Environmental Impact Assessment Report

NISA

North Irish Sea Array

Volume 4: Onshore Chapters

Chapter 24
Traffic and Transportation

Statkraft

CIP
Copenhagen Infrastructure Partners

GoBe
APEM Group

ARUP

Contents

24.	Traffic and Transportation	24.1
24.1	Introduction	24.1
24.2	Methodology	24.1
24.3	Baseline Environment	24.10
24.4	Characteristics of the Proposed Development	24.24
24.5	Potential Effects	24.31
24.6	Mitigation and Monitoring Measures	24.48
24.7	Residual Effects	24.62
24.8	Cumulative Effects	24.71
24.9	Transboundary Effects	24.71
24.10	References	24.71

Tables

Table 24.1 Onshore cable route sections and Associated Roads 24.2
Table 24.2 2022 Traffic survey locations 24.4
Table 24.3 2023 Traffic survey locations 24.5
Table 24.4 Definition of Terms – Sensitivity of Existing Environment 24.6
Table 24.5 Definition of Terms - Description of Effect 24.6
Table 24.6 Matrix Assessment of Significance of Effects 24.7
Table 24.7 Definition of Terms - Description of Effect 24.7
Table 24.8 Matrix Assessment of Significance of Effects 24.7
Table 24.9 Definition of Terms – Sensitivity of Existing Environment 24.8
Table 24.10 Definition of Terms - Description of Effect 24.8
Table 24.11 Matrix Assessment of Significance of Effects 24.9
Table 24.12 Definition of Terms – Sensitivity of Existing Environment 24.9
Table 24.13 Definition of Terms - Description of Effect 24.9
Table 24.14 Matrix Assessment of Significance of Effects 24.10
Table 24.15 Characteristics of Road Infrastructure Route Section 1: Grid facility to Harry Reynolds Road 24.10
Table 24.16 Characteristics of Road Infrastructure Route Section 2: Harry Reynolds Road to R132 (Junction of Hamilton Road) 24.10
Table 24.17 Characteristics of Road Infrastructure Route Sections 3.1 and 3.2: R132 to Blakes Cross 24.11
Table 24.18 Characteristics of Road Infrastructure Route Section 4: Blakes Cross to R129 Offline 24.11
Table 24.19 Characteristics of Road Infrastructure Route Section 5: Blakes Cross North along R129 24.12
Table 24.20 Characteristics of Road Infrastructure Route Section 6: Blakes Cross South to M1 Crossing 24.12
Table 24.21 Characteristics of Road Infrastructure Route Section 7: M1 Crossing Offline 24.12
Table 24.22 Characteristics of Road Infrastructure Route Section 8: South of M1 Crossing to Roundabout at Fingallians GAA Club 24.12
Table 24.23 Characteristics of Road Infrastructure Route Section 9: East of Fingallians GAA Club 24.13

Table 24.24 Characteristics of Road Infrastructure Route Section 10.1 and 10.2: Estuary Road (west to east) 24.13
Table 24.25 Characteristics of Road Infrastructure Route Section 11: Estuary Road (Residential Section) 24.13
Table 24.26 Characteristics of Road Infrastructure Route Section 12: Along R106 to R107 24.14
Table 24.27 Characteristics of Road Infrastructure Route Section 13: Along R107 to Kinsealy 24.14
Table 24.28 Characteristics of Road Infrastructure Route Section 14 Option A: Kinsealy to Northern Cross 24.14
Table 24.29 Characteristics of Road Infrastructure Route Section 14 Option B: Hole in the Wall Route 24.14
Table 24.30 Characteristics of Road Infrastructure Route Section 15: Along R139 to Belcamp Substation 24.15
Table 24.31 Bus routes and Frequency along the Onshore Cable Route 24.17
Table 24.32 Number of Buses Stopping along the Onshore Cable Route 24.19
Table 24.33 Estimated Year of Construction (2026) Two-way Baseline Traffic Flows (vehicles) along Primary Construction Compound Delivery Routes and Construction Traffic Access Routes along the Onshore Cable Route (Predicted baseline, excluding construction traffic) 24.21
Table 24.34 Estimated Year of Construction (2026) Two-way Baseline Traffic Flows (vehicles) along Likely Diversion Routes before Full Road Closures 24.22
Table 24.35 Car parking Required at Compounds and Working Areas Associated with the Onshore Cable Route 24.27
Table 24.36 Proposed Road Closures Due to Construction (in the absence of further mitigation measures) 24.28
Table 24.37 Two-way Daily Traffic Generation by the Compounds at the Landfall and Grid Facility Area 24.33
Table 24.38 Two-way Daily Traffic generation by the Construction Works and Staff/Service Trips 24.33
Table 24.39 Projected Construction Traffic Volumes on the Road Network 24.34
Table 24.40 Projected Traffic Flows 2026 – AM Peak Period 24.36
Table 24.41 Projected Traffic Flows 2026 – PM Peak Period 24.36
Table 24.42 Full Road Closure Impact on Local Diversion Route Operations 24.38
Table 24.43 Partial Road Closure Impact on Local Diversion Route Operations 24.40
Table 24.44 Full Road Closure Impact on Strategic Diversion Route Operations 24.42
Table 24.45 Full Road Closure Impact on Bus Services 24.44
Table 24.46 Partial Road Closure Impact on Bus Services 24.45
Table 24.47 Approximate Road Closure Durations 24.50
Table 24.48 Full Road Closure Impact on Local Diversion Route Operations 24.51
Table 24.49 Partial Road Closure Impact on Local Diversion Route Operations 24.54
Table 24.50 Full Road Closure Impact on Strategic Diversion Route Operations 24.56
Table 24.51 Full Road Closure Impact on Bus Services 24.59
Table 24.52 Partial Road Closure Impact on Bus Services 24.60
Table 24.53 Temporary Residual Significant Full Road Closure Impact on Local Diversion Route Operations 24.63
Table 24.54 Temporary Residual Significant Partial Road Closure Impact on Local Diversion Route Operations 24.66
Table 24.55 Temporary Residual Significant Full Road Closure Impact on Strategic Diversion Route Operations 24.68

24. Traffic and Transportation

24.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) presents an assessment of likely significant effects from the North Irish Sea Array (NISA) Offshore Wind Farm (hereafter referred to as the 'proposed development') in relation to Traffic and Transportation during the construction, operation and decommissioning phases.

This chapter sets out the methodology followed (Section 24.2), describes the baseline environment (Section 24.3) and summarises the main characteristics of the proposed development which are of relevance to Traffic and Transport (Section 24.4), including any embedded mitigation. Potential impacts and relevant receptors are identified, and an assessment of likely significant effects on Traffic and Transportation is undertaken, details of which are provided (Section 24.5).

Additionally, mitigation measures are proposed to mitigate and monitor these effects if required (Section 24.6) and any residual likely significant effects are then described (Section 24.7). Cumulative effects are summarised in Section 24.8 and detailed in full in Volume 6, Chapter 38: Cumulative and Inter-Related effects. Transboundary effects are considered (Section 24.9) and the chapter then provides a references section (Section 24.10).

The EIAR also includes the following:

- Detail on the competent experts that have prepared this chapter is provided in Appendix 1.1 in Volume 8
- Detail on the extensive consultation has been undertaken with a range of stakeholders during the development of the EIAR is set out in Appendix 1.2; and
- A glossary of terminology, abbreviations and acronyms is provided at the beginning of Volume 2 of the EIAR.

A detailed description of the proposed development including construction, operation and decommissioning is provided in Volume 2, Chapter 7: Description of the Proposed Development – Onshore (hereafter referred to as the 'Onshore Description Chapter'), and Volume 2, Chapter 9: Construction Strategy – Onshore (hereafter referred to as the 'Onshore Construction Chapter')). This chapter should also be read alongside the following appendices:

- Appendix 9.1 in Volume 8: Construction Traffic Management Plan (CTMP)
- Appendix 24.1 in Volume 10: Diversion Routes

As the offshore construction will largely be serviced from ports (e.g. marine related traffic), this is not dealt with in this chapter, but instead is described in Volume 2, Chapter 8: Construction Strategy – Offshore and other relevant offshore assessment chapters. This chapter therefore focuses on the construction of the onshore infrastructure.

24.2 Methodology

A detailed description of the proposed development in relation to traffic and transportation is provided in Section 24.4. The likely effects of the proposed development on the transport network will be greatest during the construction phase and the methodology reflects this. Given the traffic likely to be generated as well as the nature of the works, the operational and decommissioning phases are not likely to have a significant effect on the surrounding transport network.

The methodology used in this impact assessment is set out in the sections below.

24.2.1 Study Area

The onshore infrastructure associated with the proposed development comprises infrastructure at the landfall area north of Balbriggan, a grid facility and onshore cables between the grid facility and the connection to the existing Belcamp substation.

The majority of onshore development is located within Fingal County Council's administrative boundary with a small portion to the south (Section 14B and 15 – see Table 24.1 below) located within Dublin City Council's administrative boundary.

An overview of the study area is shown in Image 24.1. More detailed maps of the study area are also provided in Figure 24.1 (contained within Volume 8 of the EIAR). These show the road network likely to be affected by the proposed development during the construction phase of the proposed development. This is the area most likely to experience temporary changes in traffic flow during the construction phase.

The onshore cable route has been split into 17 route sections for the purpose of reporting and analysis of the existing road network: these route sections are the same as those used to describe the onshore cable route in the Onshore Description Chapter. There are two short offline sections through vacant fields (Section 4 and 7) that do not follow existing road alignments. Sections 6 and 13 also include the option for short offline sections.

Within another section (Section 14), there are two possible options for the cable route, to provide the developer with flexibility at construction stage. Only one of these options will be utilised and this will be confirmed prior to construction. The two options assessed are as follows:

- Option A along Malahide Road (R107); and
- Option B along Chapel Road, R124 Drumnigh Road and Hole in the Wall Road

The route sections are shown in Table 24.1 below and corresponds with Figure 24.1 (contained within Volume 7 of the EIAR) and the overview of the study are provided in Image 24.1.

Table 24.1 Onshore cable route sections and Associated Roads

Route Section	Road Name	Percentage of Onshore cable route
Section 1	R132 (Grid facility to Harry Reynolds Road)	3%
Section 2	Harry Reynolds Road (Junction of Hamilton Rd)	5%
Section 3.1	R132 (Harry Reynolds Road to Watercourse Crossing Wx09)	22%
Section 3.2	R132 (Watercourse Crossing Wx09 to north of Blakes Cross)	8%
Section 4	Cable Routing Offline	2%
Section 5	R129	1%
Section 6	R132 (Blakes Cross to Lissenhall)	8%
Section 7	Cable Routing Offline	2%
Section 8	M1 Flyover to Estuary Roundabout	4%
Section 9	Spittal Hill/Lissenhall	1%
Section 10.1	Estuary Road (Lissenhall to Seatown Road)	2%
Section 10.2	Estuary Road (Seatown Road to Swords Sailing Club and Boating Club)	5%
Section 11	Estuary Road (Swords Sailing Club and Boating Club to R106)	2%
Section 12	R106	2%
Section 13	R107 (From Junction of R106 to Kinsealy)	6%
Section 14 Option A	R107 (From Kinsealy to Northern Cross)	7%
Section 14 Option B	Chapel Road	14%
	R124	
	Hole in the Wall Road	

Route Section	Road Name	Percentage of Onshore cable route
	R139 Clarehall Avenue	
Section 15	R139	6%

In terms of the traffic impact assessment the main geographical areas of focus are:

- The road network along which the underground onshore cable will be constructed (refer to Image 24.1 below and Figure 24.1)
- The road network providing access to the construction compounds; and
- Proposed temporary road closures and associated diversion of routes and bus services.

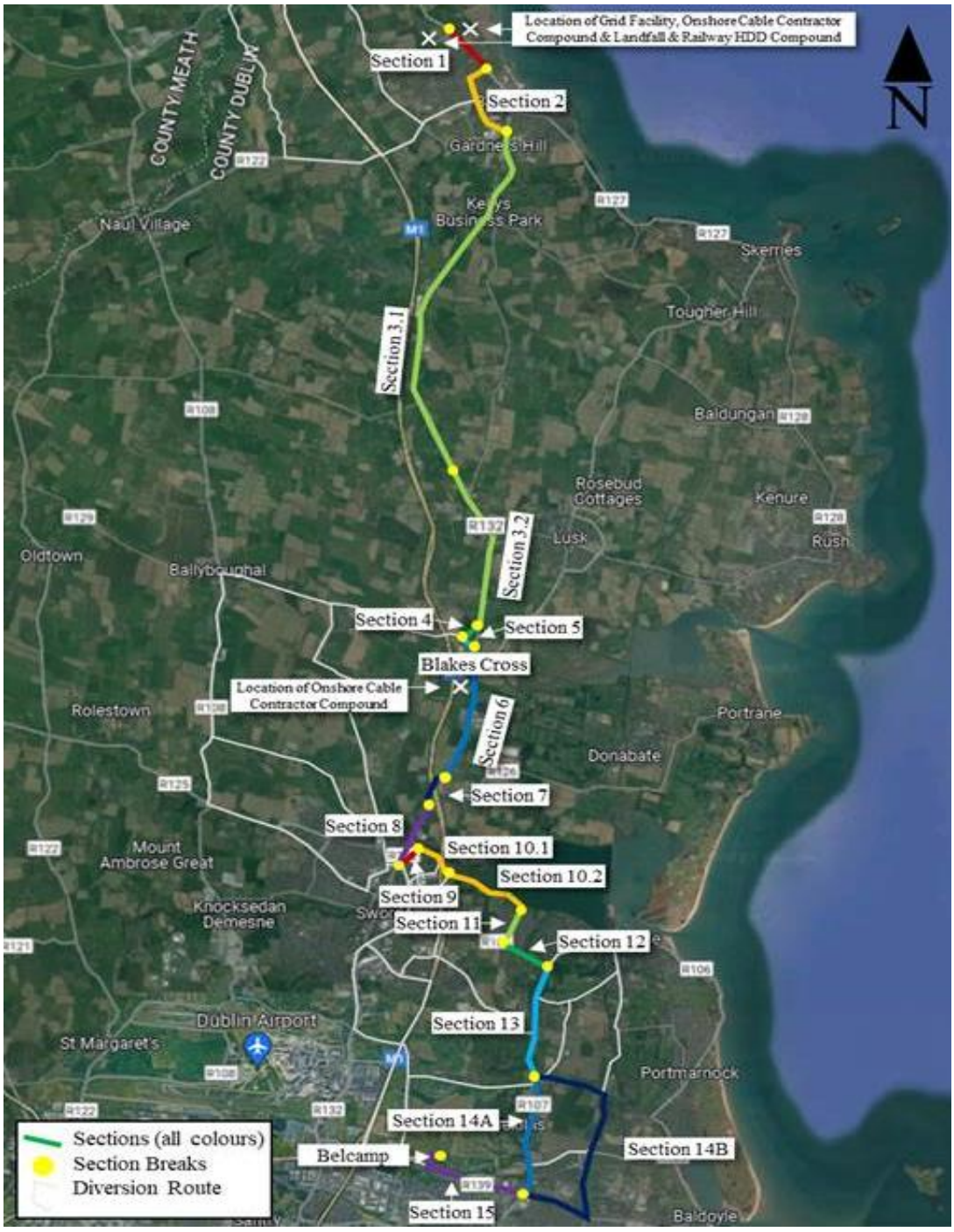

Image 24.1 Onshore cable route sections

24.2.2 Traffic Data Collection and Collation

Traffic count data surveys were carried out in 2022 and 2023 to establish baseline conditions on the receiving road network as follows:

- 2022: at 43 locations between 06:00 and 20:00 on Thursday 31st March 2022 (refer to Table 24.2); and
- 2023: at 27 locations between 06:00 and 20:00, on Wednesday 20th September 2023 (refer to Table 24.3)

The traffic count data was recorded at 15-minute intervals for each turning movement at each arm of a junction.

The locations of the survey data are presented on Figure 24.1. Both sets of data were used to establish the baseline environment (refer to Section 24.3).

A review of demand was undertaken using TII fixed traffic counters to ensure these survey days reasonably represent demand in the area taking account of seasonal traffic fluctuations.

Table 24.2 2022 Traffic survey locations

Junction No	Arm Names
1	Clonshaugh Road/R139 East/R139 West
2	R107 Malahide Road North/R139 East/R107 Malahide Road South/R139 West
3	R107 Malahide Road North/Balgriffin Road/R107 Malahide Road South/Balgriffin Cottages
4	R107 Malahide Road North/R107 Malahide Road South/Baskin Lane
5	R107 Malahide Road North/R107 Malahide Road South/Feltrim Road
6	R106 Dublin Road North/R107 Malahide Road South/Swords Road
7	Estuary Road/Swords Road East/Swords Road West
8	Applegreen access/R106 Swords Road/Mountgory Way/R106 Swords Road
9	M1 On-Ramp/M1 Off-Ramp/R125
10	R132 East/R125 South/R132 West/R836 North
11	R132 North/R106 East/R132 South/R106 West
12	Swords Bypass North/Mantua Road/Swords Bypass South/Seatown Road
13	Estuary Road East/Seatown Road/Estuary Road
14	R132 Lissenhall Road/Spittal Hill/R132 Swords Bypass/R125 Castlegrange Road
15	Lissenhall Road Overpass/M1 Cloghran Lissenhall Motorway Off-Ramp/R132 Lissenhall Road/M1 Cloghran Lissenhall Motorway On-Ramp
16	R132 Jordanstown Road/R126 Hearse Road/M1 Cloghran Lissenhall Motorway On-Ramp/Lissenhall Road Overpass/M1 Cloghran Lissenhall Motorway Off-Ramp
17	R132 North/L2136 Ascaill Thuirbhe/Jordanstown Road/Maxol
18	R132 North/R127 Skerries Road/R132 South
19	R132 North/R132 South/R129
20	R132 North/Ministers Road/R132 South
21	Hedgestown Lane Access/R132 On-Ramp/R132 Overpass/R132 Off-Ramp
22	R132 Nevitt Road On-Ramp Off-Ramp/R132 Overpass/L1080 Nevitt Road/Mary's Lane
23	R132 North/R132 South/L1140/Applegreen access
24	M1 Balbriggan Bypass Off-Ramp/L1140/M1 Balbriggan Bypass On-Ramp/M1 Balbriggan Bypass Overpass
25	M1 Balbriggan Bypass On-Ramp/M1 Balbriggan Bypass Overpass/M1 Balbriggan Bypass Off-Ramp/L1140
26	R132 North/Old Coach Road/R132 South
27	R132 Dublin Street/L5460 Hamilton Road/R132 South/L1360 West
28	L1360 East/L1390 West Harry Reynolds Road

Junction No	Arm Names
29	L1390 East/Stephenstown Industrial Estate/L1390 West/Stephenstown Link Road
30	R122 Naul Road North/L1390/R122 Naul Road South
31	R122 East/M1 Balbriggan Bypass On-Ramp/M1 Overpass/M1 Balbriggan Bypass Off-Ramp
32	M1 Overpass/M1 Balbriggan Bypass Off-Ramp/R122 West/M1 Balbriggan Bypass On-Ramp
33	Flemington Lane/Bridgefoot Road South/Bridgefoot Road North
34	R132 Drogheda Street South/Flemington Lane/R132 Drogheda Street North
35	Drogheda Street South/Harry Reynolds Road/Drogheda Street North
36	Drogheda Street South/Chapel Street West/Drogheda Street North
37	Harry Reynolds Road East/Harry Reynolds Road South/Moylaragh Road
38	Chapel Street East/Harry Reynolds Road South/Chapel Street West/Harry Reynolds Road North
39	The Rise/Barons Hall Rise/Hamlet Lane
40	Clonard Road East/Stephenstown Link Road/Clonard Road West/Castlemill Link Road
41	M1 Overpass/M1 Balbriggan Bypass Off-Ramp/Gormanston Road/M1 Balbriggan Bypass On-Ramp
42	R132 East/M1 Gormanston Road R132 On-Ramp/M1 Overpass/M1 Gormanston Road R132 Off-Ramp
43	M1 Overpass/M1 Gormanston Road R132 Off-Ramp/R32 West/M1 Gormanston Road R132 On-Ramp

Table 24.3 2023 Traffic survey locations

Junction No.	Arm Names
1	Clonshaugh Road/R139 East/R139 West
2	R107 Malahide Road North/R139 East/R107 Malahide Road South/R139 West
3	Belmayne Avenue/R139 East/Clare Hall/R139 West
4	Hole in the Wall Road/R139 East/R809 Grange Road/R139 West
5	Hole in the Wall Road/Main Street East/Hole in the Wall Road/Main Street West
6	Drumnigh Road/Moyne Road East/Hole in the Wall Road/Moyne Road West
7	R124 North/Station Road/R124 South
8	R124 North/The Old Road/R124 South/Chapel Road
9	R107 Malahide Road North/Balgriffin Road/R107 Malahide Road South/Balgriffin Cottages
10	R107 Malahide Road North/Chapel Road/R107 Malahide Road South
11	R107 Malahide Road North/Myra Manor/R107 Malahide Road South/Feltrim Road
12	Estuary Road East/Seatown Road/Estuary Road
13	Lissenhall Road Overpass/M1 Cloghran Lissenhall Motorway Off-Ramp/R132 Lissenhall Road/M1 Cloghran Lissenhall Motorway On-Ramp
14	R132 Jordanstown Road/R126 Hearse Road/M1 Cloghran Lissenhall Motorway On-Ramp/Lissenhall Road Overpass/M1 Cloghran Lissenhall Motorway Off-Ramp
15	R132 North/R132 South/R129
16	R132 North/ Minister's Road / R132 South
17	R132 North/ School Lane / R132 South
18	R132 Dublin Street/L5460 Hamilton Road/R132 South/L1360 West
19	R122 Naul Road North/L1390/R122 Naul Road South
20	Drogheda Street South/Harry Reynolds Road/Drogheda Street North
21	R132/M1 Balbriggan Bypass On-Ramp/R132 Overpass/R132 Off Slip
22	R108 North/R108 Main Street/R129 West
23	R125 East/R108/R125 West

Junction No.	Arm Names
24	Balheary Road South / R125 West/ R125 South/Castlegrange Green
25	R106 Malahide Road South / R106 Malahide Road East/ The Pavilions Car Park North
26	Estuary Road/R106 Swords Road East/R106 Malahide Road East
27	Estuary Road/R106 Malahide Road West/R016 Malahide Road East

24.2.3 Time Periods Assessed

The time periods assessed include the busiest periods - namely the morning (7:45 – 8:45) and evening peak periods (17:00 – 18:00) - and also daily flows (i.e., 24-hour period).

In terms of future assessment years, construction is expected to commence in 2026/27 (subject to planning consent). The construction phase is expected to last for two years, with the operational year assessed for 2029. The construction base year has therefore been assumed as 2026 as this is expected to be the busiest period during the construction phase.

24.2.4 Method for Assessment of Impacts

The significance of effects is based on the Environmental Protection Agency's 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' (May 2022). Topic specific criteria were developed for each potential impact based on definitions developed to describe the sensitivity of the particular existing environment and definitions developed to describe the magnitude or the duration of the particular impact.

The criteria for the potential impact on the operations of local diversion routes, strategic diversion routes and bus services are explained in the following sections.

24.2.4.1 Construction and Operational Traffic Impacts

The description of the significance of the projected traffic impact on traffic operations within the study area is based on:

- Definitions developed to describe the sensitivity of the existing environment based on the functional hierarchy of the road (refer to Table 24.4), busier roads being at the top of the hierarchy with the Trans-European Transport Network (TEN-T) identified as the highest sensitivity; and
- Definitions developed to describe the magnitude of the effect in terms of the reduction in road capacity, as guided by the Traffic and Transport Assessment Guidelines from Transport Infrastructure Ireland, published in May 2014 (refer to Table 24.5)

Table 24.6 outlines the matrix assessment of the significance of effects of construction and operational traffic impacts, whereby the magnitude is scaled from Imperceptible to Profound.

Table 24.4 Definition of Terms – Sensitivity of Existing Environment

Sensitivity	Description	Definition
High	High importance and rarity, national scale and limited potential for substitution	TEN-T Network
Medium	High or medium importance and rarity, regional scale, limited potential for substitution	Other National Roads
Low	Low or medium importance and rarity, local scale	Regional or Local Roads with annual average daily traffic (AADT) more than 5 000
Negligible	Very low importance and rarity, local scale	Regional or Local Roads with AADT less than 5 000

Table 24.5 Definition of Terms - Description of Effect

Magnitude of Impact	Definition
High	More than 25% increase in traffic volumes
Medium	10% to 25% increase in traffic volumes

Magnitude of Impact	Definition
Low	5% to 10% increase in traffic volumes
Negligible	Less than 5% increase in traffic volumes

Table 24.6 Matrix Assessment of Significance of Effects

		Sensitivity			
		TEN-T Network	**Other National Roads**	**Regional or Local Roads AADT > 5 000**	**Regional or Local Roads AADT < 5 000**
Magnitude	More than 25% increase in traffic volumes	Profound	Very Significant or Significant	Significant or Moderate	Moderate or Slight
	10% to 25% increase in traffic volumes	Very Significant or Significant	Significant or Moderate	Moderate or Slight	Slight or Not Significant
	5% to 10% increase in traffic volumes	Significant or Moderate	Moderate or Slight	Slight or Not Significant	Not Significant
	Less than 5% increase in traffic volumes	Moderate or Slight	Slight or Not Significant	Not Significant	Imperceptible

24.2.4.2 Full Road Closure Traffic Impacts on Local Diversion Routes

The description of the significance of the full road closure impact on local diversion route operations is based on the same approach as set out in Section 24.2.4.1.

24.2.4.3 Full Road Closure Traffic Impacts on Strategic Diversion Routes

The description of the significance of the full road closure impact on strategic diversion route operations is based on the same approach as set out in Section 24.2.4.1.

24.2.4.4 Partial Rod Closure Traffic Impacts on Local Diversion Routes

The description of the significance of the partial road closure impact on local diversion route operations is based on:

- Definitions developed to describe the sensitivity of the existing environment based on the functional hierarchy of the road (refer to Table 24.7), busier roads being at the top of the hierarchy with the Trans-European Transport Network (TEN-T) identified as the highest sensitivity; and
- Definitions developed to describe the duration of the effect of the partial road closure

Table 24.7 Definition of Terms - Description of Effect

Duration of Impact	Definition
High	More than 4 weeks
Medium	2 to 4 weeks
Low	1 to 2 weeks
Negligible	Less than a week

The overall significance of the potential impact was measured using the below matrix.

Table 24.8 Matrix Assessment of Significance of Effects

	Sensitivity			
	TEN-T Network	**Other National Roads**	**Regional or Local Roads**	**Regional or Local Roads**

		Sensitivity			
				AADT > 5 000	**AADT < 5 000**
Duration	More than 4 weeks	Profound	Very Significant or Significant	Significant or Moderate	Moderate or Slight
	2 to 4 weeks	Very Significant or Significant	Significant or Moderate	Moderate or Slight	Slight or Not Significant
	1 to 2 weeks	Significant or Moderate	Moderate or Slight	Slight or Not Significant	Not Significant
	Less than a week	Moderate or Slight	Slight or Not Significant	Not Significant	Imperceptible

24.2.4.5 Full Road Closure Traffic Impacts on Bus Services

The description of the significance of the full road closure impact on bus services is based on:

- Definitions developed to describe the sensitivity of the existing environment based on the number of bus services affected during the peak hour (refer to Table 24.9) which represents the functional hierarchy of the bus service (busier routes being at the top of the hierarchy)
- Definitions developed to describe the duration of the effect of the full road closure (refer to Table 24.10)

Table 24.9 Definition of Terms – Sensitivity of Existing Environment

Sensitivity	Description	Definition
High	High importance and rarity, national scale and limited potential for substitution	More than 60 buses during the peak hour
Medium	High or medium importance and rarity, regional scale, limited potential for substitution	40 to 60 buses during the peak hour
Low	Low or medium importance and rarity, local scale	20 to 40 buses during the peak hour
Negligible	Very low importance and rarity, local scale	0 to 20 buses during the peak hour

Table 24.10 Definition of Terms - Description of Effect

Duration of Impact	Definition
High	More than 2 weeks
Medium	1 to 2 weeks
Low	Less than a week
Negligible	1 day

The overall significance of the potential impact was measured using the below matrix.

Table 24.11 Matrix Assessment of Significance of Effects

		Sensitivity			
		More than 60 buses during the peak hour	**40 to 60 buses during the peak hour**	**20 to 40 buses during the peak hour**	**0 to 20 buses during the peak hour**
Duration	**More than 2 weeks**	Profound	Very Significant or Significant	Significant or Moderate	Moderate or Slight
	1 to 2 weeks	Very Significant or Significant	Significant or Moderate	Moderate or Slight	Slight or Not Significant
	Less than a week	Significant or Moderate	Moderate or Slight	Slight or Not Significant	Not Significant
	1 day	Moderate or Slight	Slight or Not Significant	Not Significant	Imperceptible

24.2.4.6 Partial Road Closure Traffic Impacts on Bus Services

The description of the significance of the partial road closure impact on bus services is based on:

- Definitions developed to describe the sensitivity of the existing environment based on the likelihood of bus services incurring delays, expressed in traffic volume (refer to Table 24.12); and
- Definitions developed to describe the duration of the effect of the partial road closure (refer to Table 24.13)

Table 24.12 Definition of Terms – Sensitivity of Existing Environment

Sensitivity	Description	Definition
High	High importance and rarity, national scale and limited potential for substitution	More than 40 000 AADT
Medium	High or medium importance and rarity, regional scale, limited potential for substitution	20 000 AADT to 40 000 AADT
Low	Low or medium importance and rarity, local scale	10 000 AADT to 20 000 AADT
Negligible	Very low importance and rarity, local scale	Less than 10 000 AADT

Table 24.13 Definition of Terms - Description of Effect

Duration of Impact	Definition
High	More than 4 weeks
Medium	2 to 4 weeks
Low	1 to 2 weeks
Negligible	Less than a week

The overall significance of the potential impact was measured using the below matrix.

Table 24.14 Matrix Assessment of Significance of Effects

		Sensitivity			
		More than 40 000 AADT	**20 000 AADT to 40 000 AADT**	**10 000 AADT to 20 000 AADT**	**Less than 10 000 AADT**
Duration	**More than 4 weeks**	Profound	Very Significant or Significant	Significant or Moderate	Moderate or Slight
	2 to 4 weeks	Very Significant or Significant	Significant or Moderate	Moderate or Slight	Slight or Not Significant
	1 to 2 weeks	Significant or Moderate	Moderate or Slight	Slight or Not Significant	Not Significant
	Less than a week	Moderate or Slight	Slight or Not Significant	Not Significant	Imperceptible

24.3 Baseline Environment

24.3.1 Local Transport Network and Services

The character of the roads within the study area is generally rural in nature with some urban sections of the road network within Balbriggan, Malahide, Northern Cross and Belcamp. A summary of the existing roadways is provided in Table 24.15 – Table 24.30. The onshore cable route has been split into 17 route sections, as discussed in Section 24.2.1.

The existing demand is based on the traffic count data that was collected for the assessment (refer to Section 24.2.2) and presented as the Annual Average Daily Traffic (AADT). AADT is an estimate of the average daily traffic flow at a specific location along a roadway throughout the entire year.

Table 24.15 Characteristics of Road Infrastructure Route Section 1: Grid facility to Harry Reynolds Road

Route Section 1: Grid facility to Harry Reynolds Road	
R132	
Function	Strategic route connecting Co. Louth/Armagh border with Dublin City, running adjacent to the M1
Existing Traffic Demand	7,501 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 9m.
Shoulder type	Grass verges outside town and footpaths in urban sections
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.16 Characteristics of Road Infrastructure Route Section 2: Harry Reynolds Road to R132 (Junction of Hamilton Road)

Route Section 2: Harry Reynolds Road to R132 (Junction of Hamilton Road)	
Harry Reynolds Road	
Function	Local route, running adjacent to the R132
Existing Traffic Demand	7,216 - 11,751 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 7m
Shoulder type	Grass verges
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.17 Characteristics of Road Infrastructure Route Sections 3.1 and 3.2: R132 to Blakes Cross

Route Section 3.1 and 3.2: R132 to Blakes Cross	
R132 (Gardners Hill to Balrothery)	
Function	Strategic route connecting Balbriggan with Balrothery, running adjacent to the M1.
Existing Traffic Demand	11,909 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 12m
Shoulder type	Varies between grass verges and hard shoulders
Footpath	Footpaths at sections closest to settlement, no footpath in middle section of road.
Cycle Lane	No (Small section of cycle track around Gardners Hill)
Bus Lane	No
R132 (Balrothery to The Five Roads)	
Function	Strategic route connecting Co. Louth/Armagh border with Dublin City, running adjacent to the M1 via Balrothery.
Existing Traffic Demand	9,980 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 10-12m
Shoulder type	Hard Shoulder
Footpath	No (Small section of footpath from Knock Cross to M1 Business Park)
Cycle Lane	No
Bus Lane	No
R132 (The Five Roads to Corduff)	
Function	Strategic route connecting Co. Louth/Armagh border with Dublin City, running adjacent to the M1 via Blakes Cross.
Existing Traffic Demand	8,043 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 10-12m
Shoulder type	Varies between hard shoulder and grass verges
Footpath	No
Cycle Lane	No
Bus Lane	No

Table 24.18 Characteristics of Road Infrastructure Route Section 4: Blakes Cross to R129 Offline

Route Section 4: Blakes Cross to R129 Offline	
Cable Routing Offline	
Function	Offline Section
Existing Traffic Demand	N/A
Width	N/A
Shoulder type	N/A
Footpath	N/A
Cycle Lane	N/A
Bus Lane	N/A

Table 24.19 Characteristics of Road Infrastructure Route Section 5: Blakes Cross North along R129

Route Section 5: Blakes Cross to R129	
R129	
Function	Strategic route connecting R122 (Ballyboughal) to (R132 Blakes Cross)
Existing Traffic Demand	6, 083 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 8m
Shoulder type	Varies between grass verges and hard shoulders
Footpath	No
Cycle Lane	No
Bus Lane	No

Table 24.20 Characteristics of Road Infrastructure Route Section 6: Blakes Cross South to M1 Crossing

Route Section 6: Blakes Cross to M1 Crossing	
R132 Blakes Cross to Lissenhall	
Function	Strategic route connecting Blakes Cross with Dublin City, crossing the M1
Existing Traffic Demand	28,233 AADT
Width	The road has two lanes in each direction with an overall carriageway width of roughly 16-18m.
Shoulder type	Varies between hard shoulder and grass verges
Footpath	No
Cycle Lane	No
Bus Lane	No

Table 24.21 Characteristics of Road Infrastructure Route Section 7: M1 Crossing Offline

Route Section 7: M1 Crossing Offline	
Cable Routing Offline	
Function	N/A
Existing Traffic Demand	N/A
Width	N/A
Shoulder type	N/A
Footpath	N/A
Cycle Lane	N/A
Bus Lane	N/A

Table 24.22 Characteristics of Road Infrastructure Route Section 8: South of M1 Crossing to Roundabout at Fingallians GAA Club

Route Section 8: South of M1 Crossing to Roundabout at Fingallians GAA Club	
R132 (M1 Flyover to Estuary Roundabout)	
Function	Strategic route connecting Swords with Dublin City/ North County Dublin, running adjacent to the M1.
Existing Traffic Demand	31,664 AADT
Width	The road is a dual carriageway with a central grass verge. The overall carriageway width of roughly 28m.

Route Section 8: South of M1 Crossing to Roundabout at Fingallians GAA Club	
Shoulder type	Hard shoulder
Footpath	No
Cycle Lane	No
Bus Lane	No

Table 24.23 Characteristics of Road Infrastructure Route Section 9: East of Fingallians GAA Club

Route Section 9: East of Fingallians GAA Club	
Spittal Hill/Lissenhall	
Function	Local access road which provides a route between the R132 and Estuary Road.
Existing Traffic Demand	3,741 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 7m
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.24 Characteristics of Road Infrastructure Route Section 10.1 and 10.2: Estuary Road (west to east)

Route Section 10.1 and 10.2: Estuary Road (west to east)	
Estuary Road (Lissenhall to Swords Sailing & Boating Club)	
Function	Local access road which provides a route between the R132 and R106. The route is of scenic value and during summer months experiences higher traffic flows, views of Malahide Estuary.
Existing Traffic Demand	3,181 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 6m along the coastal section,
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.25 Characteristics of Road Infrastructure Route Section 11: Estuary Road (Residential Section)

Route Section 11: Estuary Road (Residential Section) to R106	
Estuary Road (Swords Sailing and Boating Club to R106)	
Function	Local access road which provides a route between the R132 and R106.
Existing Traffic Demand	7,435 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 8m though the residential areas.
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.26 Characteristics of Road Infrastructure Route Section 12: Along R106 to R107

Route Section 12: Along R106 to R107	
R106	
Function	Strategic access road connecting Malahide and Swords.
Existing Traffic Demand	12,316 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 7m.
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.27 Characteristics of Road Infrastructure Route Section 13: Along R107 to Kinsealy

Route Section 13: Along R107 to Kinsealy	
R107 (From Junction of R106 to Kinsealy)	
Function	Strategic access road connecting Malahide and Fairview via Coolock and Balgriffin.
Existing Traffic Demand	13,977 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 6-7m.
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.28 Characteristics of Road Infrastructure Route Section 14 Option A: Kinsealy to Northern Cross

Route Section 14 Option A: Malahide Route	
R107 (From Kinsealy to Northern Cross)	
Function	Strategic access road connecting Malahide and Fairview via Coolock and Balgriffin.
Existing Traffic Demand	19,879 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 6-7m. Road widens on approach to northern cross to allow for two lanes in each direction with an overall carriageway width of approximately 17m.
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No
Bus Lane	No

Table 24.29 Characteristics of Road Infrastructure Route Section 14 Option B: Hole in the Wall Route

Route Section 14 Option B: Hole in the Wall Route	
Chapel Road	
Function	Local Access Road connecting the R107 at Kinsealy to the R124 Plunkett Cottages
Existing Traffic Demand	9,513 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 5-6m.

Route Section 14 Option B: Hole in the Wall Route	
Shoulder type	Grass verge
Footpath	Yes, there are footpaths at the western end of the road towards Kinsealy
Cycle Lane	No
Bus Lane	No
R124	
Function	Strategic Access Road connecting Malahide in the north to the R123 in Balgriffin via Old Portmarnock.
Existing Traffic Demand	10,069 AADT
Width	The road has one lane in each direction with an overall carriageway width of roughly 7m.
Shoulder type	Varies between grass verge and footpath
Footpath	Yes
Cycle Lane	No
Bus Lane	No
Hole in the Wall Road	
Function	Local Access Road connecting Balgriffin and Donaghmede, via Fr Collins Park
Existing Traffic Demand	14,979 AADT
Width	The road has one lane and bus lane in each direction with an overall carriageway width of roughly 11-15m.
Shoulder type	Varies between footpath and cycle lane
Footpath	Yes
Cycle Lane	Yes
Bus Lane	Yes
R139 Clarehall Avenue	
Function	Strategic Access Road connecting Baldoyle to the M50/M1 interchange via Donaghmede and Clarehall
Existing Traffic Demand	24,066 AADT
Width	The road has one lane and bus lane in each direction with an overall carriageway width of roughly 15m.
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No
Bus Lane	Yes

Table 24.30 Characteristics of Road Infrastructure Route Section 15: Along R139 to Belcamp Substation

Route Section 15: Along R139 to Belcamp Substation	
R139	
Function	Strategic access road connecting Donaghmede to the M1 via Northern Cross and Belcamp.
Existing Traffic Demand	32,057 AADT
Width	The road has two lanes in each direction with an overall carriageway width of roughly 6-7m.
Shoulder type	Grass verge
Footpath	Yes
Cycle Lane	No

Route Section 15: Along R139 to Belcamp Substation	
Bus Lane	No

In terms of public transport services and infrastructure, a number of buses operate along the onshore cable route. These services include both regional and local bus routes. Multiple regional services operate within Balbriggan including the 101 and 101X, connecting Drogheda to Dublin City Centre and Dublin Airport. Local bus services operating at varying frequencies along the onshore cable route include the 33(a, b, e, n, t) and the 102(a, c, p, t). Bus routes 33n and 42n operate night-time services along the onshore cable route. The full bus route and frequencies are presented in Table 24.31, and the number of buses stopping along each section of the onshore cable route is presented in Table 24.32.

Table 24.31 Bus routes and Frequency along the Onshore Cable Route

Route Sections	Direction	Route No.	Route	Peak Hour Frequency 8AM - 9AM	No. services per day	Additional Comments
1, 3, 6, 7, 8	N	101	Airport - Drogheda	Every 20/30 mins	46	Hourly until 6am, approx every 30 mins after 11am
	S		Drogheda - Airport	Every 20/30 mins	45	Hourly until 5am, approx every 20 mins until 9am, then every 30 mins
1, 3, 7, 8	N	101X	Wilton Terrace - Drogheda	-	4	Evening only service, occurs 40 mins apart until 5:40pm, then 30 mins then 20 mins
	S		Drogheda - Wilton Terrace	Every 16 mins	5	Morning only service, approx every 30 - 20 mins exception for the last service
1, 2, 3	N	191	Marlborough Street - Mountain View	-	2	Evening only service, approx every 45 mins
	S		Mountain View - Marlborough Street	Every 50 mins	3	Morning only service, approx every 50 mins
6, 7, 8	N	33	Lower Abbey St - Balbriggan	Every 50 mins	22	Approx every 35/45 mins outside peak hour
	S		Balbriggan - Lower Abbey St	Every 15/ 20 mins	24	Approx every 45/50 mins outside peak
6, 7, 8	N	33a	Dublin Airport - Balbriggan	Every 30/55 mins	25	Approx every 30 mins or 60 mins outside peak
	S		Balbriggan - Dublin Airport	Every 40/60 mins	25	Approx every 30 mins or 60 mins outside peak
7, 8	N	33b	Swords - Portrane	Every 30 mins	30	20 mins before, 30 mins from 8
	S		Portrane - Swords	Every 20/30 mins	31	Approx every 30/40 mins outside peak
6, 7, 8	N	33e	Lwr Abbey St - Skerries	Once at peak	1	Morning only service, once a day
	S		N/A	-	-	No bus route in this direction
6, 7, 8	N	33n	Westmoreland St - Balbriggan	-	4	Night bus Friday & Saturday only
	S		N/A	-	-	No bus route in this direction
6	N	33t	Donabate - Skerries	-	1	Bus runs once during peak, does not intersect any section
	S		Skerries - Donabate	-	1	Runs once in the afternoon
6, 7	N	33X	St. Stephen’s Green - Skerries	-	5	Approx every 15/30 mins, only in late afternoon/evening
	S		Skerries - St Stephen Green	Every 25 mins	5	Approx every 20 mins before peak hour
11	N	102	Sutton DART - Dublin Airport	Every 20/30 mins	37	Approx every 30 mins, exception of one 20 mins apart during peak
	S		Dublin Airport - Sutton DART	Every 25/30 mins	37	Approx every 30 mins, exception of one 25 mins apart during peak
11	N	102a	Sutton - Swords	-	1	Once in the afternoon
	S		N/A	-	-	No bus route in this direction

Route Sections	Direction	Route No.	Route	Peak Hour Frequency 8AM - 9AM	No. services per day	Additional Comments
13, 14A	N	102c	Sutton - Balgriffin	-	1	Once in the afternoon
	S		Balgriffin - Sutton	-	1	Morning only service, before peak
11	N	102p	Portmarnock - Swords	-	2	Twice in the afternoon
	S		Swords - Portmarnock	Every 12 mins	2	Morning only service, twice at peak
11	N	102t	Sutton- Swords	-	1	Once in the afternoon
	S		Swords - Sutton	-	2	Morning only service, twice before peak, every 10 mins
11	N	142	UCD - Portmarnock	-	4	Evening only service
	S		Portmarnock - UCD	Every 10 mins	5	Morning only service
11, 12, 13, 14A	N	42	Talbot St. - Sand's Hotel Portmarnock	Every 20/25 mins	42	Approx every 25/30 mins outside peak
	S		Sand's Hotel Portmarnock - Talbot St	Every 20 mins	42	Approx every 30 mins outside peak
11	N	42d	DCU - Portmarnock	-	1	Evening only service
	S		Portmarnock - DCU	Once at peak	1	Morning only service
11, 12, 13, 14A	N	42n	D'Olier St. - Portmarnock	-	5	Night bus Friday & Saturday only
	S		N/A	-	-	No bus route in this direction
13, 14A	N	43	Talbot Park - Swords Business Park	Every 20/ 30 mins	30	Approx every 50 mins outside peak
	S		Swords Business Park – Talbot Street	Every 20 mins	31	Approx every 50 mins outside peak
11, 12	N	32X	UCD Belfield - Malahide	-	1	Evening only service
	S		Malahide - UCD Belfield	-	1	Morning only service, before peak
14B	N	15	Ballycullen Road - Clongriffin	Every 5-10 mins	Approx 118	Approx every 5-12 mins from 8:20AM to 5:10PM, every 10/15 mins after
	S		Clongriffin - Ballycullen Road	Every 8 - 12 mins	Approx 119	Approx every 8-12 mins from 8:10AM to 5:10PM, every 10/15 mins after
14	N	27	Jobstown - Clare Hall	Every 10 mins	Approx 102	Approx every 5-10 mins, every 20 mins after 7:30PM
	S		Clare Hall - Jobstown	Every 10 mins	Approx 103	Approx every 5-10 mins, every 20 mins after 7:30PM
14B	N	27X	UCD Belfield -Clare Hall	-	1	Evening only service
	S		Clare Hall - UCD Belfield	Every 30 mins	2	Morning only service

Table 24.32 Number of Buses Stopping along the Onshore Cable Route

Route Section	Road	No. of buses stopping in both directions AM peak hour (8am - 9am)
1	R132	6
2	Harry Reynolds Road	1
3	R132	1
4	Offline	0
5	R132	0
6	R132	10
7	Offline	0
8	R132	10
9	Spittal Hill / Lissenhall	0
10	Estuary Road	0
11	Estuary Road	15
12	R106 Swords Road	6
13	R107 Malahide road	14
14A	R107 Malahide Road	14
14B	Chapel Road, R124 Drumnigh Road and Balgriffin Park	29
15	R139	0

The Dublin-Belfast railway line runs through Balbriggan, and along the coast. There is a rail station in Balbriggan accessible via the R132. The proposed onshore cable route will cross under the railway line at the landfall site north of Balbriggan. A total of 75 passenger rail services use this line daily made up of services between Dublin-Belfast and Dublin-Drogheda/Dundalk. Freight trains may also use the line on a weekly basis.

24.3.2 2026 Baseline Projected Travel Patterns

To assess the potential impact of the proposed development on the local road network, a future existing baseline of traffic flows (for the construction year of 2026/27) (excluding construction traffic) was established based on the traffic count survey data (refer to Section 24.2.2).

The Traffic Infrastructure Ireland (TII) Project Appraisal Guidelines for National Roads Unit 16.1 - Expansion Factors for Short Period Traffic Counts PE-PAG-02039 were used to estimate AADT for the base year of 2026. This involved converting the 14-hour traffic link counts to 24-hour totals. The 24-hour counts were further converted to using factors to AADT using a process based on factors developed based on the day of the week and the month the counts were undertaken.

This use of AADT accounts for the variation that can occur in traffic flows across the year as a result of:

- The seasonal effects of tourism/public holidays
- Reductions in school/work trips during holiday periods
- The effect of annual leave on the volume of commuting trips during the summer months

- Changes in the level of retail activity.

Based on guidance contained in the TII Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections PE-PAG-02017, the 2023 AADT were converted to 2026 AADT based on county specific link-based growth rates for light goods vehicles and heavy goods vehicles. Growth rates for Dublin, Meath and Louth were used as appropriate.

The resulting morning peak, evening peak, 14-hour traffic flows and AADT for the base year of 2026 are presented in Table 24-33 for road links along the primary construction compound delivery routes and the construction traffic access routes along the onshore cable route. Full road closures are required at certain points along seven of the 17 onshore cable route sections (route sections 1, 5, 9, 10, 12, 13 and 14) and this is discussed in more detail in Section 24.4.2.3. Base year flows for road links along likely diversion routes are presented in Table 24.34.

Table 24.33 Estimated Year of Construction (2026) Two-way Baseline Traffic Flows (vehicles) along Primary Construction Compound Delivery Routes and Construction Traffic Access Routes along the Onshore Cable Route (Predicted baseline, excluding construction traffic)

Route Section	Junction	Links	AM Peak (07:45-08:45)		PM Peak (17:00-18:00)		14 hour		Typical 24 hour (AADT)	
			Veh	% HGV	Veh	% HGV	Veh	% HGV	Veh	% HGV
-	21	R132	766	1%	638	1%	7064	5%	7229	6%
1	20	Drogheda Street South	899	2%	934	0%	10299	3%	10540	3%
-	19	R122 Naul Road South	1467	3%	1299	1%	13247	4%	13557	4%
2	18	R132 Dublin Street	1118	3%	1196	1%	12284	3%	12571	3%
3	17	R132 North	1041	2%	960	1%	10449	5%	10693	5%
3	16	R132 North	823	9%	810	5%	8321	10%	8515	10%
5	15	R132 South	875	8%	980	5%	9344	9%	9563	9%
-	14	R132 Jordanstown Rd	3163	6%	3528	4%	36294	7%	37144	7%
-	13	Lissenhall Road Overpass	3163	6%	3509	4%	36305	7%	37155	7%
10	12	Estuary Rd East	548	2%	840	1%	7669	2%	7848	2%
12	26	Swords Rd East	1164	3%	1155	1%	12702	2%	12999	2%
13	11	R107 Malahide Rd	1164	3%	1239	1%	14418	3%	14755	3%
13	10	R107 Malahide Rd	1174	3%	1240	1%	14487	3%	14826	3%
14A	9	R107 Malahide Rd	1412	4%	1508	1%	17446	4%	17854	4%
14B	8	R124 Drumnigh Rd	1131	1%	1002	0%	10386	2%	10629	2%
14B	7	R124 Drumnigh Rd	1138	1%	1012	0%	10402	2%	10645	2%
14B	6	R124 Drumnigh Rd	898	1%	900	0%	9679	2%	9906	2%
14B	5	Hole in the Wall Rd	671	1%	764	1%	7795	2%	7978	2%
14B	4	R139 Clarehall Avenue	1871	3%	1986	1%	23389	1%	23936	1%
14B	3	R139 Clarehall Avenue	1972	4%	2174	1%	24792	4%	25372	4%
15	2	R107 Malahide Rd	2437	7%	2697	2%	33124	6%	33899	6%
15	1	R139 East	4123	5%	4279	2%	48889	5%	50033	5%

Table 24.34 Estimated Year of Construction (2026) Two-way Baseline Traffic Flows (vehicles) along Likely Diversion Routes before Full Road Closures

Route Section	Junction	Links	AM Peak (07:45-08:45)		PM Peak (17:00-18:00)		14 hour		Typical 24 hour (AADT)	
			Veh	% HGV	Veh	% HGV	Veh	% HGV	Veh	% HGV
1	19	R122	1467	3%	1299	0%	13247	3%	13557	3%
	20	Harry Reynolds Road	644	1%	750	1%	7442	2%	7616	2%
5	15	R132 South	875	8%	980	5%	9344	9%	9563	9%
	23	R125 East	774	3%	775	2%	7078	3%	7244	3%
	22	R108 Main St	565	4%	469	2%	4472	5%	4576	5%
9	12	Estuary Road	273	1%	441	1%	3281	2%	3358	2%
	12	Mantua Road	348	1%	604	1%	5509	1%	5638	1%
	12 (2022)	R132	2734	4%	2797	1%	30811	3%	31532	3%
10.1	12	Mantua Road	348	1%	604	1%	5509	1%	5638	1%
	12 (2022)	R132	2734	4%	2797	1%	30811	3%	31532	3%
	14 (2022)	Spittal Hill/Lissenhall	291	3%	470	1%	3836	3%	3926	3%
10.2	26	Estuary Road	453	4%	513	1%	5530	2%	5660	2%
	26	R106 W	1230	3%	1183	1%	12848	2%	13148	2%
	25	R132	2755	3%	2766	2%	30261	4%	30969	4%
	12	Mantua Road	348	1%	604	1%	5509	1%	5638	1%
12	26	R106	1230	3%	1183	1%	12848	2%	13148	2%
	25	R132	2185	3%	2405	1%	25648	3%	26248	3%
	10 (2022)	R125	876	2%	987	1%	10846	2%	11100	2%
	1	R139	4123	5%	4279	2%	48889	5%	50033	5%
	2	R107	1575	4%	1624	1%	20516	4%	20996	4%
13	6 (2022)	R106	909	3%	831	1%	9746	3%	9974	3%
	25	R132	2185	3%	2405	1%	28648	3%	26248	3%
	10 (2022)	R125	876	2%	987	1%	10846	2%	11100	2%
	2	R139	2437	7%	2697	2%	33124	6%	33899	6%
14A	6 (2022)	R106	909	3%	831	1%	9746	3%	9974	3%
	25	R132	2185	3%	2405	1%	28648	3%	26248	3%

Route Section	Junction	Links	AM Peak (07:45-08:45)		PM Peak (17:00-18:00)		14 hour		Typical 24 hour (AADT)	
			Veh	% HGV	Veh	% HGV	Veh	% HGV	Veh	% HGV
	10 (2022)	R125	876	2%	987	1%	10846	2%	11100	2%
	2	R139	2437	7%	2697	2%	33124	6%	33899	6%
14B.1	10	R107	1326	3%	1373	1%	15753	3%	16122	3%
	9	R123	918	3%	893	1%	10256	4%	10496	4%
	6	R124	898	1%	900	0%	9679	2%	9906	2%
14B.2	27	R106	946	2%	980	1%	11418	2%	11685	2%
	11	R107	673	3%	810	1%	9852	3%	10083	3%
	9	R123	918	3%	893	1%	10256	4%	10496	4%
14B.3	6	R123	830	3%	821	1%	9316	4%	9535	4%
	6	Hole in the Wall Road	688	1%	685	1%	7168	1%	7336	1%
	5	Belmayne	804	0%	619	0%	6222	1%	6368	1%

24.4 Characteristics of the Proposed Development

24.4.1 Introduction

The following sections present the traffic and transportation elements of the proposed construction strategy (as outlined in the Onshore Construction Chapter) including the proposed delivery and access routes. It also sets out the likely duration of the works associated with the various phases of construction and the scale of traffic associated with each phase of the construction works including the construction of the various compounds and works areas as well as the construction of the onshore cable route, grid facility, landfall and associated infrastructure. In addition, the traffic and transportation elements of the proposed operational phase and decommissioning phase are also presented.

This section also sets out embedded mitigation measures such as defined construction traffic access routes, measures relating to the delivery of abnormal loads and maintenance of local access to properties during the construction phase (refer to Section 24.4.2.1 and Section 24.4.2.2 below). These embedded mitigation measures are assumed in the assessment of potential effects set out in Section 24.5.

24.4.2 Construction Phase

Construction related traffic flows will be generated by delivery and construction vehicles travelling to and from the construction compounds proposed to serve the onshore development area of the proposed development, each with an access point off the public road network. Three primary contractor compounds will be established, comprising the grid facility contractor compound which will support the construction of the grid facility and two cable contractor compounds (the Bremore cable contractor compound and the Blakes Cross cable contractor compound) which will support the construction of the onshore cable route.

The following contractor compound access points within the landfall site and grid facility are shown on Figure 24.2:

- Landfall HDD contractor compound (via an access point to a local road at A, which then connects to the R132) - up to 6,000m^2 in area will be provided within agricultural land
- Railway HDD exit site compound (via an access point to a local road at A, which then connects to the R132) - up to 1,500m^2 in area
- Grid facility contractor compound (direct access point onto the R132 at B)
- Railway HDD entry site contractor compound and Bremore cable contractor compound (direct access point onto the R132 at C) - up to 1,500m^2 in area.

The following contractor compound and working area access points along the onshore cable route are also shown on Figure 24.2:

- Wx10 offline crossing (E3-E4)
- Blakes Cross South cable contractor compound – Blakes Cross South (at H)
- Wx11 offline crossing – Blakes Cross North (F&G)
- HDD Entry Compound – Blakes Cross North – 1,500m^2 in area
- HDD exit Compound – Blakes Cross South – 1,500m^2 in area
- Wx12 & Wx13 offline crossing – Blakes Cross South (I)
- M1 HDD Entry Compound - 1,500m^2 in area (at J)
- M1 HDD Exit Compound 1,500m^2 in area (at K)
- Wx22 HDD Entry Compound (L)
- Wx22 HDD Exit Compound (M)

- Wx25 and Belcamp substation connection working area (N).

At watercourse crossings where an offline HDD option is selected an HDD contractor compound either side of the crossing will be provided (entry and exit) within agricultural land up to 1,500m^2 in area. At watercourse crossings where an inline HDD option is selected an HDD contractor compound either side of the crossing will be provided (entry and exit) within the road corridor.

In addition to the construction traffic travelling to and from the proposed construction compounds, construction related traffic flows will also be generated by traffic travelling along the onshore cable route construction route sections within the public road (an overview is provided in Image 24-1 and more detail is provided in Figure 24.1, and listed previously in Table 24.1) during each section's construction phase.

24.4.2.1 Landfall and Grid Facility Area

For the purposes of this assessment, in light of the proximity of the landfall site and grid facility adjacent to each other, these aspects are considered together throughout. The landfall and grid facility area, as referenced hereafter in this chapter, therefore, includes all elements of the onshore infrastructure of the proposed development between the high water mark (HWM) and the grid facility. Of particular relevance to this assessment of the construction phase is that, at the landfall and grid facility area there will be a landfall HDD contractor compound, two railway HDD contractor compounds and the Bremore cable contractor compound on the eastern side of the R132 as well as the grid facility contractor compound on the western side of the R132. All compounds in this area will be accessed from the R132.

The main characteristics of the proposed development and embedded mitigation measures, with regard to the traffic and transport assessment, at the landfall and grid facility area are as follows:

- Construction works at the landfall and grid facility area are expected (overall) to take approximately 24 months in total although, individual work elements (e.g. railway HDD, landfall HDD) will be of much shorter duration within this overall construction period
- Site clearance and associated earthworks in this area related to the Landfall HDD compound, the Railway HDD compounds, the Bremore cable contractor compound and the grid facility contractor compound will take place during the first 4 months. It is estimated that the majority of construction traffic will be generated during this time due to the estimated volume of site clearance earthworks. Earthworks activity at the landfall and grid facility area will be staggered to limit the impact on the capacity and operation of the R132
- The duration of construction works at the grid facility contractor compound will be approximately 24 months between 2026/27 and 2028/29. For the purpose of the assessment, it was robustly assumed that the export and import of earthworks related to the setup of the compound at the grid facility contractor compound will take place over a period of 2 months, with this occurring before the construction of the HDD compounds near the landfall area begins
- The duration of civil construction works at the landfall HDD contractor compound will be c. 10 months between 2026/27 and 2027/28. For the purpose of the assessment, it was robustly assumed that the export and import of earthworks related to the setup of the compound will take place over a period of 1 month
- The duration of construction works at the railway HDD exit and entry contractor compounds will have a duration of c. 2-3 months. For the purpose of the assessment, it was robustly assumed that the export and import of earthworks related to the setup of the compound will take place over a period of 1 month; and
- The duration of compound construction works at the Bremore cable contractor compound will run concurrently with the construction works at the grid facility contractor compound, with a duration of c. 2 months. For the purpose of the assessment, it was robustly assumed that the export and import of earthworks related to the setup of the compound will take place over a period of 2 months.

In relation to parking, it is assumed that the following staff numbers will use the contractor compounds associated with the landfall site and grid facility daily during the construction periods:

- 21 staff members at each of the landfall HDD compound, railway HDD exit compound, and railway HDD entry compounds daily during the construction phase. Robustly assuming a vehicle occupancy of 1.2 (that is, one vehicle being used for every 1.2 staff commuting to the compound as per the Project Appraisal Guidelines Unit 6.11 - National Parameters Values Sheet (PE-PAG-02030) published by Transport Infrastructure Ireland in December 2023) the number of temporary parking spaces required at each HDD compound is 18
- 104 staff members at the Bremore cable contractor compound daily during the compound construction phase. Assuming a vehicle occupancy of 1.2 the number of temporary parking spaces required at the Bremore cable contractor compound is 87
- 83 staff members at the grid facility compound daily during the construction period. Assuming a vehicle occupancy of 1.2 the number of temporary parking spaces required at the grid facility compound is 69

The primary construction compound delivery route to the landfall site and grid facility will be via Junction 7 on the M1 along the R132, as shown on Figure 24.2. Construction traffic related to the construction of the compounds at the landfall and grid facility area will be directed to avoid the alternative route (R122 and Harry Reynolds Road) through Balbriggan town centre.

The impact of the projected traffic on traffic operations along the R132 at the landfall and grid facility area are discussed in Section 24.5.2.4.

The use of the HDD technique to route the onshore export cables under the railway will avoid any disruption to railway infrastructure and the rail services between Dublin-Belfast and Dublin-Drogheda/Dundalk. The impact on the rail service will therefore be neutral, not significant and temporary.

24.4.2.2 Onshore Cable Route

The onshore cable route will connect the grid facility to the existing substation at Belcamp (noting consent has also been granted for an extension to this facility, Fingal County Council planning application ref: F23A/0040) and will comprise two 220 kV High Voltage Alternating Current (HVAC) cable circuits with associated fibre optic communication and earthing cables laid underground. The main characteristics of the onshore cable route and embedded mitigation measures, with regard to the assessment are as follows:

- The onshore cable route is approximately 33-35km in length
- The cables will primarily be laid underground along public roads, which will require temporary traffic management during construction
- There will be offline route sections where the route deviates offline from the road and traverses private lands: construction access points will be provided for access to these offline route sections as detailed in section 24.4.2
- Underground cables to be installed will generally be via open cut trenches, with temporary partial road closures (stop-go traffic management) required during construction and temporary full road closures along specific route sections. In a number of discrete locations, the option of crossing under some bridges/culverts using in-line HDD is also considered. This would require partial road closures for the duration of the HDD works
- The duration of construction works along the onshore cable route will be c. 24 months commencing in 2026/27, with completion in 2028/29. To ensure a robust assessment it was assumed that the export and import of earthworks/fill associated with the excavation and backfilling of the onshore cable route to/from the cable contractor compounds at Bremore and Blakes Cross will take place over a period of 24 months
- It was robustly assumed that the export and import of earthworks related to the setup of the compound along the onshore cable route to/from the two M1 HDD contractor compounds at the R132 will take place over a period of 2 months

- The export and import of earthworks related to site clearance along the onshore cable route to/from the potential offline watercourse crossings along the R132 will take place over a period of 2 months
- The export and import of earthworks related to site clearance along the onshore cable route to/from the potential offline watercourse crossings along the R106 and R107 will take place over a period of 2 months
- In relation to staff parking, it is assumed that during construction the following staff numbers will use the compounds associated with the onshore cable route daily. The number of required parking spaces is also listed in Table 24.35.

Table 24.35 Car parking Required at Compounds and Working Areas Associated with the Onshore Cable Route

Access Points	Working Areas and Compounds	Staff	Car Parking Required
C	Bremore cable contractor compound	104	87
E3-E4	Watercourse Crossing Wx10 offline water crossing working area	21	18
F	Watercourse Crossing Wx11 offline HDD entry site contractor compound	21	18
G	Watercourse Crossing Wx11 offline HDD exit site contractor compound	21	18
H	Blakes Cross cable contractor compound and Water Crossing Wx12 and 13* HDD entry site contractor compound	104	87
I	Watercourse Crossing Wx12 and/or 13* HDD exit site contractor compound	21	18
J	M1 offline HDD entry site contractor compound	21	18
K	M1 offline HDD exit site contractor compound	21	18
L	Watercourse Crossing Wx22 offline HDD entry site contractor compound	21	18
M	Watercourse Crossing Wx22 offline HDD exit site contractor compound	21	18
N	Watercourse Crossing Wx25 and Belcamp substation connection working area	21	18

** HDD is one offline option for watercourse crossing WX13, the other being an open cut trench. If HDD is not required, then a working area for the open cut trench would be provided.*

Construction activities related to the onshore cable route will include the establishment of a number of contractor compounds and working areas (E3, E4, F, G, H, I, J, K, L, M and N). Vehicles accessing the Blakes Cross cable contractor compound will be restricted to the primary construction compound delivery route. Vehicular access to the remaining site contractor compounds and working areas will be restricted to the construction traffic access routes along the onshore cable route.

The primary construction compound delivery routes and the construction traffic access routes along the onshore cable route are shown on Figure 24.2.

In order to limit the construction impact in Balbriggan, construction activities related to the onshore cable route itself will be restricted to the R122 and Harry Reynolds Road only.

The Bremore cable contractor compound (access point C) will serve the construction of the cable between Bremore and the offline watercourse crossings at access points E3 – E4 (route sections 1 to 3.1). The Blakes Cross cable contractor compound (access point H) will serve the construction of the cable between access points E3 – E4 and Belcamp (access point N) (route sections 3.2 to 15).

The impact of the projected traffic on traffic operations along the onshore cable route are discussed in Section 24.5.2.4.

24.4.2.3 Road Closures

As detailed in the Onshore Description Chapter and the Onshore Construction Chapter, the cables need to be laid within the public road, except in very limited circumstances, to comply with Eirgrid requirements. The Onshore Construction Chapter describes the construction strategy and details that for the purpose of constructing and laying the onshore cables within the public road, a number of partial and full road closures will be required.

Temporary full road closures required during the construction of the onshore cable route have been identified by considering the following:

- Local road widths, including any footways
- Constraints such as proximity of road-side trees, local infrastructure, and street furniture.

The full road closures have been identified along narrower roads where the construction width is limited and where it would not be possible to lay the cable while safely maintaining partial traffic flows. In the case of full road closures local property access will still be maintained for car, active travel (pedestrians and cyclists) and service/emergency vehicles throughout, through the contractor's implementation of safe traffic management measures. Local diversion routes have been identified to maintain local community accessibility by car and active modes (See Appendix 24.1 in Volume 10). Strategic diversion routes have also been identified to mitigate the impact on local roads and will be recommended for general 'through' traffic where possible (See Appendix 24.1 in Volume 10). Bus diversion routes and bus stop relocations have been identified to ensure access to bus services is reasonably maintained where possible (See Appendix 24.1 in Volume 10). The strategic diversion routes will limit the volume of diverted general 'through' traffic along the bus diversion routes.

There will also be rolling temporary partial (single lane) closures (each approximately 200 - 300m in length) throughout the remaining onshore cable route sections along the public road network. For temporary partial road closures, traffic flow will be maintained with the use of rolling temporary stop/go traffic signals along each section. Local diversion routes have been identified that will alleviate congestion along the corridor (See Appendix 24.1 in Volume 10). Local property access will be maintained for car, active travel and service/emergency vehicles throughout. Buses will be prioritised at stop/go locations where possible. Strategic diversion routes are not proposed for these partial closure locations.

Diversion routes will be managed according to the Contractor's Construction Traffic Management Plan (CTMP), refer to Section 24.6.1.

As outlined above, those living along the road closure section will be able to access their properties throughout the road closure. It is envisaged that the majority of local traffic with an origin or destination within close proximity to the road closure will likely use the signed local diversion routes whilst the majority of traffic travelling from farther afield will be intercepted at the nearest 'decision point' with diversion signage to direct them along the strategic diversion route where possible. In addition, some users will adjust their traffic patterns by temporarily altering departure and arrival times and/or by temporarily switching from car to other modes for some of their trips.

The durations and types of road closures detailed herein are based on the approximate durations required to excavate the cable trench, lay the ducting and protective measures, construct the cable joint bays and reinstate both the trench and road surface. Further, much shorter road closures (likely partial road closures in most cases) will be needed for the cable installation and cable jointing.

Table 24.36 lists the route sections along the onshore cable route, whether full or partial road closures are identified and the approximate duration of closure in the absence of additional mitigation measures. The duration and type of road closures will be agreed with the relevant local authorities prior to construction. Mitigation measures to minimise the duration of full road closures are set out in section 24.6.1.

Table 24.36 Proposed Road Closures Due to Construction (in the absence of further mitigation measures)

Route Section	Road	Closure Type	Approx. Duration of Closure (Pre-mitigation)
1	R132	Full (Temporary duration)	2-3 weeks
2	Harry Reynolds Road	Partial (Temporary duration)	15 weeks (sequential~200m partial closures along full section)
3	3.1 R132 (Harry Reynolds Road to Watercourse Crossing Wx09)	Partial (Temporary duration)	99 weeks (this overall duration will be made up of sequential ~200m partial closures along full section)
	3.2 R132 (Watercourse Crossing to North of Blakes Cross Wx09)		

Route Section	Road	Closure Type	Approx. Duration of Closure (Pre-mitigation)
4	Offline		
5	R129	Full (Temporary duration)	2 weeks
6	R132	Partial (Temporary duration)	27 weeks (this overall duration will be made up of sequential~200m partial closures along full section)
7	Offline		
8	R132	Partial (Temporary duration)	20 weeks (this overall duration will be made up of sequential~200m partial closures along full section)
9	Spittal Hill/Lissenhall	Full (Temporary duration)	1-2 weeks
10	10.1 Estuary Road	Full (Temporary duration)	5-6 weeks
	10.2 Estuary Road	Full (Temporary duration)	11-12 weeks
11	Estuary Road	Partial (Temporary duration)	5 weeks (this overall duration will be made up of sequential~200m partial closures along full section)
12	R106 Swords Road	Full (Temporary duration)	6-7 weeks
13	R107 Malahide Road	Full (Temporary duration)	10-11 weeks
14A	R107 Malahide Road	Full (Temporary duration)	1-2 weeks
14B	1. Chapel Road	Full (Temporary duration)	6-7 weeks
	2. R124 Drumnigh Road	Full (Temporary duration)	7-8 weeks
	3. Balgriffin Park	Full (Temporary duration)	1-2 weeks
15	R139	Partial (Temporary duration)	16 weeks

The impact of road closures on the following are discussed in Sections 24.5.2.5, 24.5.2.6 and 24.5.2.7:

- Local Diversion Route Operations
- Strategic Diversion Route Operations
- Bus Services.

24.4.2.4 Abnormal Loads

A vehicle is classified as an abnormal load when the total length of the vehicles exceeds 16.5m, the overall width exceeds 2.55m, the weight of any axle other than the driving axle exceeds 10,170kg and the weight of the driving axle exceeds 10,500kg[1].

There will be approximately 300 abnormal loads over the 2-year construction period, an average of approximately three abnormal loads per week across the study area. These abnormal loads are vehicles carrying predominately cable drums for the onshore cable – circa 270 of the 300 – with the remainder being vehicles carrying large electrical/switchgear equipment and large construction plant or machinery.

[1] Fingal County Council, Abnormal Load Permits: https://www.fingal.ie/council/service/abnormal-load-permits

The largest individual components of equipment are expected to be the transformers which will be installed at the grid facility and which will typically have maximum dimensions of 8.5m x 5m x 5m, with a 5m height to be transported. The transformers will be transported to site on specialised vehicles. They will be routed to the grid facility via the M1 junction 7 and along the R132 as shown on Figure 24.2.

The cable drums will be delivered to the cable contactor compounds on specialist low loader vehicles. They will be routed to either the Bremore cable contractor compound via the M1 junction 7 and the R132, or to the Blakes Cross cable contractor compound via the M1 junction 4 and the R132. During the construction of the onshore cable route, cable drums of typical dimensions 3.7m wide, by 3.7m long and 4m high will then be transported along the onshore cable route on specialist low loader vehicles. The delivery routes are displayed on Figure 24.2.

The Contractor will confirm this prior to the first abnormal load deliveries and provide all details in the Contractor Construction Traffic Management Plan (CTMP). This version of the CTMP will update and further develop the CTMP which has been prepared and included in the Onshore Construction Environmental Management Plan (Onshore CEMP), refer to Volume 8, Appendix 9.1. Within the Contractor CTMP the contractor will also detail any traffic management associated with abnormal load deliveries and how they will adhere to all applicable permitting and approvals requirements with the Local Authority and An Garda Siochana prior to starting construction.

The transportation of abnormal loads will be restricted to outside peak traffic times where practicable.

All access roads to the proposed compounds will be designed to ensure abnormal loads can exit the public road during delivery with minimal disruption to the public road. A designated route and parking area for abnormal loads will be provided within the confines of the proposed compound for unloading, which will be detailed in the Contractors CTMP. Additionally, the Contractor CTMP will detail the temporary traffic management to be implemented during abnormal load deliveries, such as temporary stop/go lane or road closures, escort vehicles, banksman, etc., to be agreed by the contactor with the local authority and An Garda Siochana prior to starting construction.

24.4.3 Operational Phase

The operational phase of the proposed development is likely to have minimal effect on traffic and transportation in the vicinity. The likely traffic movements and activities which could affect traffic and transportation are set out below.

24.4.3.1 Landfall and Grid Facility Area

Maintenance and inspection of the transition joint bay chambers and earth link boxes will be required during the operational phase. Access to the site will be on an ad-hoc, infrequent basis and annual inspections will also take place. Traffic generated during the operational phase of the proposed development will be solely confined to inspection and maintenance vehicles accessing the transition joint bays and any other joint bays between the transition joint bays and the grid facility. The levels of traffic generated will be minimal (yearly inspection and non-routine access, for example in the event of a fault).

The grid facility will have two parts – the compensation substation and the Bremore substation. Both will be largely unmanned and operated remotely. Routine operational checks, one visit every 4 weeks are envisaged per compound, with each visit resulting in one or two vehicles at a time, generally during normal working hours. Ad-hoc non-routine maintenance trips may occur from time to time.

Annual maintenance activities will be undertaken, over a period of approximately one week and this may require up to 6 vehicles per day per substation during shifts over a 24-hour period.

24.4.3.2 Onshore Cable Route

Routine maintenance of the cables will comprise an inspection of the link box and communication chambers, which will be located at every joint bay along the route. It is envisaged that visits to the joint bays will take place on an annual basis.

It may transpire that the cables need to be repaired or replaced during the operational phase. In the unlikely event of power cable replacement, this would require an excavator to expose the joint bays at either end of the fault, plus plant/equipment to pull and feed cables between joint bays.

24.4.4 Decommissioning Phase

The decommissioning phase of the proposed development is likely to be similar to the construction stage but of a reduced scale and corresponding impact on the receiving traffic and transportation networks within the study area. Offshore infrastructure when decommissioned is assumed to be delivered via vessel to a port within Europe for recycling and dismantling. The likely activities associated with the decommissioning phase of the onshore infrastructure, which could affect traffic and transportation are set out below.

24.4.4.1 Landfall and Grid Facility Area

The compensation substation at the grid facility will be decommissioned when the proposed development ceases operation however, the Bremore substation will not be decommissioned as it will form part of the wider transmission network owned by EirGrid. The operational life of these assets will be 35 years.

When it becomes appropriate to decommission the onshore infrastructure, all above ground structures (i.e. access track, marker posts, link) between the transition joint bay and the grid facility will be removed, and the sites will be returned to their previous state. It is not proposed to remove any planting. The cabling will be removed but below ground ducting will remain in place.

The decommissioning plant required will be similar to that required for the construction phase of the grid facility. The workforce required will be smaller and the duration of the works will be shorter.

Most of the decommissioning work would be possible through traffic management measures and the requirement for full or partial road closures will be unlikely.

24.4.4.2 Onshore Cable Route

The onshore cable route from the Bremore substation to the Belcamp Substation will form part of the wider transmission system and will not be decommissioned.

24.5 Potential Effects

The following sections present the projected change in traffic flows on the surrounding road network based on the projected additional traffic associated with the construction, operation and decommissioning phases of the proposed development.

24.5.1 Do-Nothing Scenario

If the proposed development does not proceed, the traffic volumes are expected to remain at current levels, with a gradual increase into the future in line with TII Project Appraisal Guidelines Growth Rates (Ref: Transport Infrastructure Ireland's Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections, May 2019) capturing growth in the population and the associated need for travel.

24.5.2 Construction Phase

Subject to obtaining planning approval and the relevant permits and licences, construction of the onshore elements of the proposed development will commence in 2026/27, with full operation likely to commence in 2029.

The construction phase is described in the Onshore Construction Chapter and relevant aspects impacting the traffic and transport assessment are summarised in Section 24.4.2. The construction strategy will result in additional construction traffic at the landfall and grid facility area and also along the onshore cable route. The construction strategy includes a number of full and partial road closures along the onshore cable route to facilitate the construction of the onshore cable route within the road reserve. The expected impact of the construction of the onshore infrastructure assessed in this chapter is therefore as follows:

- The projected impact on traffic operations along the R132 at the landfall and grid facility area and along the onshore cable route; and

- The impacts of road closures on:
  - Local diversion route operations as a result of local traffic rerouting associated with temporary road closures
  - Strategic diversion route operations as a result of strategic traffic rerouting associated with temporary road closures
  - Bus Services – where routes and in some cases, bus stop locations, will need to alter as a result of temporary road closures
  - The impact of the delivery of abnormal loads on traffic operations along the R132 at the landfall and grid facility area and along the onshore cable route.

24.5.2.1 Traffic Generation

The volume of construction traffic activity is based on:

- The scale of the expected export and import of earthworks
- Other material and equipment deliveries to site
- Staff movements; and
- Service trips (i.e., compound set up, maintenance, external third-party visitors, etc.)

Trip generation in the landfall and grid facility area is shown in Table 24.37 and along each section of the onshore cable route is shown in Table 24.38.

Landfall and Grid Facility Area

In this section, traffic generated by construction activities related to the landfall and grid facility area at Balbriggan are presented. The following construction activities are expected:

- Construction trips
- excavated materials exported, fill materials imported to, and from, the landfall and grid facility area in Balbriggan, using the public road network
- Construction equipment and materials being delivered to the landfall and grid facility area in Balbriggan, including, for example, component deliveries of transformer or substation parts
- Service trips associated with the landfall and grid facility area in Balbriggan (i.e., compound set up, maintenance, external third-party visitors, etc.); and
- Staff commuting to and from the landfall and grid facility area in Balbriggan.

The projected increase in traffic associated with the landfall and grid facility area in Balbriggan is presented in Table 24.37 and is based on the following assumptions:

- Excavated and fill material, and other construction materials, will be generated during the construction of the compounds, open cut trenching and the HDD works (both the landfall and railway crossing HDD) during the site enabling works. It is assumed that Heavy Goods Vehicles (HGVs) will have a capacity of 40 tonnes
- HGV trips will be spread evenly over the day for logistics and traffic management reasons and the number of HGVs has been based on assumed vehicle load capacities. For the purposes of this assessment 10% of HGV traffic is expected during the peak periods based on a typical workday
- Traffic generation at the landfall HDD Compound (Access Point A) is primarily driven by bentonite imports for the HDD
- Traffic generation at the Bremore cable contractor compound (Access Point C) in Table 24.37 is only related to the actual construction of the compound (compound building, parking, staff facilities, etc

- Traffic generation related to the construction of the onshore cable route from this compound is detailed in Table 24.38.

Table 24.37 Two-way Daily Traffic Generation by the Compounds at the Landfall and Grid Facility Area

Access Points	Compounds	Construction	Service	Staff	Total
		Heavy Goods Vehicles	Light Vehicles	Light Vehicles	Total Vehicles
A	Landfall HDD compound	98	10	21	129
A	Railway HDD exit site Compound	14	10	21	45
C	Railway HDD Entry Compound	75	10	21	106
C	Bremore cable contractor compound	10	10	21	41
B	Grid facility contractor compound	12	10	83	105

Onshore cable route

Installation of the onshore cable from the grid facility to the existing Belcamp substation will be undertaken on a rolling basis. Where no obstacles or constraints exist within or near the onshore cable route, it is expected that progress rates for the trench excavation and installation of ducts will be approximately:

- 7 weeks/km
- 10 weeks/km if HDD falls within section.

In this section, traffic generated by construction activities related to the onshore cable route construction is presented. The following construction activities are expected:

- Earthworks – excavated materials exported, fill materials imported along the onshore cable route, using the public road network
- Construction equipment and materials being delivered to the cable contractor compounds at Bremore and Blakes Cross, contractor compounds associated with offline route sections, and M1 HDD compounds. This includes the delivery of cables and ducts
- Staff commuting to and from the cable contractor compounds at Bremore and Blakes Cross, the offline watercourse section compounds and M1 HDD compounds
- Service trips associated with construction cable contractor compounds at Bremore and Blakes Cross, the offline watercourse sections compounds and the M1 HDD compounds (i.e., compound set up, maintenance, external third-party visitors, etc.).

The projected increase in traffic associated with the onshore cable route construction is presented in Table 24.38 based on the following assumptions:

- Excavated and fill material, and other construction materials, will be generated during the construction of the cable contractor compounds during the site enabling works at each compound. It is assumed that HGVs will have a load capacity of 40 tonnes, depending on the material being transported
- HGV trips will be spread evenly over the day for logistics and traffic management reasons and the number of HGVs has been based on assumed vehicle capacities (40 tonnes). For the purposes of this assessment 10% of HGV traffic is expected during the peak periods based on a typical 10-hour workday.

Table 24.38 Two-way Daily Traffic generation by the Construction Works and Staff/Service Trips

Route Section	Total Additional Daily Heavy Goods Vehicles (HGV) Trips per Section	Total Additional Daily Light Goods Vehicles (LGV) Trips per Section	Total Additional Trips
R132 (north of Balbriggan)	199	146	**345**
1	135	134	**269**

Route Section	Total Additional Daily Heavy Goods Vehicles (HGV) Trips per Section	Total Additional Daily Light Goods Vehicles (LGV) Trips per Section	Total Additional Trips
2	74	124	**198**
3.1	20	10	**30**
3.2	61	90	**151**
4	0	0	**0**
5	75	40	**115**
6	592	270	**862**
7	589	280	**869**
8	480	230	**710**
9	111	30	**141**
10.1	48	20	**68**
10.2	28	10	**38**
11	61	10	**71**
12	37	10	**47**
13	76	50	**126**
14 Option A	76	50	**126**
14 Option B	49	10	**59**
15	187	90	**277**

24.5.2.2 Traffic Distribution

For the purposes of this assessment, it was robustly assumed that all construction traffic generated by the proposed development will travel to and from each of the compounds via the M1 and each of the route sections listed in Table 24.39 and shown on Figure 24.1. In reality, only a proportion of construction traffic will travel to and from the cable contractor compounds, as traffic will tend to disperse along the onshore cable route depending on the requirements of the construction activities.

24.5.2.3 Traffic Assignment

Table 24.39 presents the projected increase in traffic associated with the construction of the proposed development. This includes construction trips, staff trips and service trips associated with each compound and route section. It is important to note that these projections do not consider staggered operations or phasing, and it therefore represents a scenario which predicts the greatest magnitude of impacts in terms of construction traffic volume.

Table 24.39 Projected Construction Traffic Volumes on the Road Network

Route Section	Road Impacted	Compound Access Points	Total Additional Daily HGV Trips per Section	Total Additional Daily LGV Trips per Section	Total Additional Trips	Peak hour HGV	Peak Hour LGV
R132 from M1 Junction 7 to Balbriggan	R132	A, B, C	199	146	345	20	15
1	R132	C	135	134	269	13	13
2	Harry Reynolds Road	C	74	124	198	7	12

Route Section	Road Impacted	Compound Access Points	Total Additional Daily HGV Trips per Section	Total Additional Daily LGV Trips per Section	Total Additional Trips	Peak hour HGV	Peak Hour LGV
3.1	R132	C	20	10	30	2	1
3.2	R132	E, H	61	90	151	6	9
4	Offline		0	0	0	0	0
5	R129	G, H	75	40	115	8	4
6	R132	E, F, G, H, I	592	270	862	59	27
7	R132	E, F, G, H, I, J, K	589	280	869	59	28
8	R132	E, F, G, H, I	480	230	710	48	23
9	Spittal Hill/ Lissenhall	H	111	30	141	11	3
10.1	Estuary Road	H	48	20	68	5	2
10.2	Estuary Road	H	28	10	38	3	1
11	Estuary Road	H	61	10	71	6	1
12	R106 Swords Road	H	37	10	47	4	1
13	R107 Malahide Road	H, L, M	76	50	126	8	5
14A	R107 Malahide Road	H, L, M	76	50	126	8	5
14B	Chapel Road / R124 / Hole In The Wall Road	H	49	10	59	5	1
15	R139	H, L, M, N	187	90	277	19	9

As can be seen from the above table, Sections 6, 7, 8 (R132, access points E, F, G, H, I, J, K) will experience the largest number of construction traffic and staff/service trips.

Most of the construction site staff will arrive before, and depart after, the peak periods on the receiving transport network. However, for the purposes of this assessment, we have assumed that the peak traffic generation associated with the construction activities will coincide with the peak periods on the receiving road network, to ensure a robust assessment (refer to Section 24.5.2.4).

24.5.2.4 Construction Traffic Impact

This section discusses the projected impact on traffic operations along the R132 at the landfall and grid facility area and along the onshore cable route. The characteristics of the proposed development and embedded mitigation are described in Sections 24.4.2.1 and 24.4.2.2.

The projected future traffic flows during the construction stage both with and without the proposed development are presented in Table 24.40 and Table 24.41.

The largest percentage increase in traffic flow will occur along the R132 to the north of the landfall and grid facility area in Balbriggan where increases in daily traffic of approximately 5% are expected during the construction phase.

Table 24.40 Projected Traffic Flows 2026 – AM Peak Period

Road Impacted	Route Section	Without Development (2026)			Construction Phase (2026)			% Increase in HGV	% Increase in Vehicles
		AM Peak	HGV Only	% HGV	AM Peak	HGV Only	% HGV		
R132	R132	766	8	1%	800	28	3%	260%	5%
R132	1	899	18	2%	926	31	3%	75%	3%
Harry Reynolds Road	2	1118	34	3%	1138	41	4%	22%	2%
R132	3.1	1041	21	2%	1044	23	2%	10%	0%
R132	3.2	823	74	9%	838	80	10%	8%	2%
Offline	4	0	0		0	0	-	-	-
R129	5	875	70	8%	887	78	9%	11%	1%
R132	6	3163	190	6%	3249	249	8%	31%	3%
R132	7	3163	190	6%	3250	249	8%	31%	3%
R132	8	2831	113	4%	2902	161	6%	42%	3%
Spittal Hill / Lissenhall	9	260	36	14%	274	48	17%	31%	5%
Estuary Road	10.1	548	11	2%	555	16	3%	44%	1%
Estuary Road	10.2	483	31	6%	486	34	7%	9%	1%
Estuary Road	11	1164	35	3%	1171	41	4%	18%	1%
R106 Swords Road	12	1164	35	3%	1169	39	3%	11%	0%
R107 Malahide Road	13	1174	35	3%	1187	43	4%	22%	1%
R107 Malahide Road	14A	1412	56	4%	1425	64	4%	13%	1%
Chapel Road / R124 / Hole In The Wall Road	14B	1131	11	1%	1137	16	1%	43%	1%
R139	15	2437	171	7%	2465	189	8%	11%	1%

Table 24.41 Projected Traffic Flows 2026 – PM Peak Period

Road Impacted	Route Section	Without Development (2026)			Construction Phase (2026)			% Increase in HGV	% Increase in Vehicles
		PM Peak	HGV Only	% HGV	PM Peak	HGV Only	% HGV		
R132	R132	638	6	1%	672	26	4%	312%	5%
R132	1	934	5	1%	961	18	2%	270%	3%
Harry Reynolds Road	2	1196	12	1%	1216	19	2%	62%	2%
R132	3.1	960	10	1%	963	12	1%	21%	0%

Road Impacted	Route Section	Without Development (2026)			Construction Phase (2026)			% Increase in HGV	% Increase in Vehicles
		PM Peak	HGV Only	% HGV	PM Peak	HGV Only	% HGV		
R132	3.2	810	41	5%	825	47	6%	15%	2%
Offline	4	0	0		0	0			
R129	5	980	49	5%	992	57	6%	15%	1%
R132	6	3528	141	4%	3614	200	6%	42%	2%
R132	7	3509	140	4%	3596	199	6%	42%	2%
R132	8	3154	95	3%	3225	143	4%	51%	2%
Spittal Hill/Lissenhall	9	370	11	3%	384	22	6%	100%	4%
Estuary Road	10.1	840	8	1%	847	13	2%	58%	1%
Estuary Road	10.2	521	31	6%	525	34	6%	9%	1%
Estuary Road	11	1155	12	1%	1162	18	2%	53%	1%
R106 Swords Road	12	1239	12	1%	1244	16	1%	30%	0%
R107 Malahide Road	13	1240	12	1%	1253	20	2%	61%	1%
R107 Malahide Road	14A	1508	15	1%	1521	23	1%	50%	1%
Chapel Road / R124 / Hole In The Wall Road	14B	1002	10	1%	1008	15	1%	49%	1%
R139	15	2697	54	2%	2725	73	3%	35%	1%

The description of the significance of the projected traffic impact on traffic operations along the R132 at the landfall and grid facility area and along the onshore cable route was based on the assessment criteria set out in Section 24.2.4.1. The criteria considered the sensitivity of the existing environment, and the magnitude of the impact. Regional or local roads will be impacted and therefore the sensitivity of the existing environment was considered low or negligible.

As presented in Table 24.40 and Table 24.41, the projected increases in traffic volumes along the construction traffic access routes of the onshore cable route are likely to be between 1-5% of the peak hour traffic and therefore the magnitude of the impact was considered to be low or negligible. The significance of the effect of the projected construction traffic impact on traffic operations will therefore be negative, slight, and temporary.

24.5.2.5 Road Closure Impact on Local Diversion Route Operations

The characteristics of the proposed development and embedded mitigation are described in Section 24.4.

In this section the partial road closure impact and the full road closure impact on local diversion route operations are discussed and assessed based on the assessment criteria set out in Section 24.2.4.2 for full road closures and Section 24.2.4.4 for partial road closures.

The criteria considered the sensitivity of the existing environment, and the magnitude of the impact (in case of full road closures) and the duration of the impact (in case of partial road closures). Regional or local roads will be impacted and therefore the sensitivity of the existing environment was considered low or negligible.

Some users will adjust their traffic patterns by temporarily altering departure and arrival times and/or by temporarily switching from car to other modes for some of their trips. It is likely that the majority of traffic will divert onto the identified local or strategic diversion routes.

Table 24.42 presents the full road closure impact on local diversion route operations, as discussed and assessed based on the criteria set out in Section 24.2.4.2.

Table 24.42 Full Road Closure Impact on Local Diversion Route Operations

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	Likely % Increase	Approx. Duration of Full Road Closure	Significance of Effect
1	Flemington Road	3494	10540	> 25%	2 to 3 weeks	Negative, Moderate, Temporary
	Flemington Lane	1576	10540	> 25%		Negative, Moderate, Temporary
	R122 Chapel Street	13557	10540	> 25%		Negative, Significant, Temporary
	Harry Reynolds Road	7616	10540	> 25%		Negative, Moderate, Temporary
5	R132	8515	6440	> 25%	2 weeks	Negative, Moderate, Temporary
	Ballough	n/a	6440	Likely > 25%		Negative, Significant, Temporary
	Colecot	n/a	6440	Likely > 25%		Negative, Significant, Temporary
5	Harlockstown Lane	n/a	6440	Likely > 25%	2 weeks	Negative, Significant, Temporary
	Balheary Road	15729	6440	> 25%		Negative, Significant, Temporary
	R125 Castlegrange Road	23237	6440	> 25%		Negative, Significant, Temporary
	R132	9563	6440	> 25%		Negative, Moderate, Temporary
	Harlockstown Lane	n/a	6440	Likely > 25%		Negative, Significant, Temporary
	Balheary Road	15729	6440	> 25%		Negative, Significant, Temporary
	Batter Lane	n/a	6440	Likely > 25%		Negative, Significant, Temporary
	R132	9563	6440	> 25%		Negative, Moderate, Temporary
9	R132	35343	3363	10% - 25%	1 to 2 weeks	Negative, Moderate, Temporary
	Seatown Road	n/a	3363	Likely > 25%		Negative, Significant, Temporary
	Estuary Road	3358	3363	> 25%		Negative, Moderate, Temporary
10.1	Spittal Hill Lissenhall	3926	3358	> 25%	5 to 6 weeks	Negative, Significant, Temporary
	R132	31532	3358	10% - 25%		Negative, Moderate, Temporary
	Seatown Road	n/a	3358	Likely > 25%		Negative, Significant, Temporary

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	Likely % Increase	Approx. Duration of Full Road Closure	Significance of Effect
10.2	n/a	n/a	n/a	10% - 25%	11 to 12 weeks	Negative, Significant, Temporary
12	Estuary Road	5660	9974	10% - 25%	6 to 7 weeks	Negative, Significant, Temporary
	Old Yellow Walls Road	n/a	9974	Likely > 25%		Negative, Significant, Temporary
	R106 Dublin Road	11671	9974	> 25%		Negative, Significant, Temporary
	Mountgorry Way /	14705	9974	> 25%		Negative, Significant, Temporary
	Feltrim Road	10901	9974	> 25%		Negative, Significant, Temporary
	R107 Malahide Road	20996	9974	> 25%		Negative, Significant, Temporary
13	R106 Main Street	11686	10083	> 25%	10 to 11 weeks	Negative, Significant, Temporary
	R124 Church Road	8918	10083	> 25%		Negative, Significant, Temporary
	Chapel Road	9005	10083	> 25%		Negative, Significant, Temporary
	Back Road	n/a	10083	Likely > 25%		Negative, Significant, Temporary
	Kinsealy Lane	n/a	10083	Likely > 25%		Negative, Significant, Temporary
	R106 Swords Road	9974	10083	> 25%		Negative, Significant, Temporary
	Mountgorry Way	14705	10083	> 25%		Negative, Significant, Temporary
	Feltrim Road	10901	10083	> 25%		Negative, Significant, Temporary
14A	Chapel Road	9006	14826	> 25%	1 to 2 weeks	Negative, Significant, Temporary
	R124	9906	14826	> 25%		Negative, Significant, Temporary
	R123	10496	14826	> 25%		Negative, Significant, Temporary
	Baskin Lane	11892	14826	> 25%		Negative, Significant, Temporary
	Clonshaugh Road	12559	14826	> 25%		Negative, Significant, Temporary
14B.1	R124	8918	9005	> 25%	6 to 7 weeks	Negative, Significant, Temporary
	Back Road	n/a	9005	Likely > 25%		Negative, Significant, Temporary
	Kinsealy Lane	n/a	9005	Likely > 25%		Negative, Significant, Temporary
14B.2	Chapel Road	9005	10629	> 25%	7 to 8 weeks	Negative, Significant, Temporary

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	Likely % Increase	Approx. Duration of Full Road Closure	Significance of Effect
	Blackwood Lane	n/a	10629	Likely > 25%		Negative, Significant, Temporary
	Carrickhill Road	n/a	10629	Likely > 25%		Negative, Significant, Temporary
	Station Road	9526	10629	> 25%		Negative, Significant, Temporary
	Coast Road	n/a	10629	Likely > 25%		Negative, Significant, Temporary
14B.3	n/a	n/a	5000	Likely > 25%	1 to 2 weeks	Negative, Significant, Temporary

The projected increases in traffic volumes along the local diversion routes following full road closures are likely to be in excess of 25% along most of the routes identified and therefore the magnitude of the impact was considered to be high. The significance of the effect of the of the full road closure impact on local diversion route operations will therefore be negative, significant, and temporary.

Table 24.43 presents the partial road closure impact on local diversion route operations, as discussed and assessed based on the criteria set out in Section 24.2.4.2

Table 24.43 Partial Road Closure Impact on Local Diversion Route Operations

Route Section	Partial Road Closure	2026 AADT	Local Diversion Routes	Approx. Duration of Partial Road Closure	Significance of Effect
2	Harry Reynolds Road	12,410	R132 Drogheda Street South – R122 Chapel Street	15 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			Hamlet Lane – Castlemill Road – Stephenstown Link Road – Balbriggan Outer Relief Road		
3	3.1 R132	12,571	Balbriggan Outer Relief Road – R122 Naul Road – M1.	99 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			Matt Road – R122 Naul Road – M1		
			Old Coach Road – Knightswood – L1190 Old Coach Road		
			Unnamed Road (Knock Cross) – Unnamed Road (The Five Roads) – Hedgestown Lane		
	3.2 R132	8,515	Hedgestown Lane – L1155 Old Coach Road – L1160 Quickpenny Road – L5245 Chapel Road – Church Road – Barrack Lane – L1400 Dublin Road – R127 Dublin Road		
4	Offline	n/a	n/a	n/a	n/a
6	R132	29,893	R129 – Harlockstown Lane – Balheary Road - R125 Castlegrange Road – R132	27 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			R129 – Harlockstown Lane – Balheary Road – Batter Lane -		
7	Offline	n/a	n/a	n/a	n/a

Route Section	Partial Road Closure	2026 AADT	Local Diversion Routes	Approx. Duration of Partial Road Closure	Significance of Effect
8	R132	32,132	R132 – Batter Lane – Balheary Road – R125 Castlegrange Road	20 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
11	Estuary Road	5,660	Old Yellow Walls Road – Millview Road – R106 Swords Road	5 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
15	R139	50,033	R107 Malahide Road – Priorswood Road – Glin Road – Clonshaugh Avenue – Clonshaugh Road	16 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary

The duration of partial road closures is likely to be in excess of 4 weeks along most route sections and therefore the duration of the impact was considered to be high. The significance of the effect of the partial road closure impact on local diversion route operations will therefore be negative, significant, and temporary as explained in Table 24.43.

24.5.2.6 Full Road Closure Impact on Strategic Diversion Route Operations

The characteristics of the scheme and embedded mitigation are described in Section 24.4.

In this section the full road closure impact on strategic diversion route operations is discussed and assessed (refer to Table 24.44) based on the assessment criteria set out in Section 24.2.4.3.

The criteria considered the sensitivity of the existing environment, and the magnitude of the impact. Regional or local roads will be impacted and therefore the sensitivity of the existing environment was considered low or negligible.

Some users will adjust their traffic patterns by temporarily altering departure and arrival times and/or by temporarily switching from car to other modes for some of their trips. It is likely that the majority of traffic will divert onto the identified strategic diversion routes.

Strategic diversion routes were not identified for partial road closures. The assumption is that people will use the road that is partially closed or will divert onto local diversion routes.

The projected increases in traffic volumes along the strategic diversion routes following full road closures will likely be in excess of 25% along most of the routes identified and therefore the magnitude of the impact was considered to be high. The significance of the effect of the full road closure impact on strategic diversion route operations will therefore be negative, significant, and temporary.

Table 24.44 Full Road Closure Impact on Strategic Diversion Route Operations

Route Section	2026 AADT to be diverted	Diversion Route	2026 AADT along Diversion Route	Percentage Increase	Approx. Duration of Full Road Closure	Significance of Effect
1	10540	R122	13557	> 25%	2-3 Weeks	Negative, Significant, Temporary
		Harry Reynolds Road	7616	> 25%		Negative, Significant, Temporary
5	6440	R132	9563	> 25%	2 Weeks	Negative, Significant, Temporary
		R125 Castlegrange Road	23237	> 25%		Negative, Significant, Temporary
		R125 Rathbeale Road	7244	> 25%		Negative, Significant, Temporary
		R108	4576	> 25%		Negative, Moderate, Temporary
9	3926	Estuary Road	3358	> 25%	1-2 Weeks	Negative, Moderate, Temporary
		Mantua Road	5638	> 25%		Negative, Significant, Temporary
		R132 Lissenhall Road	31532	10% - 25%		Negative, Moderate, Temporary
10.1	3358	Mantua Road	5638	> 25%	5-6 Weeks	Negative, Significant, Temporary
		R132 Lissenhall Road	31532	10% - 25%		Negative, Moderate, Temporary
		Spittal Hill/ Lissenhall	3926	> 25%		Negative, Moderate, Temporary
10.2	7848	Estuary Road	5660	> 25%	11-12 Weeks	Negative, Significant, Temporary
		R106	13148	> 25%		Negative, Significant, Temporary
		R132	30969	10% - 25%		Negative, Moderate, Temporary
		Mantua Road	5638	> 25%		Negative, Significant, Temporary
12	9974	R106	13148	> 25%	6-7 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%		Negative, Significant, Temporary
		R125	11100	> 25%		Negative, Significant, Temporary
		R139	50033	10% - 25%		Negative, Moderate, Temporary
		R107	20996	> 25%		Negative, Significant, Temporary
13	10083	R106	9974	> 25%	10-11 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%		Negative, Significant, Temporary
		R125	11100	> 25%		Negative, Significant, Temporary

Route Section	2026 AADT to be diverted	Diversion Route	2026 AADT along Diversion Route	Percentage Increase	Approx. Duration of Full Road Closure	Significance of Effect
		R139	33899	> 25%		Negative, Significant, Temporary
14A	14826	R106	9974	> 25%	1-2 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%		Negative, Significant, Temporary
		R125	11100	> 25%		Negative, Significant, Temporary
		R139	33899	> 25%		Negative, Significant, Temporary
14B.1	9005	R107	16122	> 25%	6-7 Weeks	Negative, Significant, Temporary
		R123	10496	> 25%		Negative, Significant, Temporary
		R124	10645	> 25%		Negative, Significant, Temporary
14B.2	10629	R106	11685	> 25%	7-8 Weeks	Negative, Significant, Temporary
		R107	10083	> 25%		Negative, Significant, Temporary
		R123	10496	> 25%		Negative, Significant, Temporary
14B.3	n/a	R123	9535	Likely > 25%	1-2 Weeks	Negative, Significant, Temporary
		Hole in the Wall Road	7336	Likely > 25%		Negative, Significant, Temporary
		Belmayne	6368	Likely > 25%		Negative, Significant, Temporary

24.5.2.7 Road Closure Impact on Bus Services

The characteristics of the scheme and embedded mitigation are described in Section 24.4.

In this section the full road closure impact and the partial road closure impact on bus services are discussed and assessed (refer to Table 24.45 and Table 24.46) based on the assessment criteria set out in Section 24.2.4.5 for full road closures and Section 24.2.4.6 for partial road closures. The criteria considered the sensitivity of the existing environment, and the duration of the impact.

The number of bus services to be impacted during the peak hour were estimated to be less than 40 and therefore the sensitivity of the existing environment was considered low or negligible along full road closures.

Table 24.45 Full Road Closure Impact on Bus Services

Route Section	Road Impacted	Number of bus services impacted	Bus Diversion Route	Approx. Duration of Full Road Closure	Significance of Effect
1	R132 Drogheda Street	6	Flemington Road/R122 Chapel Road	2 to 3 weeks	Negative, Moderate, Temporary
5		0	n/a	2 weeks	n/a
9		0	n/a	1 to 2 weeks	n/a
10		0	n/a	n/a	n/a
12	R106 Swords Road	6	Route 32X will commence and terminate at Estuary Road. Route 42 & 42n will continue along R106 Dublin Road	6 to 7 weeks	Negative, Moderate, Temporary
13	R107 Malahide Road	14	Feltrim Road/Mountgorry Road/R106 Swords Road. Kinsealy Lane/Back Lane	10 to 11 weeks	Negative, Moderate, Temporary
14A	R107 Malahide Road	14	R123/R124 Drumnigh Road/Chapel Road	1 to 2 weeks	Slight
14B	R124 Drumnigh Road	29	Partial Road Closure (AADT more than 10k)	7 to 8 weeks	Negative, Significant, Temporary

Section 14B will have full road closures in place along the majority of the route, however a partial road closure will operate along a short section (between Belmayne and R139) where the bus services currently operate.

The duration of the impact will likely be in excess of 2 weeks and therefore the duration of the impact was considered to be high. The significance of the effect of the full road closure impact on bus services will therefore be negative, moderate or significant, and temporary.

Bus services will be prioritised at stop/go lane closures along partial road closures, however, could potentially still incur significant delays along heavily trafficked routes. The traffic volumes were generally estimated to be between 8,000 AADT and 33,000 AADT and therefore the sensitivity of the existing environment was considered negligible to medium along partial road closures.

Table 24.46 Partial Road Closure Impact on Bus Services

Route Section	Partial Road Closure	2026 AADT	Bus Service impacts	Number of bus services impacted	Approx. Duration of Partial Road Closure	Significance of Effect
2	Harry Reynolds Road	12,410	B1 (Rail Station – Millfield Centre) 191 (Stadalt Cross – Dublin)	1	15 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
3	3.1 R132 (Harry Reynolds Road to Watercourse crossing Wx09)	12,571	101 (Drogheda – Airport – Dublin) 101X (Termon Abbey – Drogheda – Wilton Tce) 191 (Stadalt Cross – Dublin)	1	99 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
	3.2 R132 (Watercourse crossing Wx09 to north of Blakes Cross)	8,515	101 (Drogheda – Airport – Dublin)	1		
4	Offline	n/a	n/a	n/a	n/a	n/a
6	R132	29,893	33 (Balbriggan – Lower Abbey St) 33A (Balbriggan – Dublin Airport) 33n (Westmoreland Street – Balbriggan) 33X (Skerries – Custom House Qy/Stephens Green) 101 (Drogheda – Airport – Dublin)	10	27 weeks (sequential~200m partial closures along full section)	Negative, Very Significant, Temporary
7	Offline	n/a	n/a	n/a	n/a	n/a
8	R132	32,132	33 (Balbriggan – Lower Abbey St) 33A (Balbriggan – Dublin Airport) 33B (Portrane – Swords) 33E (Lower Abbey St – Balbriggan) 33n (Westmoreland Street – Balbriggan) 101 (Drogheda – Airport – Dublin)	10	20 weeks (sequential~200m partial closures along full section)	Negative, Very Significant, Temporary
11	Estuary Road	5,660	32X (Malahide – UCD Belfield) 42 (Portmarnock -Eden Qy) 42D (DCU – Portmarnock) 42n (Dublin City South – Portmarnock) 102 (Dublin Airport – Sutton DART) 102P (Swords – Portmarnock)	15	5 weeks (sequential~200m partial closures along full section)	Negative, Moderate, Temporary

Route Section	Partial Road Closure	2026 AADT	Bus Service impacts	Number of bus services impacted	Approx. Duration of Partial Road Closure	Significance of Effect
			102T (Swords -Sutton) 142 (UCD – Portmarnock)			
15	R139	50,033	n/a	0	16 weeks (sequential~200m partial closures along full section)	n/a

The duration of the impact will likely be in excess of 4 weeks and therefore the duration of the impact was considered to be high. The significance of the effect of the partial road closure impact on bus services will therefore be negative, very significant or significant, and temporary.

24.5.2.8 Abnormal Loads Impact on Traffic Operations

In this section the impact of the delivery of abnormal loads on traffic operations are discussed and assessed based on the assessment criteria set out in Section 24.2.4. The characteristics of the scheme and embedded mitigation are described in Section 24.4.

An assessment of the proposed delivery routes from the M1 Motorway to the contractor compounds and from the cable contractor compounds along the proposed onshore cable route was carried out based on visual inspection, aerial mapping, Ordnance Survey mapping and topographical information. A Swept Path Analysis was also carried out at the entrance to the grid facility area, to ensure that the site entrance can accommodate the transformer delivery vehicle (the transformer being the largest single component requiring delivery). The conclusion of this assessment was that ground reinforcements and temporary fencing would be required to the northwest of the entrance within the grid facility site to enable access and egress of abnormal load vehicle movements (transformer delivery vehicle) and this has been incorporated into the design of the proposed development. No other major constraints were identified in terms of width or vertical clearance for the vehicles described above along the delivery routes. It may be necessary to temporarily remove some minor signage in one location on the R132 between the M1 and the grid facility, to accommodate the delivery of the transformer and this will be dealt with under the abnormal loads permitting requirements.

The description of the significance of the projected traffic impact on traffic operations along the delivery routes was based on the assessment criteria set out in Section 24.2.4.1. The criteria considered the sensitivity of the existing environment, and the magnitude of the impact. As regional or local roads will be impacted the sensitivity of the existing environment was considered low or negligible. In terms of magnitude, the projected increases in traffic volumes are likely to be less than 5% of the peak hour traffic, hence the magnitude negligible.

The significance of the effect of the projected abnormal load volume impact on traffic operations will therefore be negative, not significant and temporary.

24.5.3 Operational Phase

In this section the impact of the operational phase on traffic operations is discussed and assessed based on the assessment criteria set out in Section 24.2.4.1. The characteristics of the operational phase are described in Section 24.4.3. The proposed development will generate infrequent traffic flows during its operation with occasional visits required for inspection, maintenance and emergency repair works. The associated increased traffic flows are anticipated to be less than 30 trips per day.

Given the scale of increased traffic the projected worst case increases in traffic volumes are likely to be less than 5% of the peak hour traffic. The significance of the effect of the projected operational traffic impact on traffic operations will therefore be negative, not significant and temporary.

24.5.4 Decommissioning

The characteristics of the onshore infrastructure decommissioning phase are described in Section 24.4.4. The works will be similar to that required for the construction phase at the landfall and grid facility area, although the workforce will be smaller, and the duration of the works will be shorter. Most of the decommissioning work would be possible through traffic management measures and the requirement for full or partial road closures will be unlikely.

In this section the impact of the decommissioning phase on traffic operations is discussed and assessed based on the assessment criteria set out in Section 24.2.4.1. The criteria considered the magnitude of the impact and the sensitivity of the existing environment. The projected increases in traffic volumes along the R132 at the landfall and grid facility area are likely to be between 1-5% of the peak hour traffic. The significance of the effect of the projected decommissioning traffic impact on traffic operations will therefore be negative, slight, and temporary.

Offshore infrastructure when decommissioned is assumed to be delivered via vessel to a port within Europe for recycling and breaking down.

24.6 Mitigation and Monitoring Measures

The potential effects include negative, significant, temporary effects and additional mitigation measures are discussed in this section to reduce the impact.

24.6.1 Construction Phase

24.6.1.1 Construction Traffic Management Plan (CTMP)

A Construction Traffic Management Plan (CTMP) has been prepared and is included in the Onshore CEMP (refer to Appendix 9.1 in Volume 8). Following consultation with An Garda Síochána, Fingal County Council and Dublin City Council, the CTMP will be further developed by the contractor, prior to the commencement of construction, to ensure that construction traffic will be managed and monitored safely and efficiently throughout the construction phase.

The following traffic management measures will be incorporated into the Contractor's CTMP during the construction stage of the proposed development:

- Deliveries of materials will be planned and programmed to ensure that the materials are delivered to the extent possible, only as they are required at the compounds and along the onshore cable route and will avoid peak hours for set-up and removal of equipment where practicable
- Works requiring multiple vehicle deliveries will be planned so as to ensure that queuing on the public roadways will be avoided wherever possible, around the compounds, at the compounds and along the onshore cable route section
- For any works related to the compounds or onshore cable route that require lane closures, the length of lane closure and the required working area will be kept as small as possible
- All trucks entering and exiting the compounds and along the onshore cable route which are carrying materials which could become windborne will be covered with tarpaulin
- No parking or queuing of trucks will be allowed on public roads, either outside the compounds or any of the approach roads leading to the compounds or along the cable route, save during delivery/collection of materials (short term periods)
- All trucks entering the compounds will be restricted to suitable speed limits and will be directed to the relevant area by the site manager
- All trucks will avoid school areas at drop off and collection times
- Roads immediately adjacent to the compounds will be visually inspected on a daily basis and power swept and washed as and when required
- Site entrance gates will be set back from the main road to allow a vehicle to pull in off the road before the gate is opened
- The contractor will be required to inspect the delivery routes to identify any issues and propose remedial measures as part of the permitting requirements for abnormal loads. This should include a detailed swept path analyses for the contractor's specific vehicle type and weight (dimensions to be confirmed) to ensure that the specific abnormal load can be transported safely
- Temporary traffic arrangements will be in place to accommodate wide turning circles at compound access points, such as stop/go road closures or equivalent arrangements to maintain local access and safely accommodate through traffic
- Road Safety Audits (stage 2/3) will be carried prior to construction and additional interim Road Safety Audits can be prepared ahead of and during construction as part of the Contractor's CTMP, and final RSA (stage 4) will be completed post-construction

- The Contractor's CTMP will be agreed with the relevant local authorities and An Garda Siochana
- The effectiveness of the CTMP will be continually monitored by the Contractor to ensure the effects on traffic flows on the surrounding road network are minimised. The monitoring regime will consider all modes of traffic including pedestrians, cyclists, and car parking provision.

24.6.1.2 Embedded Mitigation Measures

The following mitigation measures are embedded in the construction strategy, as detailed in Section 24.4.2:

- The duration and sequencing of construction activities at the landfall and grid facility area
- The duration and sequencing of construction activities along the onshore cable route
- The identification of appropriate primary construction compound delivery routes
- Provision of adequate parking at all compounds to avoid queuing at the site entrances and prevent disruption to neighbouring businesses and residences
- The identification of local diversion routes where partial road closures will be operational
- The direction of traffic to strategic diversion routes where full road closures will be operational
- The identification of local diversion routes where full road closures will be operational
- The identification of bus diversion routes and bus stop relocations where full road closures will be operational
- Bus prioritisation in the case of partial road closures
- Local property access will be maintained for car, active travel, and service vehicles throughout construction
- The identification of delivery routes for abnormal loads
- Abnormal load deliveries restricted to outside peak traffic times where practicable
- Designated areas within the compounds for abnormal load unloading
- The use of the HDD technique for the Dublin-Belfast railway crossing, to avoid any disruption to railway infrastructure and the rail services between Dublin-Belfast and Dublin-Drogheda/Dundalk
- The use of the HDD technique for the M1 motorway crossing, to avoid any disruption to the national road network.

24.6.1.3 Additional Mitigation Measures

Minimising durations of full road closures

Due to the potential negative, significant, temporary impact of the full road closures on local diversion route operations, strategic diversion route operations and bus services it is proposed to limit the duration of full road closures by assigning multiple construction crews to route sections along the length of the cable route, as an additional mitigation measure. The addition of multiple crews working simultaneously will add to the efficiency of the construction work. By incorporating this additional mitigation measure the duration of full road closures will be limited to between 1 and 4 weeks, depending on the route section (refer to Table 24.47). Where no additional mitigation is proposed the duration of full road closures will be as per Table 24.36.

Table 24.47 Approximate Road Closure Durations

Route Section	Mitigation Measure	Road Impacted
1	2 crews will reduce the duration of full road closures from 2-3 weeks to 1 to 2 weeks.	R132 (north of Balbriggan)
10.1	2 crews will reduce the duration of full road closures from 5-6 weeks to 2-3 weeks.	Estuary Road
10.2	3 crews will reduce the duration of full road closures from 11-12 weeks to 3-4 weeks.	Estuary Road
12	2 crews will reduce the duration of full road closures from 6-7 weeks to 3-4 weeks.	R106 Swords Road
13	3 crews will reduce the duration of full road closures from 10-11 weeks to 3-4 weeks.	R107 Malahide Road
14 B.1	3 crews will reduce the duration of full road closures from 6-7 weeks to 2-3 weeks.	Chapel Road
14 B.2	3 crews will reduce the duration of full road closures from 7-8 weeks to 2-3 weeks.	R124 Drumnigh Road
14 B.3	3 crews will reduce the duration of full road closures from 1-2 weeks to less than 1 week.	Balgriffin Park

Diverting Bus Services (currently operating along proposed partial road closures)

Bus services will be prioritised at stop/go lane closures along partial road closures, however, could potentially still incur significant delays along heavily trafficked routes. Due to the potential negative, significant, temporary impact of the partial road closures on bus services it is proposed to reduce the likelihood of bus services incurring delays by diverting bus services currently operating along proposed partial road closures towards local diversion routes, as an additional mitigation measure. The appropriate bus route or local diversion route is to be determined the operator.

24.6.1.4 Impact of Additional Mitigation Measures

The impact of the additional mitigation measures is presented below in Table 24.48 to Table 24.52. Whilst the additional crews will reduce the duration of full road closures, the impact on local diversion route operations and strategic diversion route operations will remain negative, significant, and temporary for most locations identified. The impact on bus services operating along full road closures will improve from negative, moderate or significant and temporary; to negative, slight or moderate and temporary in a few cases.

The additional crews are more likely to alter the scale of the significance in terms of the duration of the impact on the local community. The impact of the additional mitigation is therefore considered further in Chapter 32: Population and Human Health.

Diverting bus services currently operating along proposed partial road closures towards local diversion routes would reduce the significance of effect of partial road closures on bus services from negative, significant or very significant and temporary; to negative, moderate and temporary.

Road Closure Impact on Local Diversion Route Operations

The impact of the additional mitigation measures for full road closure impacts on local diversion route operations are presented below in Table 24.48. Whilst the additional crews will reduce the duration of full road closures, the impact on local diversion route operations will remain negative, significant, and temporary for most locations identified.

Table 24.48 Full Road Closure Impact on Local Diversion Route Operations

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	Likely % Increase	Approx. Duration of Full Road Closure	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of Effect pre and post mitigation
1	Flemington Road	3494	10540	> 25%	2 to 3 weeks	1 to 2 weeks	Negative, Moderate, Temporary
	Flemington Lane	1576	10540	> 25%			Negative, Moderate, Temporary
	R122 Chapel Street	13557	10540	> 25%			Negative, Significant, Temporary
	Harry Reynolds Road	7616	10540	> 25%			Negative, Moderate, Temporary
5	R132	8515	6440	> 25%	2 weeks	2 weeks	Negative, Moderate, Temporary
	Ballough	n/a	6440	Likely > 25%			Negative, Significant, Temporary
	Colecot	n/a	6440	Likely > 25%			Negative, Significant, Temporary
	Harlockstown Lane	n/a	6440	Likely > 25%			Negative, Significant, Temporary
	Balheary Road	15729	6440	> 25%			Negative, Significant, Temporary
	R125 Castlegrange Road	23237	6440	> 25%			Negative, Significant, Temporary
	R132	9563	6440	> 25%			Negative, Moderate, Temporary
	Harlockstown Lane	n/a	6440	Likely > 25%			Negative, Significant, Temporary
	Balheary Road	15729	6440	> 25%			Negative, Significant, Temporary
	Batter Lane	n/a	6440	Likely > 25%			Negative, Significant, Temporary

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	Likely % Increase	Approx. Duration of Full Road Closure	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of Effect pre and post mitigation
	R132	9563	6440	> 25%			Negative, Moderate, Temporary
9	R132	35343	3363	10% - 25%	1 to 2 weeks	1 to 2 weeks	Negative, Moderate, Temporary
	Seatown Road	n/a	3363	Likely > 25%			Negative, Significant, Temporary
	Estuary Road	3358	3363	> 25%			Negative, Moderate, Temporary
10.1	Spittal Hill Lissenhall	3926	3358	> 25%	5 to 6 weeks	2 to 3 weeks	Negative, Significant, Temporary
	R132	31532	3358	10% - 25%			Negative, Moderate, Temporary
	Seatown Road	n/a	3358	Likely > 25%			Negative, Significant, Temporary
10.2	n/a	n/a	n/a	Likely > 25%	11 to 12 weeks	3 to 4 weeks	Negative, Significant, Temporary
12	Estuary Road	5660	9974	> 25%	6 to 7 weeks	3 to 4 weeks	Negative, Significant, Temporary
	Old Yellow Walls Road	n/a	9974	Likely > 25%			Negative, Significant, Temporary
	R106 Dublin Road	11671	9974	> 25%			Negative, Significant, Temporary
	Mountgorry Way /	14705	9974	> 25%			Negative, Significant, Temporary
	Feltrim Road	10901	9974	> 25%			Negative, Significant, Temporary
	R107 Malahide Road	20996	9974	> 25%			Negative, Significant, Temporary
13	R106 Main Street	11686	10083	> 25%	10 to 11 weeks	3 to 4 weeks	Negative, Significant, Temporary

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	Likely % Increase	Approx. Duration of Full Road Closure	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of Effect pre and post mitigation
	R124 Church Road	8918	10083	> 25%			Negative, Significant, Temporary
	Chapel Road	9005	10083	> 25%			Negative, Significant, Temporary
	Back Road	n/a	10083	Likely > 25%			Negative, Significant, Temporary
	Kinsealy Lane	n/a	10083	Likely > 25%			Negative, Significant, Temporary
	R106 Swords Road	9974	10083	> 25%			Negative, Significant, Temporary
	Mountgorry Way	14705	10083	> 25%			Negative, Significant, Temporary
	Feltrim Road	10901	10083	> 25%			Negative, Significant, Temporary
14A	Chapel Road	9006	14826	> 25%	1 to 2 weeks	1 to 2 weeks	Negative, Significant, Temporary
	R124	9906	14826	> 25%			Negative, Significant, Temporary
	R123	10496	14826	> 25%			Negative, Significant, Temporary
	Baskin Lane	11892	14826	> 25%			Negative, Significant, Temporary
	Clonshaugh Road	12559	14826	> 25%			Negative, Significant, Temporary
14B.1	R124	8918	9005	> 25%	6 to 7 weeks	2 to 3 weeks	Negative, Significant, Temporary
	Back Road	n/a	9005	Likely > 25%			Negative, Significant, Temporary
	Kinsealy Lane	n/a	9005	Likely > 25%			Negative, Significant, Temporary

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	Likely % Increase	Approx. Duration of Full Road Closure	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of Effect pre and post mitigation
14B.2	Chapel Road	9005	10629	> 25%	7 to 8 weeks	2 to 3 weeks	Negative, Significant, Temporary
	Blackwood Lane	n/a	10629	Likely > 25%			Negative, Significant, Temporary
	Carrickhill Road	n/a	10629	Likely > 25%			Negative, Significant, Temporary
	Station Road	9526	10629	> 25%			Negative, Significant, Temporary
	Coast Road	n/a	10629	Likely > 25%			Negative, Significant, Temporary
14B.3	n/a	n/a	5000	Likely > 25%	1 to 2 weeks	less than 1 week	Negative, Significant, Temporary

The impact of the additional mitigation measures for partial road closure impacts on local diversion route operations are presented below in Table 24.49. Whilst the additional crews will reduce the duration of partial road closures, the impact on local diversion route operations will remain negative, significant, and temporary for most locations identified.

Table 24.49 Partial Road Closure Impact on Local Diversion Route Operations

Route Section	Partial Road Closure	2026 AADT	Local Diversion Routes	Approx. Duration of Partial Road Closure	Significance of Effect pre and post mitigation
2	Harry Reynolds Road	12,410	R132 Drogheda Street South – R122 Chapel Street	15 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			Hamlet Lane – Castlemill Road – Stephenstown Link Road – Balbriggan Outer Relief Road		
3	3.1 R132	12,571	Balbriggan Outer Relief Road – R122 Naul Road – M1.	99 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			Matt Road – R122 Naul Road – M1		
			Old Coach Road – Knightswood – L1190 Old Coach Road		

Route Section	Partial Road Closure	2026 AADT	Local Diversion Routes	Approx. Duration of Partial Road Closure	Significance of Effect pre and post mitigation
			Unnamed Road (Knock Cross) – Unnamed Road (The Five Roads) – Hedgestown Lane		
	3.2 R132	8,515	Hedgestown Lane – L1155 Old Coach Road – L1160 Quickpenny Road – L5245 Chapel Road – Church Road – Barrack Lane – L1400 Dublin Road – R127 Dublin Road		
4	Offline	n/a	n/a	n/a	n/a
6	R132	29,893	R129 – Harlockstown Lane – Balheary Road - R125 Castlegrange Road – R132	27 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			R129 – Harlockstown Lane – Balheary Road – Batter Lane -		
7	Offline	n/a	n/a	n/a	n/a
8	R132	32,132	R132 – Batter Lane – Balheary Road – R125 Castlegrange Road	20 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
11	Estuary Road	5,660	Old Yellow Walls Road – Millview Road – R106 Swords Road	5 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
15	R139	50,033	R107 Malahide Road – Priorswood Road – Glin Road – Clonshaugh Avenue – Clonshaugh Road	16 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary

Full Road Closure Impact on Strategic Diversion Route Operations

The impact of the additional mitigation measures for full road closure impacts on strategic diversion route operations are presented below in Table 24.50. Whilst the additional crews will reduce the duration of full road closures, the impact on strategic diversion route operations will remain negative, significant, and temporary for most locations identified.

Table 24.50 Full Road Closure Impact on Strategic Diversion Route Operations

Route Section	2026 AADT to be diverted to be diverted	Diversion Route	2026 AADT along Diversion Route	Likely % Increase	Approx. Duration of Full Road Closure	Approx. Duration of Full Road Closure following Additional Mitigation	Significance of Effect pre and post mitigation
1	10540	R122	13557	> 25%	2-3 Weeks	1-2 Weeks	Negative, Significant, Temporary
		Harry Reynolds Road	7616	> 25%			Negative, Significant, Temporary
5	6440	R132	9563	> 25%	2 Weeks	2 Weeks	Negative, Significant, Temporary
		R125 Castlegrange Road	23237	> 25%			Negative, Significant, Temporary
		R125 Rathbeale Road	7244	> 25%			Negative, Significant, Temporary
		R108	4576	> 25%			Negative, Moderate, Temporary
9	3926	Estuary Road	3358	> 25%	1-2 Weeks	1-2 Weeks	Negative, Moderate, Temporary
		Mantua Road	5638	> 25%			Negative, Significant, Temporary
		R132 Lissenhall Road	31532	10% - 25%			Negative, Moderate, Temporary
10.1	3358	Mantua Road	5638	> 25%	5-6 Weeks	2-3 Weeks	Negative, Significant, Temporary
		R132 Lissenhall Road	31532	10% - 25%			Negative, Moderate, Temporary
		Spittal Hill/ Lissenhall	3926	> 25%			Negative, Moderate, Temporary
10.2	7848	Estuary Road	5660	> 25%	11-12 Weeks	3-4 Weeks	Negative, Significant, Temporary
		R106	13148	> 25%			Negative, Significant, Temporary

Route Section	2026 AADT to be diverted to be diverted	Diversion Route	2026 AADT along Diversion Route	Likely % Increase	Approx. Duration of Full Road Closure	Approx. Duration of Full Road Closure following Additional Mitigation	Significance of Effect pre and post mitigation
		R132	30969	10% - 25%			Negative, Moderate, Temporary
		Mantua Road	5638	> 25%			Negative, Significant, Temporary
12	9974	R106	13148	> 25%	6-7 Weeks	3-4 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%			Negative, Significant, Temporary
		R125	11100	> 25%			Negative, Significant, Temporary
		R139	50033	10% - 25%			Negative, Moderate, Temporary
		R107	20996	> 25%			Negative, Significant, Temporary
13	10083	R106	9974	> 25%	10-11 Weeks	3-4 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%			Negative, Significant, Temporary
		R125	11100	> 25%			Negative, Significant, Temporary
		R139	33899	> 25%			Negative, Significant, Temporary
14A	14826	R106	9974	> 25%	1-2 Weeks	1-2 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%			Negative, Significant, Temporary
		R125	11100	> 25%			Negative, Significant, Temporary

Route Section	2026 AADT to be diverted to be diverted	Diversion Route	2026 AADT along Diversion Route	Likely % Increase	Approx. Duration of Full Road Closure	Approx. Duration of Full Road Closure following Additional Mitigation	Significance of Effect pre and post mitigation
		R139	33899	> 25%			Negative, Significant, Temporary
14B.1	9005	R107	16122	> 25%	6-7 Weeks	2-3 Weeks	Negative, Significant, Temporary
		R123	10496	> 25%			Negative, Significant, Temporary
		R124	10645	> 25%			Negative, Significant, Temporary
14B.2	10629	R106	11685	> 25%	7-8 Weeks	2-3 Weeks	Negative, Significant, Temporary
		R107	10083	> 25%			Negative, Significant, Temporary
		R123	10496	> 25%			Negative, Significant, Temporary
14B.3	n/a	R123	9535	Likely > 25%	1-2 Weeks	1 Week	Negative, Significant, Temporary
		Hole in the Wall Road	7336	Likely > 25%			Negative, Significant, Temporary
		Belmayne	6368	Likely > 25%			Negative, Significant, Temporary

Road Closure Impact on Bus Services

The impact of the additional mitigation measures for full road closure impacts on bus services are presented below in Table 24.51. As the additional crews will reduce the duration of full road closures, the significance of effects on a number of bus services will reduce to moderate, or slight while remaining negative, and temporary for affected locations.

Table 24.51 Full Road Closure Impact on Bus Services

Route Section	Road Impacted	Number of bus services impacted	Bus Diversion Route	Approx. Duration of Full Road Closure	Significance of Effect pre mitigation	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of Effect post mitigation
1	R132 Drogheda Street	6	Flemington Road/R122 Chapel Road	2 to 3 weeks	Negative, Moderate, Temporary	1 to 2 weeks	Negative, Slight, Temporary
5		0	n/a	2 weeks	n/a	2 weeks	n/a
9		0	n/a	1 to 2 weeks	n/a	1 to 2 weeks	n/a
10		0	n/a	n/a	n/a	n/a	n/a
12	R106 Swords Road	6	Route 32X will commence and terminate at Estuary Road. Route 42 & 42n will continue along R106 Dublin Road	6 to 7 weeks	Negative, Moderate, Temporary	3 to 4 weeks	Negative, Moderate, Temporary
13	R107 Malahide Road	14	Feltrim Road/Mountgorry Road/R106 Swords Road. Kinsealy Lane/Back Lane	10 to 11 weeks	Negative, Moderate, Temporary	3 to 4 weeks	Negative, Moderate, Temporary
14A	R107 Malahide Road	14	R123/R124 Drumnigh Road/Chapel Road	1 to 2 weeks	Slight	1 to 2 weeks	Slight
14B	R124 Drumnigh Road	29	Partial Road Closure (AADT more than 10k)	7 to 8 weeks	Negative, Significant, Temporary	2 to 3 weeks Bus diversion along local diversion routes – e.g. Belmayne	Negative, Moderate, Temporary

The impact of the additional mitigation measures for partial road closure impacts on bus services are presented below in Table 24.52. As the alternative routes will reduce the duration of partial road closure delays, the significance of effects on a number of bus services may reduce from negative, significant and temporary to negative, moderate, and temporary for most locations identified.

Table 24.52 Partial Road Closure Impact on Bus Services

Route Section	Partial Road Closure	2026 AADT	Bus Service impacts	Number of bus services impacted	Approx. Duration of Partial Road Closure	Significance of Effect pre mitigation	Additional Mitigation	Significance of Effect post mitigation
2	Harry Reynolds Road	12,410	B1 (Rail Station – Millfield Centre) 191 (Stadalt Cross – Dublin)	1	15 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary	Bus diversion along local diversion routes – e.g. R132	Negative, Moderate, Temporary
3	3.1 R132 (Harry Reynolds Road to Watercourse crossing Wx09)	12,571	101 (Drogheda – Airport – Dublin) 101X (Termon Abbey – Drogheda – Wilton Tce) 191 (Stadalt Cross – Dublin)	1	99 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary	Bus diversion along local diversion routes – e.g. M1 or R127 Dublin Road	Negative, Moderate, Temporary
	3.2 R132 (Watercourse crossing Wx09 to north of Blakes Cross)	8,515	101 (Drogheda – Airport – Dublin)	1				
4	Offline	n/a	n/a	n/a	n/a	n/a		
6	R132	29,893	33 (Balbriggan – Lower Abbey St) 33A (Balbriggan – Dublin Airport) 33n (Westmoreland Street – Balbriggan) 33X (Skerries – Custom House Qy/Stephens Green) 101 (Drogheda – Airport – Dublin)	10	27 weeks (sequential~200m partial closures along full section)	Negative, Very Significant, Temporary	Bus diversion along local diversion routes – e.g. R129 and Balheary Road	Negative, Moderate, Temporary

Route Section	Partial Road Closure	2026 AADT	Bus Service impacts	Number of bus services impacted	Approx. Duration of Partial Road Closure	Significance of Effect pre mitigation	Additional Mitigation	Significance of Effect post mitigation
7	Offline	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8	R132	32,132	33 (Balbriggan – Lower Abbey St) 33A (Balbriggan – Dublin Airport) 33B (Portrane – Swords) 33E (Lower Abbey St – Balbriggan) 33n (Westmoreland Street – Balbriggan) 101 (Drogheda – Airport – Dublin)	10	20 weeks (sequential~200m partial closures along full section)	Negative, Very Significant, Temporary	Bus diversion along local diversion routes – e.g. Balheary Road	Negative, Moderate, Temporary
11	Estuary Road	5,660	32X (Malahide – UCD Belfield) 42 (Portmarnock -Eden Qy) 42D (DCU – Portmarnock) 42n (Dublin City South – Portmarnock) 102 (Dublin Airport – Sutton DART) 102P (Swords – Portmarnock) 102T (Swords -Sutton) 142 (UCD – Portmarnock)	15	5 weeks (sequential~200m partial closures along full section)	Negative, Moderate, Temporary	Bus diversion along local diversion routes – e.g. Old Yellow Walls Road and R106	Negative, Moderate, Temporary
15	R139	50,033	n/a	0	16 weeks (sequential~200m partial closures along full section)	n/a	n/a	n/a

24.6.2 Operational Phase

As there are no significant operational effects associated with the proposed development no mitigation measures are required for the operational phase.

24.6.3 Decommissioning

The mitigation measures, described above for the construction phase, updated to reflect best practice at the time, will be implemented for the decommissioning phase.

24.7 Residual Effects

Following the implementation of mitigation measures there are a number of remaining temporary residual significant effects during the construction phase. These are detailed in the following sections.

24.7.1 Temporary Residual Significant Road Closure Impact on Local Diversion Routes

With the implementation of mitigation measures, there will remain a temporary significant residual impact, during the construction phase, on local diversion route operations, from both the partial and full road closures associated with the proposed development.

The embedded mitigation measures for the road closure impact on local diversion route operations are outlined in Section 24.4 and include the duration of construction activities and the direction of traffic to strategic diversion routes where full road closures will be in place. Local diversion routes have been identified that will alleviate congestion along the corridor where partial road closures will be operational. Local property access will be maintained for car, active travel and service vehicles throughout construction.

Appropriate additional mitigation measures for the road closure impact on local diversion route operations are outlined in Section 24.6.1.3 in terms of the assignment of multiple construction crews in order to reduce the duration of most full road closures.

Following the implementation of the embedded mitigation measures and the additional mitigation measures the significance of the effect of the full road closure (refer to Table 24.53) and partial road closure impact (refer to Table 24.54), on local diversion route operations, will still be negative, significant but temporary.

While the additional mitigation measures do not reduce the magnitude of the impact on local diversion route operations, the assignment of multiple construction crews will reduce the duration of the impact.

Table 24.53 Temporary Residual Significant Full Road Closure Impact on Local Diversion Route Operations

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	% Increase	Approx. Duration of Full Road Closure	Significance of potential Impacts	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of residual impacts
1	R122 Chapel Street	13557	10540	> 25%	2 to 3 weeks	Negative, Significant, Temporary	1 to 2 weeks	Negative, Significant, Temporary
5	Ballough	n/a	6440	Likely > 25%	2 weeks	Negative, Significant, Temporary	2 weeks	Negative, Significant, Temporary
	Colecot	n/a	6440	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Harlockstown Lane	n/a	6440	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Balheary Road	15729	6440	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	R125 Castlegrange Road	23237	6440	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Harlockstown Lane	n/a	6440	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Balheary Road	15729	6440	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Batter Lane	n/a	6440	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
9	Seatown Road	n/a	3363	Likely > 25%	1 to 2 weeks	Negative, Significant, Temporary	1 to 2 weeks	Negative, Significant, Temporary
10.1	Spittal Hill Lissenhall	3926	3358	> 25%	5 to 6 weeks	Negative, Significant, Temporary	2 to 3 weeks	Negative, Significant, Temporary
	Seatown Road	n/a	3358	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
10.2	n/a	n/a	n/a	Likely > 25%	11 to 12 weeks	Negative, Significant, Temporary	3 to 4 weeks	Negative, Significant, Temporary
12	Estuary Road	5660	9974	> 25%	6 to 7 weeks	Negative, Significant, Temporary	3 to 4 weeks	Negative, Significant, Temporary
	Old Yellow Walls Road	n/a	9974	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	% Increase	Approx. Duration of Full Road Closure	Significance of potential Impacts	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of residual impacts
	R106 Dublin Road	11671	9974	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Mountgorry Way /	14705	9974	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Feltrim Road	10901	9974	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	R107 Malahide Road	20996	9974	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
13	R106 Main Street	11686	10083	> 25%	10 to 11 weeks	Negative, Significant, Temporary	3 to 4 weeks	Negative, Significant, Temporary
	R124 Church Road	8918	10083	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Chapel Road	9005	10083	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Back Road	n/a	10083	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Kinsealy Lane	n/a	10083	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	R106 Swords Road	9974	10083	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Mountgorry Way	14705	10083	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Feltrim Road	10901	10083	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14A	Chapel Road	9006	14826	> 25%	1 to 2 weeks	Negative, Significant, Temporary	1 to 2 weeks	Negative, Significant, Temporary
	R124	9906	14826	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	R123	10496	14826	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary

Route Section	Local Diversion Route	2026 AADT	2026 AADT to be diverted	% Increase	Approx. Duration of Full Road Closure	Significance of potential Impacts	Approx. Duration of Full Road Closure Following Additional Mitigation	Significance of residual impacts
	Baskin Lane	11892	14826	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Clonshaugh Road	12559	14826	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14B.1	R124	8918	9005	> 25%	6 to 7 weeks	Negative, Significant, Temporary	2 to 3 weeks	Negative, Significant, Temporary
	Back Road	n/a	9005	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Kinsealy Lane	n/a	9005	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14B.2	Chapel Road	9005	10629	> 25%	7 to 8 weeks	Negative, Significant, Temporary	2 to 3 weeks	Negative, Significant, Temporary
	Blackwood Lane	n/a	10629	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Carrickhill Road	n/a	10629	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Station Road	9526	10629	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
	Coast Road	n/a	10629	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14B.3	n/a	n/a	5000	Likely > 25%	1 to 2 weeks	Negative, Significant, Temporary	less than 1 week	Negative, Significant, Temporary

Table 24.54 Temporary Residual Significant Partial Road Closure Impact on Local Diversion Route Operations

Route Section	Partial Road Closure	2026 AADT	Local Diversion Routes	Approx. Duration of Partial Road Closure	Significance of effect post mitigation
2	Harry Reynolds Road	12,410	R132 Drogheda Street South – R122 Chapel Street	15 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			Hamlet Lane – Castlemill Road – Stephenstown Link Road – Balbriggan Outer Relief Road		
3	3.1 R132	12,571	Balbriggan Outer Relief Road – R122 Naul Road – M1.	99 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			Matt Road – R122 Naul Road – M1		
			Old Coach Road – Knightswood – L1190 Old Coach Road		
			Unnamed Road (Knock Cross) – Unnamed Road (The Five Roads) – Hedgestown Lane		
	3.2 R132	8,515	Hedgestown Lane – L1155 Old Coach Road – L1160 Quickpenny Road – L5245 Chapel Road – Church Road – Barrack Lane – L1400 Dublin Road – R127 Dublin Road		
6	R132	29,893	R129 – Harlockstown Lane – Balheary Road - R125 Castlegrange Road – R132	27 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
			R129 – Harlockstown Lane – Balheary Road – Batter Lane -		
8	R132	32,132	R132 – Batter Lane – Balheary Road – R125 Castlegrange Road	20 weeks	Negative, Significant, Temporary
11	Estuary Road	5,660	Old Yellow Walls Road – Millview Road – R106 Swords Road	5 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary
15	R139	50,033	R107 Malahide Road – Priorswood Road – Glin Road – Clonshaugh Avenue – Clonshaugh Road	16 weeks (sequential~200m partial closures along full section)	Negative, Significant, Temporary

24.7.2 Temporary Residual Significant Road Closure Impact on Strategic Diversion Routes

With the implementation of mitigation measures, there will remain a temporary significant residual impact, during the construction phase, on strategic diversion route operations, from both the partial and full road closures associated with the proposed development.

The embedded mitigation measures for the road closure impact on strategic diversion route operations are outlined in Section 24.4 and include the duration of construction activities and the identification of local diversion routes where full road closures will be in place.

Appropriate additional mitigation measures for the road closure impact on strategic diversion route operations are outlined in Section 24.6.1.3 in terms of the assignment of multiple construction crews in order to reduce the duration of most full road closures.

Following the implementation of the embedded mitigation measures and the additional mitigation measures the significance of the effect of the full and partial road closure impact on strategic diversion route operations will still be negative, significant but temporary (refer to Table 24.55).

While the additional mitigation measures do not reduce the magnitude of the impact on strategic diversion route operations, the assignment of multiple construction crews will reduce the duration of the impact.

Table 24.55 Temporary Residual Significant Full Road Closure Impact on Strategic Diversion Route Operations

Route Section	2026 AADT to be diverted to be diverted	Diversion Route	2026 AADT along Diversion Route	Percentage Increase	Approx. Duration of Full Road Closure	Significance of Effect pre mitigation	Approx. Duration of Full Road Closure following Additional Mitigation	Significance of Effect post mitigation
1	10540	R122	13557	> 25%	2-3 Weeks	Negative, Significant, Temporary	1-2 Weeks	Negative, Significant, Temporary
		Harry Reynolds Road	7616	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
5	6440	R132	9563	> 25%	2 Weeks	Negative, Significant, Temporary	2 Weeks	Negative, Significant, Temporary
		R125 Castlegrange Road	23237	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		R125 Rathbeale Road	7244	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
9	3926	Mantua Road	5638	> 25%	1-2 Weeks	Negative, Significant, Temporary	1-2 Weeks	Negative, Significant, Temporary
10.1	3358	Mantua Road	5638	> 25%	5-6 Weeks	Negative, Significant, Temporary	2-3 Weeks	Negative, Significant, Temporary
10.2	7848	Estuary Road	5660	> 25%	11-12 Weeks	Negative, Significant, Temporary	3-4 Weeks	Negative, Significant, Temporary
		R106	13148	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		Mantua Road	5638	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
12	9974	R106	13148	> 25%	6-7 Weeks	Negative, Significant, Temporary	3-4 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		R125	11100	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary

Route Section	2026 AADT to be diverted to be diverted	Diversion Route	2026 AADT along Diversion Route	Percentage Increase	Approx. Duration of Full Road Closure	Significance of Effect pre mitigation	Approx. Duration of Full Road Closure following Additional Mitigation	Significance of Effect post mitigation
		R107	20996	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
13	10083	R106	9974	> 25%	10-11 Weeks	Negative, Significant, Temporary	3-4 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		R125	11100	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		R139	33899	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14A	14826	R106	9974	> 25%	1-2 Weeks	Negative, Significant, Temporary	1-2 Weeks	Negative, Significant, Temporary
		R132	26248	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		R125	11100	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		R139	33899	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14B.1	9005	R107	16122	> 25%	6-7 Weeks	Negative, Significant, Temporary	2-3 Weeks	Negative, Significant, Temporary
		R123	10496	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		R124	10645	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14B.2	10629	R106	11685	> 25%	7-8 Weeks	Negative, Significant, Temporary	2-3 Weeks	Negative, Significant, Temporary
		R107	10083	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary

Route Section	2026 AADT to be diverted to be diverted	Diversion Route	2026 AADT along Diversion Route	Percentage Increase	Approx. Duration of Full Road Closure	Significance of Effect pre mitigation	Approx. Duration of Full Road Closure following Additional Mitigation	Significance of Effect post mitigation
		R123	10496	> 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
14B.3	n/a	R123	9535	Likely > 25%	1-2 Weeks	Negative, Significant, Temporary	1 Week	Negative, Significant, Temporary
		Hole in the Wall Road	7336	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary
		Belmayne	6368	Likely > 25%		Negative, Significant, Temporary		Negative, Significant, Temporary

24.7.3 Summary

During the construction phase the significance of the effect of the residual impact of the road closures on local and strategic diversion route operations is likely to be negative, significant but temporary on the most impactful route sections. There are no residual impacts expected during the operational and decommissioning phases.

24.8 Cumulative Effects

A long list of 'other projects' which were deemed to be potentially relevant to be included in the cumulative impact assessment was compiled (see the Cumulative and Interrelated Effects Chapter). A screening exercise of the long list was carried out to determine whether each project has the potential to give rise to likely significant cumulative effects on Traffic and Transportation when combined with the proposed development. Many of the other projects were screened out for a number of reasons including the location, scale and nature of the project. Those projects which were screened in were carried forward for assessment. The results of the assessment are presented in the Cumulative and Interrelated Effects Chapter.

As noted in Section 24.7.3 above, during the construction phase, the significance of the effect of the residual impact of the road closures from the proposed development alone on local and strategic diversion route operations is likely to be negative, significant but temporary on the most impactful route sections.

Potential cumulative effects from Tier 3 onshore projects during the construction phase, were identified in locations where cumulative traffic and transport effects could occur. For the purposes of this assessment, it was assumed that the likely construction period for the screened-in projects would partially overlap with the planned construction period for the proposed development The screened-in projects are located in proximity to one or more sections of the onshore cable route (Sections 1 to 15) and therefore the local and strategic diversion route operations associated with road closures required along Sections 1-15 are most likely to have a cumulative effect with the construction of these screened-in projects.

Given that the proposed development alone has reported negative, significant but temporary residual effects on traffic, the significance of the cumulative effect of the impact of potential road closures on local and strategic diversion route operations in this area is likely to be at least negative, significant but temporary.

During the operational phase, the proposed development will have a minimal effect on traffic and transportation in the vicinity and no cumulative effects are identified.

24.9 Transboundary Effects

All equipment and components that must be transported from an overseas supplier's plant to a port for shipment to the proposed development in Ireland will be transported on the national road network / TEN-T network of that country, which has been designed to accommodate such loads. Given this, and the fact that the likely increase in traffic volumes due to the transport of equipment and components for the proposed development is expected to be low or negligible, the significance of the effect of this construction traffic impact on traffic operations will be negative, slight, and temporary.

24.10 References

Dublin City Council (2022) Dublin City Development Plan 2022-2028

Environmental Protection Agency (2022) Guidelines on the Information to be contained in Environmental Impact Assessment Reports

Environmental Protection Agency (2015) Advice Notes for Preparing Environmental Impact Statements Draft September 2015

Final County Council (2023) Final Development Plan 2023-2029

Fingal County Council (2023b) Abnormal Load Permits – Road Licences and Permits

Transport Infrastructure Ireland (2014) Traffic and Transport Assessment Guidelines

Transport Infrastructure Ireland (May 2019) Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections

Transport Infrastructure Ireland (June 2017) DN-GEO-03031 Rural Road Link Design

Transport Infrastructure Ireland (May 2019) DN-GEO-03036 Cross Sections and Headroom

National Roads Authority Traffic Data [online] Available at: www.nratrafficdata.ie [Accessed 01/02/2021]