
Appendix A3.4
Options Selection Report Volume 1
- Preferred Options Report



Option Selection Report

Volume 1: Preferred Option Report



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EXECUTIVE SUMMARY

The Option Selection Report (OSR) for the DART+ Coastal North project is formed by two documents; Volume 1 Preferred Option Report, and Volume 2 Technical Report, and has been prepared to support the second stage of non-statutory public consultation and presents the following:

- Introductory description of the DART+ Programme and the DART+ Coastal North project;
- High level description of the public consultation process and the outcome of non-statutory Public Consultation No.1;
- Description of the options selection process; and
- Description of the Preferred Option for the DART+ Coastal North project.

The DART+ Programme is a transformative railway investment programme that will modernise and improve the existing rail services in the Greater Dublin Area. It will provide a sustainable, electrified, reliable and more frequent rail service, improving capacity on rail corridors serving Dublin. The current DART network is 50km long, extending from Malahide / Howth to Greystones. The DART+ Programme will increase the length of the DART network to 150km of railway corridor through the electrification and upgrade of existing lines transforming commuter rail travel in the Greater Dublin Area.

The DART+ Coastal North project is one of four infrastructure projects to be delivered under the DART+ Programme. Alongside DART+ West, which will electrify the network from Dublin City to Maynooth/M3 Parkway and deliver a new depot west of Maynooth, DART+ South West, which will provide rail improvements and electrification from Dublin City to Hazelhatch & Celbridge and DART+ Coastal South, which will deliver rail improvements from Dublin City to Greystones, DART+ Coastal North will complete the electrification of the Northern Line to Drogheda.

The DART+ Coastal North project is the third infrastructural project of the DART+ Programme to advance. The project will predominantly follow the existing railway corridor and will include the overhead electrification of the existing railway line between Malahide and Drogheda. It will also entail some reconfiguration of the existing track layout and infrastructure in the vicinity of Drogheda MacBride, Malahide, Clongriffin, and Howth Junction & Donaghmede Stations, including the removal of existing train crossing conflicts at Howth Junction & Donaghmede Station. Track modifications will enable the operation of both a DART Shuttle Service on the Howth Branch Line as required, and/or a direct through service (as existing) on the Howth Branch to/from Dublin City Centre, allowing for the capacity and frequency of DART+ services on both the Northern and Howth Branch lines to be maximised.

The DART+ Coastal North project, like the overall DART+ Programme, will improve connectivity and deliver frequent, modern and electrified rail services for more communities, enabling people to make sustainable travel choices.

This report forms part of the documentation published for the second stage of non-statutory public consultation. On completion of the non-statutory public consultation, the submissions from the public will be considered in the further development of the design of the Preferred Option.

GLOSSARY OF TECHNICAL TERMS

Abbreviation	Definition
AA	Appropriate Assessment
ABP	An Bord Pleanála
CAF	Common Appraisal Framework
CAWS/ATP	Continuous Automatic Warning System/Automatic Train Protection
CBI	Computer Based Interlocking
CCTV	Closed-Circuit Television
CIÉ	Córas Iompair Éireann
CSO	Central Statistics Office
CRR	Commission for Rail Regulation (formerly RSC – Railway Safety Commission)
CTC	Central Traffic Control
DART	Dublin Area Rapid Transit
DC	Direct Current
DMU	Diesel Multiple Unit
DTTAS	Department of Transport, Tourism and Sport
DOO	Driver Only Operation
DTTAS	Department of Transport, Tourism and Sport
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ERM	Eastern Regional Model
ESB	Electricity Supply Board
ECS	Empty Coaching Stock
EU	European Union
FLU	Full Length Unit (one FLU train consists of two HLUs)
GAA	Gaelic Athletic Association
GI	Ground Investigation
GDA	Greater Dublin Area
GDP	Gross Domestic Product
GFRP	Glass Fibre Reinforced Plastic
HLU	Half Length Unit (one FLU train consists of two HLUs)
IÉ / IR	Iarnród Éireann / Irish Rail
ITM	Irish Transverse Mercator
LAP	Local Area Plan
MCA	Multi-Criteria Analysis
MDC	Multi-Disciplinary Consultant
NDP	National Development Plan
NIAH	National Inventory of Architectural Heritage
NIFTI	National Investment Framework for Transport in Ireland

Abbreviation	Definition
NPF	National Planning Framework
NSO	National Statistics Outcomes
NTA	National Transport Authority
OCLZ	Overhead Contact Line Zones
OHLE	Overhead Line Equipment
Overbridge	A bridge which spans over the railway
P&C	Points and Crossings
PC1	Public Consultation No. 1
PC2	Public Consultation No. 2
pNHA	Proposed Natural Heritage Area
PPP	Public Private Partnership
REB	Relocatable Equipment Buildings
RO	Railway Order
RS	Rolling Stock
RRV	Road / Rail Vehicle
RSES	Regional Spatial and Economic Strategy
SAC	Special Area of Conservation
SEB	Signalling Equipment Building
SET	Signalling, Electrical and Telecom
SDZ	Strategic Development Zone
SP	Security Purpose
SPA	Special Protected Area
TEN-T	Trans-European Network for Transport
TII	Transport Infrastructure Ireland
TOD	Transport-Oriented Development
TPHPD	Trains Per Hour Per Direction
TSS	Train Service Specification
UN	United Nations
Underbridge	a bridge or viaduct that carries the railway
Overbridge	a bridge which spans over the railway



Underbridge



Overbridge

STEP-BY-STEP GUIDE TO READING PUBLIC CONSULTATION MATERIAL

Information is presented to varying levels of detail to enable the public to gain a broad or detailed understanding of the project and the Preferred Option sufficient to meet their information needs at this stage of the non-statutory consultation process. In this regard, the material presented in the OSR is technical in nature and should not be the starting point for a reader to gain an understanding of the project. Instead, it is recommended that the following approach is taken to understand the project:

- Level 1: An **Information Leaflet** has been prepared and circulated by mail drop to an extensive number of properties along the project corridor. This leaflet notifies the public of the consultation event to announce the Preferred Option and directs the reader to the project website www.DARTplus.ie.
- Level 2: The project website contains a **Virtual Exhibition Space**, similar to the exhibition events that are traditionally held in local communities. This virtual space is aimed at increasing the public knowledge of, and improving engagement with, the project but from the comfort of your personal surroundings. The Virtual Room contains several display panels presenting high level information about the Preferred end-to-end Option. A series of in-person events will also be held at various locations along the extent of the railway line between Drogheda and Dublin City, presenting the same panels and information.
- Level 3: A **Project Brochure** has been provided on the project website which contains more detailed information than is displayed on the panels in the virtual room and the in-person events. This brochure follows a similar layout to the brochure produced at Public Consultation No. 1 to assist the readers with familiarity of the project. An 'end-to-end' description of the Preferred Option is provided accompanied by a set of schematic layouts to highlight the main interventions and elements of the Preferred Option.
- Level 4: The **Option Selection Report: Volume 1 Preferred Option Report** (this document) along with a series of schematic layouts provides a description of the end-to-end Preferred Option for the project, and summarises the information found in Volume 2 Technical Report, while also signposting to the various supporting technical materials.
- Level 5: The **Option Selection Report: Volume 2 Technical Report** with associated drawings, annexes and supporting material are, together, the last stop on the journey, with more technical information provided to characterise the option selection process and the Preferred Option selected.

1. INTRODUCTION

1.1 Purpose of Option Selection Report

The preliminary option selection and early concept level design work undertaken was presented at the first round of public consultation held in Spring 2022. The feedback and submissions received as part of this have been reviewed and assessed as part of the subsequent design development which has taken place.

The overall Option Selection Report (OSR) presents the “Preferred Option”, incorporating further design development, studies, assessments and consultations with stakeholders, along with public feedback. The Preferred Option is now presented to the public for observations and comments as part of Public Consultation No. 2.

This Preferred Option Report (POR) is Volume 1 (of 2) of the overall OSR. To describe the Preferred Option within this report, general linear works are defined first, followed by locations (from south to north) with specific project requirements and resulting levels of works or interventions.

The end-to-end preferred route is illustrated in the south to north schematic layouts included in this report and will assist the reader in understanding the final Preferred Option for the project.

The POR provides a statement of the Preferred Option, the selection of which is addressed in detail in the chapters of the OSR Volume 2 Technical Report (second part of OSR).

Following Public consultation No. 2 (PC2) all information gathered by the project team will be used to inform further design development of the project and preparation of the Environmental Impact Assessment Report (EIAR) and Appropriate Assessment (AA) documentation, and ultimately the Railway Order (RO) application to be submitted to An Bord Pleanála in Summer / Autumn 2023.

1.2 Structure of Option Selection Report

This OSR and related material is presented in a manner consistent with how it is presented on the DART+ Programme website www.dartplus.ie:

- **Option Selection Report:** Volume 1 Preferred Option Report (this report) presents a summary of the Preferred Option end-to-end, along with a series of schematic layouts (refer to Table 1-1 and Annex 1 for details).
- **Option Selection Report:** Volume 2 Technical Report contains the technical detail, supporting information, assessments and recommendations identifying the Preferred Option for the project.
- **Annex 3:** Technical Optioneering Reports by Area and Drawings contains additional technical information focusing on areas which are new or now have additional information since Public Consultation No. 1 (refer to Table 1-2 for details).
- **Annex 2:** Supporting Material contains several key background reports that provide the policy context, objectives, and requirements for the DART+ Programme and for the DART+ Coastal North project. Many are publicly available documents. Other documents include background material which has helped to underpin the specific technical and infrastructural requirements of the project. References to these documents are provided (refer to Table 1-3 for details).

1.2.1 Report Annexes

As detailed above, this report is supported by a series of schematic drawings that illustrate the Preferred Option. The study area of the project extends from just north of the Tolka River to Drogheda MacBride Station and has been divided into 37 schematic drawings. The Annex reference, drawing title and area of the railway corridor covered by each map is presented in Table 1-1.

Table 1-1: Annex 1: Schematic Drawings

Annex Reference	Title	Area Covered
1.0	Option Selection – Schematic Layout - Key Plan	Key Plan
1.1	Option Selection – Schematic Layout – Sheet 01 of 23	Clontarf Road Station and surrounds
1.2	Option Selection – Schematic Layout – Sheet 02 of 23	Harmonstown Station to Kilbarrack Station and surrounds
1.3	Option Selection – Schematic Layout – Sheet 03 of 23	Howth Junction & Donaghmede Station and surrounds
1.4	Option Selection – Schematic Layout – Sheet 04 of 23	Bayside Station to Sutton Station and surrounds
1.5	Option Selection – Schematic Layout – Sheet 05 of 23	Burrow Road to Howth Station and surrounds
1.6	Option Selection – Schematic Layout – Sheet 06 of 23	South of Clongriffin Station and surrounds
1.7	Option Selection – Schematic Layout – Sheet 07 of 23	Clongriffin Station and surrounds
1.8	Option Selection – Schematic Layout – Sheet 08 of 23	Portmarnock Station and surrounds
1.9	Option Selection – Schematic Layout – Sheet 09 of 23	South Malahide and surrounds
1.10	Option Selection – Schematic Layout – Sheet 10 of 23	Malahide Station and surrounds
1.11	Option Selection – Schematic Layout – Sheet 11 of 23	Malahide Viaduct and surrounds
1.12	Option Selection – Schematic Layout – Sheet 12 of 23	Donabate Station and surrounds
1.13	Option Selection – Schematic Layout – Sheet 13 of 23	Rush and Lusk Station and surrounds
1.14	Option Selection – Schematic Layout – Sheet 14 of 23	Skerries Golf Club and surrounds
1.15	Option Selection – Schematic Layout – Sheet 15 of 23	Skerries Station and surrounds
1.16	Option Selection – Schematic Layout – Sheet 16 of 23	Barnageeragh Bay and surrounds
1.17	Option Selection – Schematic Layout – Sheet 17 of 23	Balbriggan Station and surrounds
1.18	Option Selection – Schematic Layout – Sheet 18 of 23	Gormanston Station and surrounds
1.19	Option Selection – Schematic Layout – Sheet 19 of 23	Mosney and surrounds
1.20	Option Selection – Schematic Layout – Sheet 20 of 23	Laytown Station and surrounds
1.21	Option Selection – Schematic Layout – Sheet 21 of 23	Pilltown and surrounds
1.22	Option Selection – Schematic Layout – Sheet 22 of 23	Drogheda MacBride Station South
1.23	Option Selection – Schematic Layout – Sheet 23 of 23	Drogheda MacBride Station and surrounds

The scope of work for the DART+ Coastal North project covers a number of interventions on the Northern Line needed to improve the frequency of train services between Connolly and Drogheda and meet the project objectives and requirements. To appropriately assess options, the scope of the work has been split into separate work packages, as detailed in the separate sub-annexes (technical studies) of Annex 3 presented in Table 1-2.

Table 1-2: Annex 3: Option Selection Technical Reports by Area

Annex Reference	Title	Description
3.1	Constraints Report	<p>This report reviews the DART+ Coastal North constraints in the following topic areas and includes constraints mapping:</p> <ul style="list-style-type: none"> • Traffic and transportation • Landscape and visual • Archaeology and cultural heritage • Architectural heritage • Noise and vibration • Air quality and climate • Material assets • Population and human health • Land and soils • Water resources • Biodiversity
3.2	Technical Optioneering Report: Electrification of the Northern Line between Malahide and Drogheda	<p>The Technical Optioneering Report for the Electrification of the Northern Line between Malahide and Drogheda. The report is divided into a series of sections covering the following aspects of the electrification:</p> <ul style="list-style-type: none"> A) OHLE system B) OHLE foundation solutions C) OHLE support solutions at underbridges D) Bridge parapet modifications for OHLE E) OHLE bridge clearance works (and supporting appendices) F) Traction power supply (and supporting appendix) G) User worked level crossing south of Donabate H) Fencing and lineside safety (and supporting appendices) I) Drogheda Station Canopies
3.3	Technical Optioneering Report: Works around Drogheda MacBride Station	<p>The Technical Optioneering Report for Works around Drogheda MacBride Station. The report addresses track and station modifications to allow for the increased number of DART services (and supporting appendix).</p> <p>Appendix A: Works around Drogheda MacBride Station Supporting Drawings</p>
3.4	Technical Optioneering Report: Works around Malahide Station	<p>The Technical Optioneering Report for Works around Malahide Station. The report addresses track modifications required to allow trains to be turned back clear of through running services (and supporting appendix).</p> <p>Appendix A: Works around Malahide Station Supporting Drawings</p>
3.5	Technical Optioneering Report: Works around Clongriffin Station	<p>The Technical Optioneering Report for Works around Clongriffin Station. The report addresses track modifications required to allow trains to be turned back clear of through running services (and supporting appendix).</p> <p>Appendix A: Works around Clongriffin Station Supporting Drawings</p>

Annex Reference	Title	Description
3.6	Technical Optioneering Report: Works around Howth Junction & Donaghmede Station	The Technical Optioneering Report for Works around Howth Junction & Donaghmede Station. The report addresses modifications to the station to meet the planned increase of train services (and supporting appendices). Appendix A: Works around Howth Junction and Donaghmede Station Supporting Drawings Appendix B: Howth Junction and Donaghmede Station Improvements Report
3.7	Technical Optioneering Report Works around Howth Branch Level Crossings	The Technical Optioneering Report for the Howth Branch Level Crossings. The report addresses the impacts of all proposed increases in train frequency on existing level crossings on the Howth Branch.

There are several key background reports that provide the policy context, objectives, and requirements for the DART+ Programme and for the DART+ Coastal North project. These documents and useful websites are presented in Table 1-3.

Table 1-3: Annex 2: Supporting Material

Annex Reference	Title	Detail
2.1	Policy Context	This presents a detailed review of the European, National, Regional and Local policy context for the DART+ Programme and the DART+ Coastal North project
2.2	Useful Links	A list of links to publicly available documents or websites referred to in this report
2.3	Public Consultation No.1 Findings Report	Presents detailed information on methodology, feedback received, and consideration of design development.

1.3 Structure of Preferred Option Report

The POR is structured as follows:

- Chapter 1 sets out the purpose of the report and introduces the DART+ Programme and DART+ Coastal North project.
- Chapter 2 sets out the public consultation process and the option selection process.
- Chapter 3 provides an overview of the Preferred Option for General Linear Works (end-to-end).
- Chapters 4 to 9 provide information of the Preferred Option at discrete locations along the railway corridor for the DART+ Coastal North project.
- Chapter 10 provides a conclusion and summary of next steps in the DART+ Coastal North project.

1.4 Introduction to DART+ Programme

The DART+ Programme is a transformative railway investment programme that will deliver a high quality and integrated public transport system within the Greater Dublin Area (GDA). The DART+ Programme will both modernise and improve existing rail services in the GDA, providing a range of benefits for both the residents of the GDA itself, as well as those living in surrounding regions.

The DART+ Programme will play a significant role in contributing to Ireland's transition to a low carbon and climate resilient society by providing a sustainable, electrified, reliable and more frequent rail service with improved capacity to meet current and future demands. This will be achieved through the modernisation of existing railway corridors and by utilising electric powered trains in place of diesel trains.

The existing, electrified DART network extends from Malahide to Greystones (including the Howth Branch) over a length of approximately 50km. The DART+ Programme will seek to increase the length of high capacity and electrified network to 150km across the four main rail corridors within the GDA.

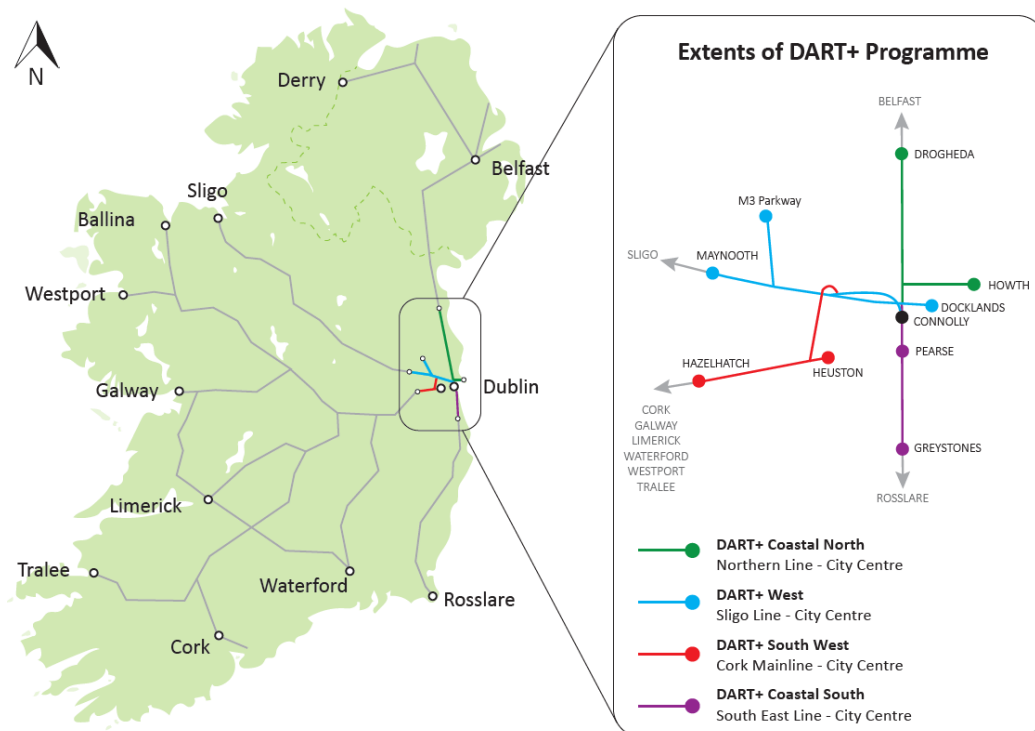


Figure 1-1: DART+ programme of works overview

This modernisation includes the electrification, re-signalling and infrastructure interventions to remove constraints across the four main rail corridors within the GDA, as follows:

- DART+ Coastal North (this project) – circa 50km, extending from Drogheda to Dublin City Centre (north of Connolly Station).
- DART+ Coastal South – circa 30km, extending from Greystones to Dublin City Centre.
- DART+ West – circa 40km, extending from Maynooth and M3 Parkway stations to Dublin City Centre.
- DART+ South West – circa 16km, extending between Hazelhatch & Celbridge Station and Heuston Station and also circa 4km between Heuston Station and Glasnevin, via the Phoenix Park Tunnel Branch Line.

As part of the DART+ Programme, Iarnród Éireann is purchasing a new fleet of trains to enhance the capacity on the DART network. This procurement will allow Iarnród Éireann to choose a fleet made up of Electric Multiple Units (EMUs) and Battery Electric Multiple Units (BEMUs). The provision of BEMUs will allow for an enhanced service on the network in advance of full electrification. These BEMU works will be delivered under a separate project.

The DART+ Programme is a key component in the national public transportation network. It will provide a high-capacity transit system for the GDA, improved connectivity to outer regional towns, and a greater level of integration with other public transport systems and active travel infrastructure, benefiting all current and future users of public transport. The delivery of the DART+ Programme will encourage a modal shift away from private car usage towards public transport. This transition will be achieved through the provision of a more reliable, frequent and accessible rail service.

The DART+ Programme will provide enhanced, greener public transport to communities along the DART+ Programme routes, delivering economic and societal benefits for current and future generations. The expected reduction in road traffic congestion resulting from the DART+ Programme, especially during peak traffic periods, will contribute to a more sustainable transport system within the GDA and surrounding regions.

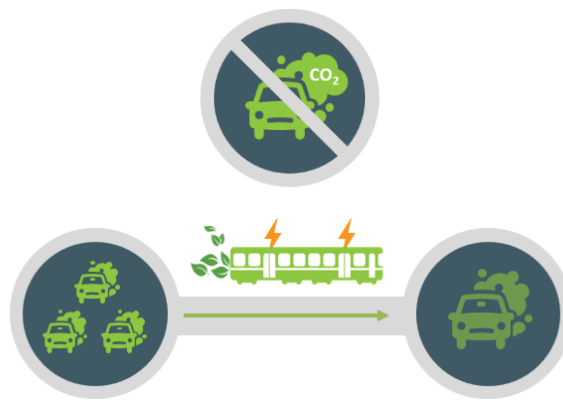


Figure 1-2: Reduced congestion leading to reduction in CO2 emissions

1.4.1 DART+ Programme Objectives

The DART+ Programme's primary objective is to support urban compact growth and contribute to reducing transport congestion and emissions in the Dublin region by enhancing the heavy rail network between Dublin City Centre and the areas of Drogheda, Maynooth, Dunboyne, Celbridge and Greystones, providing a sustainable, safe, efficient, integrated, and accessible public transport service along these corridors. Sub-objectives of the DART+ Programme include the following:

- Cater for existing heavy rail travel demand and support long-term patronage growth along established rail corridors in the Greater Dublin Area through the provision of a higher frequency, higher capacity, electrified heavy rail service which supports sustainable economic development and population growth.
- Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved inter-rail and inter-modal connectivity and integration with other public transport services.
- Enable further urban compact growth along existing rail corridors, unlock regeneration opportunities and more effective use of land in the Greater Dublin Area, for present and future generations, through the provision of a higher capacity heavy rail network.
- Deliver an efficient, sustainable, low carbon and climate resilient heavy rail network, which contributes to a reduction in congestion on the road network in the Greater Dublin Area and which supports the advancement of Ireland's transition to a low emissions transport system and delivery of Ireland's emission reduction targets.

- Provide a higher standard of customer experience including provision of clean, safe, modern vehicles and a reliable and punctual service with regulated and integrated fares.

1.5 DART+ Coastal North Overview

The DART+ Coastal North project is the third infrastructure project to launch as part of the DART+ Programme. The extents of the DART+ Coastal North project are presented in.

The DART+ Coastal North project, as part of the DART+ Programme, will deliver an improved and extended electrified rail network and will enable increased passenger capacity and an enhanced train service between Dublin City Centre and Drogheda, including the Howth Branch railway line. This increased rail capacity will be achieved by implementing an extended electrified railway network with high-capacity DART trains and an increased frequency of rail services. In addition, the DART+ Coastal North project requires that some track modifications are implemented, including the provision of turnback facilities at Malahide, Clongriffin and Howth Junction & Donaghmede Stations. These modifications are essential to facilitate the increase in train services by improving operational flexibility, allowing trains to be turned back clear of continuing services and allow for a higher frequency and a more reliable service.

To achieve the peak capacity increases proposed by the DART+ Programme, the DART+ Coastal North project will seek a reconfiguration of Howth Junction and Donaghmede Station to increase capacity and frequency of services on the Northern and Howth Branch Lines. The project is seeking to deliver the infrastructure at Howth Junction and Donaghmede Station that will enable the operation of both a DART shuttle service and/or a direct through service (as existing) on the Howth Branch line to/from Dublin City Centre, allowing for the capacity and frequency of DART+ services on both the Northern and Howth Branch lines to be maximised and to help future-proof the network.

In direct response to feedback received during the first Public Consultation, significant upgrade works, and enhancements are now being proposed for Howth Junction & Donaghmede Station to deliver accessibility improvements and provide for a better overall customer experience. The works will involve modifications to the station entrances to provide a more accessible, user friendly and customer focused station for all rail users, as well as enhancing the connection to the surrounding communities of Donaghmede and Kilbarrack. Upgrades are proposed to the existing station footbridge and connections to the centre platforms, as well as to the lighting, signage, and finishes throughout.

Proposed changes to the Howth Branch, will see both the service frequency and capacity increase, along with improvements to the reliability of timetabling. The reliability of the Howth Branch will increase as the proposed shuttle service would mean that trains operating on this branch would no longer be susceptible to delays occurring along the Northern Line. Further assessments on the four Howth Branch level crossings have indicated that, even with the proposed DART service uplift, the existing level crossings can continue to operate and provide an appropriate level of cross connectivity and accessibility to surrounding communities and thus will remain open.

Delivery of the DART+ Coastal North project will support existing communities along the railway and support future sustainable development. The project will serve all existing stations along the railway corridor between Dublin City Centre and Drogheda MacBride Station, including those located on the Howth Branch, with electric powered trains that have a lower carbon footprint than the existing diesel trains. The frequency and quality of service will provide a viable transport alternative to communities

along the route and help encourage people to migrate from private car use. This will assist Ireland in reducing greenhouse gas emissions from transport and help combat climate change.

The majority of proposed works and interventions are expected to be carried out within the existing railway corridor boundary. Some works and interventions, however, will be required outside of Iarnród Éireann land such as:

- Bridge modifications/improvements to facilitate extended electrification;
- Construction of substations (to facilitate the provision of power to the line); and
- Use of land for temporary construction/storage compounds.

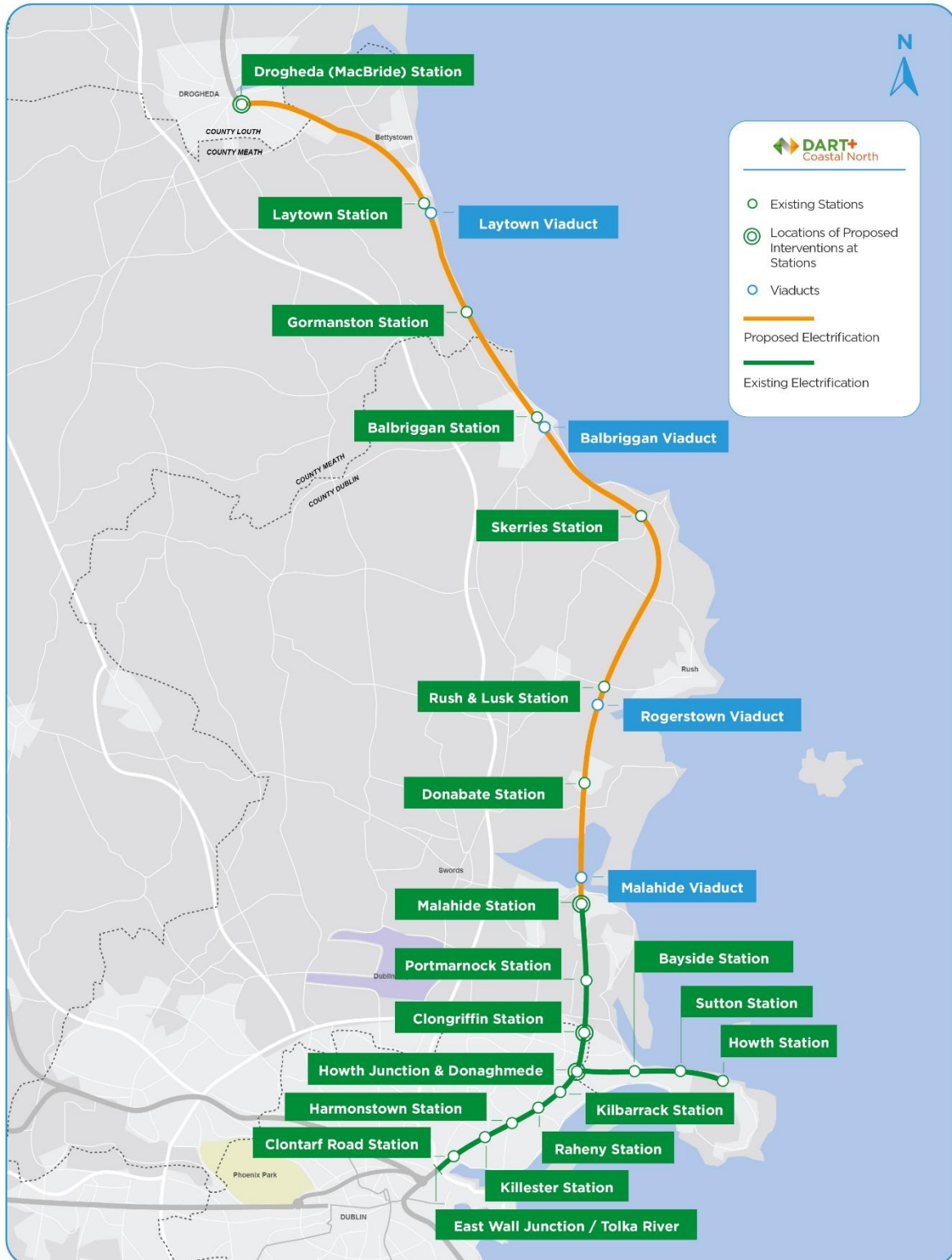


Figure 1-3: DART+ Coastal North project extents

The key infrastructure elements of the DART+ Coastal North project include:

- Extension of existing 1500V DC electrification, which currently terminates at Malahide, as far as Drogheda MacBride Station (approximately 37km);
- Reconfiguration of the existing track layout and associated infrastructure in the vicinity of Drogheda MacBride, Malahide, Clongriffin and Howth Junction & Donaghmede Stations, as well as the provision of sections of additional track, station turnback facilities, and infrastructure that will enable the operation of both a DART Shuttle Service on the Howth Branch, at such time that future passenger demand warrants its use, and/or the continued operation of a direct through service (as existing) on the Howth Branch to/from Dublin City Centre. All interventions are designed to allow for improved operational flexibility and maximised passenger capacity and DART frequency on both the Northern and Howth Branch Lines;
- Construction of a new platform at Drogheda MacBride Station;
- Significant upgrades to Howth Junction & Donaghmede Station now proposed to provide a more accessible, user friendly and customer focused station for all rail users;
- Undertaking upgrades to existing signalling, telecoms and power supplies to support the planned increase in train services, including the introduction of new electrical substations at key locations alongside the railway line;
- Undertaking modifications to bridges as a result of capacity enhancements, track reconfigurations and/or works to achieve necessary electrical clearances;
- Undertaking modifications to existing depots at Drogheda and Fairview to support the new train fleet, including the provision of additional train stabling at Drogheda; and
- Ancillary civils, drainage and power work to cater for the changes.

Further information on the above mentioned capacity increases and key infrastructure elements, will be found later in this document, and in more detail within Volume 2 Technical Report.

2. PUBLIC CONSULTATION PROCESS AND CURRENT STATUS

The information presented in this report is for consultation and engagement with the public and affected property owners. The designs have been refined since Public Consultation No. 1 to incorporate surveys and assessments, consultation with stakeholders and engagement with the public.

The purpose of presenting the Preferred Option Report at this stage of the project is to show the public the Preferred Option and to assist in eliciting feedback. As part of the public consultation process, the public will be invited to make observations on the current design proposals for consideration by the project team.

2.1 DART+ Coastal North Project Public Consultation Process

Stakeholder engagement and consultation during the design process is a key element of the delivery of major infrastructure projects such as the DART+ Coastal North project. The purpose of public consultation is to:

- Engage the public in the scheme delivery process;
- Inform the public of the statutory process and the likely timescales;
- Seek the public's cooperation and understanding of the project; and
- Capture local knowledge to inform the Environmental Impact Assessment and Railway Order (RO) process.

Public participation is welcomed and encouraged throughout the design development process. However, there will be three main project consultation stages which will provide the opportunity to learn about the design development and provide feedback to inform the next stage as appropriate.

The main public participation stages as part of the project development are as follows:

- Non-Statutory Public Consultation No. 1 on the Emerging Preferred Option (completed in Spring 2022).
- Non-Statutory Public Consultation No. 2 on the Preferred Option (current stage).
- Statutory Consultation Period as part of the Railway Order application process (Autumn 2023).

2.1.1 Public Consultation No. 1 – Emerging Preferred Option

The DART+ Coastal North project team ensured the public consultation process was easily accessible to all stakeholders and the public. Due to COVID-19 restrictions in place at the time of Public Consultation No. 1 and to comply with the public health restrictions and guidelines, no physical public events were held; instead, all consultation including meetings with potentially affected landowners / residents / stakeholders were conducted online (website / email / telephone). In addition, five evening webinars were held focusing on specific sections of the project route.

A total of 2,115 submissions were received by Iarnród Éireann via the communication channels provided. Submissions received after the close of the Public Consultation period (08th of April 2022) continued to be accepted and are taken into consideration as part of an overall body of feedback on the content of Public Consultation No.1. The feedback received ranges from personal submissions

from affected residents and commuters to detailed proposals from public bodies and various associations. All submissions were received either via email, post, telephone, or through the online feedback form.

While a wide variety of issues were raised in the submissions received during Public Consultation No.1, a summary of the principal issues or main concerns across the entire project is included below:

- Howth Branch Line Infrastructure Proposals;
 - Operation of a DART Shuttle Service at peak times; and
 - Station infrastructure at Howth Junction & Donaghmede Station.
- Journey Times;
- Safety;
- Level Crossings & Traffic Impacts;
- Train Frequency, Capacity & Reliability;
- Howth Tourism & Business Impacts;
- Station Facilities – Carparking, Bicycle Parking, Park & Ride, Toilets;
- Development / Planning Implications;
- Access & Mobility Issues;
- Public Consultation Process;
- Extension of DART to Drogheda & Change to Electric Power;
- Limited Scope of Project;
- Noise, Health & Impact on Landowners & Residents; and
- Environmental & Heritage Impacts.

Several issues raised within the submissions are outside the scope of the DART+ Coastal North project, such as future fares, extending the project to areas such as Dundalk, Navan or the Airport, or the addition of stations at Drogheda North, Bettystown or Laytown. All concerns have been fed back through the project team to the Iarnród Éireann DART+ Programme Board and the National Transport Authority (NTA) who will assess each issue in greater detail.

The project team has analysed the submissions and considered all relevant information in re-evaluation and further development of design options leading to the selection of the Preferred Option. Refer to OSR Volume 2 Technical Report for further details on how feedback has been considered on the option selection process.

2.1.2 Development of Preferred Option following Public Consultation No. 1

The purpose of Public Consultation No. 1 was to present the Emerging Preferred Option for the proposed DART+ Coastal North project and to request the views of the public and other stakeholders. All submissions received as part of the first round of consultations have fed into the design process, an updated option selection process and the identification of the Preferred Option. The project team has analysed the submissions and considered all relevant information of potential relevance for the re-evaluation of the optioneering to date and further development of design options. As part of this analysis the following items or options were identified as requiring further consideration and have been considered in the options re-evaluation process in conjunction with further design development of the Preferred Option:

1. The inclusion of, within the project scope, significant upgrades to Howth Junction & Donaghmede Station now proposed to provide a more accessible, user friendly and customer focused station for all rail users.

2. Further surveys and assessments undertaken in relation to transport modelling for the level crossings on the Howth Branch line.
3. Design development since Public Consultation No. 1 has identified the location of construction compounds relating to the project.
4. Structural assessments have identified bridges/structures requiring intervention to allow for the installation of OHLE as part of the overall extension of electrification to Drogheda MacBride Station.

2.1.3 Public Consultation No. 2 – The Preferred Option

A period of public and stakeholder consultation and engagement is currently being undertaken on the Preferred Option (presented in this report). As part of the consultation process, the public are being invited to make submissions and observations on the Preferred Option. All submissions will be reviewed, and the design of the Preferred Option will be advanced and further refined and developed in preparation for statutory processes.

The design development of the Preferred Option will inform the preparation of the Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) documentation. This process will culminate with the publication of an EIAR and an Appropriate Assessment Screening Report (and Natura Impact Statement if screened in) that will be submitted as part of documentation required for the Railway Order approvals process.

2.2 Statutory Consultations – Railway Order

The Railway Order application process is set out in the Transport (Railway Infrastructure) Act 2001 (as amended and substituted) for a Railway Order. On finalisation of the project design and preparation of the necessary documentation, a Railway Order application will be submitted to An Bord Pleanála for statutory approval. An Environmental Impact Assessment Report (EIAR) will accompany the Railway Order application, and this will detail the nature and extent of the proposed project and identify and describe the impacts on the environment. It will also detail measures that will be taken to avoid, reduce and/or monitor these impacts.

At the time of the submission of the Railway Order application, an advertisement will be placed in at least one national newspaper to notify the public of the Railway Order application. There will be a period of 6 weeks for submissions to be made to An Bord Pleanála. An Bord Pleanála may decide to hold an Oral Hearing.

2.3 Options Selection Process

This report presents the outcome of the optioneering process which has followed a structured and systematic approach to determine the Preferred Option for the project in an objective manner. The process comprises a two-step approach:

- **Stage 1** – Preliminary Assessment (Sifting); and
- **Stage 2** – Multi-Criteria Analysis (MCA).

The Multi-Criteria Analysis technique is recommended by the Common Appraisal Framework for Transport Projects and Programmes, published by the Department of Transport (2020) and provides a coherent mechanism for choosing between options on a comparative basis. Each option is

characterised under six principal categories as defined within the Common Appraisal Framework and compared on a qualitative basis.

Not all design features require option selection but are instead subjected to technical assessment only. Consequently, the two-stage approach is not applicable to all general works or interventions that require option selection. The following criteria have been used to scope out elements from a CAF MCA assessment:

- If the type of system to be used is solely governed by IÉ standards and specified by technical requirements, then the CAF/MCA process will not be utilised;
or
- If the type of design/systems to be used has no material effect on external parties, the public and/or environment, then the CAF/MCA process will not be utilised;
or
- If there is no material geographic difference between the options, then the CAF/MCA process will not be utilised.

The optioneering process is presented in **Section 4 of the Volume 2 Technical Report**.

3. GENERAL LINEAR WORKS

Given that much of the general linear works manifest along the full extent of the scheme, these elements are described first in this chapter to avoid the need for repetition. In addition, elements of the scheme which, although arising at discrete locations throughout the scheme, are proposed to be provided with common treatment are also described in this chapter (for example, additional signalling).

The elements of the Preferred Option that are relevant to the entire length of the railway corridor are:

- 1) Installation of Overhead Line Equipment, e.g., foundations, masts and wires, between Malahide and Drogheda.
- 2) Works around bridge structures, including installation of OHLE supports on bridge viaducts (long multi-span bridge crossings carrying the rail), lowering of tracks to accommodate the passage of electrical wiring beneath overbridges, modification of bridges to accommodate proposed works (deck replacement, bridge reconstruction, etc) and parapet modification to overbridges to ensure suitable protection from electrical wiring.
- 3) Installation of power supply substations and electrical feeding infrastructure between Malahide and Drogheda.
- 4) Closure of the existing user worked level crossing south of Donabate.
- 5) Modifications to existing railway fencing and installation of new fencing to prevent the public coming into contact with the OHLE.
- 6) Modifications to surrounding station structures, such as canopies at stations between Malahide and Drogheda, to achieve required clearances to OHLE.
- 7) Enhancement of signalling and telecommunications infrastructure.
- 8) Line-wide construction compounds.

3.1 Overhead Electrification Equipment (OHLE)

OHLE generally refers to the mechanical and electrical items used to carry and deliver electrical power to the trains. Electrical energy is supplied to the train through contact between the equipment mounted on the top of the train (pantograph) and an electrically live overhead cable. This cable is suspended from a system of steel masts. The live overhead cable is fed electricity from individual substations which are located along the route.

An extension of the OHLE will be required as part of the DART+ Coastal North project. This will extend from the current limit of electrification at Malahide through to Drogheda. The equipment will be similar to, and compatible with, the overhead electrification equipment currently used on the existing DART network. It is a project requirement to provide an electrification system that is compatible with the existing DART system and other electrification projects associated with the DART+ Programme.

Further detail in relation to OHLE is set out in **Sections 5.1 and 5.2 of the OSR Volume 2 Technical Report**.



Figure 3-1: An example of OHLE on an existing line

3.2 Bridge Works

Bespoke fixing arrangements for OHLE will be required at some locations where the railway is supported on underbridges or viaducts. Additionally, clearance and modifications are required in some locations where an overbridge spans the railway to ensure the OHLE passes safely below the bridge.

3.2.1 Underbridges

OHLE will be required for the electrification works as per Section 3.1. In some locations the OHLE will need to be fixed to underbridges/viaducts which will require localised modifications. These modifications are required to Malahide, Rogerstown, Balbriggan and Laytown Viaducts. The Preferred Option for each structure is as follows:

- UBB30 – Malahide Viaduct – installation of masts supported on concrete pad foundations placed within the ballast layer under the tracks;
- UBB36 – Rogerstown Viaduct – installation of masts supported on wingwalls of the existing abutments;
- UBB56 – Balbriggan Viaduct – installation of masts supported on the walkway, which will be modified locally to suit; and
- UBB72 – Laytown Viaduct – Installation of mast supported on additional steelwork attached to the bridge at the outer pier locations.

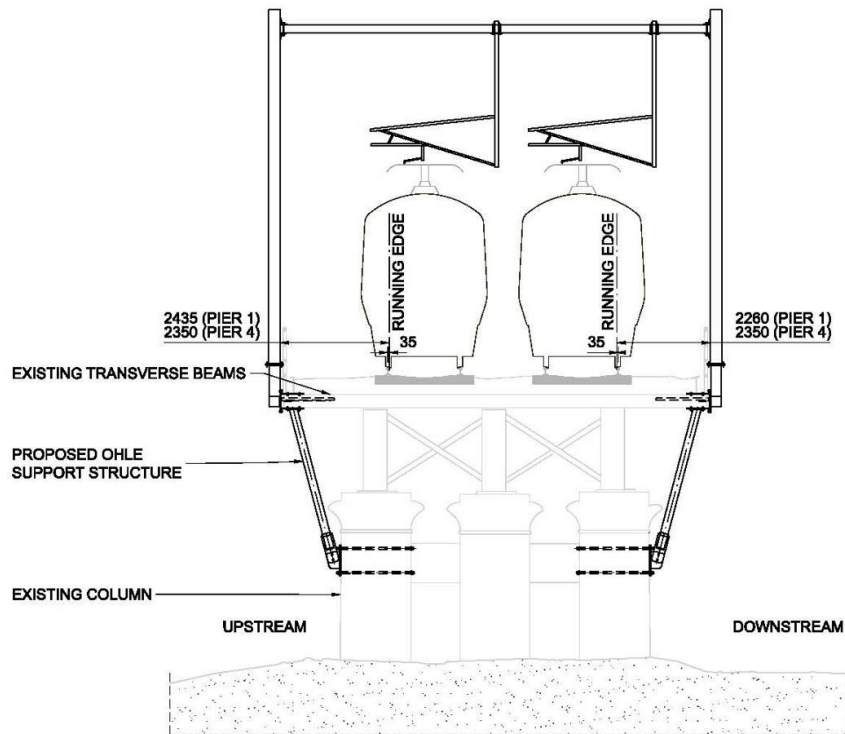


Figure 3-2 An example of OHLE supported on a viaduct.

Figure 1-3 presents the locations of the viaducts listed above. Figure 3-2 presents an example of how OHLE can be support off a bridge viaduct and Figure 3-3 presents an aerial view of the Balbriggan Viaduct (UBB56).

Further detail in relation to underbridge modifications is set out in Section 5.3 of the OSR Volume 2 Technical Report.



Figure 3-3: Balbriggan Viaduct UBB56 (© Peter Barrow Photography)

3.2.2 Overbridges – Parapet Modification

Existing overbridge parapets between Malahide and Drogheda need to be modified to meet safety requirements for an electrified railway, i.e. to protect the public from direct contact with the live OHLE. As a result, reasonable steps to prevent people from accidentally or otherwise falling onto or touching the OHLE are required. Modifications will ensure that parapets have no openings, are climb-resistant and at least 1.8m high. Figure 3-4 presents an example of a parapet modification for a typical road bridge. Further detail in relation to parapet modifications is set out in Section 5.4 of the OSR Volume 2 Technical Report.

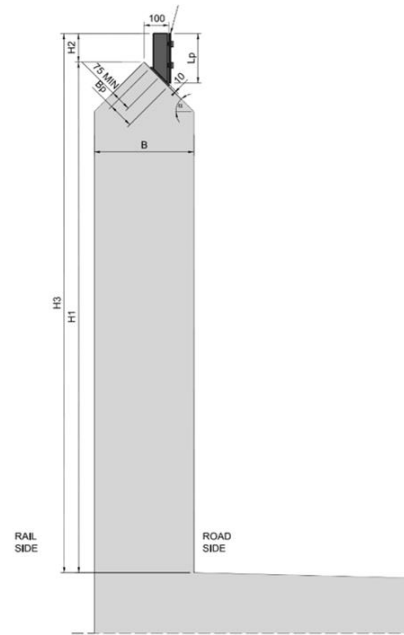


Figure 3-4: Road Bridge Parapet OBB66 and example of a parapet modification

3.2.3 Overbridges – Clearance Related Modifications

An assessment has been undertaken to review the existing clearances at all overbridges along the route. The preliminary findings from the assessment conclude that a large proportion of the bridges have the necessary clearances and are unlikely to be impacted by the project. However, to achieve appropriate clearances, an upgrade to the Drogheda MacBride station footbridge (OBB81), and the replacement of bridge linking Railway Terrace with McGrath's Lane (OBB80), will be required. The Preferred Options for these bridges are as follows:

Overbridge OBB80/80A/80B (carrying Railway Terrace) – construction of a replacement bridge adjacent to the existing to provide sufficient clearance for OHLE installation, which will simultaneously enable an improved road alignment and improved infrastructure for vehicles, cyclists and pedestrians. The option will allow access to the north of the railway to be maintained via the existing bridge during construction of its replacement. This option would require the acquisition of land adjacent to the rail line to construct the abutments and ramped access to the bridge.

Further detail in relation to overbridge clearance works is set out in **Section 5.5 of the OSR Volume 2 Technical Report**.



Figure 3-5: Overbridge OBB80/80A/80B (Railway Terrace)

Overbridge OBB81 (Drogheda station footbridge) - replacement of the bridge superstructure with a profiled soffit to provide sufficient clearance for OHLE installation, as it provides a cost-effective solution that minimises disruption to services during construction while also maintaining the visual character of the station. This option is of simple construction and allows the existing substructure to be retained, giving a cost-effective solution that does not require the construction of new bridge foundations. Only minor works are required to the existing stairs, landing and lifts, minimising the impact on the station and disruption to commuters. The heritage value of the station will be maintained, by retaining the existing stairs and providing a structure that is similar in form to the existing. Figure 3-6 presents a conceptual image of the bridge modification.



Figure 3-6: Overbridge OBB81 conceptual image of modification

Some minor localised track lowering works will also be necessary to achieve the required clearances at four existing structures:

- Overbridge OBB39 (carrying Station Road / R128);
- Overbridge OBB44 (carrying local road in Tyrrelstown Big);
- Overbridge OBB55 (carrying Lawless Terrace / R127); and
- Overbridge OBB78 (carrying Colpe Road).

3.3 Electrical Substations

The OHLE system will be supplied with electrical power from the ESB distribution network at regular intervals and new electrical substations will be required at eight locations between Malahide and Drogheda. These substations will receive power at voltages up to 38kV AC and transform this into the required 1500V DC for distribution along the OHLE system. The specific voltage to be adopted will be determined at a later date in consultation with the ESB.

Findings from a power study have indicated that eight new substations will be required between Malahide and Drogheda to provide power to the network. The location for each of the substations was identified by following a two-step optioneering process: Preliminary Assessment and a Multi-Criteria Analysis (feasible options), where appropriate. This led to the identification of the Preferred Options in respect of each of the required substation locations. Figure 3-7 presents an example of a typical substation structure.

The general locations along the line are as follows:

- Donabate;
- Rush and Lusk;
- Skerries South;
- Skerries North;

- Balbriggan;
- Gormanston;
- Bettystown; and
- Drogheda.

Further detail in relation to site selection for the electrical substations is set out in Section 5.6 of the OSR Volume 2 Technical Report.



Figure 3-7: An example of a typical substation

3.4 Level Crossing South of Donabate

The existing user worked Level Crossing (XB001) located close to the Malahide Estuary south of Donabate Station is to be closed. Intervention at the crossing is required due to an increase in risk from the electrification of the railway line and greater frequency of trains which significantly increases the safety risks to users of the crossing and to rail traffic.

Further detail in relation to this level crossing is set out in **Section 5.7 of the OSR Volume 2 Technical Report.**

3.5 Fencing

Necessary safety improvement works will be required to railway fencing where OHLE is to be introduced. Similar to bridge parapet works, reasonable steps will be taken to prevent people from accidentally or otherwise falling onto or making contact with the OHLE.

Since Public Consultation No. 1, assessments have been undertaken along the railway corridor of the existing fencing and the proposed OHLE infrastructure for compliance against standards. The fencing has also been assessed using a risk assessment methodology to identify where the risks imposed by the proposed OHLE require fencing interventions.

The results demonstrate that locations requiring intervention are few relative to the extent of the proposed OHLE works. Where interventions are required, they mostly require bonding of the existing fencing, as the fencing sits within the Overhead Contact Line Zones.

Further detail in relation to fencing is set out in **Section 5.8 of the OSR Volume 2 Technical Report.**

3.6 Station Structure Modifications

An assessment of the impact of electrification on existing station structures has found that the canopy at Drogheda MacBride Station will be affected. The location and projection of the canopy over the platform obstructs the ability to install OHLE infrastructure. Therefore, modification of the canopy is proposed. Figure 3-8 shows the existing canopy.

Further detail in relation to station structure modifications is set out in **Section 5.9 of the OSR Volume 2 Technical Report**.



Figure 3-8: Drogheda Platform 1 Canopy

The preferred viable solution is to modify the existing canopy in a way that is sensitive to its heritage structure status. Sections which overhang the exclusion zone will be cut back and an endplate bolted to join the top and bottom chords. Figure 3-9 shows an indicative example of modified canopy.

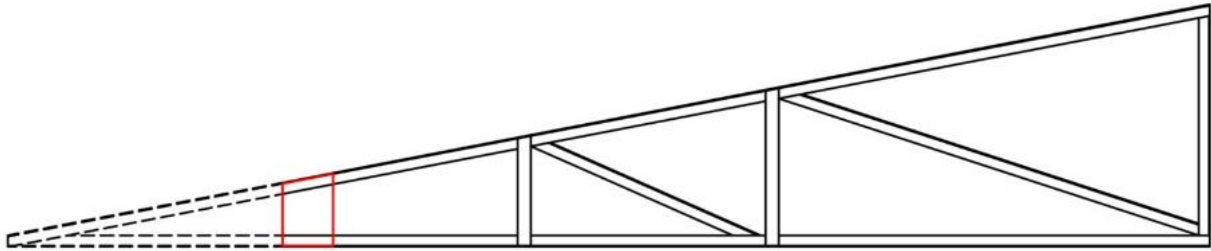


Figure 3-9: Truss modifications (indicative)

3.7 Signalling and Telecommunication Works

In order to support the delivery of the improved train service specification between Dublin City Centre and Drogheda, enhancements to the signalling system will be required. The extent of the enhancements relates to accommodating the changes to the track layout at Howth Junction & Donaghmede, Clongriffin, Malahide and Drogheda Stations, as well as the delivery of additional services over the new and existing tracks.

These enhancements will require the provision of new signalling and telecommunication equipment accommodation buildings along the line to house new equipment at strategic locations, located within IÉ land where possible. New signalling equipment rooms will be constructed at Drogheda, Malahide, Clongriffin and Howth Junction & Donaghmede Stations.

Further detail in relation to signalling and telecommunication modifications is set out in **Section 5.10 of the OSR Volume 2 Technical Report**.

3.8 Line-Wide Construction Compounds

Works on the overall scheme will require construction compounds at specific locations. The sites will need to accommodate offices for the contractor and client teams, storage facilities, recycling facilities, parking for cars and plant and potentially fabrication areas. It is a prerequisite that the construction compounds are located close to and ideally with direct access to the respective work site. The sites must be fully serviced with electricity, water, sewerage and telecoms and must have good access to the public road network.

The compounds are required at specific construction sub-sites and also distributed along the scheme by geographical features. For example, compounds will be required at each of the bridge reconstruction locations. They will also be required for material processing and storage of construction components. The construction compounds will be used to support earthworks, enabling works, site clearance, utility diversions work, civil works, the demolition of bridges, OHLE, track installation, signalling and telecoms equipment and all ancillary works.

Most of the compounds will be temporary in nature. Further detail in relation to Construction Compounds is set out in **Section 5.11 of the OSR Volume 2 Technical Report**.

4. DEPOT WORKS

Modifications at Drogheda and Fairview depots are required to provide the infrastructure, maintenance, and servicing facilities necessary for the new DART+ Fleet.

At Drogheda MacBride Station, these modifications are predominantly internal within the existing depot buildings, although some localised exterior changes to tracks and railway systems will also be required.

There will also be localised works at Fairview Depot to modify the facilities to cater for the change in rolling stock. Similarly, these modifications are predominantly internal to the buildings, although they will also encompass some localised exterior changes to some track work and systems.

Further detail in relation to depot works is set out in **Section 6 of the OSR Volume 2 Technical Report**.



Figure 4-1: Fairview Depot

5. WORKS AROUND HOWTH JUNCTION & DONAGHMEDE STATION

5.1 General Works

The Preferred Option at Howth Junction & Donaghmede Station includes construction of an extension to the existing Platform 2 and some associated track modifications. These modifications include construction of a new crossover to the east of the platforms, and alterations to existing OHLE, signalling and telecoms will also be required.

To achieve the peak capacity increases proposed by the DART+ Programme, the DART+ Coastal North project will seek a reconfiguration of Howth Junction and Donaghmede Station and the removal of existing train crossing conflicts at the station which currently constrain capacity and train frequency on the network. These changes will enable the operation of both a DART shuttle service on the Howth Branch line as required during peak times, and/or a direct through service (as existing) on the Howth Branch to/from Dublin City Centre, allowing for the capacity and frequency of DART+ services on both the Northern and Howth Branch lines to be maximised. The removal of train crossing conflicts at Howth Junction will also result in a more frequent and reliable Howth DART service operating every ten minutes each way, with a change at Howth Junction to access the Northern Line. The associated interchange introduced at Howth Junction & Donaghmede Station will be facilitated by an increased frequency of stopping trains on the Northern Line. Final operational decisions will be made subject to future passenger demand requirements. Figure 5-1 presents the Preferred Option.

Further detail in relation to works around Howth Junction & Donaghmede Station, including additional station modification (discussed below) is set out in **Section 7 of the OSR Volume 2 Technical Report**.

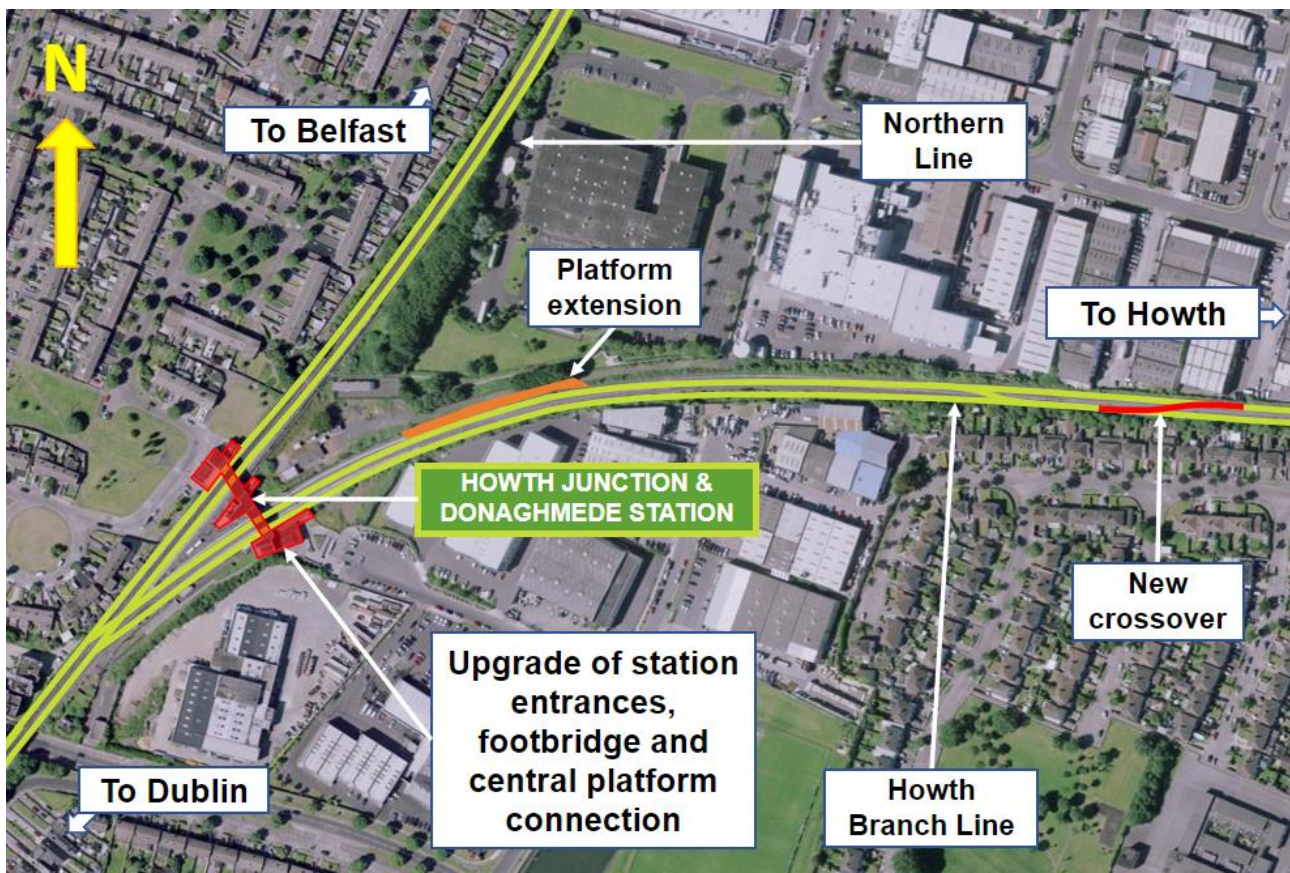


Figure 5-1: Howth Junction & Donaghmede Station Preferred Option

5.2 Additional Modifications to Howth Junction & Donaghmede Station

Feedback from PC1 raised significant concerns in respect of the Howth Junction & Donaghmede Station. The feedback received has been carefully considered and a variety of significant modification works are proposed to Howth Junction and Donaghmede Station to both improve the passenger experience generally, and to develop the station to better serve as an interchange station. The works will involve modifying the entrances to provide a more accessible, user friendly and customer focused station for all rail users, as well as improve the connection to the surrounding areas of Donaghmede and Kilbarrack. Upgrades will also take place to the footbridge and connections to the centre platforms, as well as the lighting, signage, and finishes throughout. Figure 5-2 presents a series of indicative conceptual images of the Preferred Option.



Figure 5-2: Howth Junction & Donaghmede Station conceptual modifications

6. HOWTH BRANCH LEVEL CROSSINGS

There are four level crossings located on the Howth Branch, as listed below:

- Baldoyle Road Level Crossing;
- Sutton Level Crossing;
- Cosh Level Crossing; and
- Claremont Level Crossing.

The proposed changes to the Howth Branch will see both the service frequency and capacity increase, along with improvements to the reliability of timetabling. The Preferred Option will enable the operation of both a DART shuttle service and/or a direct through service (as existing) on the Howth Branch to/from Dublin City Centre, allowing for the capacity and frequency of DART+ services on both the Northern and Howth Branch lines to be maximised.

The Preferred Option for the Howth Branch level crossings is for crossings to continue to be controlled by automatic barriers. Our traffic assessment has concluded that the barrier-controlled crossings can continue to provide an appropriate level of connectivity and accessibility whilst still meeting the increased DART service frequency requirement.

Whilst it is acknowledged that the increased frequency of DART services on the Howth branch line will have an impact on the surrounding road networks, and their users, the impact is not considered significant and the level crossings can continue to operate effectively, without significant effect on any transport mode.

Further detail in relation to Howth Branch level crossings is set out in **Section 8 of the OSR Volume 2 Technical Report**.

7. WORKS AROUND CLONGRIFFIN STATION

The works at Clongriffin Station include track modifications which are essential to facilitate the increase in train services by allowing trains to be turned back clear of continuing services on separate tracks.

The Preferred Option is to introduce a new loop to serve a platform to the east side of the station, within the existing railway corridor. It is proposed to use the platform face that was constructed when the station was originally built but which is not currently served by any tracks.

Construction of a retaining structure and modifications will be made to the track alignment to the south of the station to allow trains to access the new platform. New OHLE and signalling installations, as well as modifications to the existing systems, will be required. Figure 7-1 presents the Preferred Option.

Further detail in relation to works around Clongriffin Station is set out in **Section 9 of the OSR Volume 2 Technical Report**.

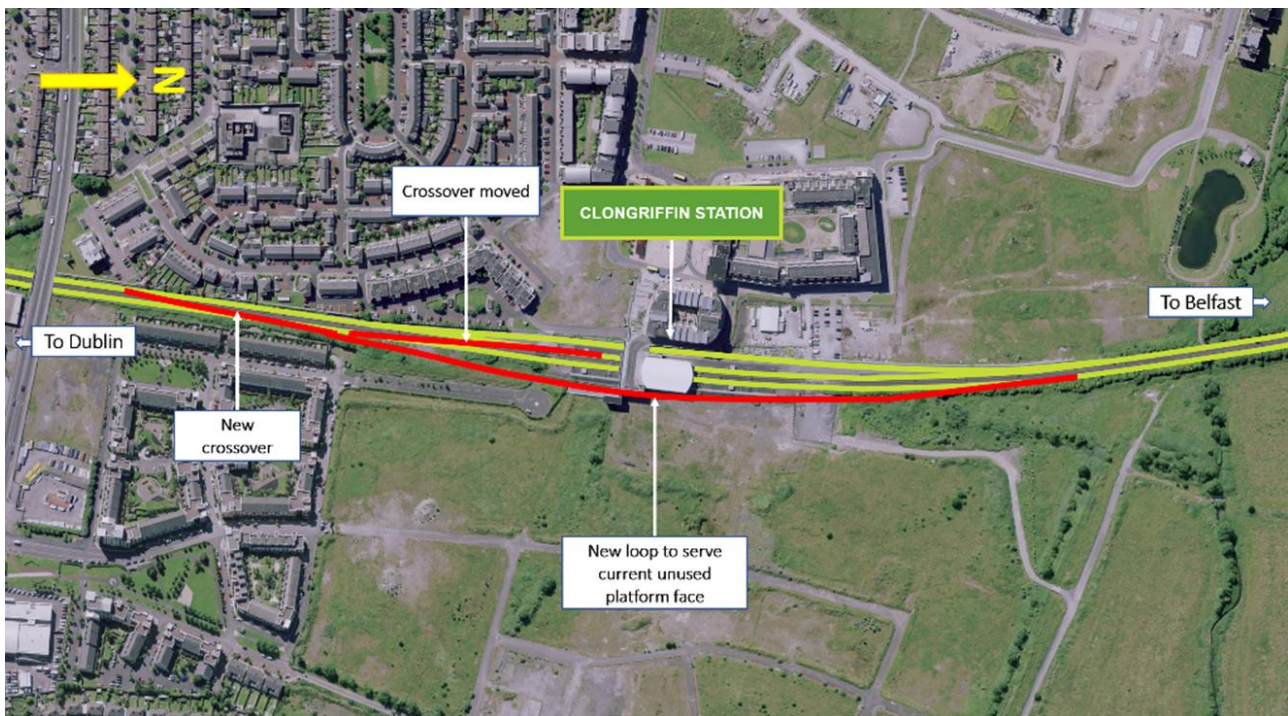


Figure 7-1: Clongriffin Station Preferred Option

8. WORKS AROUND MALAHIDE STATION

The works at Malahide comprise of track modification which are essential to facilitate the increase in train services, by allowing trains to be turned back clear of continuing services on separate tracks.

The Preferred Option is to introduce a turnback immediately north of Malahide Station between the Strand Road Underbridge and Malahide Viaduct. This turnback will be situated between the two existing running lines which will necessitate the existing running lines to be slewed to the east between the two aforementioned bridges. This slewing will introduce the need to widen the existing embankment to the east, which will be accomplished by building a retaining structure alongside the realigned track. New OHLE and signalling installations, as well as modifications to the existing systems, will be required.

The proposed works are near Irish Water's wastewater treatment works at Malahide and there is potential interference to third party property rights. Further design development and technical and construction related solutions will seek to minimise this. Figure 8-1 presents the Preferred Option.

Further detail in relation to works around Malahide Station is set out in **Section 10 of the OSR Volume 2 Technical Report**.

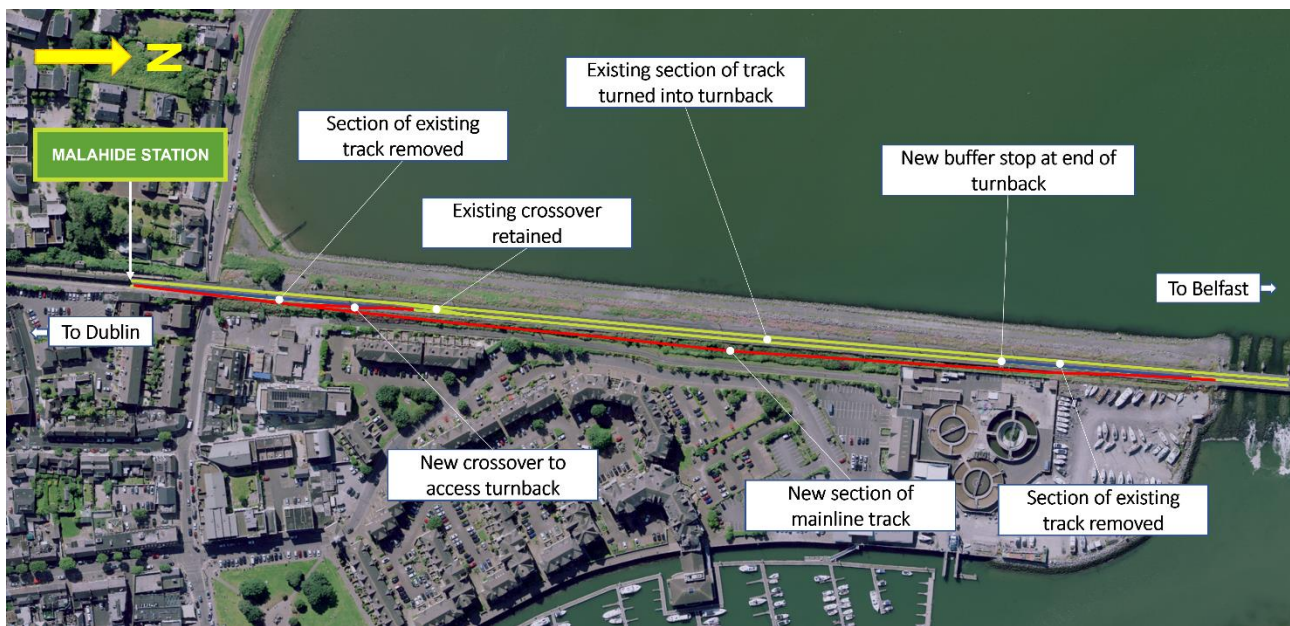


Figure 8-1: Malahide Station Preferred Option

9. WORKS AROUND DROGHEDA MACBRIDE STATION

The works at Drogheda MacBride Station predominately relate to allowing a greater number of services to turn back at Drogheda to return to Dublin. There are currently an insufficient number of platforms to cater for the proposed service frequency at Drogheda MacBride, therefore an additional platform to turn back services is required.

The Preferred Option is to construct a new single platform on the Drogheda freight siding. This new platform will extend over the Dublin Road Underbridge, necessitating widening of the bridge. At-grade access will be provided between the new platform and the existing Platform 1 and a new gateline will likely be installed. The Drogheda freight siding will be realigned, and railway infrastructure modified as necessary. In terms of train stabling, the existing Drogheda freight siding and a new stabling track, located adjacent to the depot, will be utilised. The new stabling track will require works to the existing landscape bund.

The preferred option at Drogheda MacBride Station also requires the widening of the Dublin Road Bridge (UBK1) to facilitate a shift of the tracks to the south and inclusion of an extension of the existing platform on the northern side of the tracks above the Dublin Road Bridge (UBK1). The locations of the abutments will not be adjusted as part of these proposals. Figure 9-1 presents the Preferred Option.

Further detail in relation to works around Drogheda MacBride Station is set out in **Section 11 of the OSR Volume 2 Technical Report**.

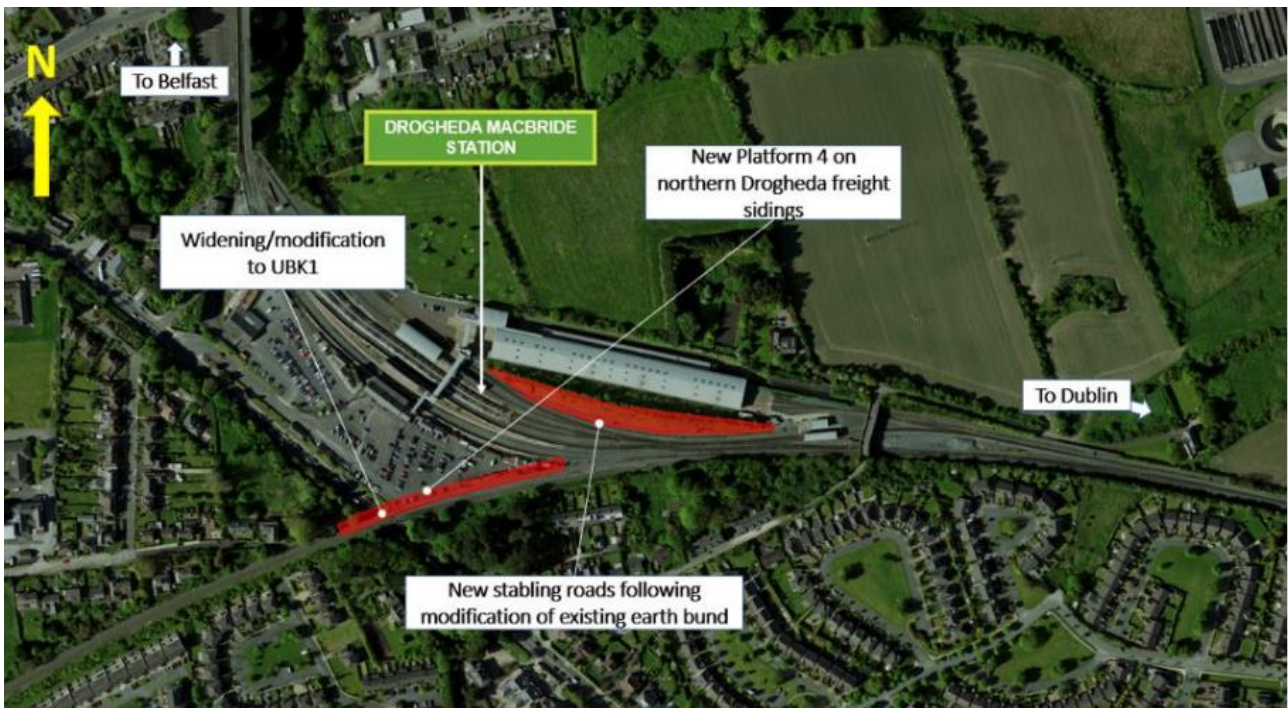


Figure 9-1: Drogheda MacBride Station Preferred Option

10. CONCLUSION

The DART+ Coastal North project will deliver an extended electrified network, enabling increased passenger capacity and enhanced train service between Drogheda MacBride Station and Dublin City Centre (circa 37km) on the Northern Line, inclusive of the Howth Branch Line.

DART+ Coastal North will deliver increased rail capacity through implementing an extended electrified railway network with high-capacity DART trains and an increased frequency of train services. The proposed increase in train services can be achieved through the provision of turnback facilities at Malahide, Clongriffin and Howth Junction & Donaghmede Stations.

The removal of train crossing conflicts through the reconfiguration of Howth Junction and Donaghmede Station will allow DART+ Coastal North to achieve the peak capacity increases proposed by the DART+ Programme. These works will enable the operation of both a DART Shuttle Service on the Howth Branch Line as required, and/or a direct through service (as existing) on the Howth Branch to/from Dublin City Centre, allowing for the capacity and frequency of DART+ services on both the Northern and Howth Branch Lines to be maximised. The interchange at Howth Junction & Donaghmede Station will be facilitated by an increase in Northern Line stopping trains. The removal of train crossing conflicts at Howth Junction will also result in a more frequent and reliable Howth DART service with frequency of service increasing to every ten minutes each way, with a change at Howth Junction to access the Northern Line.

The proposed modifications and upgrades to entrances, footbridges, platforms, lighting, signage and finishes at Howth Junction & Donaghmede Station will ensure a more accessible, user friendly and customer focused station for all users of the station going forwards.

The Preferred Option for the DART+ Coastal North project is presented in this document, the OSR Volume 1 Preferred Option Report, with summary details of the public consultation process. The OSR Volume 2 Technical Report presents the detail of the option selection process which has led to the choice of the Preferred Option.

It is intended that this document will be published as part of the second stage of non-statutory public consultation. It is proposed that all supporting information will be made available with it. On completion of the non-statutory public consultation (PC2), the public submissions received following the consultation period will be considered in further development of the design of the Preferred Option for publication as part of the statutory Railway Order consenting process.