



DART+ PROGRAMME

DART+ Programme | Market Consultation

London – November 2023

Welcome

Agenda

Time	Topic(s)	Speaker
09:55	Welcome from Iarnród Éireann	Hilton Sanders – PMO / Systems Lead, DART +
10:00	Market Context – Ireland Overview of Iarnród Éireann	Gary O'Halloran – Commercial and Planning Manager, DART+
10:10	DART+: Scope of Programme -DART+ West -DART+ South West -DART+ Coastal North -DART+ Coastal South	Colm Reynolds – Programme Director, DART + Michael Finan – Programme Manager, DART +
10:40	DART+: Schedule Update	Colm Reynolds – Programme Director, DART +
10:45	DART+: Emerging Procurement Strategy & Client Model	Tom Carey – Advisory Consultant, EY
11:00	Procurement Procedure	Gavin English – Procurement Lead, DART+
11:05	Concluding Remarks	Hilton Sanders – PMO / Systems Lead, DART +
11:10-11:45	Questions & Answers	David Clarke – Technical Director, RIA



An Roinn Iompair
Department of Transport





Irish Rail

JIM MEADE

Chief Executive Officer



Iarnród Éireann

Irish Rail

CHIEF EXECUTIVE OFFICER

JIM MEADE



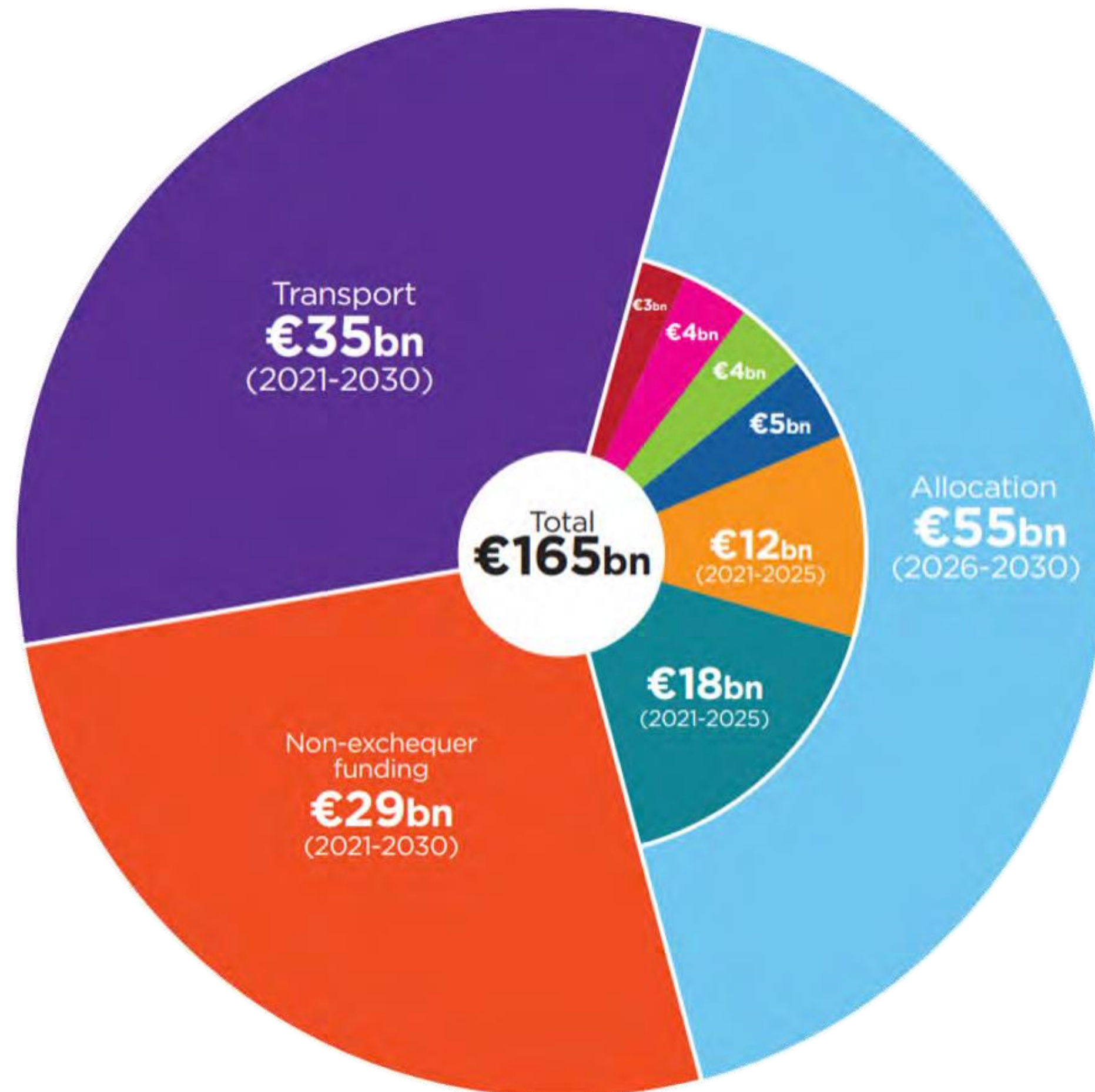
Iarnród Éireann

Irish Context

Investment in Irish Infrastructure Development

The National Development Plan (NDP) 2021-2030 sets out a 10-year capital envelope to 2030 of €165 billion including approximately €35 billion allocated to transport

- Transport €35bn (2021-2030)
- Other (Justice, Agriculture, etc.) €3bn (2021-2025)
- Environment, Climate & Comms. €4bn (2021-2025)
- Education €4bn (2021-2025)
- Higher Education €5bn (2021-2025)
- Housing (includes Irish Water) €12bn (2021-2030)
- Health €18bn (2021-2025)
- Non-exchequer funding €29bn (2021-2030)
- Funding to be allocated to sectors for 2026-2030 €55bn



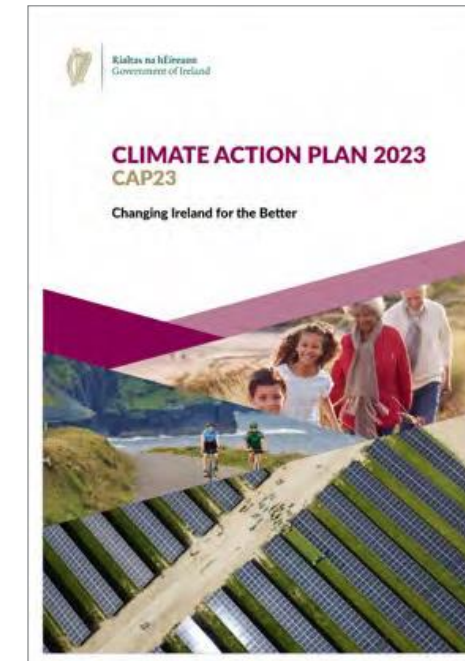
Policy & Legislative Policy



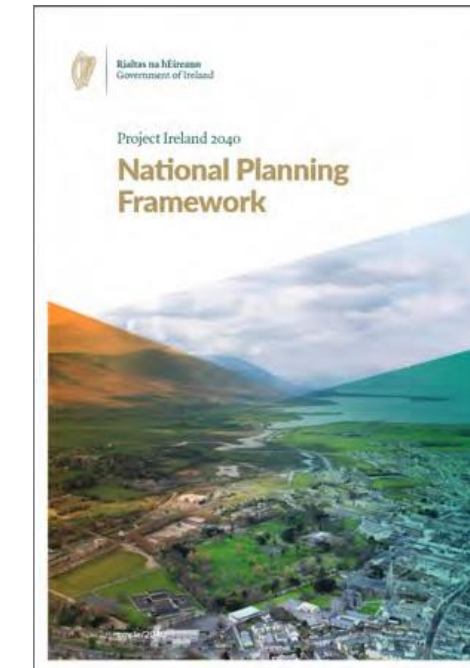
Project Ireland 2040 - €165BN National Capital Investment Programme (NCIP)



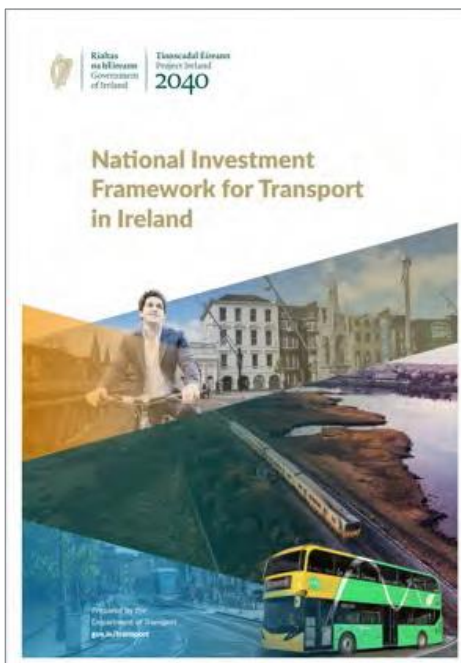
National Development Plan 2021-2030 (NDP)



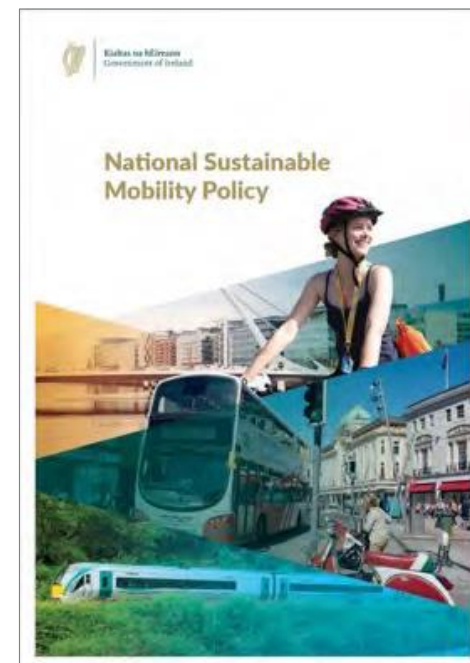
Government's Climate Action Plan 2023 (CAP)



National Planning Framework (NPF)



National Investment Framework for Transport in Ireland (NIFTI)



Department of Transport's National Sustainable Mobility Policy (SMP)



National Transport Authority - Greater Dublin Area Transport Strategy (GDATS)

Iarnród Éireann Strategy

Iarnród Éireann Irish Rail (IÉ) is a publicly owned transport company. Its role is to provide rail transport services in Ireland. The network consists of Intercity, Commuter and DART (Dublin Area Rapid Transit - commuter network) services. IÉ also owns and operates Rosslare Europort.

Iarnród Éireann's objective is to be the backbone of Ireland's sustainable transport network.



Our Network & Services



>5,000 Train Services run weekly



Almost **1 million** passengers carried weekly



629 Carriages in our fleet

348,000 train km weekly



4,300+ Employees

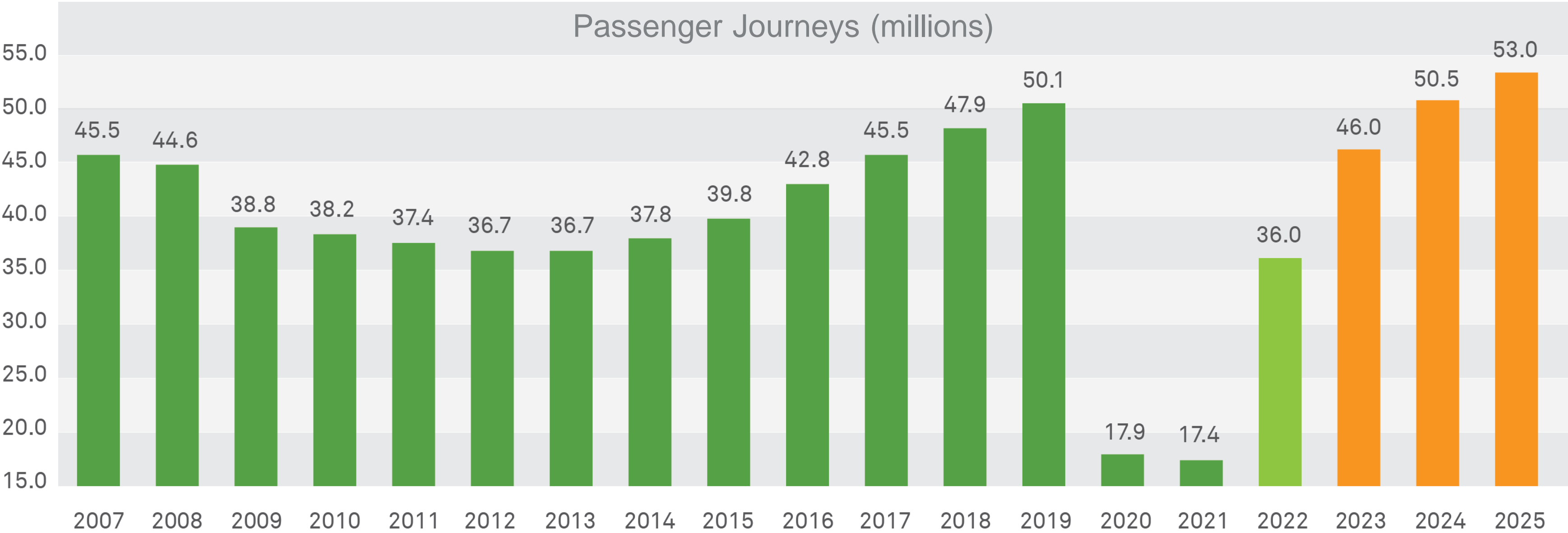


145 Stations Served countrywide



2,200 km in our network

Passenger Numbers by year



Record level of 50m achieved in 2019 after 6 years of steady growth

Unprecedented impact on transport demand from Covid

2024 before we see return to pre-Covid levels

Iarnród Éireann Strategy



A strategy for growth, sustainability and transformation

Dublin

Double capacity on each corridor

Treble electrification of network

New sustainable electric fleet

Integrating with other public transport and active travel modes

Regional Cities

Local networks for Cork and Limerick

Double tracking Oranmore to Galway,
Ceannt station redevelopment

Improved connectivity at
Waterford city

Move to sustainable fleet
electric battery

Transit Oriented Development at
hub stations

Intercity

Hourly service frequencies
from cities

Two hourly frequencies on
other lines

New Enterprise fleet and services

Hybrid conversion of existing
Intercity railcar fleet

Journey time improvements

Iarnród Éireann Strategy

Delivering safe and customer-focussed services in line with our values



Strengthening region connectivity



Working in partnership with stakeholders



Supporting sustainable growth through increased capacity



Creating sustainable mobility hubs throughout Ireland



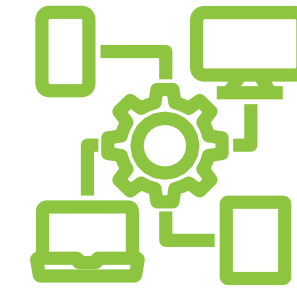
Driving efficiency and delivering value for money



Playing a central role in Ireland's Climate Action Plan



Embracing new technology



Supporting Compact Growth

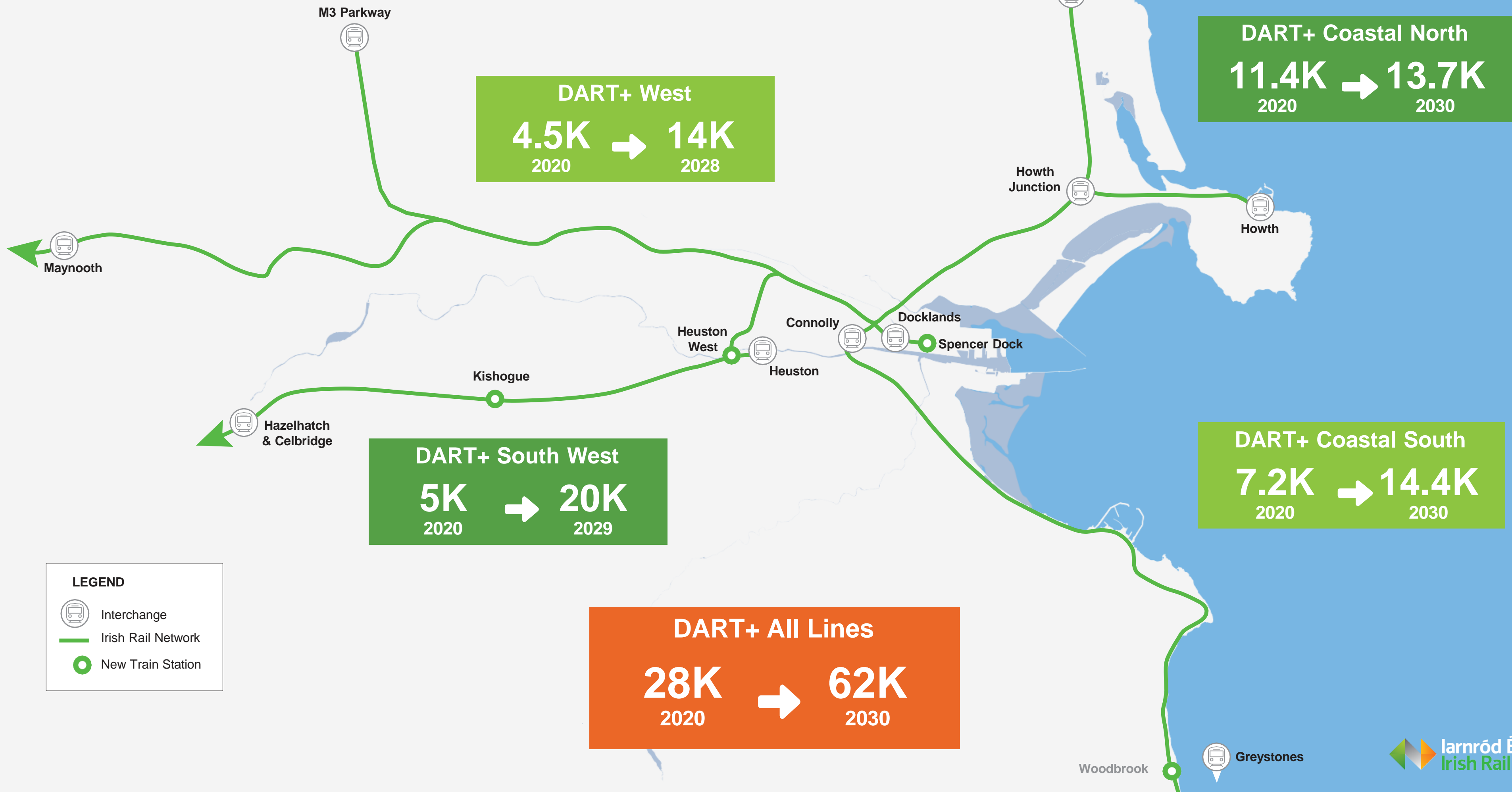


Moving goods as well as people



Overview of DART+ Programme

DART+ Future Network

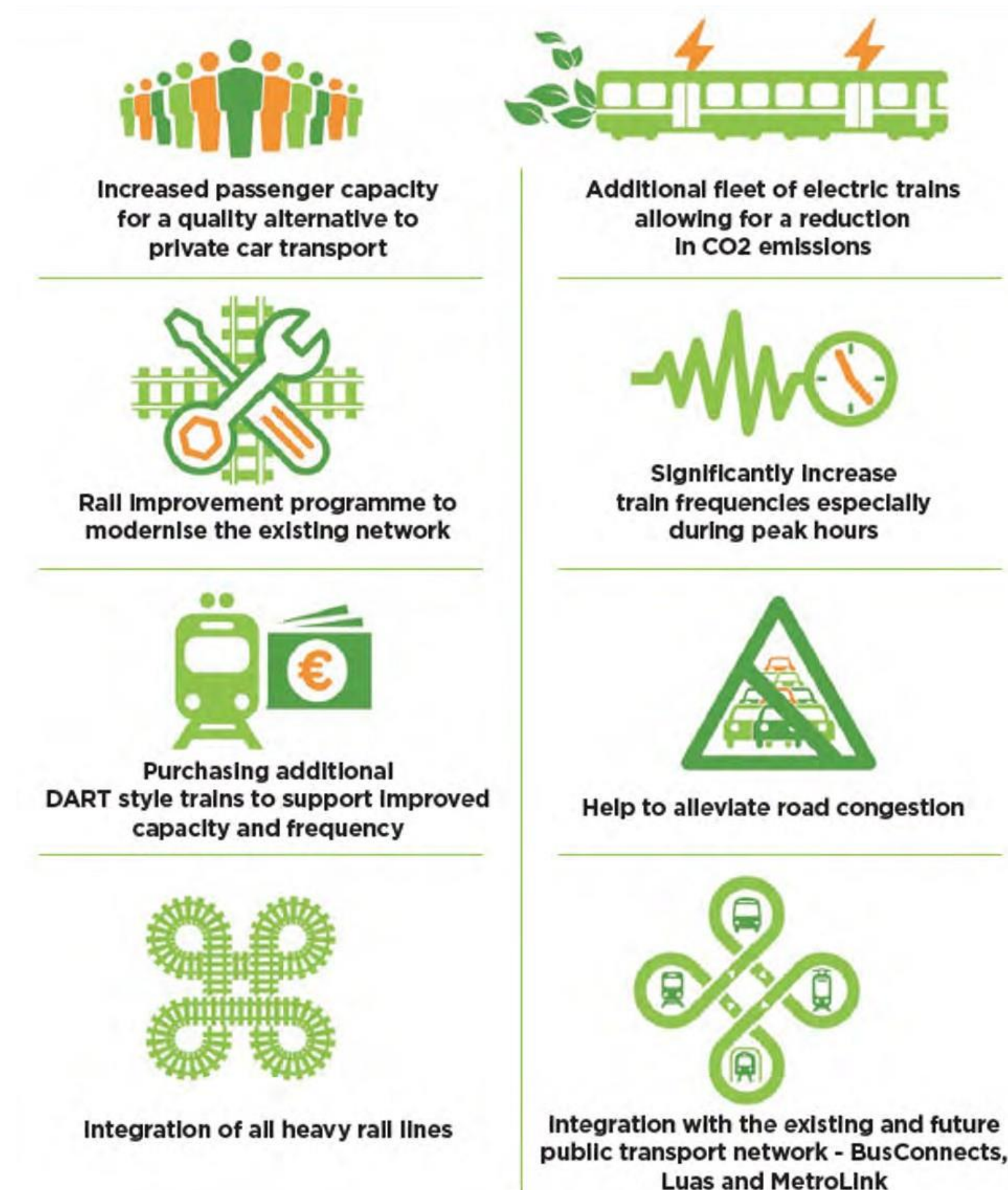


LEGEND

- Interchange
- Irish Rail Network
- New Train Station

The DART+ Programme will...

- > More than double the existing passenger carrying capacity and will bring DART travel with all its benefits to new and existing communities.
- > Help to achieve government climate change targets by reducing greenhouse gas emissions and facilitating a societal shift away from private car use and on to public transport.
- > See the DART network grow from its current 50km in length to over 150km.
- > Deliver frequent, modern, electrified services within the Greater Dublin Area (GDA) and will improve connectivity to regional towns and cities.
- > Involve rail improvements from:
 - DART+ West - Maynooth and M3 Parkway to the City Centre
 - DART+ South West - Hazelhatch & Celbridge to the City Centre
 - DART+ Coastal North - Drogheda to the City Centre
 - DART+ Coastal South - Greystones to the City Centre



Building capacity through DART+ Fleet



Record levels of passenger numbers in 2019 impacted by COVID-19, volumes are expected to be exceeded by 2024

Largest, most sustainable single investment in public transport fleet ever for Ireland

185 carriages ordered to date

Up to 750 carriages under framework



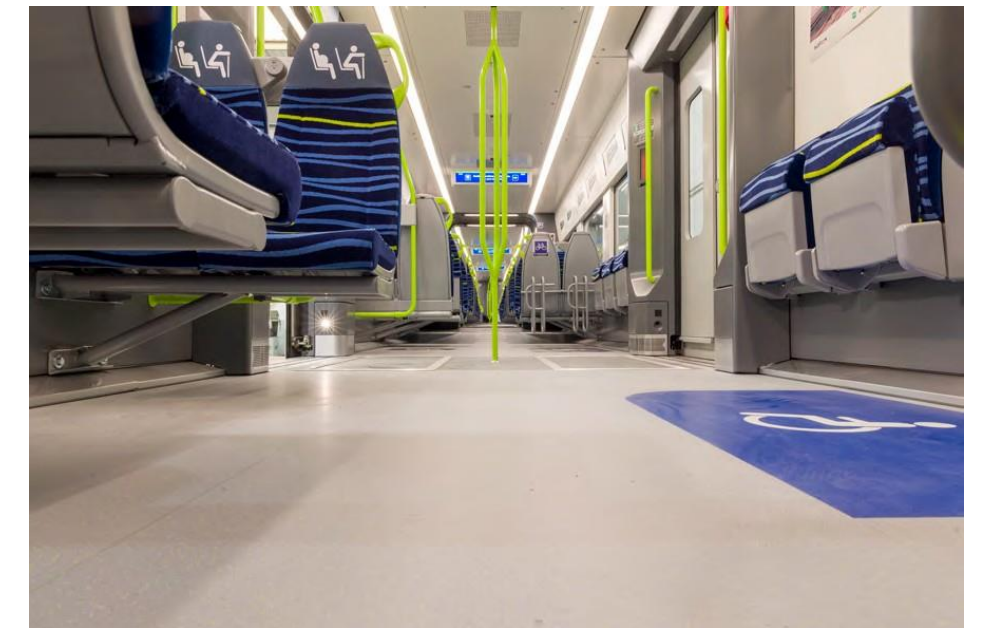
Sustainable



Accessible

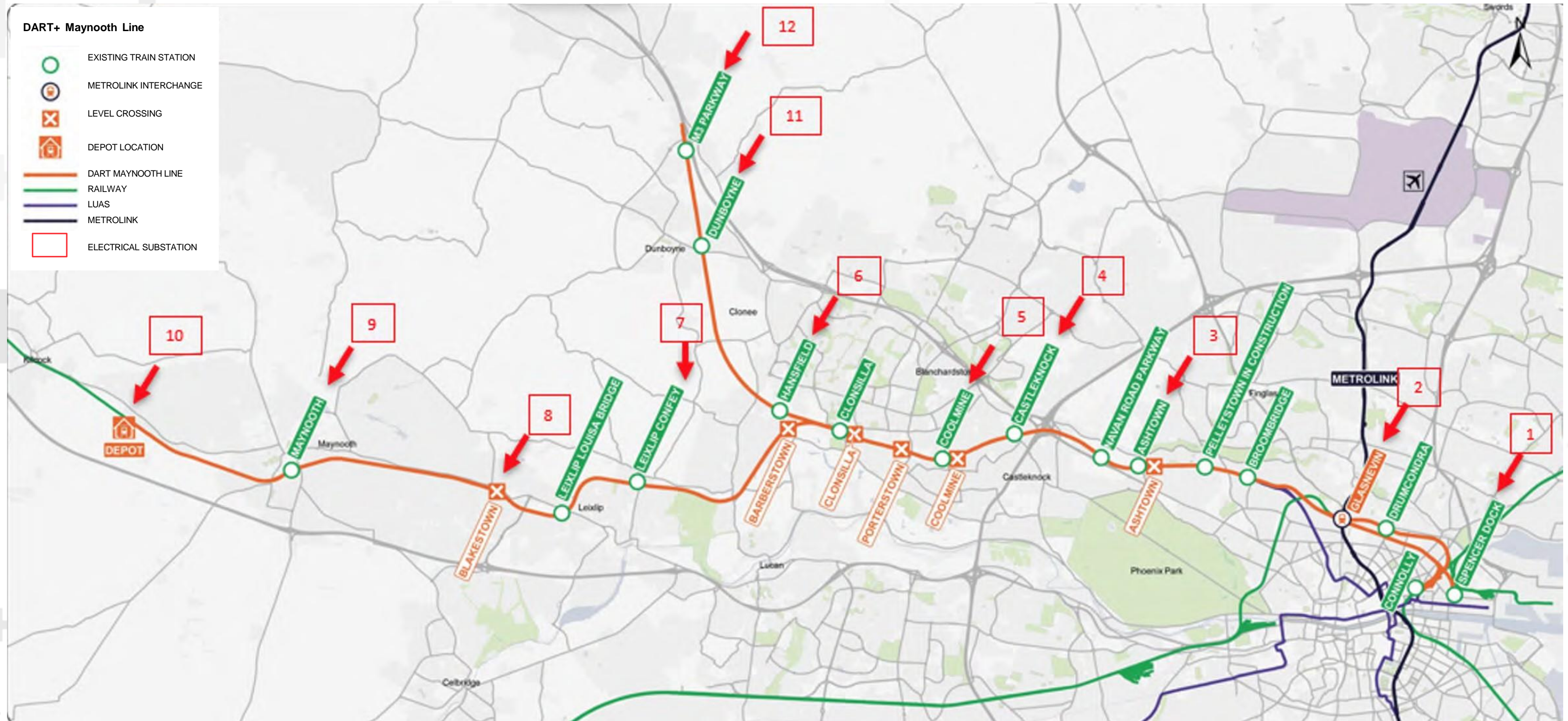


Transformative



DART+ West Scope

DART+ West Overview





DART+
West



PROD
ROUGHAN & O'DONOVAN

IDOM



Project Ireland 2040
Building Ireland's Future

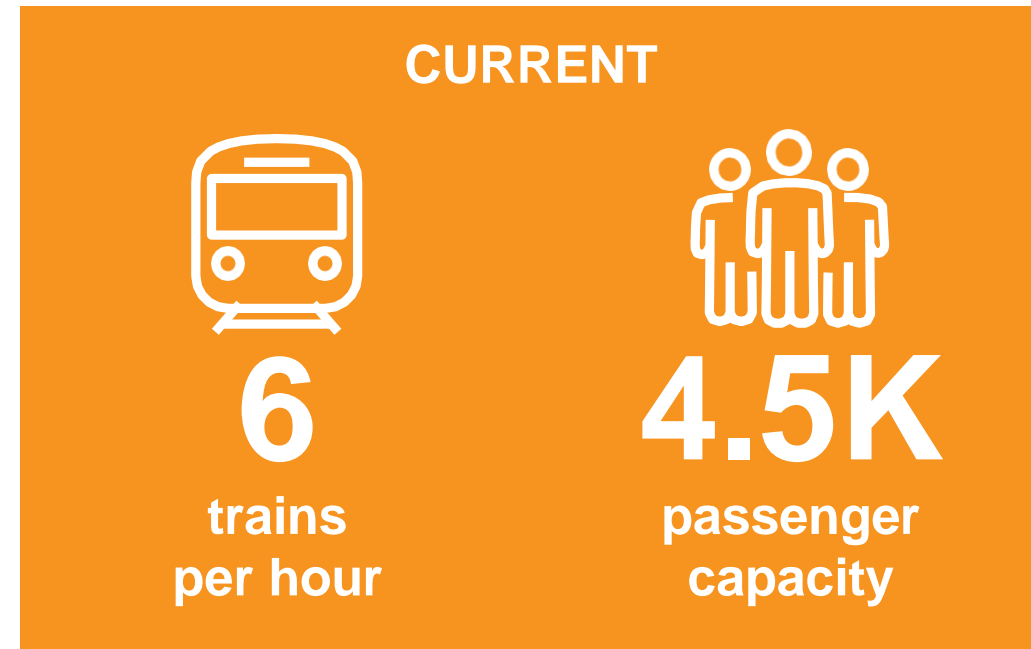


NTA
Údarás Náisiúnta Iompair
National Transport Authority



Iarnród Éireann
Irish Rail

DART+ West Overview



Capacity increases provided
by the DART+ West project



40km of Overhead Electrification & 12 New Substations



6 Level Crossing Closures



New Station at Spencer Dock



Enhancements at Connolly Station



6 Bridge Reconstructions / Modifications

DART+ West (New Depot west of Maynooth)



New Depot at Maynooth

DART+ South West Scope

DART+ South West Overview



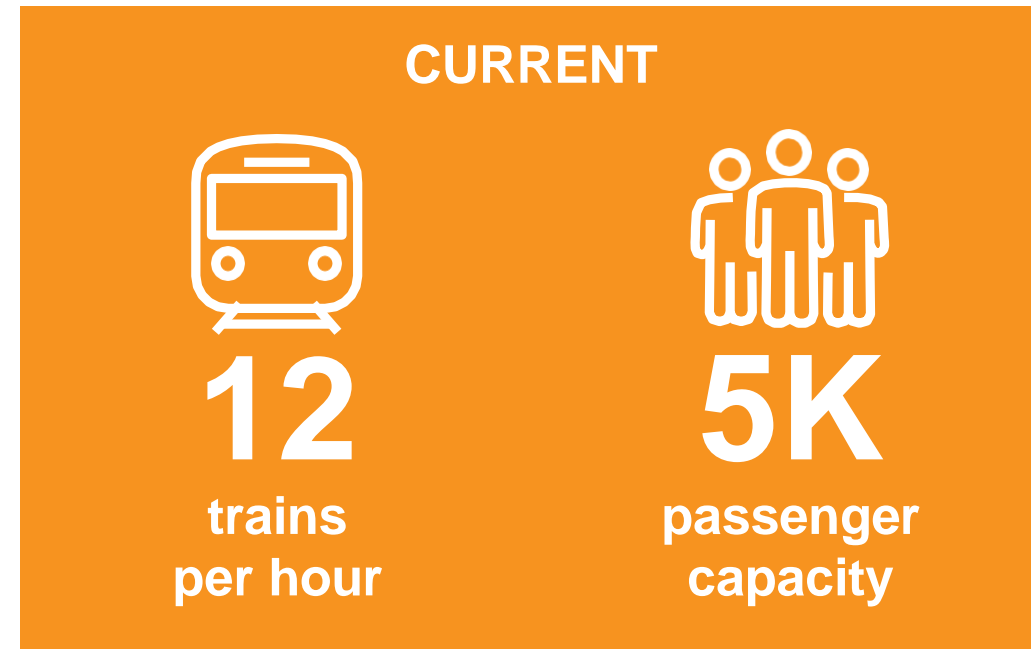


Ardán Platform 2  
Next DART Heuston

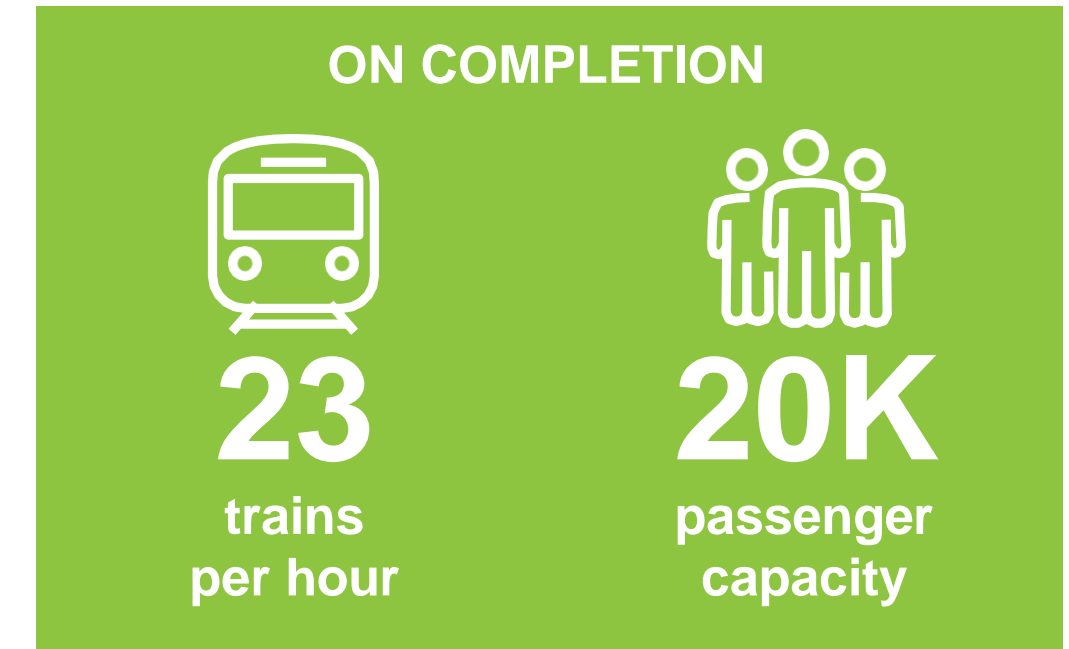
Baile Adaim
Adamstown

Ardán Platform 3  
Next DART
Hazelhatch & Celbridge

DART+ South West Overview



Capacity increases provided
by the DART+ South West project



20km of Overhead Electrification & 6 New Substations



Including Electrification of Phoenix Park Tunnel
along with installation of Slab Track

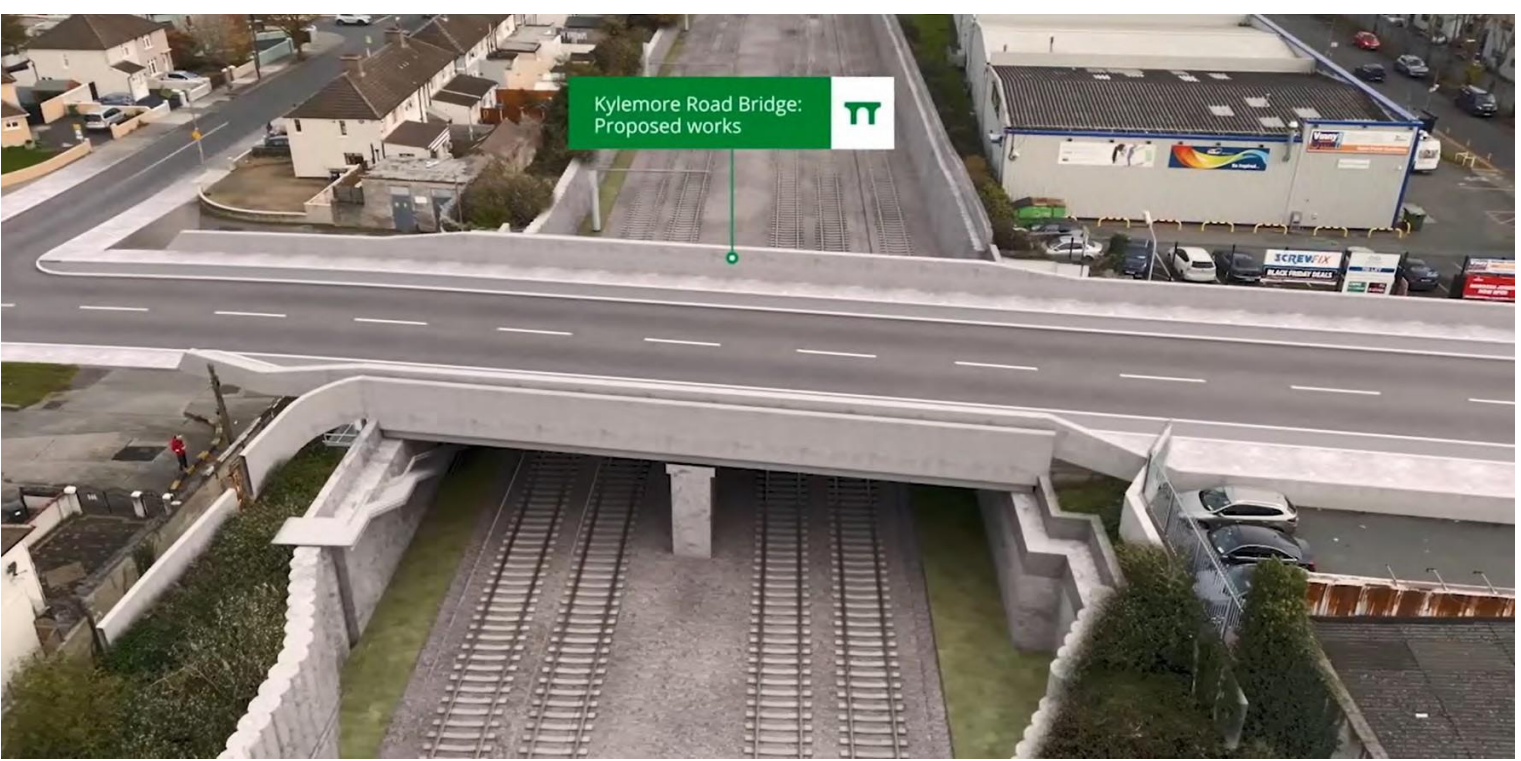
DART+ South West



4km of railway corridor widening to provide for 4-tracking
- requires 5 bridges to be reconstructed including:



South Circular Road Bridge



Kylemore Road Bridge

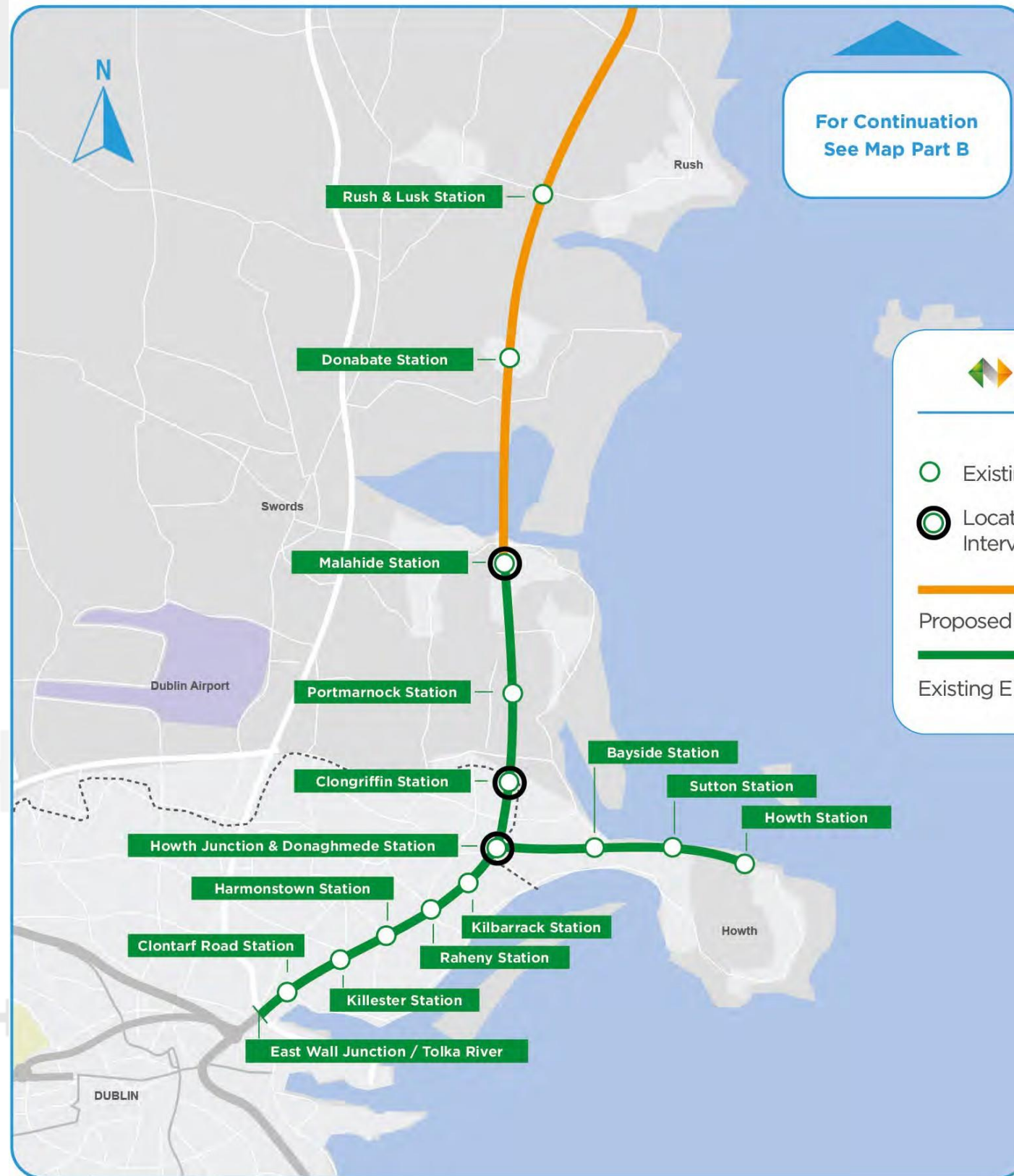


New Station at Heuston West

DART+ Coastal North Scope

DART+ Coastal North Overview

Map Part A

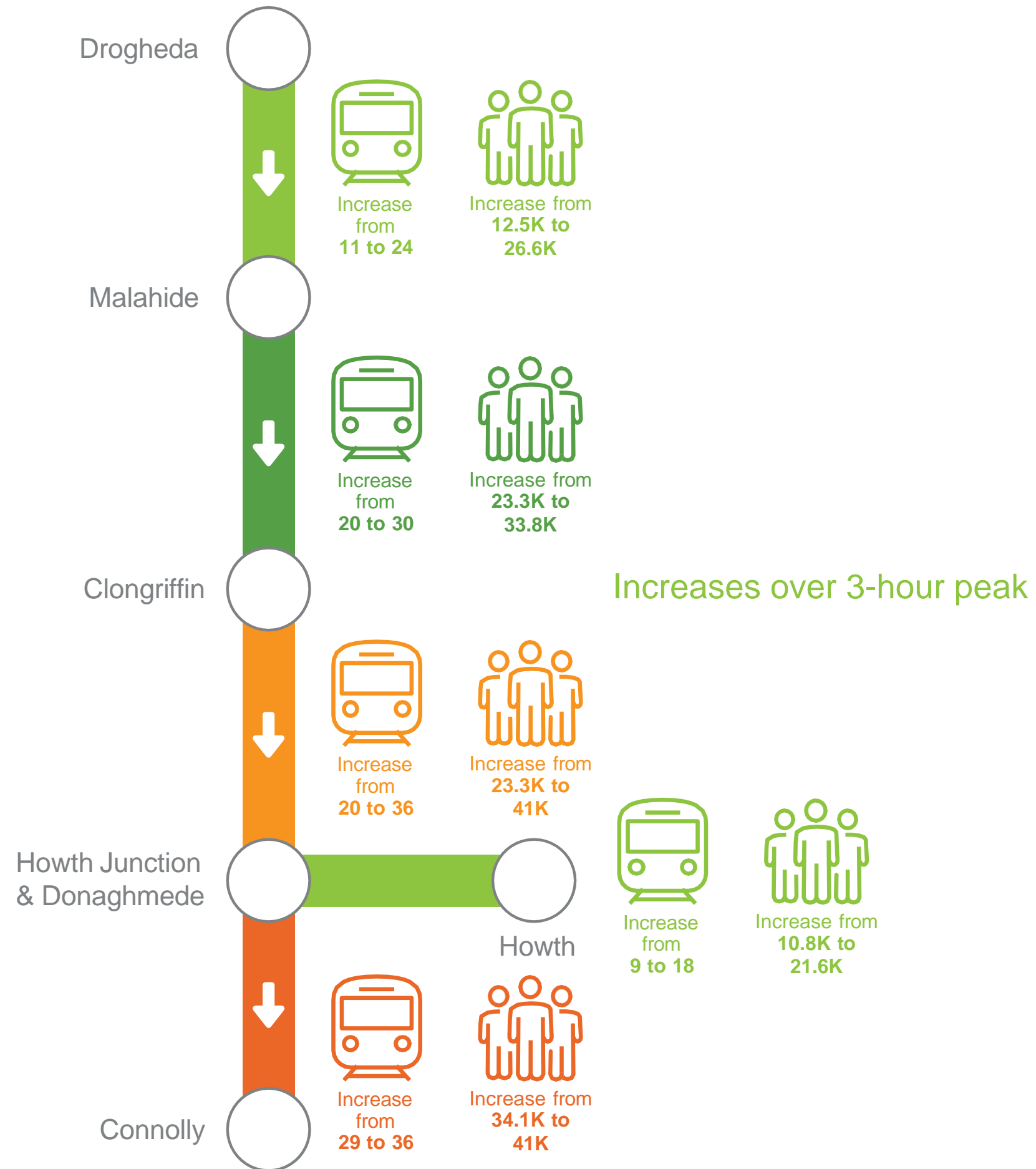


Map Part B



- Existing Stations
- Locations of Proposed Interventions
- Proposed Electrification
- Existing Electrification

DART+ Coastal North Overview

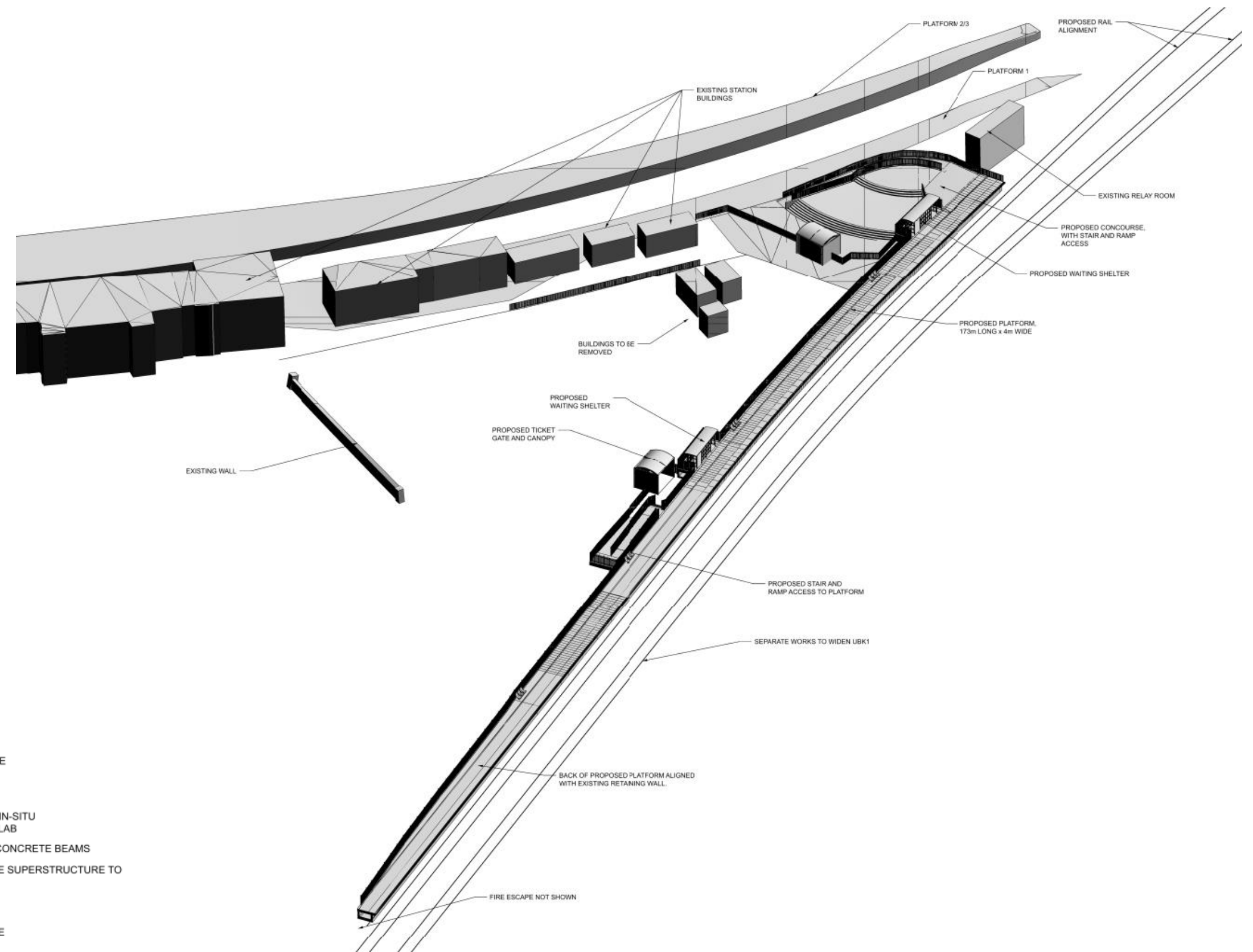


37km of Overhead Electrification & 8 New Substations

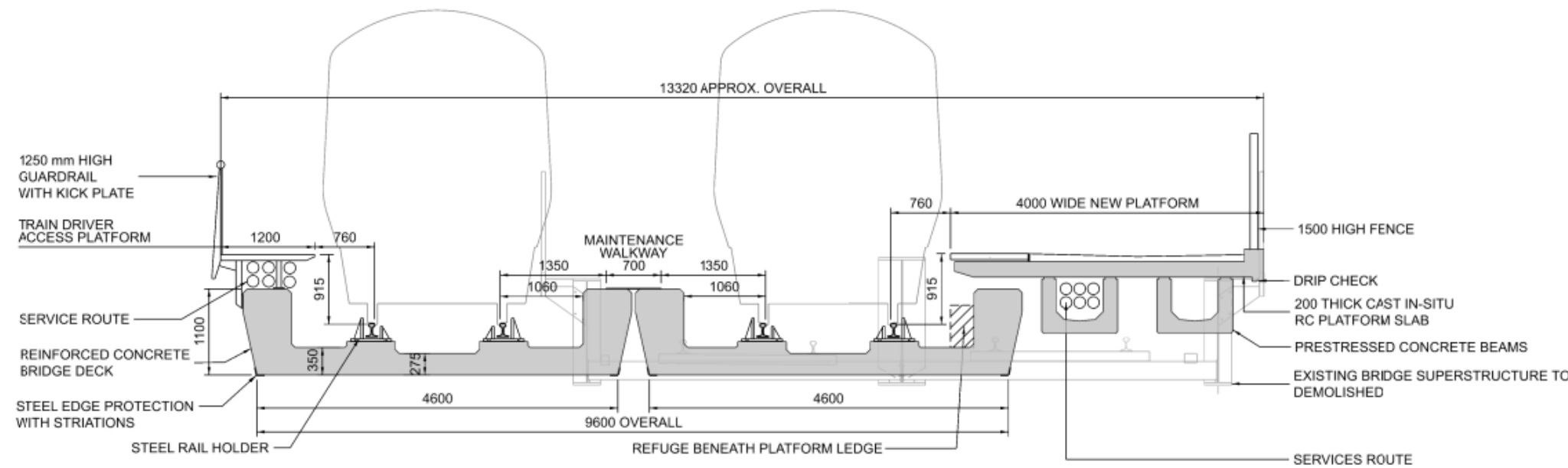


1 Road Bridge Reconstruction

DART+ Coastal North



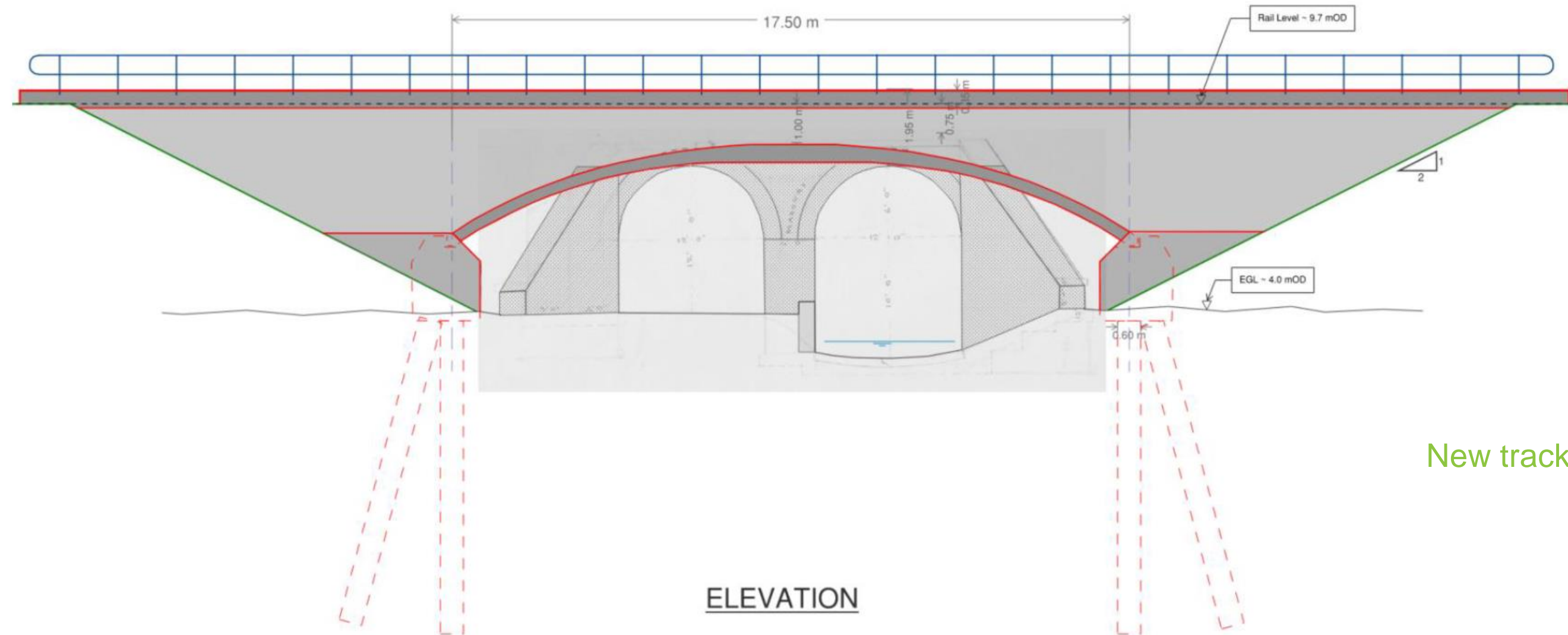
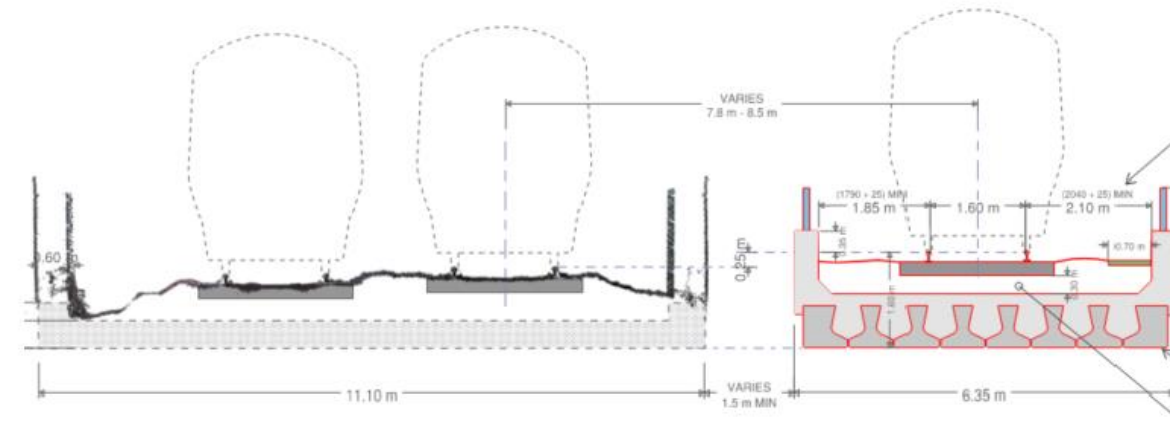
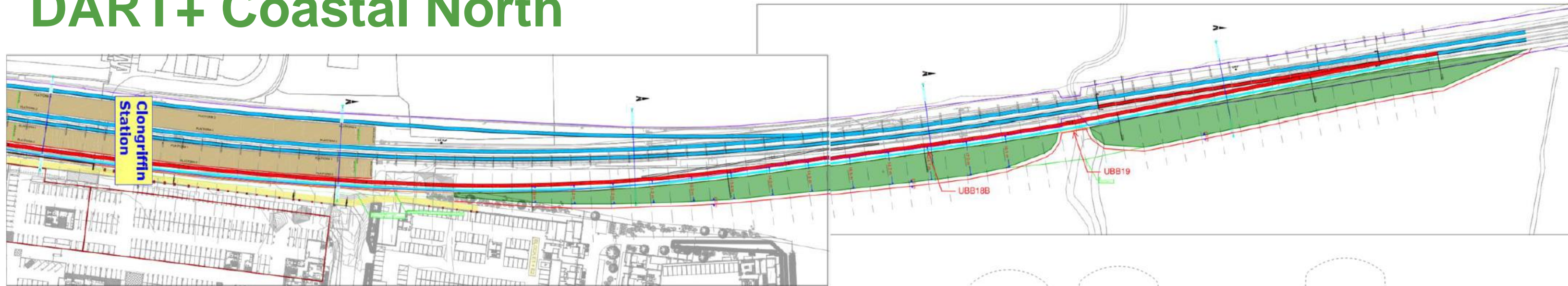
Enhancements at Drogheda Station



New bridge superstructure at UBK1

New platform and concourse at Drogheda Station

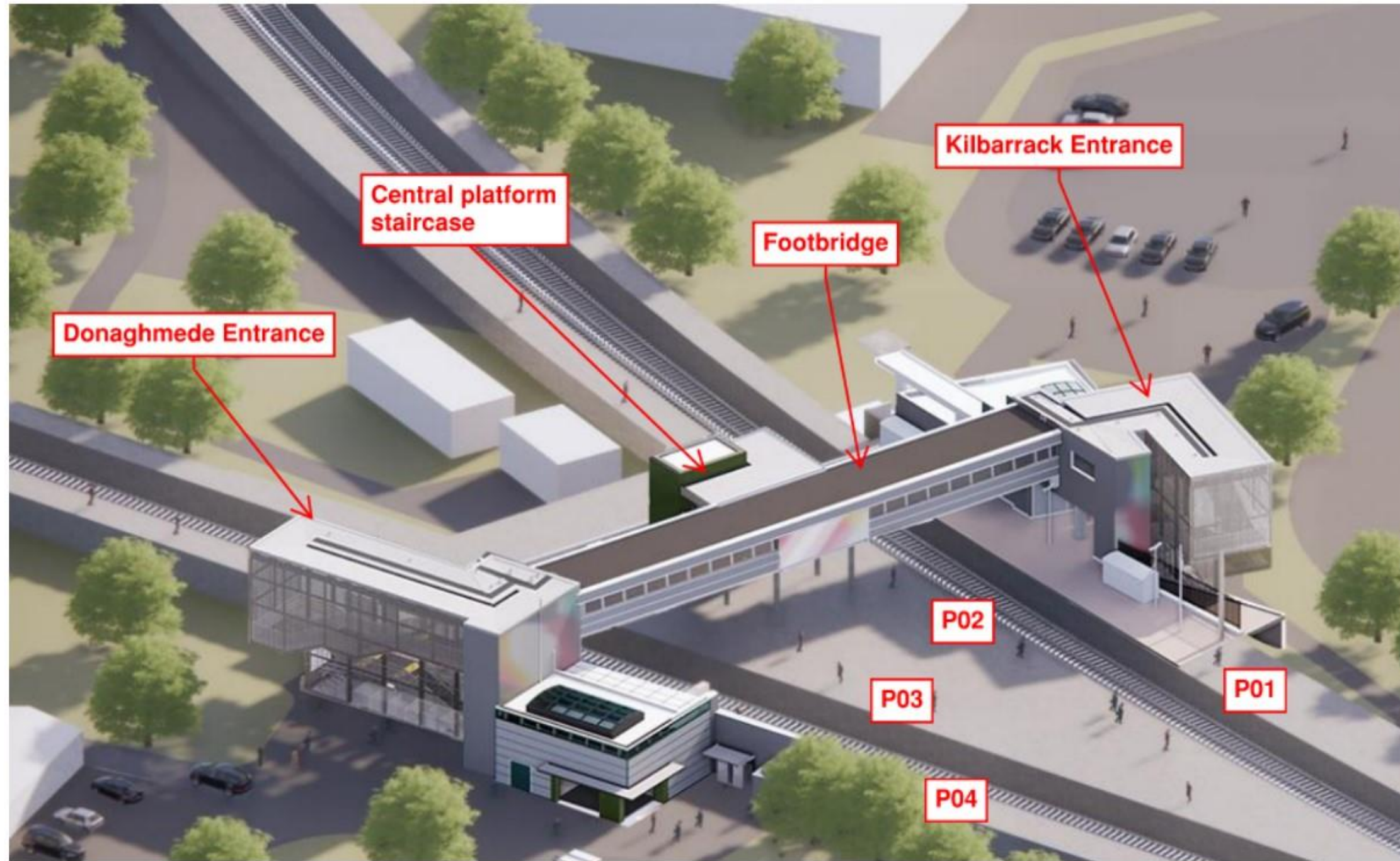
DART+ Coastal North



New track and bridge at Clongriffin Station

ELEVATION

DART+ Coastal North



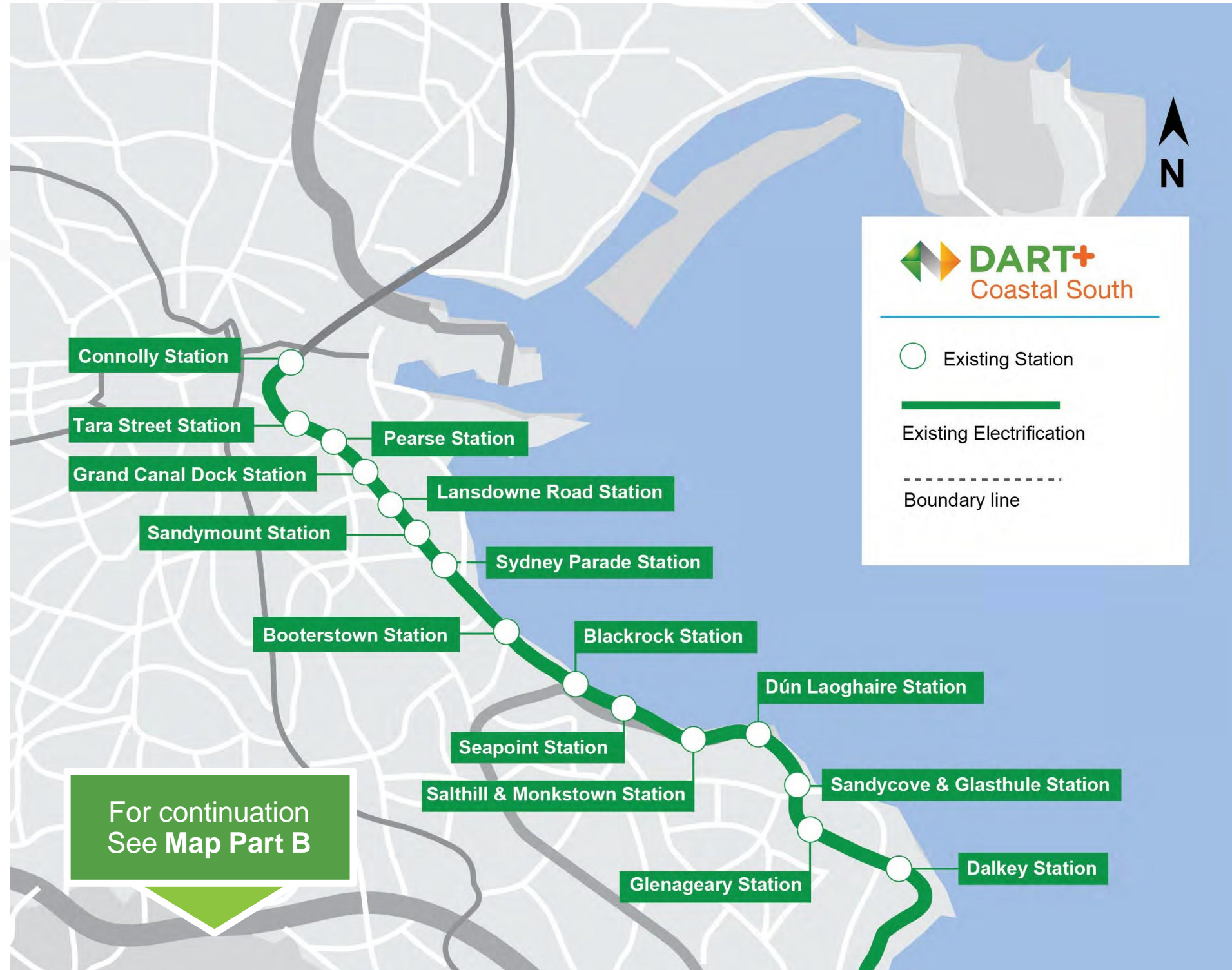
Modifications at Howth Junction

Modifications at Howth Junction

DART+ Coastal South Scope

DART+ Coastal South Overview

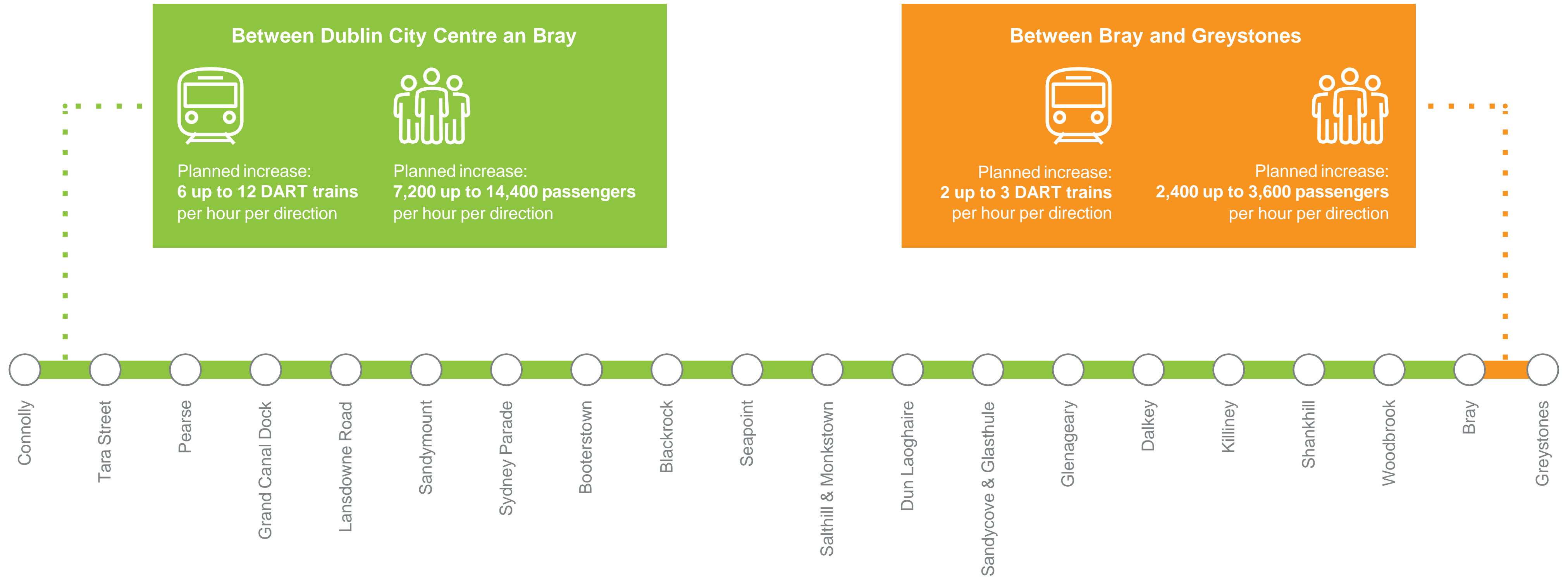
Map Part A



Map Part B

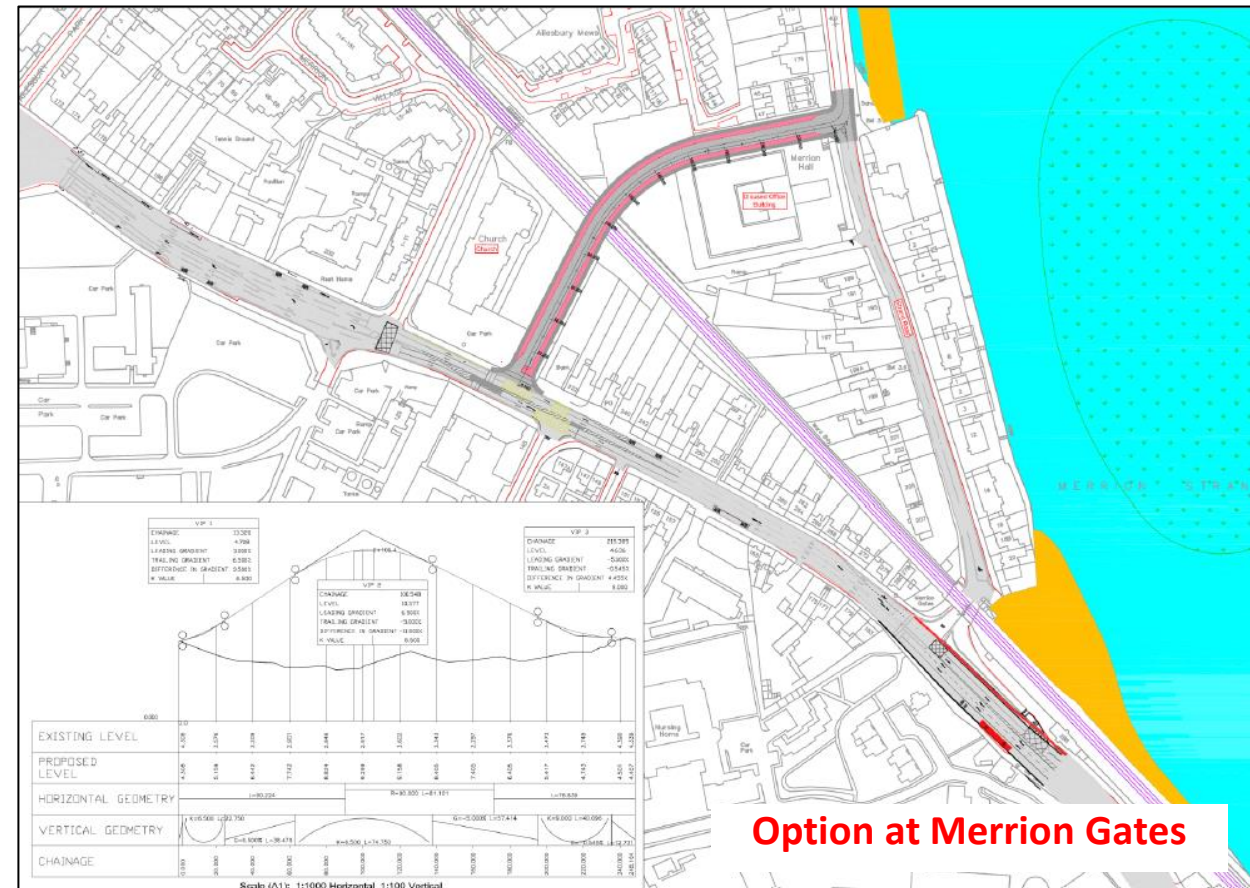
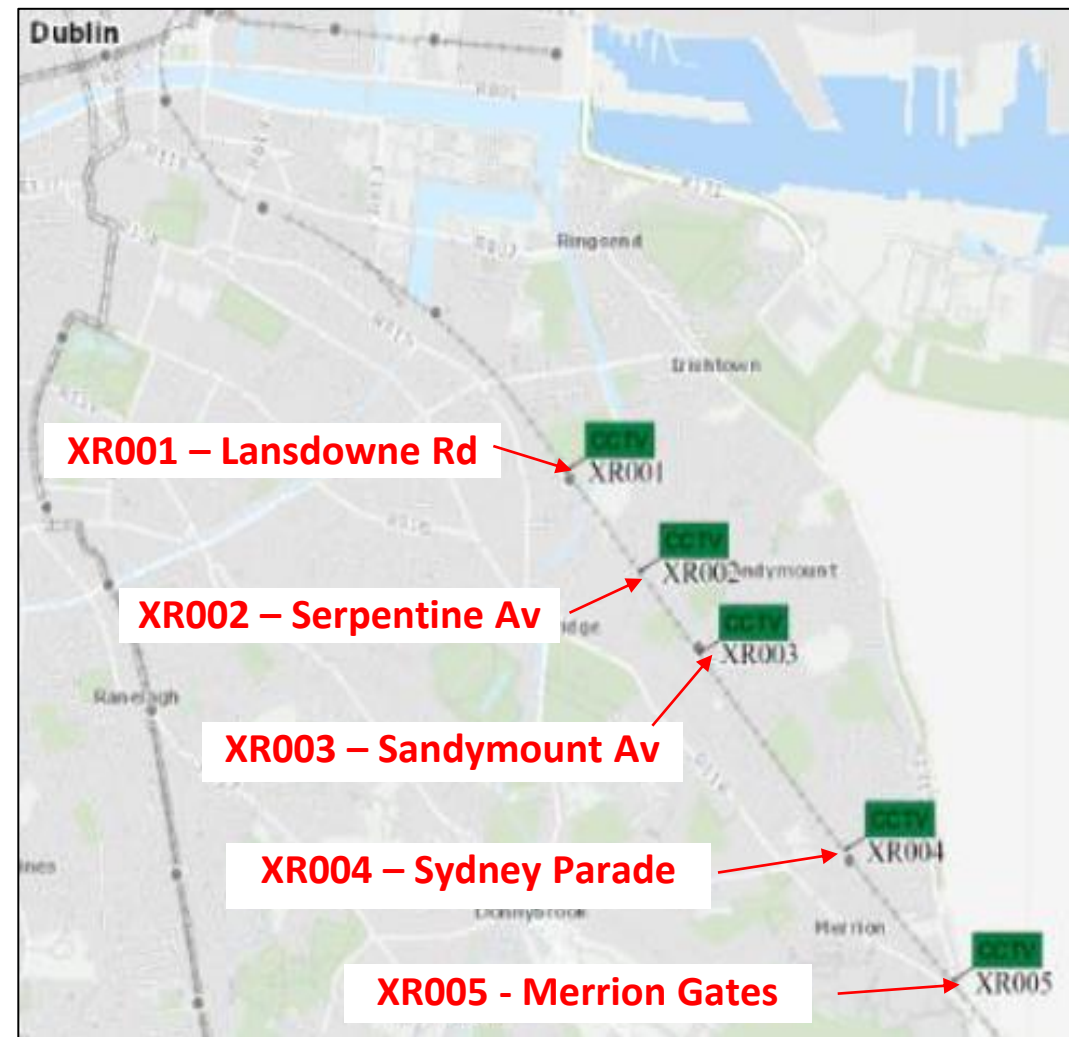


DART+ Coastal South Overview

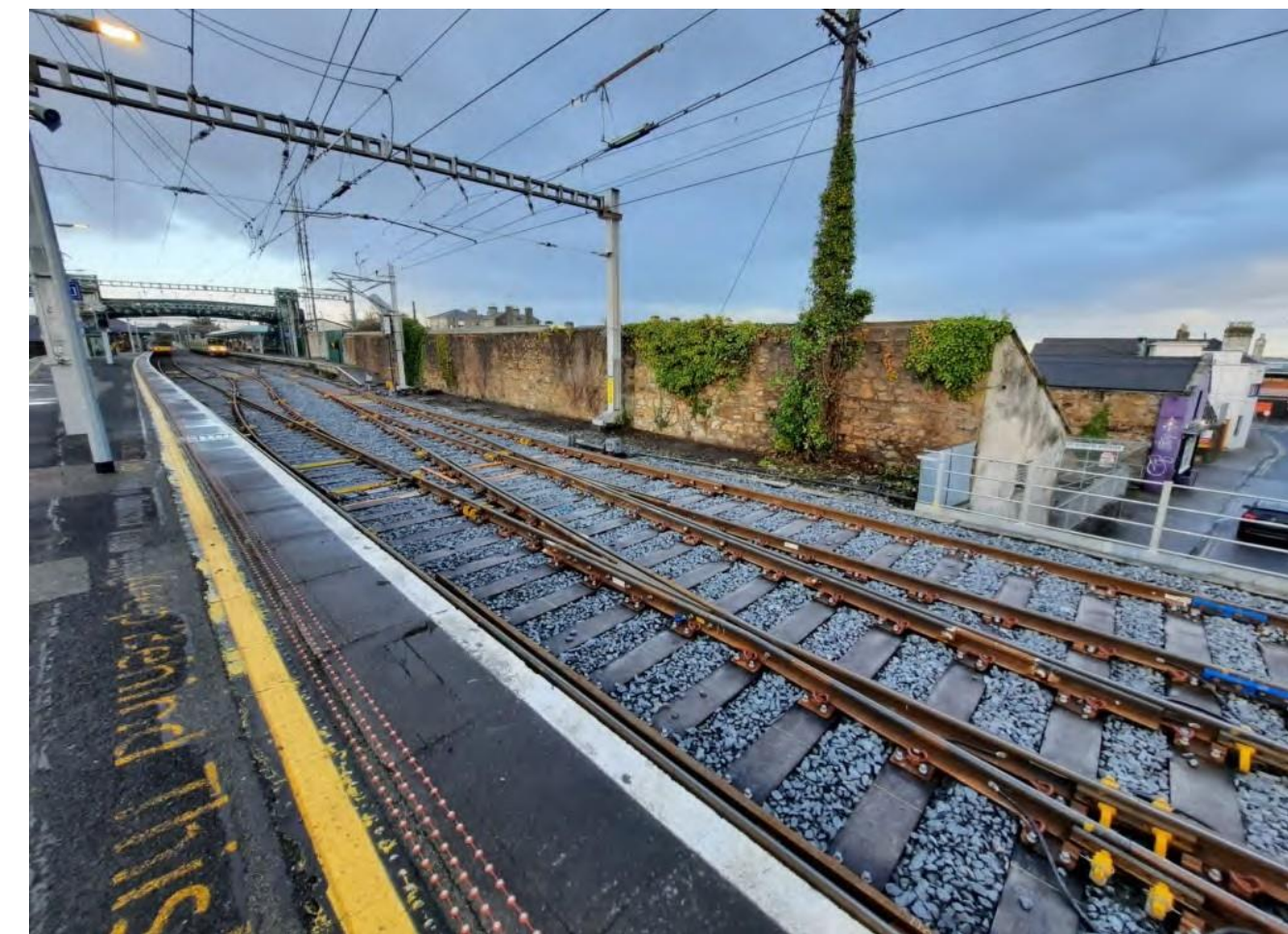
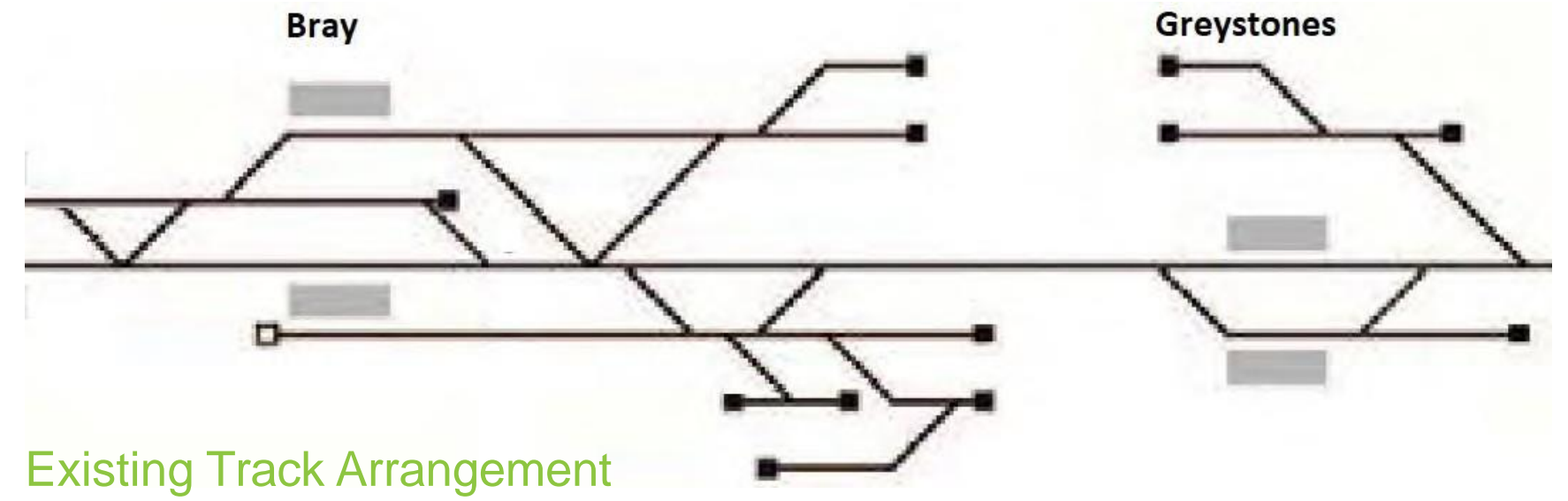


Level Crossing Closures

- > 7 level crossings to be closed
- > Replacement Pedestrian and cycle infrastructure at all seven locations
- > One road, cycle and pedestrian underpass Merrion Gates
- > Major civil and structural engineering works within an urban environment
- > Significant utility diversions



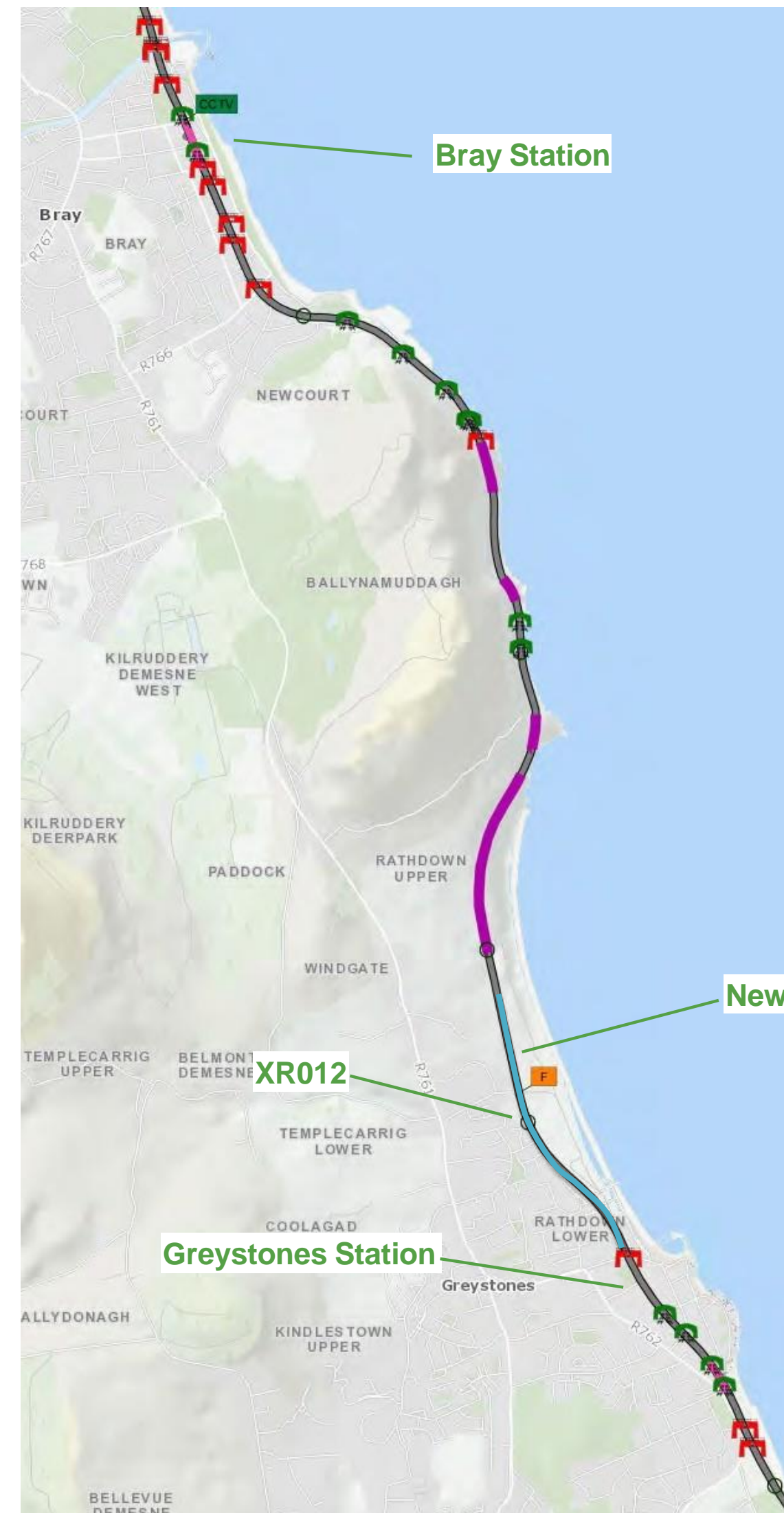
Bray & Greystones Turnbacks



Greystones Capacity Improvement

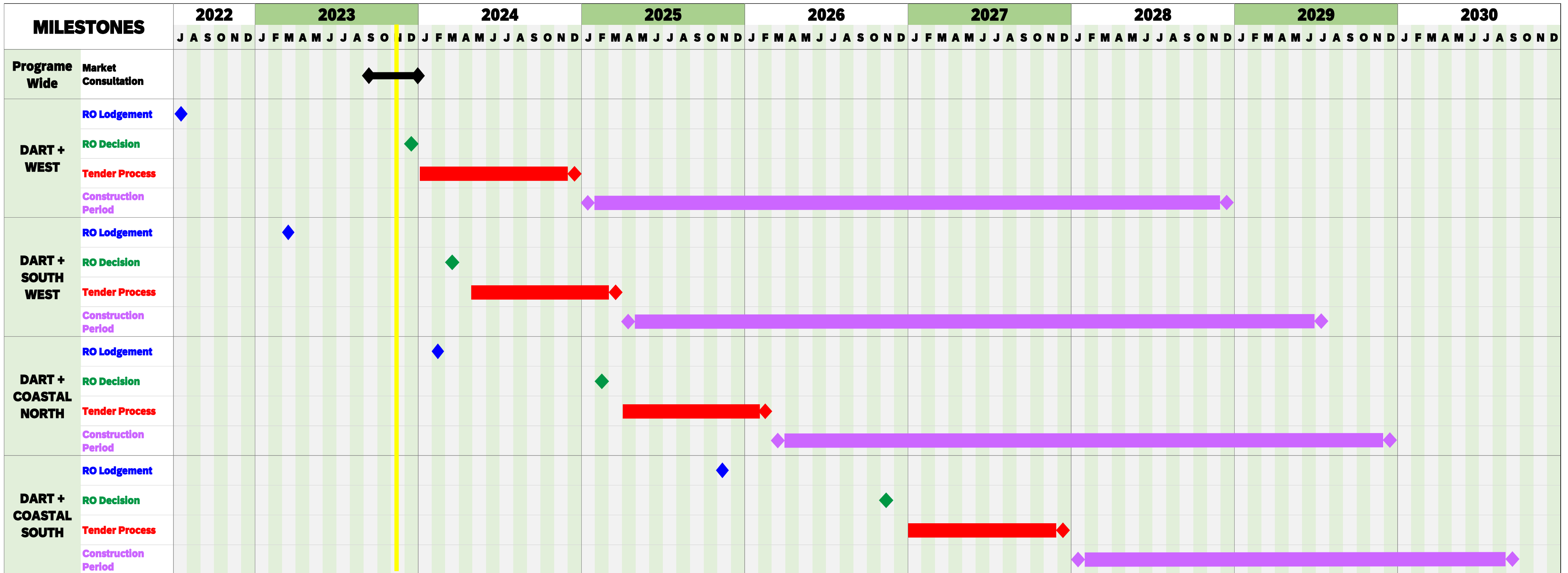
Works could include:

- > Twin tracking over certain lengths of route
- > Upgrading OHLE / signalling / comms
- > Upgrading of substation/s / switchgear
- > Retaining structures



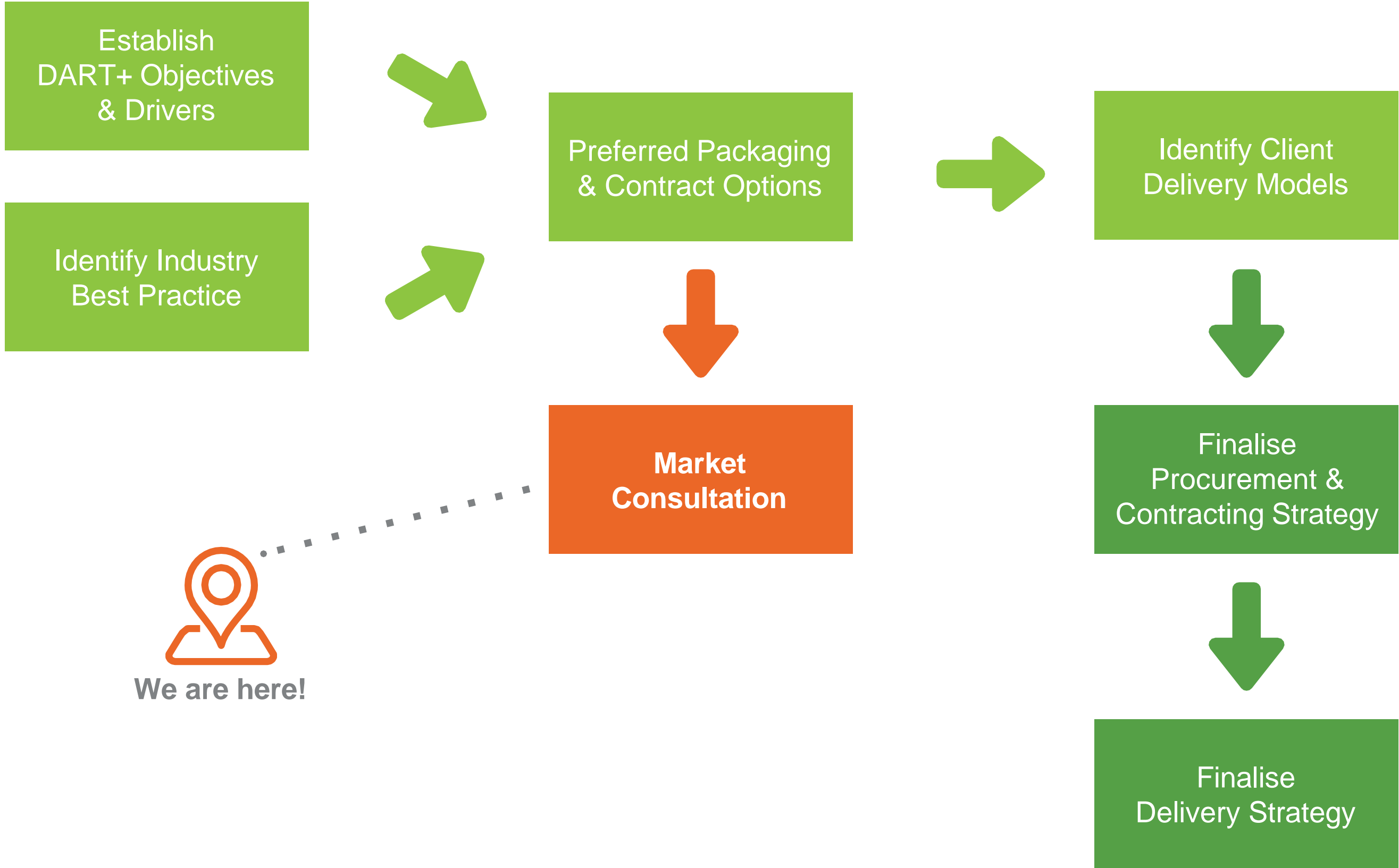
Updated Schedule

DART+ Programme Status Update

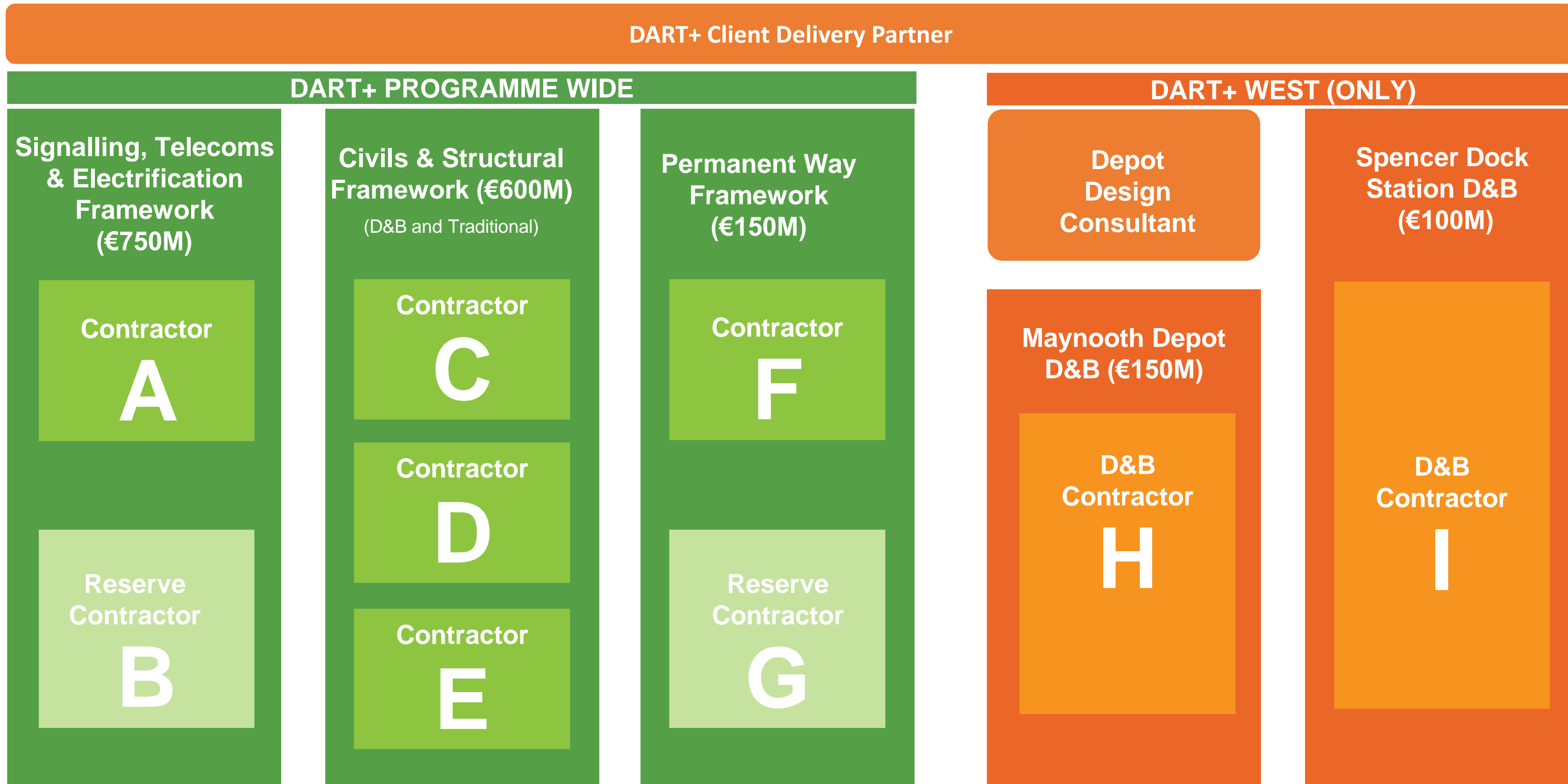


Procurement Strategies

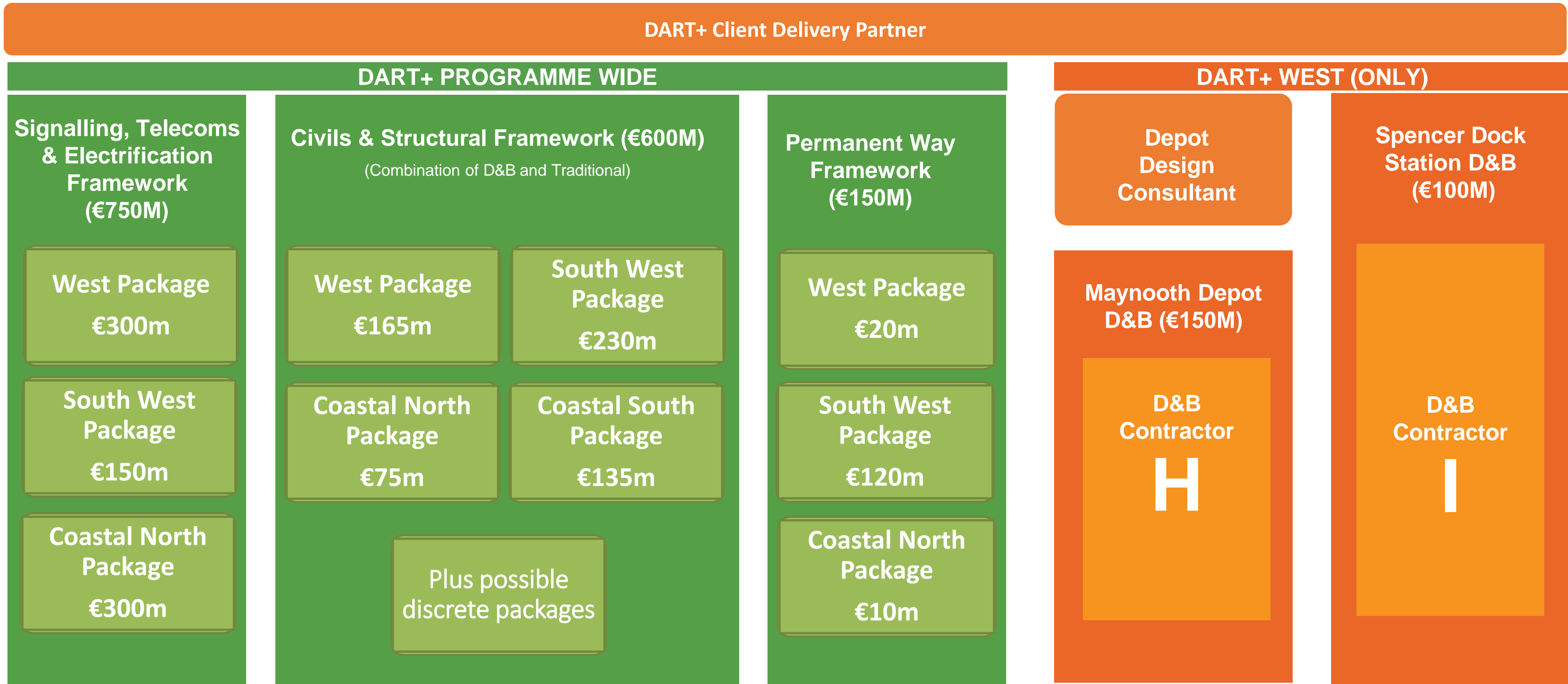
Procurement / Delivery Strategy Selection Process



Overview of Emerging Preferred Packaging Strategy



Overview of Emerging Preferred Packaging Estimates



Interfaces and Free Issue Materials



Works / Service	Relationship with DART+
CBI Technology (Supplier TBC)	S,T & E Contractor to Interface Any software will be free issued
CCE Trackwork	All framework contractors to interface at relevant stages of project/programme
SCADA	S,T & E Contractor to Interface
Traffic Management Systems (Indra)	S,T & E Contractor to Interface
CME (Fleet for Testing & Commissioning)	S,T & E and Permanent Way Contractor to Interface
CCE – Rail, Crossovers, Turnouts and Sleepers	To be free issued to Permanent Way Contractor
SET - Points Motors	To be free issued to S,T & E Contractor

GCCC Public Works – in existence since 2007 – generally, adversarial, fixed price lump sum contracts

- > PW-CF3 - Civil Engineering Works designed by the Employer
- > PW-CF4 - Civil Engineering Works designed by the Contractor
- > PW-CF9 – Public Works Framework Agreement
- > PW-CF10 – Public Works contract for Early Collaboration (PWCEC) – requires GCCC approval

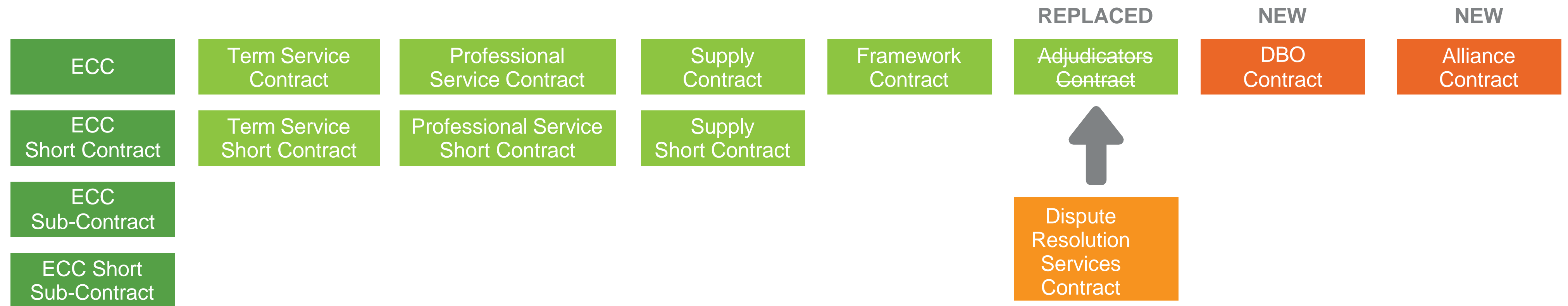
FIDIC – Civil Eng. forms in existence since 1957 – Internationally recognised – traditional adversarial approach

- > Red Book – 2017 – Building & Engineering Works Designed by the Employer – BoQ remeasurable (optional Lump Sum)
- > Yellow Book – 2017 – Plant and Design Build – Lump sum (c/W Early Warnings)
- > Silver Book 2017 – EPC/Turnkey Projects

NEC4 2017 – in existence since 1993 - progressive & collaborative contract, internationally recognised

- > NEC4 Engineering & Construction Contract – Options A – F
- > NEC4 Alliance Contract
- > NEC4 Framework Contract

NEC4 Suite and ECC Main Options



Suitable for any construction-based contract between the Client and a Contractor.

Within the ECC contract there are a choice of six pricing options of which the Client will choose which they deem to be the most suitable to give them the best cost certainty/value for money on that project:

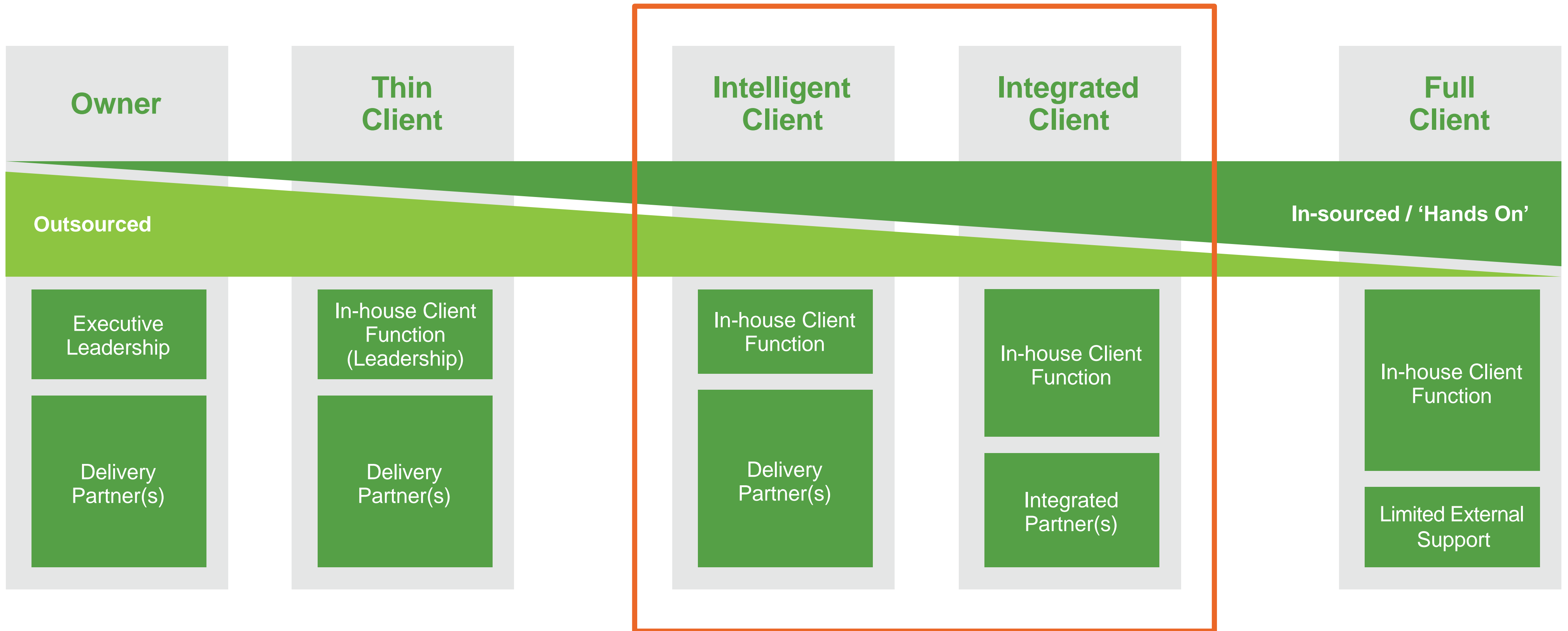
- Option A: Priced contract with activity schedule
- Option B: Priced contract with bill of quantities
- Option C: Target contract with activity schedule
- Option D: Target contract with bill of quantities
- Option E: Cost-reimbursable contract
- Option F: Management contract

The main difference between the options is how the Contractor gets paid, and how risk is allocated.

A Client can include the requirement for the Contractor to be doing elements or all of the design by including such requirements within the Scope. This avoids the need for a separate “design and build” option within the NEC suite.

Client Model

DART+ Client Model



Procurement Procedure

Procurement Process



- > Launch Procurement Q1 2024 via etenders on the European Tendering Journal - CPV codes used. IÉ will alert the market in advance.
- > 2 stage process: Pre-Qualification Stage followed by shortlisting to ITT - assessing the company and all parties on which they rely on and must be nominated & identified at that stage.
- > All tenders will be awarded to the Most Economically Advantageous Tender. Value for Money is at the pillar of IÉ Procurement Strategy .
- > Sustainability is a key feature of the project and will form part of all tender processes , it will be included as part of the selection criteria and award criteria.
- > Tender Clarifications - Queries commercially sensitive determined by IÉ subject to nature of query.
- > Conflict of Interests - Client vs Contractor Side

Conclusion

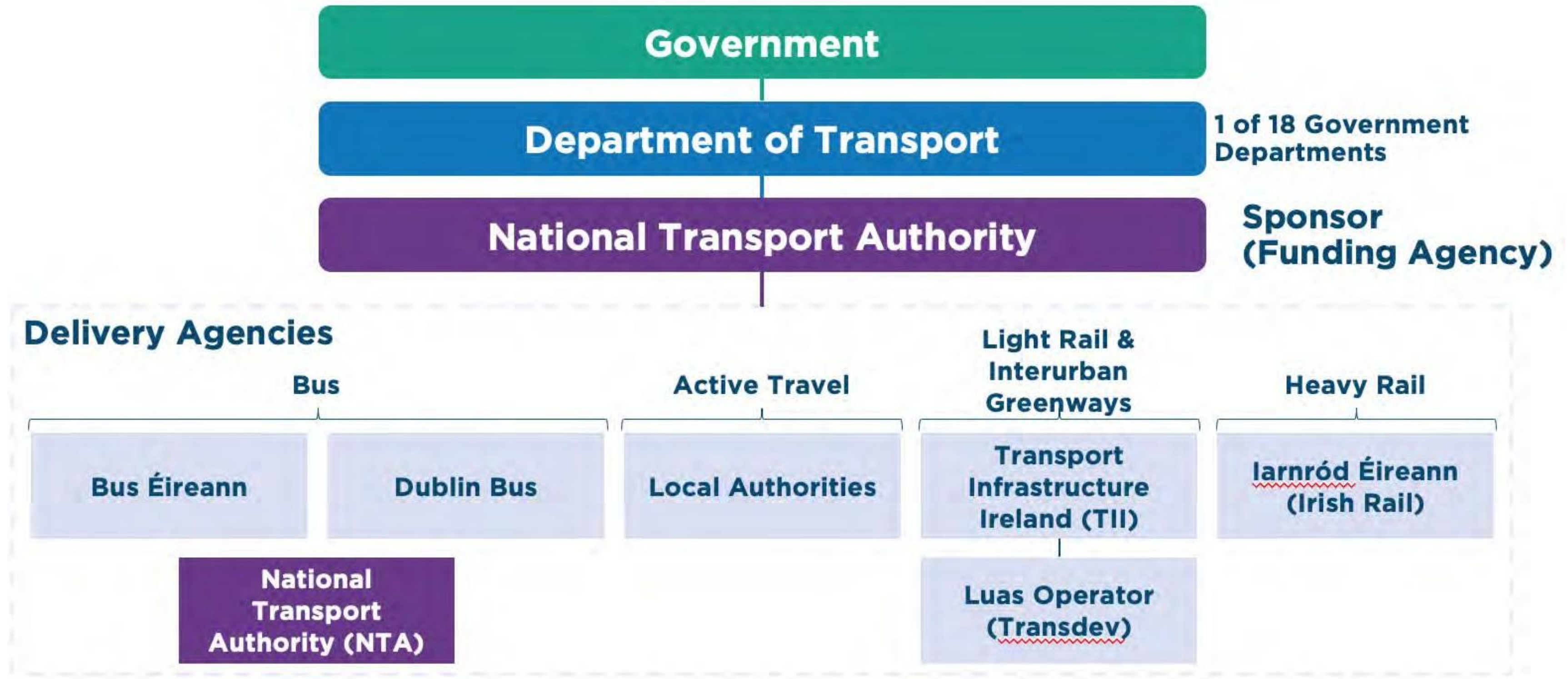
- > **Significant programme of works**, which is backed by all national and regional strategic plans with political support and financial commitment.
- > IÉ recognise importance of market appetite for the programme and wish to listen and learn from feedback and suggestions from all participants.
- > IÉ is positively focused on getting the packaging and contracting strategy right so that the market responds positively to upcoming tender opportunities and the project is successfully delivered in collaboration with contractors and consultants.
- > **Value for Money** is important and IÉ believe this can be achieved through strong competition and a fair risk reward profile with suitable key performance incentives, within the main contracts.

Thank You

Q & A

Appendices

Ireland's Transport Governance Structure



DART+ West Logistics (Construction Compounds)

The construction compounds are temporary facilities that support the construction of the different elements of the project. Construction compounds are required at specific site locations, such as level crossing closures, associated replacement works, or structure modification works. Compounds will be distributed along the railway for linear works (mainly SET installation) to allow tasks to be performed.

Main Storage and Distribution Centre (Slide 1)

- > up to 25 acres of a secured serviced facility , minimal or no interventions required , Approx. 20km to Dublin Port & 45 km to proposed DART+ West depot
- > obtained a surface area considering the peak workload of 39,000 m² for the one-month storage and 78,000 m² for the two-month storage for the MSDC

16 main compounds (Slide 2)

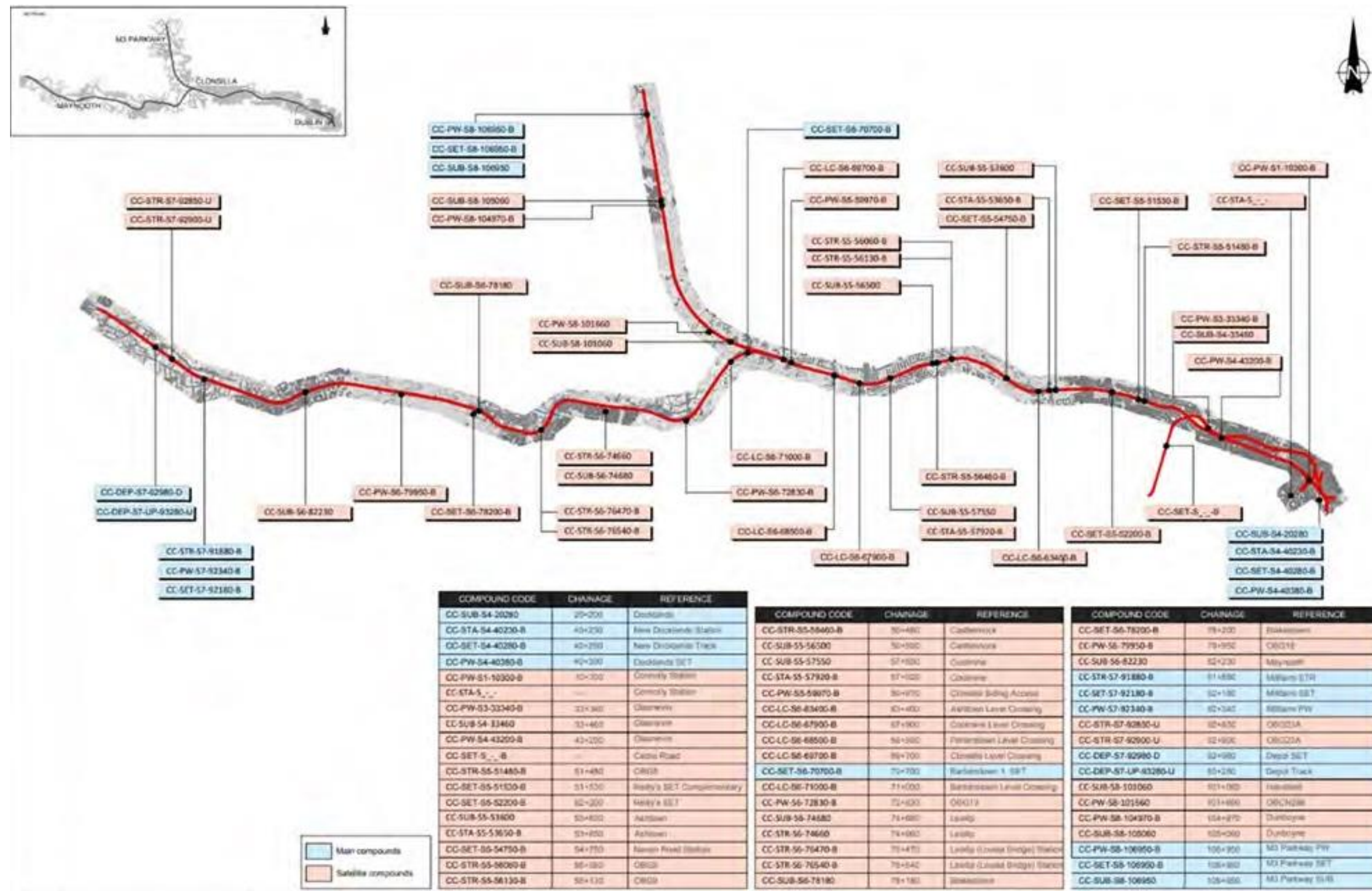
- > to act as strategic hubs for core management facilities such as engineering, planning and construction delivery and office-based construction personnel
- > will include offices, material storage areas, maintenance and parking facilities and the main welfare facilities for construction personnel

40 no satellite compounds (Slide 3)

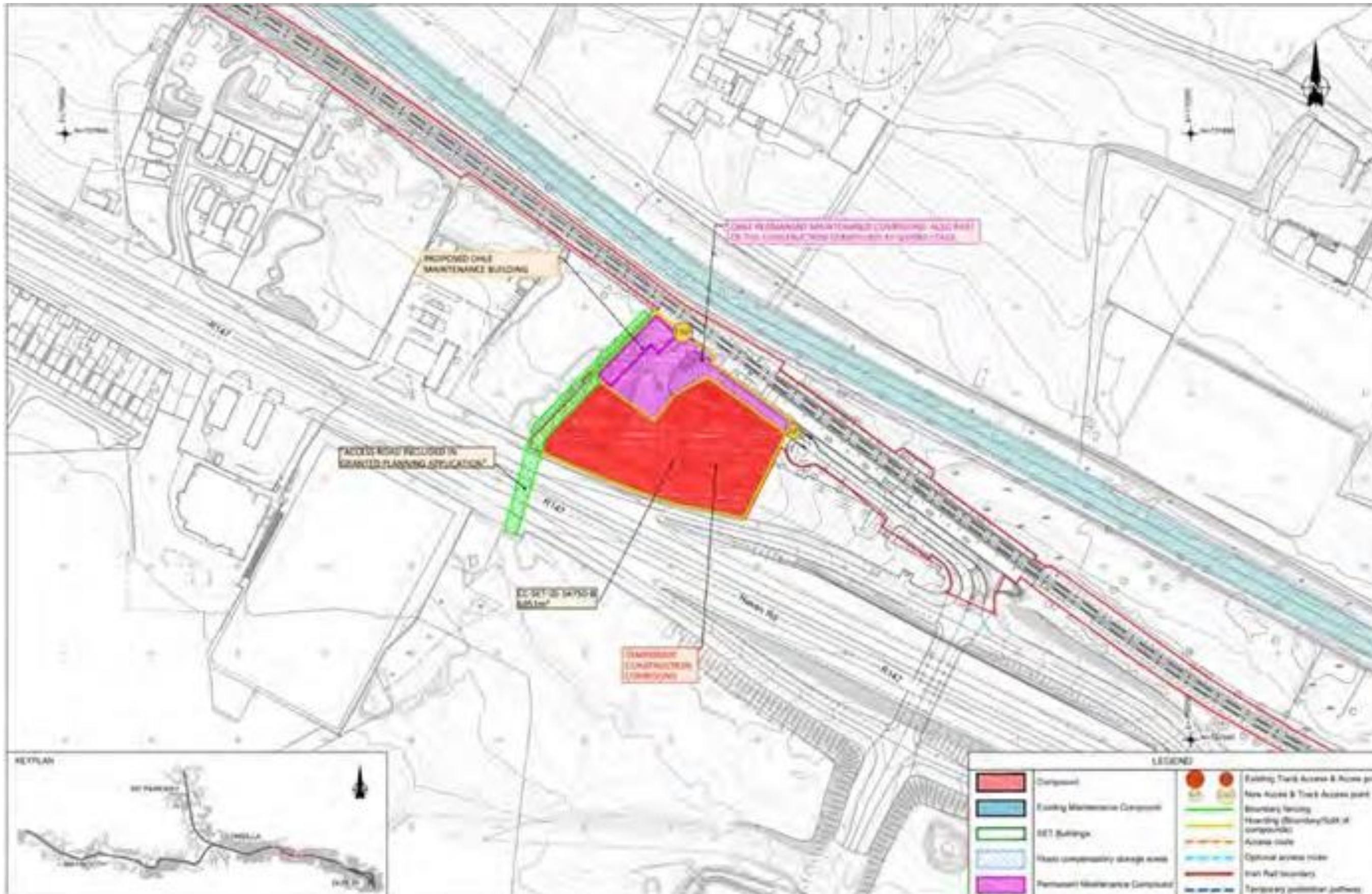
- > to provided enough material storage area to operate independently from the main ones, these smaller compounds intended to serve localised construction works,
- > will include office and welfare facilities for a limited number of construction personnel, local storage for materials, space for final elements assembly and limited car parking

Track Access Points (RRAPS) (20 existing and 10 proposed)

DART+ West Logistics (Construction Compounds)



DART+ West Logistics (Construction Compounds)



Requirement	Details	Area (m ²)
Columns storage(50% - 1storey)	104 x 10m x 1m	1040
Foundation Reinforcement (50% - 1 storeys)	104 x 4m x 2m	832
OHLE Miscellaneous storage	20m x 20m	400
Precast canalization (50% - 3 storeys)	1720 x 0,6m x 1m	1032
Cable drums storage	75 x 3m x 3m	675
Spoil (3/10 part of total volumen)	17 x 80m ²	1320,63
Welfare facilities	28 workers x 5m ²	140
Construction site office	20 workers x 10m ²	200
Employer's Representative Office	8 workers x 10m ²	80
Staff parking	56 x 4m x 2m	448
Guardhouse	3m x 3m	9
Machines parking	30m x 20m	600
Load/Unload area	30m x 20m	600
Internal roads	25 % applied to (storage area + staff facilities)	1550
Total SET Compound Area		8926,63

Example of a construction compound at Navan Road for SET with Track Access (both red and purple)

Working Hours for DART+ West

Construction Working Hours

The proposed construction daytime working hours for the project are as follows:

- > Monday to Friday: 12 hours. From 07:00 to 19:00.
- > Saturday: 6 hours. From 07:00 to 13:00.
- > Sunday / Bank Holidays: none, except where agreed in advance with the local authority and Iarnród Éireann or as part of a possession/closure.

Night-time & Weekend Possessions

(note hours indicate times when track is physically closed to allow for the works, but there will be additional time for mobilisation / demobilisation activities outside of the hours listed below):

- > Night-time track possession (weekdays): 4-hours. From 01:00 to 05:00.
- > Night-time track possession (Saturday nights): 6-hours. From 01:00 to 07:00.
- > Full weekend track possession: 52 hours. Saturday 01:00 to Monday 05:00.
- > Bank holiday weekend track possession: 76 hours. Saturday 01:00 to Tuesday 05:00.
- > Total closure: 24 hours per day for a specified duration.



NEC4 Engineering & Construction Contract - Key Features

The NEC contracts are deliberately written to formalise the requirement to carry out good practice project management systems that the respective Parties should want to be doing for themselves anyway. The contractual rules should assist the project teams in understanding the status and associated liability for both time and cost for the lifecycle of the project.

The contracts intend to provide mechanisms for Contractors and Clients to work collaboratively, and, are designed to contribute to the effectiveness of the management of the work and the understanding between the two parties.

They are founded on a number of key principles, which include:

- > Foresight applied collaboratively mitigates problems and shrinks risk
- > A regularly accepted programme allows the Parties to understand where they are in terms of liability and to be able to assess future progress and change. This regularly revised up-to-date and realistic programme maintained by the Contractor allows joint decision-making between the two Parties.
- > Providing a prescriptive process for assessing change (compensation events) for which there is a strict series of processes to follow and within certain timescales.



NEC4 Professional Services Contract - Key Features

Suitable for **appointing any provider of professional services**, including **project managers, designers and other consultants**.

NEC4 PSC offers three main payment options:

- > Option A (priced contract with activity schedule)
- > Option C (target contract)
- > Option E (cost-reimbursable contract)

In Option A most of the risk is placed with the service provider, while in Option C it is shared between the client and service provider and in Option E it rests mostly with the client.

As with all NEC4 contracts, the parties to a PSC are required to act in a 'spirit of mutual trust and co-operation' and give early warnings of anything that could affect time, cost or usefulness of the service so it can be mitigated.

Change is dealt with by a fast and fair compensation event process which, together with a continually updated and agreed programme, ensures there are no surprises at the end of the contract.



Owner

- > Client operates as Executive Manager, focusing on strategy, funding, outcomes and limited senior stakeholder management
- > Programme Delivery outsourced, including stakeholder management
- > 'Hands-off Client' with decision making limited to strategic matters
- > Very limited visibility of detailed activity
- > Transactional relationship with Delivery Partner(s)

Thin Client

- > Client provides a limited amount of in-house resources for the Programme
- > Their focus is on defining outcomes, obtaining funding, procuring a limited number of outsourced support / delivery work packages
- > Then focussed on driving performance from the outsourced support, and on a limited number of key stakeholders
- > Its hands-off client
- > Limited visibility of works, limited availability to change without significant contract implications

Intelligent Client

- > Client has a limited amount of staff, maintains leadership in key roles
- > External organisation will perform most roles on a resource augmentation basis
- > Client is more 'hands-on' than the Owner Model, retaining decision maker and retains all stakeholder management
- > Transactional relationship with Delivery Partner(s)
- > More hands-on than the 'Thin Client'

Integrated Client

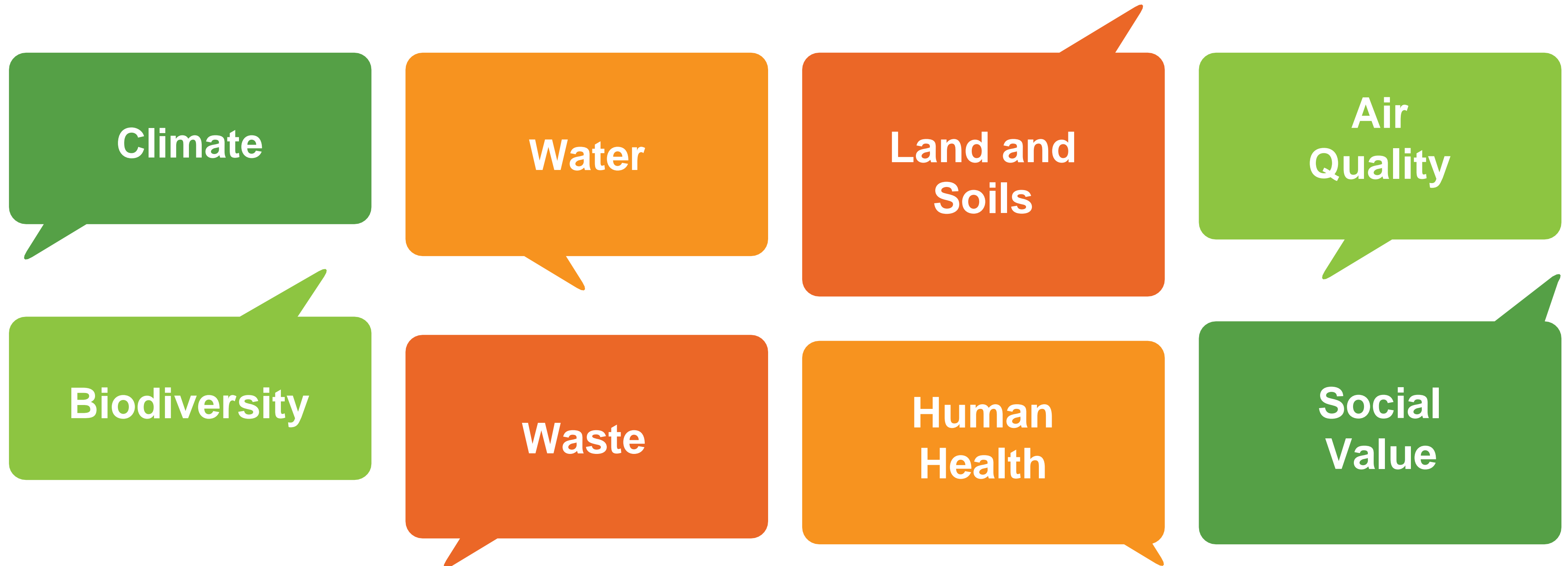
- > Client and Partner(s) staff can fulfil leadership roles (integrated leadership team)
- > External organisation will perform most roles on a resource augmentation basis
- > Client is more 'hands-on' than the Owner Model, retaining decision maker and retains all stakeholder management
- > Collaborative relationship with Programme Partner(s)
- > More hands-on than the 'Owner'

Full Client

- > Client has a high level of resource. Occupying leadership and key roles across all disciplines
- > Long term pipeline of investment to sustain resources
- > Mature processes, tools, culture and ways of working
- > Focus is on performance management, with ability to be hands-on in all disciplines
- > Augments resource through consultants / providers

DART+ Sustainability Strategy

Iarnród Éireann's aim is to become the backbone of a sustainable public transport network, and to implementing and maintaining Green Public Procurement. Sustainability has been considered throughout the optioneering phase, in the development of the preliminary designs and in the preparation of the environmental impact assessment reports for DART+ programme. Sustainability is integral to the DART+ programme and its wider stakeholders. Key sustainability areas are:



DART+ Key Sustainability Areas

Climate

- > Construction materials with less embodied carbon and application of circular economy principles
- > Replacement of concrete with concrete containing 30% fly ash replacement
- > Steel to be sourced from continental Europe from recycled materials – highest recycled steel
- > Materials to be sourced from local suppliers
- > Adopt renewables and/or low-carbon technologies (on site, transport etc.)
- > Ensure 80% renewables in the operational phase electricity use (Corporate Power Purchase Agreement)
- > Once operational, DART+ is considered to beneficially contribute to Ireland's target of net zero

Biodiversity

- > Incorporation of wetland habitats into the design of flood compensatory storage areas
- > Plant native Irish species of trees, shrubs and wildflowers

Social Value

- > Generate 14,200 annual FTE jobs
- > Construction apprenticeships and training schemes
- > Provide local adult learning linked to construction related job opportunities for disadvantaged adults
- > Once operational, DART+ will benefit an additional 85,000 people living in areas defined as 'below average or worse'

