

AA.23.19.15: Immingham Eastern Terminal

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Date:	13 th December 2023
Case Reference:	DevHU0075
Document Reference:	AA.23.19.15 Technical Memorandum 10
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Introduction

JSJV Review Background

In September 2021, Associated British Ports [the Applicant] submitted a scoping request for the proposed development of a new roll-on/roll-off [Ro-Ro] facility at Immingham Port. The port is situated on the south bank of the Humber Estuary, 9km to the northwest of Grimsby and approximately 1km to the northeast of Immingham.

JSJV reviewed the contents of the Preliminary Transport Assessment [TA] ref: *SJT/RT/23325-02a* [developed by the Consultants DTA] in June 2022 and provided response TM02 to National Highways.

In response, DTA provided a supplementary Technical Note [TN] outlining the methodology for junction capacity assessments - JSJV reviewed the contents in TM03.

In September 2022, DTA provided a draft Construction Environmental Management Plan [CEMP] and submitted a revision to the draft TA. JSJV provided a response to National Highways [TM04], highlighting outstanding pre-application matters.

Subsequent to a meeting between the Applicant, DTA, National Highways and JSJV [06 September 2022], DTA provided an extract of the draft Development Consent Order [DCO] comprising Schedule 2, Article 4 - '*Part 1 Requirements*', a TN providing revised merge / diverge assessments and a signage strategy.

JSJV responded in TM05, concluding that matters should be addressed by the Applicant, including the provision of a Construction Traffic Management Plan [CTMP], prior to occupation.

In December 2022, DTA submitted a TN to summarise exclusively the results of merge/diverge assessments. TM06 included a review of matters relating to the TN '*Technical Note 5-Slip Road Assessments [Annex L]*', dated 28 November 2022, and concluded that the following remained outstanding:

- The definition or exact meaning of a 'quiet period'. JSJV would expect that passenger traffic would need to be scheduled and not reacting to low demand for freight movement; and
- Construction Traffic Management Plan [CTMP] to be produced and agreed with National Highways before works commencing.

JSJV attended meetings alongside National Highways and DTA between December 2022 and January 2023, and the matter of passenger scheduling during 'quiet periods' was addressed and resolved.

National Highways subsequently received notice that the DCO examination for the Immingham Ro-Ro project was due to commence on 25th July 2023. National Highways consulted with JSJV in July to define an ultimate position on the DCO application based on the material submitted for review.

In July 2023, JSJV advised National Highways [TM07] that the TA associated with the application did not consider the residual traffic generation [Circular 01/2022]; rather, the assessment was compliant with the superseded Circular 02/2013.

JSJV, highlighted, nonetheless, that this provided National Highways with a more onerous assessment of traffic impact which, in theory would be bettered with the implementation of active and sustainable travel initiatives.

Subsequent to TM07, the Examining Authority associated with the Issue Specific Hearing [ISH2] of the DCO identified a number of Action Points for the Applicant, or Interested Parties, to respond to.

Specifically, the Examining Authority requested that the Ferry Operator DFDS share with the Applicant the modelling and assessment for five public highway junctions that DFDS contends would be operating above capacity by 2032.

In August 2023, JSJV, on behalf of National Highways, attended a meeting with GHD Engineering, to discuss a peer review being undertaken by GHD, for DFDS, relating to the Action Points, including queries relating to the traffic modelling undertaken by DTA. Particularly:

- The assumed split between accompanied and unaccompanied vehicles;
- The assumed additional volume of tractor-only movements;
- Split of vehicles between the East and West gate;
- The baseline traffic flows; and
- Implications of seasonal demand on trade volumes influencing the peak traffic volumes used within the assessment.

Furthermore, the Examining Authority requested confirmation that the cumulative impact of HGV traffic was considered - based on a scenario that sees an overlap between construction traffic and operational traffic.

JSJV responded in September 2023 within TM08 and TM09, summarising that the information presented within the TA, at the time of initial review by National Highways, was based on the most representative information at the time of the DCO application.

In November 2023, JSJV attended a meeting with DTA and ABP regarding the DCO examination and DFDS' peer review of DTAs Transport Assessment. DTA has subsequently submitted a revised capacity assessment to the DCO Examining Authority NELC and National Highways with revised PCU scaling figures and the provision of a sensitivity test assuming 60% of HGV traffic arising from Immingham Eastern Ro-Ro Terminal [IEERT] using the West Gate [and hence the A160 Corridor].

This TN considers the new information presented by DTA, including:

- '*Update to Technical Note 2- Junction Modelling Assessments*' [Nov 2023]; and
- '*Junction Modelling Assessments- Further Sensitivity Test*' [Nov 2023].

Site Location

The application site is within the administrative boundary of Northeast Lincolnshire Council [NELC]; its location, in relation to the SRN, is presented in **Figure 1**.

Figure 1: Site location in relation to the Strategic Road Network



Source: OpenStreetMap

For reference, the SRN within the Northeast Lincolnshire region, including the A160, A180 and M180, with further links to the M18, [50km west of the site] is shown in **Figure 2**.

Figure 2: Wider Strategic Road Network



Existing site facility

The Port of Immingham is currently served by two principal access points, Humber Road to the west and Queens Road to the east. The existing Immingham Port facility is shown in **Figure 3**.

Figure 3: Site Context



Proposed development

The Applicant, as the owner and operator of the Port of Immingham, proposes to construct a new roll-on/roll-off [Ro-Ro] facility within the port. It is designed to service the embarkation and disembarkation of principally commercial cargo carried either by lorry or on unaccompanied trailers.

The existing accesses to the Port will continue to be used by the proposed development. These are the eastern dock access off Queens Road [East Gate] and the western dock access off Humber Road [West Gate].

Land side staffing is proposed to include customs, security and stevedores and DTA has anticipated that up to 50 staff per shift over 3 shifts per day will be required. Shifts are anticipated at periods 06:00-14:00, 14:00-22:00, and 22:00-06:00.

Technical Review

Context- DFDS Peer Review

In August 2023, JSJV attended a meeting with GHD to discuss information relating to a peer review being undertaken on behalf of DFDS, including considering the queries raised relating to modelling undertaken by DTA.

JSJV note that the GHD document submitted [ref: 2578580], provides a high-level review of the Applicant's TA to provide some indications of potential methods for determining and refining the application details.

The GHD modelling outputs identify that the modelled junctions are all operating within capacity in both peaks in the 2019 Base Year scenario. Three junctions including A160 Humber Road / Eastfield Road Junction, A1173 / New Site Access roundabout and A180 / A1173 Roundabout are forecasted to operate above capacity in '*Scenario 2: 2032 + committed developments*' and most junctions within the study area are forecasted to operate over capacity in '*Scenario 2: 2032 + committed developments + proposed development*'. In August 2023, GHD proposed that mitigations will be required to address their capacity.

In TM08, JSJV acknowledged the GHD review of baseline traffic flows, the assumed split between accompanied and unaccompanied vehicles, the assumed additional volume of tractor-only movements, and the split of vehicles between the east and west gates; however, importantly, we also noted that the scenarios presented within the GHD submission does not reflect the criteria set out in Circular 01/2022.

JSJV previously highlighted that the capacity assessment within the GHD peer review reflects more closely the assessment criteria set out in DfT Circular 02/2013, which required a future year assessment; 2032 in this instance.

We noted that the significant difference in policy requirements, between Circular 02/2013 and Circular 01/2022, is the need to assess residual transport impacts in the 'opening year', informed by the initiative set out in the emerging Travel Plan for the development [paragraphs 47-54 of Circular 01/2022]. The opening year assessment is required to consider the entirety of the development operation, committed development, and the Local Plan.

JSJV summarised in TM09 that the Circular 01/2022 requirement was not considered in the GHD peer review as it does not consider the 'residual' impact or present an opening year assessment.

Revised Assessment

For context, JSJV note that matters including the assessment study area, traffic survey data sources, assessment periods and background traffic growth have been agreed by National Highways to be representative, being the most accurate data available at the time of the DCO application.

Within TM01-TM06, JSJV reviewed capacity assessments that considered the following SRN junctions:

- A160/ Humber Road/ Manby Road Roundabout [Manby Roundabout];
- Brocklesby Interchange [A180 / A160];

- Stallingborough Interchange [A180 / A1173]; and
- A160/ Ulceby Road/ Habrough Road/ East Halton Road Roundabout [Habrough Roundabout].

JSJV acknowledge that there are now two material changes to the assessment parameters:

- Revised PCU factors for HGVs altering the traffic flow diagrams and demand at junctions previously assessed; and
- Provision of a sensitivity test assuming a 60% split of HGV traffic will be assigned via the West Gate and 40% assigned to the East Gate [18% / 85% split assumed in TA] and 36% solo tractor movements [10% assumed in TA].

Considering the revised assumed routing of HGVs and increase in solo tractor movements, JSJV note that DTA state their disagreement with the assessment parameters being requested by DFDS, however, notwithstanding DTAs reservations, both elements have been incorporated within the sensitivity assessments as agreed and outlined in the Statement of Common Ground between DFDS and ABP.

JSJV has reviewed the associated Input Junction Flows included in *Appendix TN2 A* of DTAs TN in lieu of typical Traffic Flow Diagrams. JSJV note the revised PCU factors increasing the baseline traffic flows and the traffic flows forecasted from the proposed and committed development and agree with the assignment of traffic as previously established.

Emerging Development

JSJV previously advised that DTA bring the assessment in line with other emerging development within the region as to maintain National Highways comparability of applications, including:

- NEL Energy Park, Mauxhall Farm, Stallingborough [Ref DM/1145/19/FUL];
- Business Park, Stallingborough Interchange [Ref DM/0105/18/FUL];
- North Beck Energy Centre [Ref DM/0026/18/FUL];
- South Humber Bank Energy Centre [Ref EN010107];
- Immingham Eastern Ro-Ro Terminal* [Ref TR030007];
- Immingham Green Energy Terminal [TR030008];
- Able Marine Energy Park [Ref TR030001];
- VPI Immingham OCGT [Ref EN010097];
- North Killinghome Energy Park [Ref EN010038];
- Great Coates Renewable Energy Centre [Ref DM/0329/18/FUL];
- South Humber Bank Energy Centre [Ref DM/1070/18/FUL];
- 525 residential development, Stallingborough Road, Immingham [Ref DM/0728/18/OUT]; and
- VPI Immingham Energy Park "A" [Ref PA/2018/918] m. Rock revetment repair and reinforcement, Humber Estuary [Ref DM/1071/22/FUL].

In response, DTA has undertaken a review of emerging development and outlined a comparison of materiality, as outlined in **Table 1**.

Table 1: Emerging development materiality assessment- Analysis provided by DTA

Committed Development List	DTA Comment
Able Marine Energy Park	Included
South Humber Bank Power Station [DM/1070/18/FUL]	Included as part of assessment for EN010107- DCO scheme replaced consented scheme but traffic generation the same
Velocity's [DM/0664/19/FUL] [referred to by DFDS as Altato]	Included
Stallingborough Interchange [DM/0302/21/REM]	See reference to DM105/18/ful below
Queens Road [DM/0147/16/FUL]	Included
Highfield House [DM/0728/18/OUT]	Included
Able Logistics Park [PA/2009/0600]	Includes circa 400 [AM] and 500 [PM] trips to A160.
North Killingholme Power Project [EN010038]	Operational traffic generation = 35 staff trips per shift. Details of shift pattern not provided and TS refers to SOCG -20th May 2020 [not on website] that junction modelling was not required.
VPI Immigration OCGT [EN010097]	Chapter 7 of ES confirms that peak construction flows will be 4HGVs and 22 cars in the AM Peak [0700-0800] and 4 HGVS and 13 light vehicles in the PM Peak [1600-1700]. This will have no material impact on the outcome of the assessment and will in any event be temporary.
Immingham Green Energy Terminal [TR030008]	No impact on A160 Corridor. Net change of +19 vehicles to A1173/A180 Junction in peak hours. This will have no material outcome on the assessment.
North Beck Energy Centre [Ref DM/0026/18/FUL]	Included
NEL Energy Park, Mauxhall Farm, Stallingborough [Ref DM/1145/19/FUL]	Solar Farm which is just completing construction. No material traffic generation. Considered in IEERT ES and scoped out for that reason.
Business Park, Stallingborough Interchange [Ref DM/0105/18/FUL]	Included as part of DM/0302/21/REM]
South Humber Bank Energy Centre [Ref EN010107]	Included as part of assessment for DM[1070/18/FUL] – DCO scheme replaced consented scheme but traffic generation the same
Great Coates Renewable Energy Centre [Ref DM/0329/18/FUL]	Forecast to generate 5 HGVs per hour and accessed from Pyewipe Roundabout so outside scope of assessment.
VPI Immingham Energy Park "A" [Ref PA/2018/918] m. Rock revetment repair and reinforcement, Humber Estuary [Ref DM/1071/22/FUL]	Works are underway at present and will be complete shortly.

JSJV acknowledge the incorporation of emerging development into the revised capacity assessment and agree with the sites included as representative and in line with currently emerging development capacity assessment submitted to National Highways.

Revised Capacity Assessment Results

In line with substantial correspondence related to the DCO review and associated DFDS peer review, DTA has presented two assessment scenarios within the TN:

- **'Base Test'**- considering the peak daily throughput of the terminal at 1,800 units, using the Port of Immingham profile flows outlined in the original TA; and
- **'Average Flow Test'**- using the Stena profile for both peaks and using the average flow from the site of 1440 units.

A further 'Sensitivity Test' scenario is provided for each junction within the 'Further Sensitivity Test' TN.

With reference to previous reviews and agreements undertaken within TM01-TM09 and meetings attended, JSJV will review the results from both the Base Test and Average Flow Test, considering the AM and PM peak hours for the forecasted opening year of 2025, in line with Circular 01/2022 guidance. JSJV will also consider material

presented in the further 'Sensitivity Test' and assess the impact of the development on the basis of the DFDS peer review, agreements within the Statement of Common Ground and progressing the ongoing DCO review process.

A160/ Humber Road/ Manby Road Roundabout [Manby Roundabout]

A summary of the results is shown in **Table 2**.

*Table 2 Base Test- Junction Assessment**

	AM			PM		
	Q (PCU)	Delay (s)	RFC	Q (PCU)	Delay (s)	RFC
2021 Base						
Humber Road	1.4	5.94	0.44	3.0	8.35	0.68
Manby Road	0.8	3.71	0.40	0.4	3.15	0.26
Port Service Access	0.1	12.22	0.03	0.0	8.68	0.03
A160	1.3	4.96	0.48	1.2	4.77	0.43
Conco Access	0.0	0.00	0.00	0.0	0.00	0.00
2025 Base						
Humber Road	1.5	6.18	0.46	3.5	9.34	0.71
Manby Road	0.9	3.89	0.43	0.5	3.25	0.27
Port Service Access	0.1	12.83	0.03	0.1	9.04	0.03
A160	1.4	5.24	0.50	1.3	4.97	0.45
Conco Access	0.0	0.00	0.00	0.0	0.00	0.00
2025 Base + Committed						
Humber Road	1.6	6.28	0.48	5.6	13.59	0.81
Manby Road	1.2	4.34	0.50	0.5	3.35	0.30
Port Service Access	0.1	14.40	0.03	0.1	9.58	0.03
A160	1.7	5.88	0.55	1.4	5.17	0.48
Conco Access	0.0	0.00	0.00	0.0	0.00	0.00
2025 Base + Committed + Development						
Humber Road	1.7	6.39	0.50	6.3	14.89	0.83
Manby Road	1.2	4.41	0.51	0.5	3.39	0.31
Port Service Access	0.1	14.67	0.03	0.1	9.77	0.03
A160	1.8	6.19	0.57	1.5	5.44	0.50
Conco Access	0.0	0.00	0.00	0.0	0.00	0.00

Table 2 cont. Average Flow Junction Assessment

2025 Base + Committed + Development						
Humber Road	1.7	6.38	0.50	6.2	14.74	0.83
Manby Road	1.2	4.41	0.51	0.5	3.39	0.31
Port Service Access	0.1	14.65	0.03	0.1	9.75	0.03
A160	1.8	6.15	0.57	1.5	5.40	0.50
Conco Access	0.0	0.00	0.00	0.0	0.00	0.00

**Note- extracts of DTAs assessment include 'DRAFT' watermark*

Notwithstanding JSJVs reaffirmation of the application of Circular 01/2022 guidance requiring an assessment of the Opening Year scenario, DTA has provided an analysis of the 2032 within the associated analytical text.

Nonetheless, the revised findings demonstrate a peak RFC of 0.81 during the PM period for traffic flow on the Humber Road arm in the 2025 Opening Year in the most onerous assessment scenario. The only material increase in queuing occurs at the

Humber Road, with forecasted increases in projected queues from 5.6 to 6.2 PCU in the PM peak hour, with the application of the proposed development. JSJV note that this impact is marginal and is unlikely to result in a material impact in junction safety.

Sensitivity test- considering the sensitivity test provided, queuing in the 2025 Opening year is forecasted to increase by +3.2 PCU in the PM peak hour on the Humber Road arm.

Despite the observed 3.2 PCU increase on the Humber Road arm to a maximum queue of 8.8 PCU, the configuration of Humber Road as a two-lane dual carriageway facilitates this increase in queue length without impacting on highway safety.

Brocklesby Interchange [A180 / A160]

A summary of the results is shown in **Table 3**.

*Table 3 Base Test- Junction Assessment**

	AM			PM		
	Q (PCU)	Delay (s)	RFC	Q (PCU)	Delay (s)	RFC
2021 Base						
A160	1.2	3.11	0.42	1.2	2.75	0.48
A180 E	1.6	11.72	0.62	0.3	6.02	0.21
A180 W	0.0	1.57	0.00	0.0	0.00	0.00
2025 Base						
A160	1.2	3.17	0.43	1.3	2.83	0.50
A180 E	1.9	13.34	0.65	0.3	6.30	0.22
A180 W	0.0	1.58	0.00	0.0	0.00	0.00
2025 Base + Committed						
A160	1.5	3.47	0.49	2.1	3.75	0.62
A180 E	4.1	28.15	0.81	0.6	10.29	0.34
A180 W	0.0	1.61	0.00	0.0	0.00	0.00
2025 Base + Committed + Development						
A160	1.5	3.53	0.49	2.1	3.83	0.63
A180 E	4.5	30.82	0.83	0.6	10.71	0.35
A180 W	0.0	1.61	0.00	0.0	0.00	0.00

Table 3 cont. Average Flow Junction Assessment

2025 Base + Committed + Development						
A160	1.5	3.52	0.49	2.1	3.82	0.63
A180 E	4.4	30.32	0.83	0.6	10.66	0.35
A180 W	0.0	1.61	0.00	0.0	0.00	0.00

**Note- extracts of DTAs assessment include 'DRAFT' watermark*

The revised findings demonstrate a peak RFC of 0.83 during the AM period for traffic flow on the A180 E arm in the 2025 Opening Year in the most onerous assessment scenario. The only material increase in queuing occurs at the A180 E arm, with forecasted increases in projected queues from 4.1 to 4.5 PCU in the AM peak hour, with the application of the proposed development. JSJV note that this impact is marginal and is unlikely to result in a material impact in junction safety.

Sensitivity test- considering the sensitivity test provided, queuing in the 2025 Opening year is forecasted to increase by +3.7 PCU in the AM peak hour on the A180 E arm. Despite the observed 3.7 PCU increase on the Humber Road arm to a maximum queue of 10.8 PCU [62m queue length], the configuration of the A180 E arm

as a single lane diverge slip road accommodates this increase in queue length without impacting on highway safety. Adequate Stopping Sight Distance [SSD] for westbound traffic on the A180 carriageway is maintained.

Stallingborough Interchange [A180 / A1173]

A summary of the results is shown in **Table 4**.

Table 4 Base Test- Junction Assessment*

	AM			PM		
	Q (PCU)	Delay (s)	RFC	Q (PCU)	Delay (s)	RFC
2021 Base						
A1173 N	0.2	2.00	0.11	0.8	2.35	0.42
A180 E	0.4	1.90	0.29	0.2	2.11	0.19
A1173 S	0.3	2.78	0.24	0.1	2.09	0.10
A180 W	0.4	3.13	0.23	0.2	2.34	0.11
2025 Base						
A1173 N	0.2	2.01	0.12	0.8	2.40	0.43
A180 E	0.4	1.93	0.30	0.3	2.14	0.20
A1173 S	0.3	2.85	0.25	0.1	2.11	0.10
A180 W	0.4	3.22	0.24	0.2	2.36	0.11
2025 Base + Committed						
A1173 N	0.4	2.65	0.23	1.5	3.50	0.58
A180 E	0.8	2.59	0.42	0.5	2.74	0.30
A1173 S	0.7	4.41	0.41	0.2	2.54	0.16
A180 W	0.9	5.24	0.41	0.4	2.81	0.20
2025 Base + Committed + Development						
A1173 N	0.6	2.88	0.27	2.0	4.14	0.63
A180 E	0.9	2.85	0.45	0.5	3.07	0.32
A1173 S	0.8	4.93	0.43	0.2	2.84	0.18
A180 W	1.5	7.00	0.53	0.7	3.45	0.30

*Note- extracts of DTAs assessment include 'DRAFT' watermark

The revised findings demonstrate a peak RFC of 0.63 during the PM period for traffic flow on the A1173 N arm in the 2025 Opening Year in the most onerous assessment scenario. The only material increase in queuing occurs at the A1173 N arm, with forecasted increases in projected queues from 1.5 to 2.0 PCU in the PM peak hour, with the application of the proposed development.

JSJV acknowledges that this impact is marginal and is unlikely to materially affect junction safety. JSJV notes that no sensitivity test is provided for Stallingborough Interchange as agreed previously due to low impact significance.

A160/ Ulceby Road/ Habrough Road Roundabout [Habrough Roundabout]

A summary of the results is shown in **Table 5**.

Table 5 Base Test- Junction Assessment*

	AM			PM		
	Q (PCU)	Delay (s)	RFC	Q (PCU)	Delay (s)	RFC
2021 Base						
A160 E	1.5	4.67	0.45	2.9	6.25	0.69
Habrough Road	0.6	6.09	0.37	0.2	5.66	0.17
A160 W	2.9	6.13	0.71	1.5	4.58	0.49
Ulceby Road	0.7	9.49	0.35	0.3	5.8	0.17
E Halton Road	0.9	8.96	0.41	0.7	5.64	0.40
2025 Base						
A160 E	1.6	4.89	0.47	3.4	7.08	0.72
Habrough Road	0.7	6.51	0.40	0.2	6.04	0.18
A160 W	3.5	7.01	0.75	1.7	4.83	0.51
Ulceby Road	0.8	10.62	0.39	0.3	6.13	0.18
E Halton Road	1.0	9.91	0.45	0.8	5.97	0.42
2025 Base + Committed						
A160 E	2.0	5.54	0.54	8.2	15.20	0.87
Habrough Road	0.8	7.61	0.44	0.3	8.31	0.24
A160 W	8.5	14.96	0.88	2.5	6.05	0.62
Ulceby Road	1.2	15.98	0.49	0.4	7.06	0.21
E Halton Road	1.6	13.96	0.56	1.4	8.31	0.56
2025 Base + Committed + Development						
A160 E	2.1	5.64	0.55	9.1	16.61	0.88
Habrough Road	0.8	7.74	0.44	0.3	8.51	0.24
A160 W	9.7	16.78	0.90	2.7	6.36	0.63
Ulceby Road	1.3	16.78	0.50	0.4	7.25	0.21
E Halton Road	1.6	14.58	0.57	1.4	8.65	0.57

Table 5 cont. Average Flow Junction Assessment

2025 Base + Committed + Development						
A160 E	2.1	5.62	0.55	9.1	16.61	0.88
Habrough Road	0.8	7.71	0.44	0.3	8.51	0.24
A160 W	8.8	15.40	0.89	2.7	6.36	0.63
Ulceby Road	1.2	16.19	0.49	0.4	7.25	0.21
E Halton Road	1.6	14.13	0.56	1.4	8.65	0.57

*Note- extracts of DTAs assessment include 'DRAFT' watermark

The revised findings demonstrate a peak RFC of 0.88 during the PM period for traffic flow on the A160 E arm and a peak RFC of 0.90 during the AM period for traffic flow on the A160 W arm in the 2025 Opening Year in the most onerous assessment scenario.

Material increases in queuing occurs at the A160 W arm, with forecasted increases in projected queues from 8.5 to 9.7 PCU in the AM peak hour, and at the A160 E arm, with forecasted increases in projected queues from 8.2 to 9.1 PCU in the PM peak hour with the application of the proposed development.

JSJV observes that these effects are minimal and are not expected to significantly affect junction safety.

Sensitivity test- considering the sensitivity test provided, queuing in the 2025 Opening year is forecasted to increase by +4.6 PCU in the PM peak hour on the A160 E arm [from 8.2 - 12.8 PCU].

Despite the observed 4.6 PCU increase on the Humber Road arm to a maximum queue of 73m [a 24m increase], the configuration of the A160 E arm as a two-lane dual carriageway facilitates this increase in queue length without impacting on highway safety as there is c.200m queuing distance before the signalised pedestrian crossing facility.

Capacity Assessment Summary

The results confirm that, for all of the SRN junctions assessed, with regard to the maximum reported RFC and estimated traffic queues, during the most onerous scenarios at Manby Roundabout, Brocklesby Interchange, Stallingborough Interchange or Habrough Roundabout, the forecast impacts considering all development are marginal and are unlikely to result in a severe impact in the opening year that would require mitigation.

Merge / diverge assessment

DTA undertook merge & diverge assessments within the original TA for the A180 / A1173 Interchange and the A160 / A180 interchange in accordance with the guidance within Design Manual for Roads and Bridges [DMRB] CD122 'Geometric design of grade separated junctions'.

DTA assessed the A180/A1173 Interchange and the A160/ A180 Interchange [Brocklesby Interchange] slip roads for scenarios including the 2025 Opening Year.

JSJV note that due to the revised parameters influencing PCU conversion factors, there is not a material influence on previously agreed merge / diverge assessments that consider AADT.

Construction Traffic

JSJV note that in May 2022, the Applicant submitted a Draft Construction Environmental Management Plan [CEMP] that provides indicative details of traffic management.

Furthermore, we note that, previously, JSJV has recommended to National Highways that the Applicants should provide certainty that a Construction Traffic Management Plan [CTMP] and a Construction Workers' Travel Plan [CWTP] will be submitted and agreed with National Highways prior to on-site works, to include the following matters:

- Length of construction period;
- Hours of operation;
- Peak trip generation [including type of vehicles];
- Access routes, including consideration of abnormal loads [vehicle swept path analysis may be required] and details of proposed signage, implementation and enforcement;
- Mitigation measures – limited delivery times [and details of enforcement e.g., penalty clauses for contractor, noise reduction, wheel washing];
- Travel plan type measures;
- 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 on to the highway.

JSJV recommend to National Highways to ensure that the Applicant provides adequate agreements within the Schedule 2 requirements to refer specifically to the provision of a CTMP prior to works commencing. Once the phasing and construction details are defined, this document should refer to a scenario in which a construction phase and an operational phase occur during the same period.

Summary and Conclusions

A summary of our comments on the revised information submitted is detailed below:

- The information presented within the TA, at the time of initial review by National Highways, was based on the most representative information at the time of the DCO application;
- The GHD document submitted [ref: 2578580], provides a high-level review of the Applicant's TA to provide some indications of potential methods for determining and refining the application details.
- The revised capacity assessment is informed by the Statement of Common Ground agreements, informed by substantial correspondence between DFDS and ABP throughout the ongoing DCO process;
- Due to the revised parameters influencing PCU conversion factors, there is no material influence on previously agreed merge / diverge assessments;
- The results confirm that, for all of the SRN junctions assessed, with regard to the maximum reported RFC and estimated traffic queues, during the most onerous scenarios, including the sensitivity test, at Manby Roundabout, Brocklesby Interchange, Stallingborough Interchange or Habrough Roundabout, the forecast impacts considering all development are marginal and are unlikely to result in a severe impact in the opening year that would have a material impact on highway safety or require mitigation; and
- JSJV recommend to National Highways to ensure that the Applicant provides adequate agreements within the Schedule 2 requirements to refer specifically to the provision of a CTMP prior to works commencing. Once the phasing and construction details are defined, this document should refer to a scenario in which a construction phase and an operational phase occur during the same period.