National Highways Planning Response (NHPR 25-01)
Formal Recommendation to an Application for Planning Permission

From: Head of Planning & Development
Operations Directorate
Highways England.
North East Region
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To: **North Lincolnshire Council – Dean Watson**

CC: transportplanning@dft.gov.uk
spatialplanning@nationalhighways.co.uk

Council's Reference: PA/2025/643

Location: Land Adjacent to Elsham Wolds Industrial Estate, North Lincolnshire

Proposal: Outline planning permission for the construction of a data centre park, including ancillary offices, internal plant and cooling equipment, emergency backup generators with associated fuel storage, District Heating centre, flexible commercial/amenity building(s) (Use Classes E, F1 and F2) and construction of buildings for agricultural purposes. Other works include means of access, internal roads and footpaths, cycle and car parking, hard and soft landscaping, security gatehouses and perimeter fencing, lighting, drainage, pumping station, electricity substation(s), energy generation/storage, undergrounding of overhead power lines and other associated works, infrastructure and ground remodelling including creation of landscaped bunds, with all matters reserved for subsequent consideration. Each phase of the development to be a severable component.

National Highways Ref: NH/25/11376

Referring to the consultation on a planning application dated **May 27 2025** referenced above, on the A15 at Elsham approximately 2km from the M180 at J5 that forms part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

~~a) offer no objection (see reasons at Annex A);~~

~~b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – National Highways recommended Planning Conditions & reasons);~~

c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);

~~d) recommend that the application be refused (see reasons at Annex A)~~

Highways Act 1980 Section 175B **is not** relevant to this application.

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the Town and Country Planning (Development Affecting Trunk Roads) Direction 2018, via transportplanning@dft.gov.uk and may not determine the application until the consultation process is complete.

The Local Planning Authority must also copy any consultation under the 2018 Direction to PlanningYNE@nationalhighways.co.uk

This response and all comments outlined herein are made in respect of planning matters only in National Highways' position as a statutory planning consultee and does not confer any proprietary rights nor amount to the giving or refusal of consent, assent, approval, or awareness of or by National Highways in or of any other aspects or matters (including, but not limited to, the use of property belonging to National Highways). If anyone wishes for National Highways to consider any aspects which do not relate to planning submissions, they should call our contact centre on 0300 123 5000

Signature: **Date: June 16 2025**

[redacted]

Name: Simon GP Geoghegan **Position: Planning and Development**

National Highways, 2 City Walk, Leeds LS11 9AR

[redacted]

Standing advice to the local planning authority

The Climate Change Committee's 2022 Report to Parliament notes that for the UK to achieve net zero carbon status by 2050, action is needed to support a modal shift away from car travel. The NPPF supports this position, with paragraphs 77 and 110 prescribing that significant development should offer a genuine choice of transport modes, while paragraphs 109 and 115 advise that appropriate opportunities to promote walking, cycling and public transport should be taken up as part of a vision-led approach.

Moreover, the carbon reduction hierarchy (avoid-switch-improve) as set out in clause 4.3 of PAS2080:2023 promotes approaches and measures to minimise resource consumption and thereby reduce carbon emissions.

These considerations should be weighed alongside any relevant Local Plan policies to ensure that planning decisions are in line with the necessary transition to net zero carbon.

Annex A National Highway's assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

Recommended Non-Approval

It is recommended that the application should not be approved until **June 18 2025**.

Reason

- National Highways consider that, as the land use of a data centre falls under a B8 classification, the TA should also assess the development as such due to the potential for the development to change to a more typical B8 use in the future.

- Unless a condition is sought to remove permitted development rights to ensure that planning permission would be needed to switch to any other use, even if it falls within B8, we recommend an additional B8 trip generation comparison assessment is required.

- National Highways welcomes the proposed improvements to Barnetby Interchange and recommends that, once detailed plans and modelling are prepared, these are shared with National Highways for review.

Technical Memorandum

DevHU0206: Elsham Tech Park

Case ref:	DevHU0206	Document ref:	AA.25.05.10	Date issued:	13/06/2025
Prepared for:	Simon Geohegan	Prepared by:	Harry Robinson / Gracie Belwood	Reviewed / approved by:	Terry Dale

Headline summary

Planning Outcome

The recommendation to National Highways is holding recommendation – additional information required.

Site Location

Technical Summary

- The JSJV reiterates that, as the land use of a data centre falls under a B8 classification, the TA should also assess the development as such due to the potential for the development to change to a more typical B8 use in the future.
- Unless a condition is sought to remove permitted development rights to ensure that planning permission would be needed to switch to any other use, even if it falls within B8, the JSJV would recommend an additional B8 trip generation comparison assessment is required.
- The JSJV welcomes the proposed improvements to Barnetby Interchange and recommends that, once detailed plans and modelling are prepared, these are shared with National Highways for review.

1 Introduction

1.1 In May 2025, Elsham Tech Park Ltd [the Applicant], submitted an outline planning application [ref: PA/2025/643] for the construction of a data centre park on land to the east of the A15 at Elsham Wold Industrial Estate in North Lincolnshire.

1.2 The Local Planning Authority [LPA] and Local Highway Authority [LHA] is North Lincolnshire Council [NLC] and the Applicant's transport consultant is DTA Transport Planning Consultants [DTA].

1.3 Within this Technical Memorandum [TM02] the Jacobs SYSTRA Joint Venture [JSJV], on behalf of National Highways, has reviewed the Transport Assessment [TA], Framework Travel Plan [FTP] and Outline Construction Traffic Management Plan [OCTMP] prepared by DTA, and we would offer the following comments.

2 Background

2.1 As part of pre-application scoping, the JSJV reviewed the Transport Scoping Report [TSR], prepared by DTA, and offered the following comments on behalf of National Highways:

- Subject to the impact of the proposed development, the Applicant should undertake a detailed assessment of Barnetby Interchange and explore measures to increase safety at the junction approaches.
- Since a data centre falls under B8 land use, we suggest that DTA should also consider the impacts of the development as entirely B8.
- The JSJV recommends providing evidence to establish the network AM and PM peak periods on the SRN at Barnetby Interchange. For example, it is likely that the 07:00-08:00 period has a similar volume of traffic as the 08:00-09:00 period. Consequently, this information should be presented in the TA based on traffic survey evidence.
- The JSJV welcomes the preparation of a more detailed trip distribution assessment and would recommend that DTA ensures that the proposed development traffic generation is clearly presented, in Passenger Car Units [PCUs], on flow diagrams at Barnetby Interchange during the AM and PM network peak periods.
- The JSJV notes that once the vehicle trip generation and distribution have been agreed upon, the need for capacity assessments at the SRN can be established.
- It is recommended that a CTMP and Travel Plan is submitted alongside the application.

3 Existing Situation

3.1 The Applicant is proposing to construct an AI data centre with ancillary office use at Elsham Wold Industrial Estate, located approximately 1.5km from the M180 junction 5 (referred to as Barnetby Interchange), as can be seen in **Figure 1**.

Figure 1. Proposed network route in relation to the SRN

4 Traffic survey data

4.1 DTA has procured manual traffic count and queue length surveys at Barnetby Interchange. These were undertaken on Thursday 6th March 2025. We would note that March 2025 is considered to be representative in line with TAG Unit M1.2.

5 Personal Injury Collision Data

5.1 Personal Injury Collision [PIC] data from North Lincolnshire Council was obtained for the latest five-year period from 06/02/2020 to 05/02/2025 at Barnetby Interchange.

5.2 The JSJV notes that for the SRN, PIC data should be provided for the most recent five-year period, excluding 2020 and 2021 due to COVID-19 travel restrictions.

5.3 Notwithstanding this, DTA highlights that a total of 40 PICs have been recorded over the last five-year period at or near Barnetby Interchange. After reviewing the contributory factors, the three most common factors identified were: 405 'Failed to look properly', 406 'Failed to judge other persons path or speed', and 602 'Careless/Reckless/In a hurry'.

5.4 DTA notes that although no contributory factors were identified in relation to the road layout nor associated infrastructure at Barnetby Interchange, the roundabout is substandard in a number of areas. Within the TA, a *"scheme of improvements has been identified at the junction as part of this development (see Section 6.8) which includes partial signalisation, and these provide a betterment over the existing arrangement both in terms of capacity and highway safety"*.

6 Proposed development

6.1 The proposed development comprises the following:

- Data centres with ancillary office space (900,000sqm GEA).

- Internal plant and cooling equipment.
- Emergency backup generators and associated fuel storage.
- District Heating centre.
- Flexible commercial/amenity building(s) (Use Classes E, F1, F2); and
- Buildings for agricultural purposes.

7 Vision

7.1 DTA has provided an overall vision for the proposed development and note that a set of scenarios have been tested:

> *"To create a sustainable data centre development that will support healthy, active lifestyles by employees and visitors whilst minimising the impact of commercial traffic on the community. The development will provide unique data centre facilities, responding to an identified need, in an accessible location, with good connections to the strategic road network, and well connected to the wider community. Our transport strategy for employee travel prioritises public transport, car sharing and cycling over single occupancy car use. Our transport strategy for commercial vehicles routes traffic directly to the principal road network and avoids unsuitable routes."*

8 Travel Plan and Sustainable Access

Accessibility by Walking

8.1 The JSJV would note that the proposed development is not located within walking distance of any significant residential population and there is no pedestrian infrastructure that connects to the site. Consequently, the JSJV consider that walking is not a viable option of travel.

Accessibility by Cycling

8.2 DTA notes that National Cycle Network Route 1 [NCN R1] is located to the east of the proposed development, as shown in **Figure 2**.

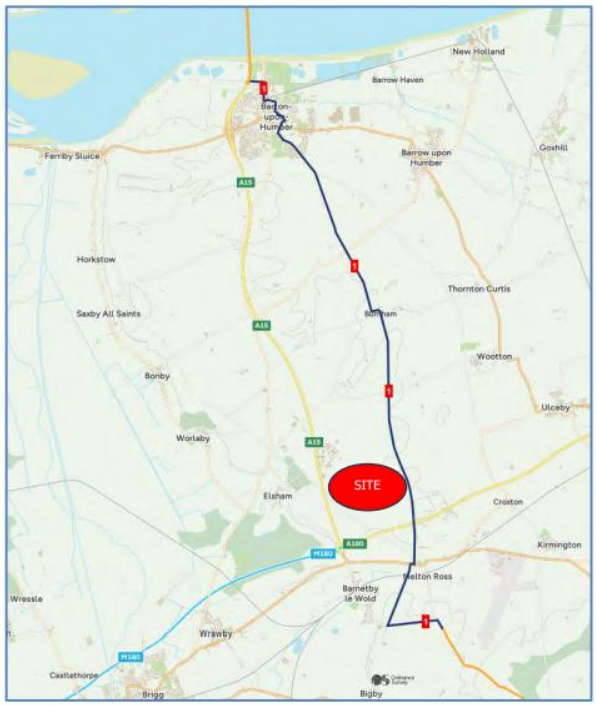

Figure 2. NCN R1

8.3 At this moment in time NCN R1 does not connect to the proposed development site, however, DTA notes that the proposal includes the:

> *"…the proposals include the provision of a foot/cycle connection onto this facility. It is proposed that a financial contribution towards improvements to this route could be provided as part of the development and secured via Section 106. At this stage, it is envisaged that these funds would focus on enhancing the section of route connecting south to Barnetby and the local railway station."*

8.4 The provision of a cycle connection to the NCN R1 is welcomed; however, at this time, as there is no cycling infrastructure within the vicinity of the site, we would not consider cycling as a viable alternative method of travel for the majority of employees of the proposed development, subject to the connection to NCN R1 being implemented. Hence any reliance on the NCN R1 connection will require a demonstrable commitment to its delivery.

Public Transport Provision

8.5 DTA notes that:

> *"The applicant is committed to funding a regular bus service between the site and key local areas such as Barnetby Railway Station, Brigg and Scunthorpe. For employees travelling from further afield by train, the shuttle bus connection to the local train stations will enable the development to employ a wider pool of employees and maximise the opportunities available for travelling by non-car modes."*

8.6 The JSJV notes at this time there is no bus service that stops within the vicinity of the proposed development site. A commitment to funding a regular bus service is welcomed and encouraged. Nonetheless, any reliance on the bus service provision should also be accompanied by a demonstrable mechanism for its delivery.

Travel Plan Measures

8.7 DTA has presented a range of measures and initiatives to promote active and sustainable travel to / from the proposed development site, as shown in **Figure 3**.

Potential Travel Plan Initiatives	Responsibility
Walking/ Cycling	
Provide cloakroom facilities within the building with drying and storage locker facilities.	Under agreement between developer and occupier, such facilities should be included within building design.
Provide safe, secure and fully weatherproof cycle storage near to main entrances of buildings.	
Provide shower facilities and changing rooms within the buildings.	
Providing information on local cycling facilities and routes.	Occupier would provide through TPC
Provide lockers for cyclist safety gear.	
Keep a store of pool umbrellas on-site for use by staff who walk to/from walk or for walking journeys during the day.	
Raise awareness of health benefits of active travel through posters, leaflets and/or events.	
Offer a guaranteed ride home to alleviate staff concerns of being stranded at work in the event of unforeseen circumstances.	
Offer financial incentives such as interest free loans or seek discounted purchase prices for bicycles & equipment from local retailers.	
Keep a supply of basic cycle maintenance equipment on-site e.g. pump, puncture repair kit, tools etc.	
Establish a bicycle user group (BUG) & bike buddy scheme.	
Arrange events to promote cycling to work such as free breakfast days for cyclists.	
Public Transport/ Bus Travel	
Disseminate up-to-date public transport and bus information on-site, including routes, timetables and fares.	Occupier would provide through TPC
Promote benefits of public transport and bus travel e.g. cost savings.	
Establish an interest free loan system if appropriate for staff to purchase yearly or quarterly season tickets with payments taken directly from salary.	
Car Sharing (provides a sustainable alternative when the car is the only option)	
Provide preferential parking spaces for car sharers close to main entrances.	Occupier would provide through TPC
Provide a guaranteed ride home scheme for car sharers in the event of unforeseen circumstances.	
Devise a protocol/ guidelines for car sharers to follow.	
Arrange coffee mornings or other events to allow potential car sharers to meet before committing to sharing with someone they previously did not know.	
Run prize draws open to those registered on the car share scheme.	

Figure 3. DTA proposed Travel Plan Measures

8.8 Considering the existing lack of pedestrian and cycle access to the proposed development site, we would anticipate that car sharing has the greatest potential to reduce overall private vehicle use.

Baseline and Target Mode Share

8.9 DTA has put forward three scenarios that have been considered within the TA in terms of travel modal share:

- Scenario 1 – 100% Car Driver Modal Share (worst-case).
- Scenario 2 – Moderate Shift 85% Car Driver Modal Share; and.
- Scenario 3 – Significant Shift 70% Car Driver Modal Share.

8.10 The JSJV notes that Scenario 1 is considered an appropriate baseline for the development, given the current lack of sustainable transport infrastructure. At present, the site is, for all intents and purposes, inaccessible by any mode other than car or van.

8.11 DTA notes that scenarios 2 and 3 reflect the measures set out in the Travel Plan that aim to encourage the uptake of car-sharing and the suggested improvements to public transport.

Travel Plan management, funding and monitoring

8.12 The JSJV would note the following information provided by DTA regarding Travel Plan management, funding and monitoring:

- Prior to occupation of the site, a Travel Plan Coordinator [TPC] will be appointed to prepare and implement the final Travel Plan.

- The TPC would be in place and funded by the occupier for a minimum of five years.
- Initially, snapshot surveys would be undertaken by the occupant within three months of site occupation to establish a baseline for monitoring modal share targets. These surveys would then be undertaken annually to review progress at meeting the TP targets.
- Should the targets not be met within the timescales stated, then it may be appropriate to implement remedial measures:
  - Increased travel behaviour change initiatives such as travel awareness campaigns.
  - One to one travel planning sessions to identify how individuals could travel to the site more sustainably; and
  - Providing financial incentives for staff, for example prize draws for car share users.

8.13 The JSJV would note that other than the Applicant funding the appointment of the TPC, there is no demonstrable commitment to Travel Plan funding. We would recommend that firm financial commitments be set out within the Travel Plan.

9 Traffic Generation

9.1 It is stated that the specific land use of a data centre falls under a B8 use and results in the construction of a building for storage and distribution. However, DTA notes that data centres differ where the storage element is digital rather than physical and where the:

> *"…distribution of what is being stored is not made by vehicle but distributed electronically, subsequently not generating vehicle trips to/from the site typically found at B8 storage and distribution land use".*

9.2 Previously, it was noted that the data centre could be used for any B8 use in the future. The JSJV, therefore, recommended that DTA should also consider the impacts of the development as entirely B8 as well as providing a first principles approach. DTA notes that:

> *"The proposed development site shall be used as a data centre park and for no other use whatsoever, other than those ancillary uses referenced in the description of development."*

9.3 As a result, DTA has assessed the proposed development considering the specific operation of the data centre rather than its more general land use category, which will be digital rather than physical. Consequently, DTA has not, as recommended, consider the impacts of the development as entirely B8.

9.4 The JSJV reiterates that, as the land use of a data centre falls under a B8 classification, the TA should also assess the development as such due to the potential for the established development to change to a more typical B8 use in the future.

9.5 Subject to a planning condition being sought to remove permitted development rights, to ensure that planning permission would be needed to switch to any other use, the JSJV would recommend that an additional B8 assessment be required.

First Principles

9.6 The proposed AI Data Centre is expected to accommodate approximately 900,000m² of gross floor space.

9.7 DTA has estimated the vehicle trip generation using the number of expected staff at the data centre. DTA notes:

> *"The Economic Needs and Benefits report (prepared by Nicol Economics) which is attached as Appendix D confirms that the data centre element could generate between **600 and 1,200 Full Time Equivalent (FTE) jobs**. The **worst-case figure of 1,200 FTE** jobs has been assessed in this TA for robustness."*
>
> *"Taking account of holidays and weekends etc and average hours (12 hours times four days = 40 hours per week), the typical employee (FTE) would spend around **1,800 hours per year on site**. Therefore 1,200 FTEs would correspond to around **286 staff on site at any one time** and up to 572 staff on any one day (Total Hours Per Week [168] / Average Staff Working Hours [40] = 4.2. Total Staff [1,200] / 4.2 = 286)."*
>
> *"The data centre buildings will generally operate on shifts with the peak change over expected to take place between 0600-0700 and 1900-2000. These shift changes will therefore fall outside of the traditional network peaks of 0800-0900 and 1700-1800."*
>
> *"Part-time and contract employees are assumed to arrive and depart throughout the day outside of the peak hours. For robustness, it is assumed that 90% of staff will work to the main shift patterns and that the remainder would arrive & depart through the working day (with a peak of 10% occurring in any hour)."*

9.8 DTA has noted that the 'Economic Needs and Benefits' report [ENBR], prepared by Nicol Economics, confirms that the data centre element will generate 600-1,200 FTE jobs:

> *"Considering these data points our conclusion is that the fully built out Elsham Tech Park would employ around at the lower end 600/650 FTE jobs and the very highest end to 1,100/1,200 FTE jobs. However, the emerging evidence from the USA is that jobs densities for AI training centres are lower than those for hyperscale cloud data centres so the jobs are likely to be towards the lower end of this range[1]."*

9.9 The JSJV would note that the ENBR has come to this conclusion based on reviewing more recent information on the largest new data centres being built in the USA or proposed in the UK. Key findings from recent projects are:

- **Cambois (UK):** 540,000 sqm, 720MW IT load, and 400 operational jobs, equating to 0.6 jobs per MW, or 1 job per 1,350 sqm.
- **Meta (Richland Parish, USA):** 372,000 sqm, 500 operational jobs in an AI training centre, or 1 job per 740 sqm.
- **AWS (Mississippi, USA):** Average of 372,000 sqm across two complexes, supposed 1,000 jobs (if figures are correct), which is 1 job per 300–450 sqm, with unclear job definitions.
- **Rowan (Maryland, USA):** 204,000 sqm, 275 operational jobs or 1 job per 743 sqm.

9.10 A summary of DTA's proposed person trip generation is shown in **Figure 4**.

[1] The Economic Needs and Benefits report (prepared by Nicol Economics)

Table 3 – Total Person Trips

Time Period	Arrival	Departure	Two Way
0700 - 0800	257	257	514
AM Peak (0800 - 0900)	29	29	58
PM Peak (1700 - 1800)	29	29	58
1900 - 2000	257	257	514

Figure 4. DTA proposed development person trip generation

9.11 The JSJV would note that according to DTA's network peak hour analysis at Barneby Interchange, the SRN peak periods are 07:30-08:30 and 16:15-17:15. From past experience, the JSJV is aware that the network peak periods on the M180 and A180 are typically between 07:00-08:30. Consequently, the 07:00-08:00 trip generation shown in **Figure 3** is more in line with the SRN peak period than 08:00-09:00.

9.12 As previously noted, DTA has put forward three mode share scenarios. The corresponding car traffic generation forecasts are summarised in **Figure 5**.

Table 4 – AI Data Centre Park Traffic Generation Forecasts

Time Period	Arrival	Departure	Two Way
Scenario 1 (100% Car Driver Modal Share)			
0700 - 0800	257	257	514
AM Peak (0800 - 0900)	29	29	58
PM Peak (1700 - 1800)	29	29	58
1900 - 2000	257	257	514
Scenario 2 (85% Car Driver Modal Share)			
0700 - 0800	219	219	438
AM Peak (0800 - 0900)	25	25	50
PM Peak (1700 - 1800)	25	25	50
1900 - 2000	219	219	438
Scenario 3 (70% Car Driver Modal Share)			
0700 - 0800	180	180	360
AM Peak (0800 - 0900)	20	20	40
PM Peak (1700 - 1800)	20	20	40
1900 - 2000	180	180	360

Figure 5. DTA proposed vehicle trip generation

9.13 As can be seen, during the 07:00-08:00 and 19:00-20:00 periods, DTA forecast the proposed development to generate, at most, 514 two-way vehicle trips in Scenario 1 and, at the least, 360 two-way vehicle trips in Scenario 3.

JSJV Trip Generation Analysis

9.14 As shown in **Table 1**, using TRICS, the JSJV has provided a TRICS trip rate analysis of the proposed development (900,000 sqm) using the land use categories 'Data centre' and 'Warehouse'.

9.15 The TRICS selection parameters are as follows:

- Data centre
  - Land use category: Employment / Data centre (02/I).
  - Location: Suburban area; and
  - Actual range: 5,677 to 16,000 sqm.
- Warehouse
  - Land use category: Employment / Warehousing Self Storage (02/E).
  - Location: Edge of Town, Suburban Area; and
  - Actual range: 1,350 to 14,000 sqm.

Table 1. JSJV vehicle trip rate analysis

	AM Peak Period			PM Peak Period		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
DTA	257	257	514	29	29	58
Data centre trip rate	0.130	0.022	0.152	0.016	0.063	0.079
Data centre trip generation	1170	198	1368	144	567	711
Variance to DTA	**+913**	**-59**	**+854**	**+115**	**+538**	**+653**
B8 trip rate	0.109	0.078	0.187	0.057	0.135	0.192
B8 trip generation	981	702	1683	513	1215	1728
Variance to DTA	**724**	**445**	**1169**	**484**	**1186**	**1670**

9.16 As shown in **Table 1**, when using TRICS data centre trip rates, the proposed development is forecast to generate 854 more two-way vehicle trips in the AM peak and 653 more two-way vehicle trips in the PM peak compared to DTA's first principles approach.

9.17 When using TRICS B8 trip rates, the proposed development is forecast to generate 1,169 more two-way vehicle trips in the AM peak and 1,670 more two-way vehicle trips in the PM peak compared to DTA's first principles approach.

9.18 Although the proposed development is forecast to generate a significantly greater volume of trips using the TRICS data centre trip rates than with DTA's approach, the JSJV notes that the data centre sites surveyed in TRICS are considerably smaller than the proposed 900,000 sqm development at Elsham. The largest data centre surveyed within TRICS is 16,000 sqm.

9.19 Notwithstanding the above, the TRICS B8 trip rates indicate even higher volumes of traffic generation. If the site were to be used for a typical B8 use instead of a data centre, the number of vehicle trips associated with that use would be significantly greater, as highlighted in Table 1.

9.20 Therefore, the JSJV suggests that DTA either provide an additional assessment considering the proposed development as entirely B8, or that the Applicant proposes a condition to remove permitted development rights to ensure that planning permission would be required for any change of use, even within use class B8.

Greenhouse Vehicle Trip Generation

9.21 DTA notes that the proposed greenhouse development is expected to create 48 full-time equivalent jobs, with an average of 32 staff on-site daily. Most workers will arrive before 7:00 am and depart by 4:00 pm, so their travel will not align with peak traffic hours. In addition to worker vehicles, 2–3 weekly HGV or LGV trips for consumables might be expected, and occasional maintenance or plant protection deliveries (around two vehicles per week). Overall, these activities are anticipated to generate about 12 extra two-way vehicle movements per week (approximately 2 per day), which is considered insignificant in terms of traffic impact.

9.22 The JSJV would note that we do not consider the impact of the Greenhouse aspect of the proposed development to generate a significant volume of vehicle trips, however,

DTA has provided a total trip generation, considering the impact from the data centre and greenhouse, as shown in **Figure 6**.

Table 5 – Vehicle Traffic Generation Forecasts

Time Period	Arrival	Departure	Two Way
Scenario 1 (100% Car Driver Modal Share)			
0700 - 0800	291	257	548
AM Peak (0800 - 0900)	63	29	92
PM Peak (1700 - 1800)	29	63	92
1900 - 2000	257	291	548
Scenario 2 (85% Car Driver Modal Share)			
0700 - 0800	248	219	466
AM Peak (0800 - 0900)	53	25	78
PM Peak (1700 - 1800)	24	54	78
1900 - 2000	219	248	466
Scenario 3 (70% Car Driver Modal Share)			
0700 - 0800	204	180	384
AM Peak (0800 - 0900)	44	20	65
PM Peak (1700 - 1800)	20	45	65
1900 - 2000	180	204	384

Figure 6. DTA proposed total vehicle trip generation

10 Traffic Distribution

10.1 DTA has undertaken a vehicle trip distribution assessment using 2011 Census Journey to Work data for North Lincolnshire 011 MSOA in which the site is located. DTA's vehicle trip distribution results are shown in **Figure 7** and **8**.

Origin	Percentage
East Riding of Yorkshire	1.9%
North East Lincolnshire	7.3%
North Lincolnshire	77.1%
North Lincolnshire 011	*23.9%*
West Lindsey	8.1%
Other*	5.6%
Total	100%

** This is the sum of all remaining MSOAs with <1% draw*

Figure 7. DTA proposed journey to work distribution

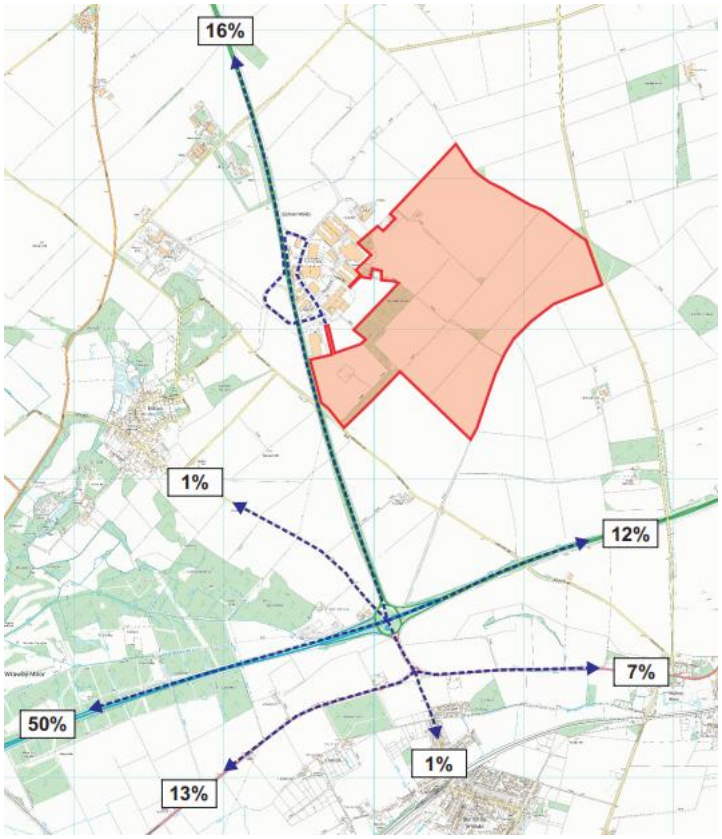

Figure 8. DTA proposed vehicle trip distribution

Distribution Analysis

10.2 To assess whether DTA's proposed vehicle distribution is appropriate, we have provided a comparison of the results using National Highways' gravity model GraHAM.

10.3 The JSJV has taken the results shown in **Figure 8** and summarised the distribution at the Barnetby Interchange in **Table 2**.

Table 2. Distribution comparison

	Junction	AM Peak Period		PM Peak Period	
		Arr.	**Dep.**	**Arr.**	**Dep.**
DTA	**A15 (Total)**	84%	84%	84%	84%
	A180	12%	12%	12%	12%
	A18	21%	21%	21%	21%
	M180	50%	50%	50%	50%
	Barnetby Top	1%	1%	1%	1%
JSJV	**A15 (Total)**	77% **(-7%)**	77% **(-7%)**	77% **(-7%)**	77% **(-7%)**
	A180	9% **(-3%)**	9% **(-3%)**	9% **(-3%)**	9% **(-3%)**
	A18	19% **(-2%)**	19% **(-2%)**	19% **(-2%)**	19% **(-2%)**
	M180	50% **(0%)**	50% **(0%)**	50% **(0%)**	50% **(0%)**
	Barnetby Top	0% **(-1%)**	0% **(-1%)**	0% **(-1%)**	0% **(-1%)**

10.4 As shown in **Table 2**, when comparing the JSJV distribution results to DTA's, the JSJV has identified a slightly lower percentage of traffic at all arms of Barnetby Interchange. Therefore, we suggest that the DTA distribution is appropriate.

Vehicle Trip Assignment Analysis

10.5 The JSJV would note that DTA has not provided flow diagrams for Barnetby Interchange. Consequently, the JSJV has applied the distribution shown in **Figure 8** to the vehicle trip generation shown in **Figure 6** and **Table 1** and presented the results in **Table 3**.

Table 3. Vehicle distribution at Barnetby Interchange

	Junction	AM Peak Period			PM Peak Period		
		Arr.	Dep.	T.W.	Arr.	Dep.	T.W.
DTA	**A15 (Total)**	**216**	**216**	**432**	**24**	**24**	**49**
	A180	31	31	62	3	3	7
	A18	54	54	108	6	6	12
	M180	129	129	257	15	15	29
	Barnetby Top	3	3	5	0	0	1
Data centre	**A15 (Total)**	**983**	**166**	**1149**	**121**	**476**	**597**
	A180	140	24	164	17	68	85
	A18	246	42	287	30	119	149
	M180	585	99	684	72	284	356
	Barnetby Top	12	2	14	1	6	7
B8	**A15 (Total)**	**824**	**590**	**1414**	**431**	**1021**	**1452**
	A180	118	84	202	62	146	207
	A18	206	147	353	108	255	363
	M180	491	351	842	257	608	864
	Barnetby Top	10	7	17	5	12	17

10.6 **Table 3** presents a comparison of how vehicle trips associated with the development are expected to be distributed across key junctions at the Barnetby Interchange during peak morning (AM) and evening (PM) hours, considering three different vehicle trip generation results from the DTA assessment, the data centre use trip rates, and a typical B8 use trip rates.

10.7 When using the data centre and B8 trip generation from **Table 1**, the number of vehicle movements across Barnetby Interchange are considerably greater in the AM and PM peak periods. Notably, the A15 sees a jump to 1,149 two-way movements in the AM peak. While the PM peak also sees higher activity, there is a clear imbalance, with significantly more departures than arrivals, reflecting the likely work patterns of data centre staff.

10.8 Overall, **Table 3** highlights that traffic movements vary substantially depending on the methodology used to forecast the proposed development trip generation.

10.9 The JSJV would, therefore, reiterate that DTA either provide an additional assessment considering the proposed development as entirely B8, or that the Applicant proposes a condition to remove permitted development rights to ensure that planning permission would be required for any change of use, even within use class B8.

11 Junction Assessments

11.1 Within the TA, DTA notes that initial junction modelling of Barnetby Interchange has been undertaken using Junctions 11 and demonstrates that the junction would be over capacity in the future with and without the development.

11.2 A preliminary scheme for mitigating the impact of the development on the operation of the junction has been identified and is shown in on Drawing 27090-03-GA, as shown in **Figure 9**.

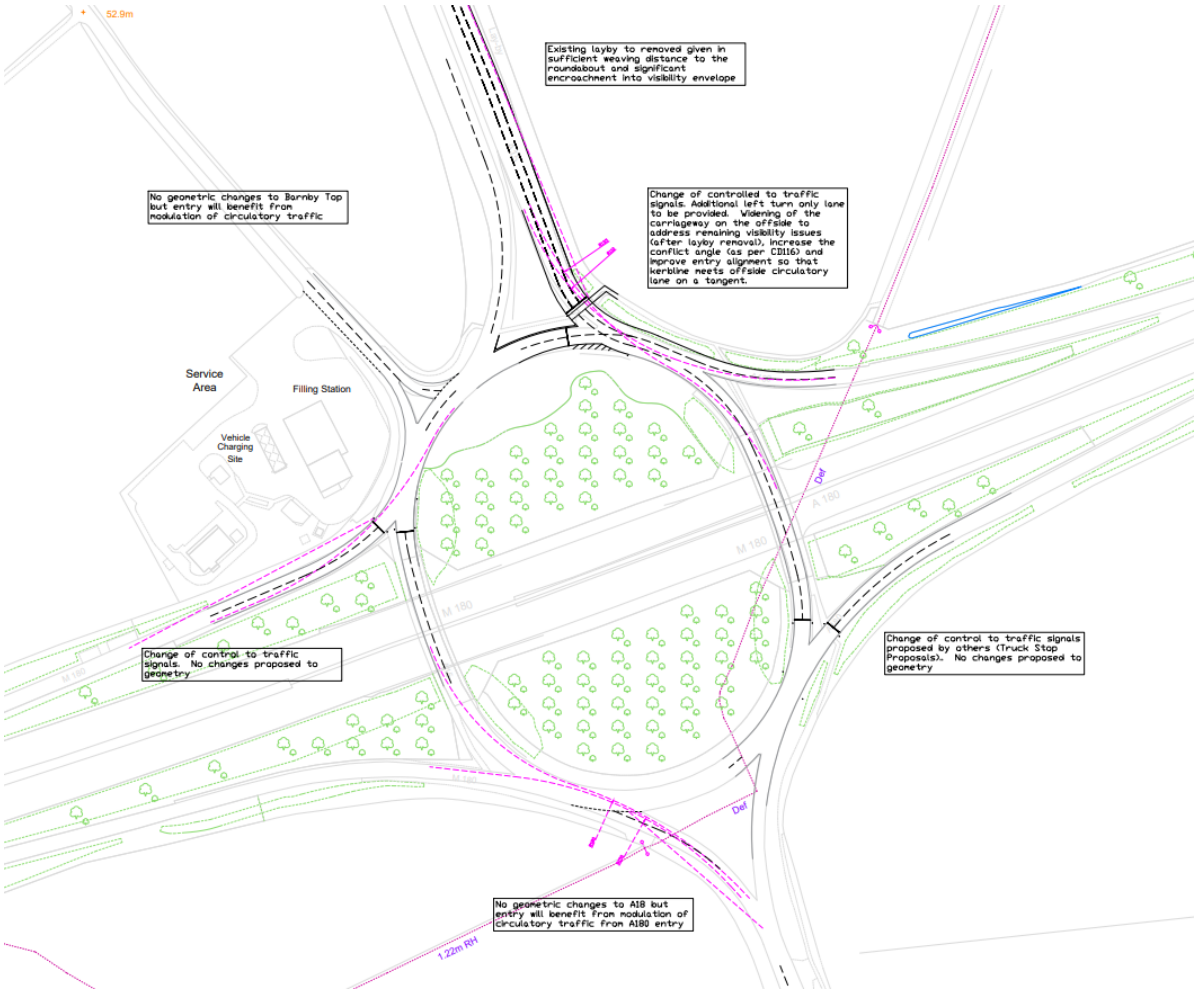

Figure 9. Preliminary Barnetby Interchange improvement scheme design[2]

11.3 DTA notes at this stage the proposed mitigation includes introducing traffic signal controls on the M180 and A15 entry arms to manage peak hour congestion and to improve safety.

11.4 The problematic layby on the A15 will be removed to improve visibility and weaving distance, with a new left-turn lane created and carriageway widening to accommodate larger vehicles.

11.5 The A15 arm alignment and curvature will be improved, although not all standard requirements will be fully met.

Integration with Other Schemes

11.6 If a separate truck stop scheme is approved, it will bring traffic signals to the A180 arm; if not, DTA notes that these will still be included and introduced at the same time as the current mitigation plans.

[2] DTA Drawing 27090-03-GA

11.7 At this stage, no works are proposed on the A18 approach but as agreed as part of the truck stop scheme, the upstream signal nodes would enable the highway authorities to regulate the circulatory flow to increase entry capacity if required.

11.8 Detailed modelling and consultation with highway authorities are ongoing to finalise and refine mitigation proposals and ensure compliance, safety, and operational improvements.

11.9 The JSJV welcomes the proposed improvements to Barnetby Interchange and recommends that, once detailed plans and modelling are prepared, these are shared with National Highways for review.

12 Construction Traffic Management Plan

12.1 Previously, we requested the CTMP to include at least the following:

- A dust management plan;
- A noise management plan;
- Pollution prevention measures;
- Staffing numbers;
- Contractor parking;
- Construction traffic routes;
- Details of delivery arrangements (including for any abnormal loads); and
- Measures to limit and manage transfer of debris onto the highway.

12.2 The JSJV has reviewed the outline CTMP with consideration to what we would typically expect to be included in a CTMP.

Dust Management Plan

12.3 The JSJV notes that the contractor will manage the risk of any road contamination by regular monitoring, this will then be removed by a road sweeper wagon.

12.4 We also note that water spray will be used to wet the material and supress dust if dust is generated in a dry period.

12.5 DTA states:

"The Site manager will take account of weather conditions and prevailing wind direction when organising operations to prevent and minimise dust nuisance to neighbouring properties.

The access road is to be stoned to provide a good, clean working platform and prevent road contamination.

In the event of a complaint form a neighbouring property in respect of dust, their concerns will be considered, and action taken to prevent future occurrence.

All Site staff will have appropriate PPE to protect them from the effects of dust."

12.6 The JSJV are in agreement with the dust management plan.

Noise Management Plan

12.7 DTA states:

"Whilst working on Site the contractor will adhere to the recommendations of BS 5228-1, clause 9.3 to minimise noise levels during the execution of the Works.

A CEMP will also be produced before construction commences to reduce as far as practicable the potential environmental impacts associated with noise and vibration from construction activities."

12.8 The JSJV supports the production of a CEMP.

Pollution Prevention Measures

12.9 DTA should include pollution prevention measures in the CTMP.

Staffing Numbers

12.10 The JSJV notes the working hours are as follows:

- 07:00 to 19:00 Monday to Friday; and
- 07:00 to 13:00 on Saturdays.

12.11 We note that no works will be taking place on Sundays, unless otherwise agreed with the LPA. In addition, construction vehicles will not be permitted to access the site outside of these hours unless otherwise agreed with the LPA. Any changes to the above will be agreed in advance with NLC.

12.12 The JSJV is content with the above working hours. Nonetheless, staffing numbers should be included in the CTMP.

Contractor Parking

12.13 DTA states:

"Vehicles will access the site via the proposed access point off The Flarepath. The internal layout for the construction phase such as locations of offices and car parking will be developed during the detailed design stage."

12.14 The JSJV are content with what is stated.

Construction Traffic

12.15 DTA states that typically it takes around 12-24 months to construct a data centre, this includes construction staff vehicle movements, LGVs and HGVs. DTA has presented the expected daily vehicle movements during construction for both average and peak activity, this is presented in **Figure 10**.

Construction Activity	HGVs (two-way movements)	LGVs (two-way movements)	Total Construction Traffic (two-way movements)	Staff (two-way movements)
Peak Activity (first three month of construction)	220	60	280	400
Average Activity	150	35	185	275

Figure 10. Peak and Average Construction Traffic Activity[3]

12.16 DTA states:

"Based on the above, it can be expected that there will be a peak of around 12 HGVs per hour (24 movements)."

And;

"The staff movements account for an average of 50% of staff as car drivers with the remaining 50% car sharing and arriving by sustainable means of transport. Applying

[3] Extract from CTMP

this to the maximum number of construction staff movements above, this equates to a peak of around 100 trips (200 two-way light vehicle movements).”

Construction Traffic Routes

12.17 DTA has included vehicle routing in the CTMP, we note that the site will be accessed via the existing industrial park and all vehicles will route via the A15 to the west (unless otherwise agreed in writing with the local highway authority).

12.18 DTA also states:

“Designated means of access and egress will be kept unobstructed at all times. In addition to boundary fencing, further protection may be needed for holes in the ground, excavation, and soil heaps.

Prior to the commencement of works, a full survey of existing services within the Site and areas of roads and footpaths in the immediate vicinity of the Site will be undertaken to identify any services that may require protection. The scope of this survey will be agreed with the local highway authority/ utilities providers.

Where works traffic has to use public highways, the necessary precautions to prevent damage to roads and footpaths will be taken where possible.”

12.19 We note that, as stated by DTA, *“all construction vehicles will be managed by the Contractor’s Traffic Manager who is responsible for developing and implementing each phase of traffic management required. The contact details for the Contractor’s Traffic Manager will be provided to NLC and other stakeholders as required before construction begins.”*

12.20 DTA also states:

“All sub-contractors and material suppliers will be provided with details of the proposed vehicle route to and from the development Site, coupled with the location of the holding areas where construction vehicles will be required to wait. They will be expected to conform to these routes.

Certificated Banksmen wearing high visibility jackets or vests will direct vehicle manoeuvres at the development Site. The Banksmen will wait at the proposed Site access, where they will direct the delivery vehicles in and out of the Site. They will use hand signals and will communicate to the drivers through the vehicle mirrors, while watching the driver’s blind spot.”

And;

“From the local roads, construction vehicles will turn right into the Site in forward gear, manoeuvre within the Site, and then exit the Site back onto the local roads in a forward gear and therefore there will be no requirement for excessive manoeuvring on the local highway network.”

12.21 The JSJV are content with the above.

Delivery Arrangements (including abnormal loads)

12.22 We note that a Delivery Management System [DMS] will be adopted to ensure that the flow of vehicles to and from the site is controlled.

12.23 DTA states:

“The DMS will look to avoid arrival times to site that conflict with Peak Hours (0700-0800 and 1600-1700) on the A15 & M180.

Delivery of materials will be pre-arranged where possible to ensure that off-loading is controlled by a competent signaller (banksman) and drivers will be required to phone

ahead to book a delivery slot and 20 minutes before arriving to ensure there is availability to load/unload.

Unless there is capacity to accommodate within the specified loading area, unplanned deliveries will be turned away and advised to return to the Site at a pre-arranged delivery time. Unplanned deliveries will not be permitted to wait at any location on the local highway network in the vicinity of the Site."

12.24 The JSJV are content with the above approach.

12.25 DTA also states:

"Permits and consents required for the movement of Abnormal Indivisible Loads (AIL) will be sought from North Lincolnshire Council (NLC) local highway representatives as necessary once the number and type of AIL movements has been established. It is a condition of contract between the Applicant and the appointed contractor to require that all construction HGV deliveries must use the designated route to access and egress the construction site."

12.26 The JSJV would note that prior to the transportation of any abnormal loads, notification to the police, highway and structures authorities will need to made though the Electronic Service Delivery for Abnormal Loads (ESDAL).

"The contractor will erect temporary signage at the main junctions to appropriately direct all construction related HGV traffic to the proposed development (both accessing and egressing the site) towards the construction compounds. These will be in place for the duration of the construction phase and will be checked regularly to confirm they are visible throughout.

The appointed contractor will be required to maintain all the HGV route signage during the construction period."

12.27 The JSJV would also note that any temporary signage at SRN must be agreed with the relevant National Highways Team in advance of implementation.

Measures to Limit Debris

12.28 We note that wheel washing facilities will be installed at the site at the beginning of the construction phase. We note that all HGVs will be required to use the wheel wash prior to exiting the site. The wheel wash facility will be located at least 200m from the public highway.

12.29 The JSJV finds the measures to limit debris to be appropriate.