

Viking CCS Pipeline

9.22 Quantitative Cumulative Assessment for Traffic and Transport

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1 Introduction

- 1.1.1 This Technical Note provides a quantitative assessment of cumulative traffic based upon the previously assessed cumulative project list assessed and reported in ES Chapter 12 Traffic and Transport [document reference 6.2.12 Revision B submitted at deadline 2)]. Assessment of the years 2025, 2026 and 2027 was conducted as this covers the entire from compound setup to demobilisation.
- 1.1.2 Details of the cumulative trip generation are provided in **Appendix 1**.

2 Methodology

- 2.1.1 An assessment of the potential for Cumulative effects with the other short-listed developments has been undertaken, with sites set out in **Table 2-1**
- 2.1.2 Whilst a small number of other developments may have an overlapping construction period, these are mostly located within Section 1 of the Proposed Development, centred around Immingham with some Nationally Significant Infrastructure Projects (NSIPs) located within this area.
- 2.1.3 Having identified those projects where Cumulative effects cannot be ruled out, a further analysis has been undertaken to assess whether there are likely to be significant Cumulative effects with the Proposed Development.
- 2.1.4 The relevant traffic and transport documentation within the application documentation submitted for each of the other developments have been interrogated to understand the likely 24hr AADT development flow. These traffic flows have then been distributed onto the appropriate links proposed to be used for construction of the Viking CCS Pipeline.
- 2.1.5 Where there is only AM and PM peak traffic included within an application, a factor has been applied to growth traffic from one hour’s worth of data to 24 hours.
- 2.1.6 The following sites were those that were included on the short list of other developments in the initial qualitative assessment undertaken. It is noted that only the construction phase of the developments have been included within the assessment as the operational traffic will already be accounted for in the TEMPro growth factors.

Table 2-1 Cumulative Developments

ID	Application Reference	Development Name and Details
#DCO-5	TR030007	<u>Immingham Eastern Ro-Ro Terminal</u>
#DCO-7	EN070006	<u>Humber Low Carbon Pipelines (previously developed by National Grid Ventures)</u>
#DCO-8	TR030008	<u>Immingham Green Energy Terminal (Associated British Ports)</u>
#NELC CULM-1	DM/0211/20/REM	<u>Keigar Homes Ltd – Residential Development off Station Road, Habrough.</u>

ID	Application Reference	Development Name and Details
		Outline application for a residential development of up to 118 dwellings
#NELC CULM-2	DM/1175/17/FUL	<u>Peter Ward Homes – Brocklesby Avenue Habrough Road</u> Residential development for 145 dwellings
#NELC CULM-3	DM/0696/19/FUL	<u>Cyden Homes – Residential development at Midfield Road, Humberston.</u> Erection of 225 dwellings
#NELC CULM-5	DM/1240/21/FUL	<u>Barratt York – New Waltham Phase 2 Residential Development</u> Erection of 227 dwellings,
#NELC CULM-6	DM/0026/18/FUL	<u>North Beck Energy Ltd – North Beck Energy Centre</u> Erect an Energy Recovery Facility with an electricity export capacity of up to 49.5MW
#NELC CULM-7	DM/1145/19/FUL	<u>Engie - NEL Energy Park</u> Construction and operation of an energy park comprising photovoltaic (PV) solar panels
#NELC CULM-8	DM/0105/18/FUL	<u>Engie – SHIP Stallingborough Interchange</u> Hybrid application seeking outline consent with access, landscaping, and scale to be considered for the development of a 62ha Business Park comprising up to 120,176 sq.m for B1 (Business), B2 (General Industrial) and B8 (Storage and Distribution
#NELC CULM-9	DM/0198/20/REM	<u>Cyden Homes – Proposed Residential Development at Land Off Larkspur Avenue</u> Reserved matters application following DM/0378/15/OUT (Outline planning application with means of access to be considered for the construction of up to 250 residential dwellings
#NELC CULM-12	DM/0899/21/FUL	<u>Grimsby Solar Farm – Aura Power</u>
#NELC CULM-20	DM/0728/18/OUT	<u>Brocklesby Estate – Residential Development on Land East of Stallingborough Road, Immingham.</u> Outline planning application for the development of up to 525 residential dwellings
#NELC CULM-24	DM/0118/15/OUT	<u>Monmouth Properties - Residential Development on Land at Toll Bar New Waltham.</u> Outline application with access to be considered for residential development (of up to 400 dwellings)
#NELC CULM-28	DM/0769/22/FUL	<u>CHI Investments – The Willows</u> Construction of new foul sewer and associated works
#NELC CULM-31	DM/1133/17/OUT	<u>Humberside Land Developers Ltd - Residential Development in Laceby</u> Outline application for 152 dwellings

ID	Application Reference	Development Name and Details
#NELC CULM-33	DM/1167/16/FUL / AP/001/19	<p><u>Cyden Homes – Residential Development Land off Brigsley Road, Waltham</u></p> <p>Hybrid application to include Full Planning for 194 dwellings</p>
#NELC CULM-38	DM/0118/23/FUL	<p><u>Land Developers (Lincs) Ltd – Residential Development at Land off Field Head Road, Laceby</u></p> <p>Erection of 60 dwellings</p>
#NELC CULM-39	DM/0261/23/OUT	<p><u>Residential Development at Land off Waltham Road, Barnoldby</u></p> <p>Outline erection of 42 dwellings</p>
N/A	DM/0433/21/FUL	<p><u>Humberston House Care Home Blackthorne Avenue Humberston North East Lincolnshire</u></p> <p>Erection of a residential care home for the elderly and associated external works</p>
N/A	DM/0927/22/OUT	<p><u>Land At The Former YMCA Peaks Lane Grimsby North East Lincolnshire DN32 9ET</u></p> <p>Outline application to create a care village to include a residential care home for the elderly (up to 80 bedrooms), intermediate care facility (up to 30 beds), independent living accommodation (up to 10 units) and ancillary facilities (all use class C2) with all matters reserved</p>
#NLC CULM-2	PA/2022/1223	<p><u>Associated British Ports (ABP) – Land Adjacent to the Westgate Entrance, Port of Immingham</u></p> <p>A hybrid application for port related employment uses.</p>
#NLC CULM-3	PA/2022/1548	<p><u>VPI Immingham - VPI Immingham Pilot Carbon Capture Plant</u></p> <p>Planning permission to construct and operate a temporary pilot post-combustion carbon capture plant and associated infrastructure</p>
#NLC CULM-4	PA/2022/628	<p><u>MF Strawson Limited – Residential Development at Main Road, Sturton</u></p> <p>Hybrid application comprising full planning permission to erect 32 dwellings and outline planning permission for 85 dwellings</p>
#NLC CULM-5	PA/2022/443	<p><u>Lightrock Power Ltd – Sweetbriar Farm</u></p> <p>Planning permission for the installation of a solar photovoltaic array/solar farm and associated infrastructure.</p>
#NLC CULM-9	PA/SCO/2022/13	<p><u>Orsted Gigastack Limited and Phillips 66 Limited – Gigastack Project</u></p> <p>EIA Scoping request for a 100MV hydrogen electrolyser together with an underground electrical cable connection to the Hornsea Two onshore</p>

ID	Application Reference	Development Name and Details
		substation, water discharge and a hydrogen export pipeline to the Humber Refinery.
#NLC CULM-12	PA/2023/422	<u>Humber Zero Project – Phillips-66 Carbon Capture Plant</u> Planning permission for the construction and operation of a post-combustion carbon capture plant,
#NLC CULM-13	PA/2023/421	<u>Humber Zero Project – VPI Immingham LLP Carbon Capture Plant</u> Planning permission for the construction & operation of a post-combustion carbon capture plant, including carbon dioxide compressor.
#NLC CULM-14	PA/SCO/2023/1	<u>Associated British Ports – Immingham Onshore Wind</u> EIA Scoping request for Immingham onshore wind including up to three wind turbines (Immingham Dock Western Entrance, Humber Road, South Killingholme).
#NLC CULM-15	PA/SCO/2023/2	<u>Associated British Ports – Immingham Onshore Wind</u> EIA Scoping request for Immingham onshore wind including up to three wind turbines (Land Along Tracks, West Haven Way, South Killingholme).
#NLC CULM-16	PA/2023/612	<u>VEV Services Limited - Vitol (VPI Immingham)</u> Planning permission for the installation of a 71.28 kwp solar carport.
#NLC CULM-17	PA/2018/918	Planning permission to construct a new gas-fired power station with a gross electrical output of up to 49.9 megawatts.
#NLC CULM-18	PA/SCO/2022/12	<u>Uniper - Humber Hub Blue Project</u> EIA scoping request for the Humber Hub Blue Project; a blue hydrogen production facility (HPF) on the south bank of the Humber to supply low-carbon hydrogen via a pipeline to industrial and power customers.
#NLC CULM-19	PA/2023/502	<u>Able UK Limited – Site Enabling Works, Land East of Rosper Road, Killingholme.</u> Full planning application for enabling works on land east of Rosper Road, Killingholme,
#NLC CULM-27	PA/2021/1525	<u>Able UK Limited - Monopole Manufacturing Facility at Land at Able Marine Energy Park, south of Station Road, South Humber Bank, South Killingholme</u> Planning permission to erect a monopole manufacturing facility to provide an offshore wind turbine monopile foundation manufacturing facility.
#ELDC CULM-1	N/085/00883/15	<u>Housing Development – Louth Road</u>

ID	Application Reference	Development Name and Details
		A hybrid application consisting of outline erection of up to 300 dwellings.
#ELDC CULM-2	N/133/01413/21	<u>Cyden Homes – Residential development at Ludborough Road</u> Application for the erection of 198no. dwellings.
#ELDC CULM-15	N/105/01055/22	<u>Charterpoint (Louth) Limited – Daisy Way, Louth</u> Outline erection of up to 90no. dwellings.
#ELDC CULM-18	N/019/01451/20	<u>Brackenborough Ltd – Brackenborough Hotel</u> Change of use of land for the siting of 114 no. holiday lodges.
#ELDC CULM-19	N/092/01017/20	<u>Lowell – Residential Development Chestnut Drive</u> Outline erection of up to 141 no. dwellings.
#ELDC CULM-22	N/085/01215/21	<u>Homes by Gleeson – Residential Development Louth Road, Holton Le Clay</u> Application for approval of reserved matters (appearance, landscaping, layout, and scale) for 233no. dwellings.
#ELDC CULM-31	N/105/01961/19	<u>Gleeson - Proposed Residential Brackenborough Road, Louth</u> Erection of 237no. dwellings,
#ELDC CULM-32	N/105/00593/19	<u>Cyden Homes – Proposed Residential Development at The Park, Eastfield Road, Louth.</u> Erection of 60no. houses in total.
#LCC CULM -7	PL/0037/23	<u>Manby BGE Ltd - Anaerobic Digester and Fertiliser Production Plant</u> For an anaerobic digester and fertiliser production plant at Land at Manby Airfield, off Manby Middlegate, Manby.
#OFF CULM-1	N/A	<u>Wider Viking CCS Project –</u> Offshore elements including the existing offshore Lincolnshire Offshore Gas Gathering system (LOGGS) Pipeline, a newly installed spur pipeline, and the offshore injection facilities for permanent storage.

3 Cumulative Assessment of Potential Impacts: Construction Phase – Workers and Construction

- 3.1.1 This section presents the results of the Cumulative assessment of potential effects for both the compounds and the construction of the pipeline.
- 3.1.2 **Table 3-1** presents the Cumulative traffic flows at those ATCs through which Cumulative traffic is predicted to pass. The potential for construction in the years 2025, 2026 and 2027 has been included within the assessment to provide a robust assessment approach.

Table 3-1. Committed Development by Affected Link

ATC Number	Road Link	Committed Development Traffic (Daily Two-Way)	
	Name	All	HGV
1	B1210	74	74
2	A1173	464	86
3	A160	41,22	1,235
14	A46	75	0
15	A46 Grimsby Road	0	2
18	A1173	75	0
19	A18 Barton Street North	75	0
20	A18 Barton Street South	75	0
42	A1173	2,295	1,930
44	A160	4,132	1,429
45	Killingholme Road	13	0
50	Grimsby Road	1,043	0
56	A1173	1,278	222
73	A46 Laceby Road	0	2
74	A16	0	2
75	A1173 Manby Road	2,239	259
77	A180 East of A1173	609	91
78	A180 Between A1173 and A160	774	717
80	Rosper Road	353	292

- 3.1.3 **Table 3-2** presents the proposed Viking CCS construction flows associated with the main construction phase of the development for all the ATCs included as part of the construction (note that rows shaded grey are not proposed to be used by any of the other developments).

Table 3-2 Proposed Viking CCS Construction Development Flow (Daily Two-Way)

ATC	Road Name	All Vehicles	HGVs	HGV %
1	B1210	237	38	16%
2	A1173	1,098	295	27%
3	A160	252	114	45%
6	A18	523	101	19%
7	Waltham Road 1	172	91	53%
9	A16	743	55	7%
10	Thoroughfare	97	17	18%
11	White Road	264	67	26%
12	A18	503	101	20%
13	A16	527	38	7%
14	A46	201	27	14%
15	A46 - Grimsby Road	320	62	19%
16	Washingdales lane	170	27	16%
18	A1173	813	252	31%
19	A18 - Barton Street North	749	210	28%
20	A18 - Barton Street South	647	138	21%
21	A16 Peaks Parkway	743	55	7%
22	Pear Tree Lane	91	38	42%
23	Ings Lane	20	0	0%
24	Alvingham Road	212	50	23%
25	Yarburgh Road	50	50	100%
26	Westfield Road	20	0	0%
27	A18	426	38	9%
28	A16	796	38	5%
29	Louth Bypass	418	56	13%
30	B1200 Manby Middlegate	418	56	13%
33	Saltfleet Road	237	52	22%
35	Thacker Bank	182	46	25%
36	Thacker Bank	98	0	0%
38	Three Bridge Lane	267	46	17%
39	Mill Road	20	0	0%
41	Habrough Road	175	47	27%
42	A1173	71	0	0%
44	A160	264	114	43%
45	Killingholme Road	113	47	42%
49	A180 - Westgate	501	71	14%

ATC	Road Name	All Vehicles	HGVs	HGV %
50	A1031 Grimsby Road	240	84	35%
51	A1031 Humberston Road	240	84	35%
52	A1031 Thoresby Road	240	84	35%
53	A1031 Main Road	240	84	35%
54	A1031 Warren Road	224	75	33%
56	A1173	71	0	0%
57	Roxton Road	77	38	49%
59	Little Grimsby Lane	87	0	0%
60	Brackenborough Road	39	0	0%
61	Brackenborough Road 2	39	0	0%
62	North Holme Road	297	0	0%
63	Keddington Road	346	0	0%
64	Louth Road 1	229	0	0%
65	Mill Hill Way	137	9	6%
66	Red Leas Lane	20	0	0
67	Pick Hill Lane	20	0	0
68	Marsh Lane	137	9	6%
69	Louth Road 2	43	43	100%
70	Main Road	23	0	0%
71	Kings Street	50	50	100%
72	Weelsby Road	293	72	25%
73	A46 Laceby Road	293	72	25%
74	A16	1,073	71	7%
75	A1173 Manby Road	184	55	30%
76	Keelby Road	157	23	15%
77	A180 - East of A1173	464	71	15%
78	A180 - Between A1173 and A160	904	312	34%
79	Mablethorpe Road	205	52	25%
80	Rosper Road	252	114	45%

3.1.4 **Table 3-3** below shows the Baseline 2026 and the Cumulative development and proposed development traffic data for each of the affected links outlined within **Table 3-1**.

Table 3-3. Baseline 2026 Development Flows and Cumulative Development for Affected Links (Daily Two Way)

ATC Number	Name	Baseline (2026)			Cumulative + Proposed Flows		
		All	HGV	HGV (%)	All	HGV	HGV (%)
1	B1210	9,737	637	7%	311	112	36.0%
2	A1173	6,092	668	11%	1,562	381	24.4%
3	A160	11,260	4,538	40%	4,374	1,349	30.8%
14	A46	7,652	865	11%	276	27	9.8%
15	A46 Grimsby Road	15,757	1,534	10%	320	64	19.8%
18	A1173	3,485	562	16%	888	252	28.4%
19	A18 Barton Street North	13,039	1,846	14%	824	210	25.5%
20	A18 Barton Street South	10,471	1,380	13%	722	138	19.1%
42	A1173	7,439	1,954	26%	2,366	1,930	81.6%
44	A160	15,037	5,542	40%	4,396	1,543	35.1%
45	Killingholme Road	4,350	394	9%	126	47	37.3%
50	Grimsby Road	13,512	188	1%	1,283	84	6.5%
56	A1173	6,847	1,345	20%	1,349	222	16.5%
73	A46 Laceby Road	18,295	1,151	6%	293	74	25.1%
74	A16	15,801	1,315	8%	1,073	73	6.8%
75	A1173 Manby Road	4,964	1,317	27%	2,423	314	13.0%
77	A180 East of A1173	27,982	3,787	16%	1,073	162	15.1%
78	A180 Between A1173 and A160	22,715	3,151	10%	1,678	1,029	61.3%
80	Rosper Road	3,800	1,583	42%	605	406	67.1%

3.1.5 **Table 3-4** shows the Baseline 2026 and the Baseline 2026 with Cumulative Development and Proposed Development traffic added for affected links. The percentage increase between the two scenarios is also included which compares the impact between the Baseline 2026 + Baseline 2026 with Cumulative and Proposed Development’s traffic.

Table 3-4. Baseline 2026 and Baseline 2026 With Cumulative Development and Proposed Development Traffic for Affected Links

ATC No.	Name	Baseline (2026)			Baseline (2026) with Cumulative Development + Proposed Development			Percentage Increase	
		All	HGV	HGV%	All	HGV	HGV%	All	HGV
1	B1210	9,737	637	7%	10,048	749	7%	3%	18%
2	A1173	6,092	668	11%	7,654	1,049	14%	26%	57%
3	A160	11,260	4,538	40%	15,634	5,887	38%	39%	30%
14	A46	7,652	865	11%	7,928	892	11%	4%	3%

ATC No.	Name	Baseline (2026)			Baseline (2026) with Cumulative Development + Proposed Development			Percentage Increase	
		All	HGV	HGV%	All	HGV	HGV%	All	HGV
15	A46 Grimsby Road	15,757	1,534	10%	16,077	1,598	10%	2%	4%
18	A1173	3,485	562	16%	4,373	814	19%	25%	45%
19	A18 Barton Street North	13,039	1,846	14%	13,863	2,056	15%	6%	11%
20	A18 Barton Street South	10,471	1,380	13%	11,193	1,518	14%	7%	10%
42	A1173	7,439	1,954	26%	9,805	3,884	40%	32%	99%
44	A160	15,037	5,542	40%	19,433	7,085	36%	29%	28%
45	Killingholme Road	4,350	394	9%	4,476	441	10%	3%	12%
50	Grimsby Road	13,512	188	1%	14,795	272	2%	9%	45%
56	A1173	6,847	1,345	20%	8,196	1,567	19%	20%	17%
73	A46 Laceby Road	18,295	1,151	6%	18,588	1,225	7%	2%	6%
74	A16	15,801	1,315	8%	16,874	1,388	8%	7%	6%
75	A1173 Manby Road	4,964	1,317	27%	7,387	1,631	22%	49%	24%
77	A180 East of A1173	27,982	3,787	16%	29,055	3,949	14%	4%	4%
78	A180 Between A1173 and A160	22,715	3,151	10%	24,393	4,180	17%	7%	33%
80	Rosper Road	3,800	1,583	42%	4,405	1,989	45%	16%	26%

- 3.1.6 **Table 3-4** shows that the percentage increase between the Baseline 2026 + Baseline Cumulative + Development traffic shows that in terms of all vehicles increases, the largest percentage impact is on Link 75 (A1173 Manby Road) with a 49% increase on 'all traffic', followed by Link 3 (A160) with an increase in 39% on 'all traffic', whilst there is also an increase of 32% on Link 42 (A1173).
- 3.1.7 In terms of HGV increase, the largest impact is on Link 42 (A1173) with an increase of 99%. There is an increase of 57% on Link 2 (57%) as well as 45% increase on Link 18 (A1173) and Link 50 (Grimsby Road).
- 3.1.8 There are also increases on the Strategic Road Network (SRN) in terms of HGVs of 33% on link 78 (A180 Between A1173 and A160) an increase of 30% on Link 3 (A160).

4 Magnitude of Effect

- 4.1.1 This section outlines the magnitude of effects when comparing the Baseline (2026) with Cumulative Development and Baseline 2026 With Cumulative Development + Proposed Development scenarios based on the percentage increases in **Table 3-4**
- 4.1.2 **Table 4-1** outlines the magnitude of effect comparing the Baseline (2026) with Cumulative Development and Baseline 2026 With Cumulative Development + Proposed Development scenarios based on the percentage increases carried through from **Table 2-5**.

Table 4-1. Magnitude of Effect

No.	Name	Traffic Increase %		Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
		All	HGVs					
1	B1210	3%	18%	Low	Very Low	Low	Very Low	Low
2	A1173	26%	57%	Medium	Very Low	Medium	Very Low	Low
3	A160	39%	30%	Low	Very Low	Low	Low	Low
14	A46	4%	3%	Very Low	Very Low	Very Low	Very Low	Low
15	A46 - Grimsby Road	2%	4%	Very Low	Very Low	Very Low	Very Low	Low
18	A1173	25%	45%	Medium	Very Low	Medium	Very Low	Low
19	A18 - Barton Street North	6%	11%	Low	Very Low	Low	Very Low	Low
20	A18 - Barton Street South	7%	10%	Low	Very Low	Low	Very Low	Low
42	A1173	32%	99%	High	Very Low	High	Low	Medium
44	A160	29%	28%	Low	Very Low	Low	Very Low	Low
45	Killingholme Road	3%	12%	Low	Very Low	Low	Very Low	Low
50	Grimsby Road	9%	45%	Medium	Very Low	Medium	Very Low	Low
56	A1173	20%	17%	Low	Very Low	Low	Very Low	Low
73	A46 Laceby Road	2%	6%	Very Low	Very Low	Very Low	Very Low	Low
74	A16	7%	6%	Very Low	Very Low	Very Low	Very Low	Low
75	A1173 Manby Road	49%	24%	Low	Very Low	Low	Low	Low
77	A180 - East of A1173	4%	4%	Very Low	Very Low	Very Low	Very Low	Low

No.	Name	Traffic Increase %		Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
		All	HGVs					
78	A180 - Between A1173 and A160	7%	33%	Low	Very Low	Low	Very Low	Low
80	Rosper Road	16%	26%	Low	Very Low	Low	Very Low	Low

- 4.1.3 Most links are considered to have a Very Low or Low magnitude of impact, except for Link 2 (A1173), Link 42 (A1173), and Link 50 in terms of Severance and Fear and Intimidation and a Medium at Link 42 (A1173) in terms of Highway Safety due to the large increases in HGV traffic (99%).

5 Significance of Effects

- 5.1.1 **Table 5-1** outlines the significance of effect on each of the affected Cumulative development links.

Table 5-1. Significance of Effect Prior to Additional Mitigation

No.	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
1	B1210	Medium	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
2	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
3	A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
14	A46	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
15	A46 - Grimsby Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
18	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
19	A18 - Barton Street North	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
20	A18 - Barton Street South	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
42	A1173	Very Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Negligible – Not Significant
44	A160	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
45	Killingholme Road	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
50	Grimsby Road	Medium	Moderate– Significant	Negligible – Not Significant	Moderate– Significant	Negligible – Not Significant	Minor– Not Significant
56	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

No.	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
73	A46 Laceby Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
74	A16	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
75	A1173 Manby Road	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Minor– Not Significant	Minor– Not Significant
77	A180 - East of A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
78	A180 - Between A1173 and A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
80	Rosper Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

- 5.1.2 The results of the significance assessment shows that users of one construction route will experience significant pre-mitigation effects due to construction traffic generated by the Proposed Development in addition to construction traffic generated by other developments. This is Link 50 (A1031 Grimsby Road) with significant effects in terms of Severance and Fear and Intimidation. However, this is the same level of significance reported for the Proposed Development alone and, as such, the cumulative effects are no more significant.
- 5.1.3 In terms of committed mitigation alongside that of a CTMP the following measures will be included:
- Restrictions on HGV journey times to avoid school pick up and drop off periods;
 - A booking system for deliveries will be established. The system will enable a daily profile of deliveries to be maintained and allow the Contractor to ensure that the required deliveries are forecast and planned; and
 - Monitoring to ensure prohibited construction routes are not used by traffic.
- 5.1.4 **Table 5-2** below shows the residual effects anticipated, after inclusion of the committed mitigation set out in ES Chapter 12 Traffic and Transport [APP-054]. Again, this is the same residual significance as the Proposed Development alone.

Table 5-2. Residual effects of Cumulative Construction Traffic

No.	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
1	B1210	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
2	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
3	A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
14	A46	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
15	A46 - Grimsby Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
18	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
19	A18 - Barton Street North	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
20	A18 - Barton Street South	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
42	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
44	A160	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
45	Killingholme Road	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
50	Grimsby Road	Medium	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Negligible – Not Significant
56	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

No.	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
73	A46 Laceby Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
74	A16	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
75	A1173 Manby Road	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
77	A180 - East of A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
78	A180 - Between A1173 and A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
80	Rosper Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

6 Conclusion

- 6.1.1 The Cumulative Assessment is based upon the previously assessed cumulative developments. The Assessment of the years 2025, 2026 and 2027 was conducted to ensure that all cumulative effects on the construction routes proposed to be used for construction of the was established which covers the whole construction period.
- 6.1.2 Only the road links that will have construction traffic generated by committed development on them have been included within the assessment.
- 6.1.3 The assessment with no mitigation in place shows that when comparing the Baseline (2026) with the Baseline 2026 With Cumulative Development + Proposed Development scenarios Only Link 50 - Grimsby Road is predicted to have a significant (moderate) effect. With the application of mitigation this effect is assessed to be **minor (not significant)**. Both the pre- and post-mitigation levels of effects are the same as the Proposed Development alone.

A.1 Cumulative Development Trip Generation Calculations

