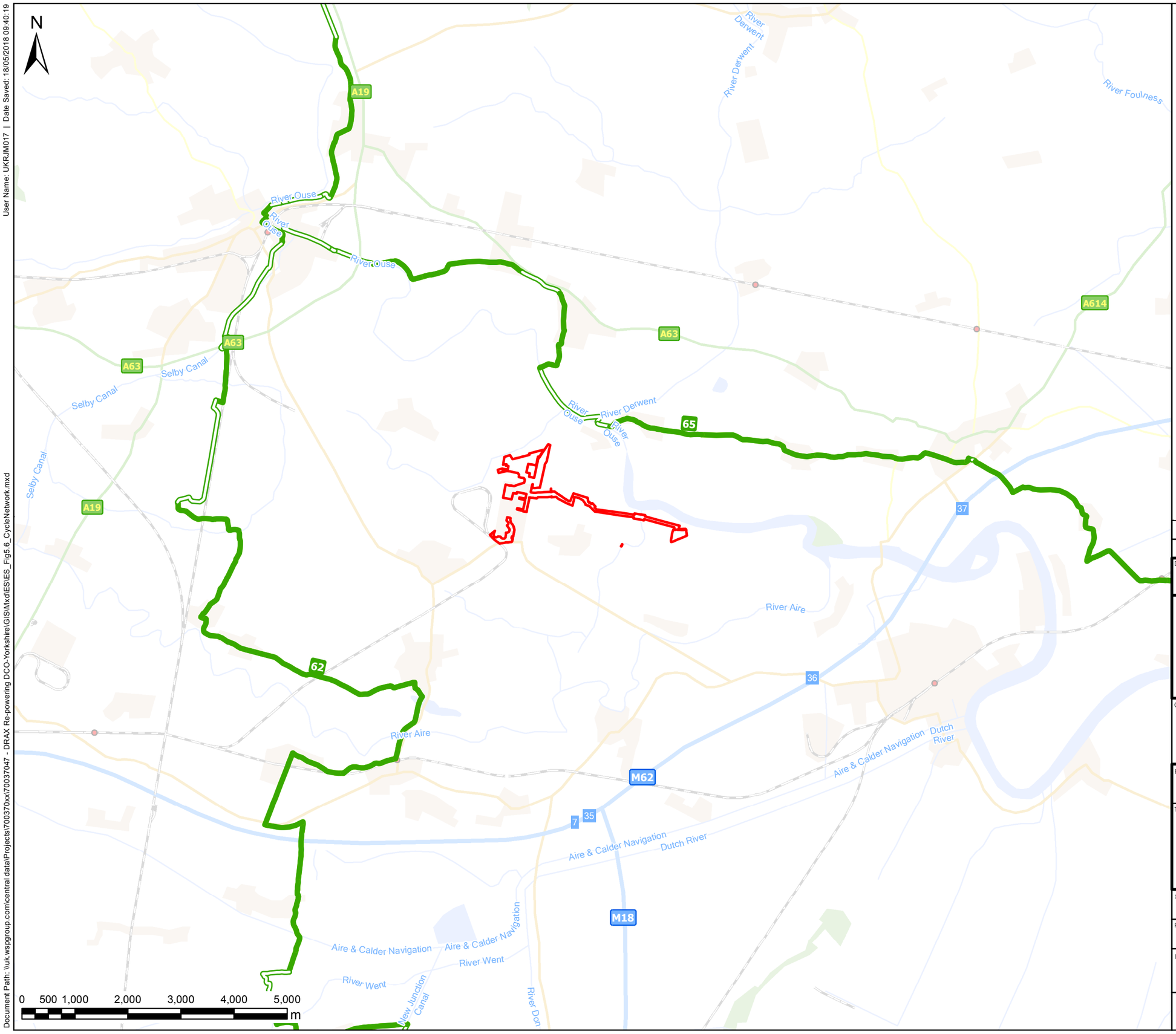

Key

Site Boundary

Sustrans Cycle Network

Sustrans National Route (on road)

Sustrans National Route (off road)

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PROJECT: The Drax Power (Generating Stations) Order

TITLE:

Figure 5.6
Cycling Provision

SCALE @ A3:	CHECKED:		APPROVED:
70,000 @ A3	PH		CT
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70037047	PH	RMcC	23/04/2018

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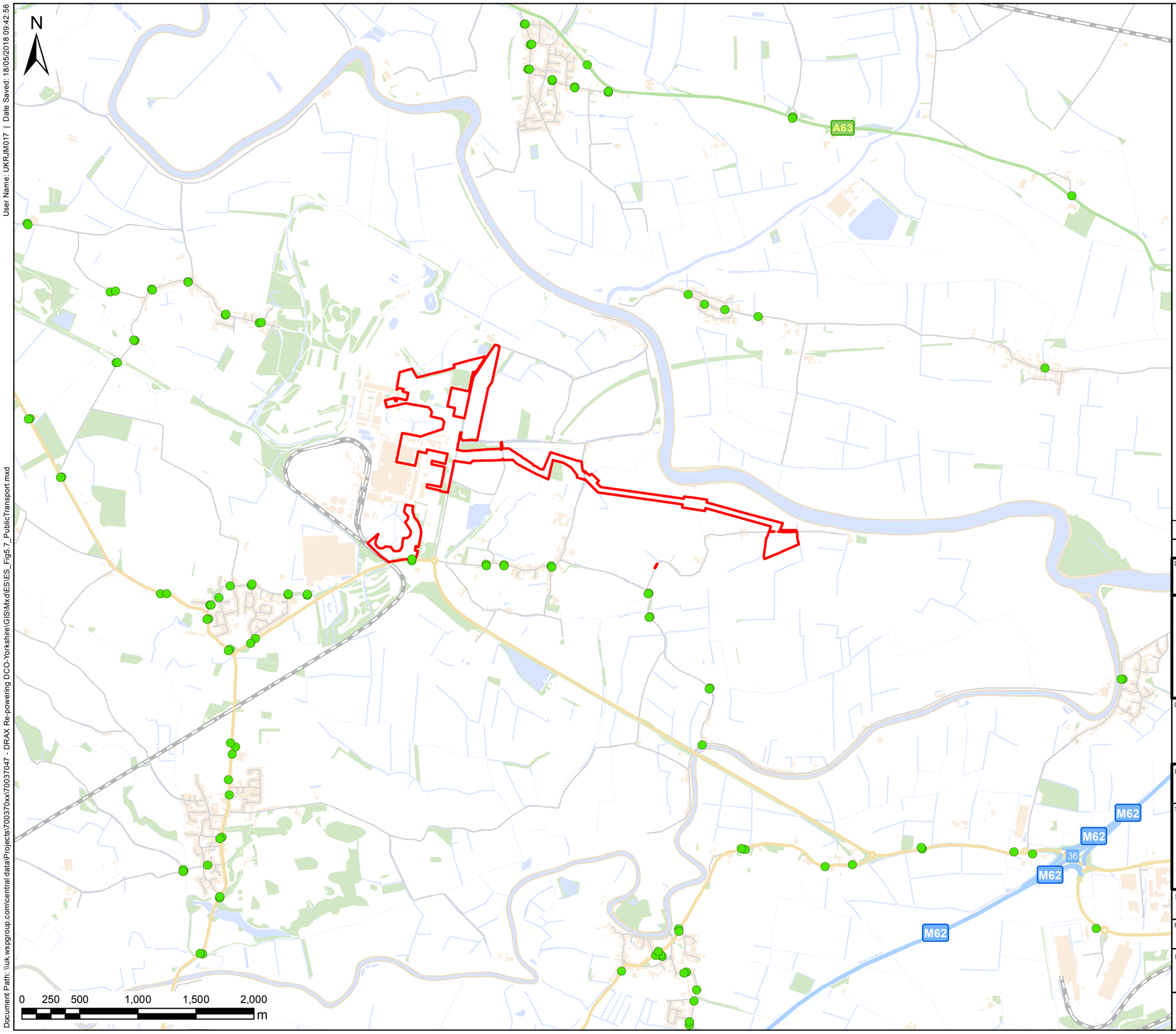

Key

Site Boundary

Bus Stops

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TITLE: Figure 5.7
Public Transport Provision

SCALE @ A3:	CHECKED:		APPROVED:
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PROJECT No:	DESIGNED:	DRAWN:	DATE:
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