Preliminary Business Case

Station Accessibility Programme

Heavy Rail Safety and Development

Prepared for Iarnród Éireann

Prepared by Jacobs

Date: 30 October 2024

Quality Assurance

Prepared by	Checked by	Verified by	Approved by
KM/GW/LB/DC	*KM/GW/LB*	*IÉ (CG)*	*IÉ (CG)*

Revision History

Revision	Revision Date	Description	Name	Approved by
V.3.0	*28 March 2024*	*Working Draft – IÉ review*	*KM/GW/LB*	-
V.3.1	*3 May 2024*	*Draft – IÉ review*	*KM/GW/LB*	-
V.3.2	*14 May 2024*	*Final Draft – IÉ review*	*KM/GW/LB*	-
V.3.3	*21 June 2024*	*Final – NTA review*	*KM/GW/LB*	-
V.3.4	*29 Oct 2024*	*Final – NTA submission (DRAFT)*	*KM/GW/LB/CP*	-
V.3.5	*30 Oct 2024*	*Final – NTA submission*	*KM/GW/LB/CP*	*IÉ (CG)*

References

Infrastructure Guidelines: A Guide to the Strategic Assessment and Preliminary Business Case
https://www.gov.ie/en/collection/e8040-infrastructure-guidelines/

Transport Appraisal Framework: Module 4 – Preliminary Business Case
https://www.gov.ie/en/publication/c9038-transport-appraisal-framework-taf/

NTA Project Approval Guidelines
https://www.nationaltransport.ie/publications/project-approval-guidelines/

NTA Cost Management Guidelines
https://www.nationaltransport.ie/publications/nta-cost-management-guidelines-updated-2023/

Document Full Title:

Iarnród Éireann:
Station Accessibility Programme:
Preliminary Business Case

Contents

Tables

Figures

Acronyms & Abbreviations

AA	Appropriate Assessment
AISRR	All-Island Strategic Rail Review
APIS	Authorisation for the Placing into Service
CACR	Cork Area Commuter Rail
CAF	Common Appraisal Framework
CBA	Cost-Benefit Analysis
CCTV	Closed-circuit television
CEA	Cost Effectiveness Analysis
CI	Capital Investment
CIÉ	Córas Iompair Éireann ('Irish Transport System')
CMATS	Cork Metropolitan Area Transport Strategy
CME	Chief Mechanical Engineer
CMG	Cost Management Guidelines
CO2	Carbon dioxide
CRR	Commission for Railway Regulation
CWMF	Capital Works Management Framework
DART	Dublin Area Rapid Transit
DCF	Discounted Cash Flow
DoT	Department of Transport
DPENDR	Department of Public Expenditure, National Development Plan Delivery and Reform
ECF	Exchequer Cash Flow
ESB	Electricity Supply Board (Bord Soláthair an Leictreachais)
EU	European Union
EV / LEV	Electric Vehicle / Light Electric Vehicle
HICP	Harmonised Index of Consumer Price
IAR	Integrated Assurance Reviews
IÉ	Iarnród Éireann
IG	Infrastructure Guidelines
IM	Infrastructure Manager
IMMAC	Infrastructure Manager Multi-Annual Contract
IMSAP	Infrastructure Manager Safety Approval Panel
KPI	Key Performance Indicator
LPM	Logic Path Model
M&E	Mechanical and Electrical
MCA	Multi-Criteria Analysis
MEP	Monitoring and Evaluation Plan
MIAS	Mobility Impaired Access Structure
NDFA	National Development Finance Agency
NDP	National Development Plan
NIFTI	National Investment Framework for Transport in Ireland
NIP	National Implementation Plans (EU regulation)
NoBo	Notified Bodies
NPF	National Planning Framework
NPV	Net Present Value
NTA	National Transport Authority
PA	Public Address system
PAG	Project Approval Guidelines
PBC	Preliminary Business Case
PIDS	Passenger Information Displays
PRM	Person with Reduced Mobility
PSC	Public Spending Code
PSCS	Project Supervisor Construction Stage
PSDP	Project Supervisor Design Process
PV	Present Value
RU	Railway Undertaking
RSES	Regional Spatial and Economic Strategies
SCSI	Society of Chartered Surveyors Ireland
SAR	Strategic Assessment Report
SCSS	Station Customer Service Systems / Strategy
SMART	Specific, Measurable, Attributable, Realisticand Time-Bound
TAA	Transport & Accessibility Appraisal
TAF	Transport Appraisal Framework
TGD	Technical Guidance Document
TSI	Technical Specification for Interoperability (EU regulation)
TVM	Ticket Vending Machine
VAT	Value Added Tax
WPAR	Wicklow Port Access Road

Part 1:
Iarnród Éireann:
Station Accessibility Programme:
Executive Summary & Introduction

1. Executive Summary

1.1 The Preliminary Business Case

The Irish Government's overall aim to improve inclusivity across society in Ireland in enshrined in many relevant policies and resulting programmes, notably the Equal Status Acts 2000 to 2018[1] and the Disability Act 2005. These acts cover a wide-ranging array of societal aspects, with reference to the transport network in the context of inclusivity and accessibility as appropriate. Specific requirements for transport systems from these acts are subsequently enshrined in relevant policies and regulations for transport providers. Iarnród Éireann's role in improving inclusivity and accessibility is through its network of stations and services, ultimately to ensure that they provide opportunities for all to use the rail network. The station accessibility programme is a key part of that role, focusing specifically on access to stations that it has been determined do not acceptably do so, in turn based on audits of current situations against requirements derived from the wider policies and regulations, with the consequent specific objective of ensuring compliance with accessibility regulations at rail stations.

Without addressing the issues at stations which have been identified as not providing acceptable access, the rail network will remain inaccessible for users with a number of different disabilities. Challenges differ but can make access difficult or impossible and unable to use the rail network. Iarnród Éireann (IÉ) currently provide an advance notice service for a member of staff to assist passengers, but if this service is not available, or a station is unstaffed, a mobility taxi or bus transfer from the station should be provided by IÉ, though this service is not always guaranteed or available, and has had problems with reliability in the past.

The Station Accessibility Programme has been developed by IÉ to ensure that stations across the Irish rail network comply with statutory accessibility requirements, and meet EU, national and IÉ standards for accessible design. Substantial improvements have already been delivered, leaving just over 50 stations still requiring works. The programme has prioritised stations where intervention need is greatest and works are progressed in priority order, with groups of stations delivered over a series of at least three 5-year periods (the first being 2022-2026. This document forms the Preliminary Business Case (PBC) for the programme, assessing options for delivering the whole programme, as well as providing a more detailed consideration of activities in the first five years of the programme (Years 1-5 Activities). This follows on from an appraisal plan set out in the Strategic Assessment Report (SAR) for the programme.

The PBC is the first stage of the project lifecycle (Approval Gate 1) set out in the Project Lifecycle Approval Stages of the Infrastructure Guidelines. This takes forward the appraisal process set out in the SAR, updating the approach to accommodate changes to project appraisal guidance in the Transport Appraisal Framework (TAF). Similarly, the approach has evolved to include requirements enshrined in the Infrastructure Guidelines (which replaced the previous Public Spending Code in December 2023) and revised NTA Project Approval Guidelines (PAG), which were updated in March 2024. The PBC brings together evidence to support the contention that Approval Gate 1 Approval in Principle should be granted and forms the basis upon which the Approving Authority can decide to progress to subsequent stages and ultimately sanction implementation at individual stations. Initially, funding is required to complete the first 5-years of the Programme.

1.2 Station Accessibility Programme in Context

1.2.1 Investment Rationale

The main rationale for investment is compliance with statutory obligations, in line with the Disability Act 2005 and the European Union (EU) Persons of Reduced Mobility (PRM) regulations. The Disability Act 2005 required that public bodies made buildings accessible by 2015, but funding constraints mean this could not be done at all rail stations by 2015; the Disability Act 2005 (2012 edition) recognises this, and that progress continues beyond that based on the availability of funding. While the initial focus is compliance with the Disability Act 2005, the programme also considers standards in EN17210:2021 (Accessibility and usability of the built environment – functional requirements), which aims to create an accessible and usable built environment, and not just at rail stations. In particular for the programme, this is the potential delivery of enhanced changing

[1] The Equal Status Act was initially set out in 2000 as an act to promote equality and prohibit types of discrimination, harassment and related behaviour in connection with the provision of services, property and other opportunities to which the public generally or a section of the public has access, with further subsequent acts issued over the period 2000-2018

places where it fits with wider provision of such facilities, as well as the feasibility of doing at particular stations.[2] IÉ Strategy 2027 reinforces IÉ commitment to improving accessibility to services through a costed programme to progressively deliver full compliance with the PRM directive.

Although the key driver of the programme is compliance, the measures required also contribute to wider policy objectives and by improving accessibility to rail services will help address issues associated with social inclusion, improve safety at rail stations and reduce car dependency. The programme will potentially link to investments creating improved interfaces with other transport modes, so IÉ will collaborate with partners to progressively improve modal interchanges at every station contained within the package, as possible. Improved station accessibility has the potential to encourage model shift, with a more people able to travel by rail instead of private vehicles, though successful delivery of this will also be complimented by improvements to the standards of service and interaction across all customer-facing parts of the IÉ network. More journeys made by rail could reduce road traffic and congestion, having a positive impact on wider mobility and the environment.

1.2.2 Demand Analysis

Baseline demand for the stations in the programme varies significantly, from Maynooth (6,164 passengers per day) to Rosslare Europort (34 per day). Low demand may be indicative of a lack of accessibility as well as other reasons. Station catchment area demographics, based on the 2022 Census of Ireland, provides context as well as justification of the programme, as indicative of potential latent demand the programme can help to unlock, enabling communities that have previously been unable to access the rail network to benefit from improved opportunities. This includes the proportion of persons with reduced mobility and other disabilities, who could particularly benefit from the programme; this ranges from 12% (Fota) to 29% (Boyle), the average overall being almost 23%, which is higher than the national rate of 22%. In addition, the proportion of the catchment areas' populations unable to work due to permanent sickness or disability is 4%. [3] [4]

The programme's main aim is compliance with accessibility regulations, but overall demand for rail may also increase. Improvement of facilities gives greater scope for persons with disabilities and reduced mobility to access rail services. There is also potential for increasing demand from the wider population, as journey quality for all users is improved as a result of the measures. However, the quantum of such demand impacts is unlikely to be substantial and indistinguishable from more general changes in rail demand driven by other factors such as ticket prices and service levels. Case study evidence and econometric analysis indicate that interventions for station accessibility and quality can result in demand uplifts, depending on location, journey type, measures implemented and previous condition of the station.[5]

1.2.3 Lessons Learnt

As a long-term programme of implementing improvements over almost 15 years, IÉ will take on board lessons learnt in design, costing and procurement from within the Station Accessibility Programme itself, as well as other previous and on-going projects and programmes. Key programme delivery elements include:

- Internal programme lessons – a prioritised and staged approach means early technical and construction work allows lessons learnt from earlier stations to those progressed later (as well as other IÉ work).
- Other projects and programmes – programme manager liaison groups will ensure joined up working between any linked programmes and projects and continue learning lessons on an ongoing basis.
- Cost estimates and benchmarking – assessment of costs for previous station works will allow lessons to be learnt both from other schemes and over time, increasing cost efficiency of later stages of the programme.
- Risks – the risk management approach is used to incorporate lessons learnt; the phased approach means that risk registers and lessons learnt from earlier stages can be adopted into later stages of work.
- Tendering and contractor procurement – early-implementation stations are a blueprint for the strategy for procurement through the remainder of programme.

[2] EN17210:2021 precipitated amendment to Building Regulations Technical Guidance Document M in 2022 (changing places facilities); effective on 1st Jan'24, but programmes in progress have transitional arrangements; the Doc M 2010 remains the definition of compliance for the Station Accessibility Programme; compliance with both 2010 and 2022 editions of Doc M has been appraised.

[3] Identification of stations included in the programme is discussed in detail in Chapter 6 (Development of the Programme).

[4] 2019 and 2022 Iarnród Éireann National Rail Census

[5] Based upon empirical evidence from the UK; station accessibility/quality upgrades have the potential to increase demand by 3%, and up to a further 2% through other upgrades (e.g. information screens, help points and waiting facilities); see Table 3.3 in the PBC.

- Governance – programme governance will also be informed by lessons learned by IÉ for delivering similar compliance improvements at stations and aligned with Capital Works Management Framework guidance.
- Monitoring and evaluation – will ensure that lessons are identified to inform the ongoing programme, with early elements used to help inform later elements, as well as similar programmes in the future.

1.3 Strategic Alignment

The Station Accessibility Programme aligns with accessibility requirements and other rail and transport policies and strategies in Ireland. Three main policy areas are covered including: the legislative context, which outlines the statutory obligations and covers the necessary standards; national and international policy context; and specific transport investment strategies, projects and policies in Ireland.

1.3.1 Legislative Context

Statutory policy and guidance contained within the Disability Act 2005, Building Regulations (2010) Technical Guidance Document M, PRM TSI and CCE-TMS-312 form the basis for the development of the Station Accessibility Programme. The interventions delivered as part of the programme will ensure compliance with the statutory requirements outlined in these documents and the proposed interventions have been developed in line with the required methods, standards and specifications included in the documents.

- Disability Act 2005 – the Disability Act 2005 places a statutory obligation on public service providers to support access to services and facilities for people with disabilities;
- Building Regulations (2010) Technical Guidance Document M – builds on the 2005 Act in setting out materials, methods of construction, standards and other specifications which are likely to be suitable for the purposes of the regulations, including reference to access and use of buildings other than dwellings;
- Amendment to Building Regulations Technical Guidance Document M (2022) – introduces requirements for changing places facilities in buildings (from EN17210:2021); effective on 1st Jan'24, but programmes in progress have transitional arrangements; the '2010' edition of Document M remains the definition of compliance for the programme; compliance with both '2010' and '2022' editions have been appraised;
- National Implementation Plan PRM TSI (2017) – response to Article 8(1) of EU regulation No 1300/2014 the on the Technical Specification for Interoperability (TSI) relating to accessibility of the Union's rail system for persons with disabilities and person with reduced mobility (PRM); and
- IÉ Technical Document CCE-TMS-312 – builds on European and National standards to identify standards and guidelines applicable to the railway industry; additionally, it goes on to provide guidance on the application of standards when providing new, renewed or replacement facilities.

1.3.2 Strategic Policy Alignment

The programme aligns with a number of national planning and transport policies, national and European disability policies, as well as other related transport and planning policies.

National

- National Development Plan 2021-2030 (NDP) – sets out the investment programme designed to support spatial planning and deliver economic, social, environmental and cultural development across Ireland.
- Project Ireland 2040: National Planning Framework (NPF) – strategic guidance on investment priority, recognising that accessibility to rail stations can play its role in enhancing transport connectivity.
- National Investment Framework for Transport in Ireland (NIFTI) – is the Department for Transport's high-level framework for future investment; the programme aligns with the 'public transport' investment theme within NIFTI's modal hierarchy, and the 'maintain' theme within NIFTI's intervention hierarchy.
- Climate Action Plan 2024 – outlines measures and actions required to ensure compliance with emissions targets; the programme could play a role in reducing the transport sector's emissions by making rail-based travel more attractive, easier to access and more inclusive.

National and European Disability Policy

- Sectoral Plan for Accessible Transport (Disability Act 2005, 2012 edition) – reiterates accessible public transport commitment, recognising that economic circumstances could have an impact on achievement.

- National Disability Inclusion Strategy (2017-2021), updated March 2022 – sets out strategy areas and other smaller action points, which aim to improve the lives of people with disabilities.
- EN 17210:2021 (Accessibility and usability of the built environment – functional requirements) – aims to create an accessible and usable built environment overall (not just rail stations); this standard has already been discussed in relation to the programme in the investment rationale.

Other Policy

- IÉ Strategy 2027 – accessibility represents a central theme underpinning Strategy 2027, reflecting the importance of complying with the Persons of Reduced Mobility (PRM) Directive.
- All-Island Strategic Rail Review (AISRR) – highlights that there is the need to ensure the railway estate is accessible for passengers with reduced mobility, especially in the context of customer experiences.
- Regional Spatial and Economic Strategies – promote transport as a key policy area through which a more socially inclusive society, and accessibility across all societal needs and physical abilities, can be achieved.

1.3.3 Projects

The programme aligns with a number of ongoing projects and programmes being delivered by IÉ:

- Station Customer Service Systems (SCSS) – this project is providing customer service equipment (such as information systems and ticket machines) , and though not derived directly from PRM or other legislative compliance, its outcomes are well-aligned with those of the Station Accessibility Programme.
- Multi-Modal Interchange – this project aims to ensure that all modes are better catered for at stations, and its delivery in tandem with the programme will augment the ability of those with restricted mobility to interact with the facilities/services available at the station, as well as access the station via public transport.
- Cork Area Commuter Rail – involves developments and enhancements to the rail network from Mallow through Cork to Cobh and Midleton, and with a number of stations in the area, there clear alignment between the CACR programme and Station Accessibility Programme.
- DART+ programme – will see the DART network grow, promoting multi-modal transit, active transport and increase regional connectivity within the Greater Dublin Area; similar to CACR, with a number of stations in the DART+ area, there is clear alignment with Station Accessibility Programme.

1.4 Programme Objectives

The Irish Government's overall aim to improve inclusivity across society in Ireland in enshrined in many relevant policies and resulting programmes. Specific requirements for transport systems from these acts are enshrined in relevant policies and regulations for transport providers. Iarnród Éireann's role in improving inclusivity and accessibility is through its network of stations and services, ultimately to ensure that they provide opportunities for all to use the rail network. The Station Accessibility Programme is a key part of that role, focusing specifically on access to stations that it has been determined do not acceptably do so, in turn based on audits of current situations against requirements derived from the wider policies and regulations, with the consequent specific objective of ensuring compliance with accessibility regulations at rail stations.

The programme's core activities are accessibility measures at stations not yet improved, ensuring compliance with statutory obligations. Objectives have been identified and refined as the programme has developed. Initially, objectives were set out in the SAR, noting a need to revisit them in the PBC. These have been refined to one primary objective and four secondary objectives, all developed using SMART principles.

The primary objective of the Station Accessibility Programme is:

- Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner, for completion by 2034.

The secondary objectives of the Station Accessibility Programme are:

- Improve customer experience at stations in the programme, in line with the IÉ implementation plan;
- Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers;
- Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems; and

- Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents.

Although not a specific aim of the Station Accessibility Programme, measures delivered by the programme will support long term patronage growth on IÉ services, not least because the programme will provide facilities to enable persons with disabilities and reduced mobility to have greater scope to access rail services.[6]

1.5 Development of the Programme

1.5.1 Consideration of Interventions

A key presumption across the programme when developing the long listing of potential options is that accessibility compliance at stations will be achieved most cost effectively through the introduction of a Mobility Impaired Access Structure (MIAS) consisting of provision of both lifts and stairs linking to an overbridge arrangement. An underpass could achieve compliance but there is a general presumption against underpasses unless there are station-specific constraints that justify their use, as underpasses generally have significant disadvantages compared to over track crossings (including public security in operation and introducing construction complications and safety issues, such as deep excavations in constrained sites). Ramps also offer an alternative to lifts but are not compliant with the requirements for access routes where the vertical rise is greater than 2000mm[7] (standard footbridge headroom to the railway of 5.3m above track level) and can present a greater challenge to users than lifts, as a result of significantly longer in-station distances involved given the need to achieve a large vertical rise without exceeding a compliant gradient. As a result of this scale, ramps are also generally less cost effective than MIAS structures and increase the overall footprint of interventions at stations significantly, with potential contradictions with wider environmental impacts and planning regulations.

It should still be noted though that although there are presumptions against the use of underpasses and ramps when considering options at a programme level, there may be some benefit to considering these options where there are particular station specific reasons and/or constraints that mean these options perform could better than the standard MIAS approach. Therefore, during preliminary design at a station (Phase 3) this presumption should be revisited and full station specific assessment is undertaken to consider the relative merits of options.

1.5.2 Progress to date

The main objective of the Station Accessibility Programme is to achieve accessibility compliance at stations in the programme in the most cost-effective manner and as soon as reasonably practicable. As such, the primary driver for intervention is accessibility, which has used in long listing potential stations and options for measures. The work of Station Accessibility Programme began in 2014, initially to identify the stations, progressing to outline the work required at each, in order to prioritise investment and consider delivery options. Milestones mark the progress of the programme to date, as follows:

- Accessibility Project Feasibility Report (2014) –identified accessibility requirements and options at each station. A parallel process developed high-level costs covering a range of modification works, and stations were prioritised, using criteria drawing out aspects of the stations related to accessibility, resulting in in a concise, prioritised list of 54 stations for the overall programme. A Supplementary Study (July 2014) focused on works which would enable a wheelchair user to board and alight from a train and enter and leave the station, to progress earlier in the programme, commensurate with the level of available funding.
- Progress & Approvals (2015-2018) – this resulted in minor upgrade works being completed across all 54 stations, at a total cost of approximately €4 million, as well as adding another station to the programme, thus increasing the number of stations to 55.
- Project Review (2019) – this review updated prioritisation, taking account of improvements completed, the latest passenger census figures, the latest operational requirements, up to date stakeholder feedback and user group needs. Four stations were removed from the programme as works have been completed, leaving 51 stations seeking funding from 2022 onwards. Originally the remaining stations were allocated to three 'packages' (A, B and C) for delivery in three 5-year periods.

[6] A programme-level Logic Path Model (LPM) has been prepared for the Station Accessibility Programme; this is shown in Figure 5-1

[7] Building Regulations Technical Guidance Document M (2022), Section 1.1.3.4 (i)

- Preliminary Design Report (2021) – this report covered the first 15 stations in the prioritised list (which were previously referred to as 'Package A'). An accessibility audit at each fed into concept designs and optioneering, from which initial costing and preliminary designs were produced and progressed. Measures identified in the Preliminary Design Report have been incorporated into assessments in the PBC.

Though the approach has evolved over time, a key methodological element of the delivery process for the Station Accessibility Programme is appraisal, monitoring and assessing expenditure over discrete 5-year periods that cover implementation of the programme overall. The scale of the programme is such that it will be delivered over a number of years. For practicality with a large number of stations to deal with, delivery of the programme is based on considering sub-sets or packages stations. The most practical approach is to deal with approximately a third of stations in the programme at a time, in a package to be delivered over its own 5-year period. The 5-year period (package) approach was thus determined at the outset of the programme, and likewise a corresponding process to manage the programme on the same 5-year periodic basis for approvals and funding, as well as allowing for flexibility in responding to potential changes in guidance and regulation.

1.5.3 Cost Estimating

Base construction costs

Base construction costs were fixed at 2022 prices, the start of the first five-year period of the programme (2022 to 2026). As the programme has already carried out works, actual tendered costs are used to benchmark ongoing cost estimates. Works at initial stations included all of the main measures identified by the programme, so average tender return rates were used to establish base costs to be applied at all future stations. Design and project management costs were derived from an aggerate outturn of such costs for the five stations completed or partially completed up to 2022. Average tender return costs from the first five stations were also benchmarked against the construction rates contained within the Society of Chartered Surveyors Ireland (SCSI) 'Construction Cost Index & Tender Price Index' (2022 & 2023) for similar types of work.

Cost benchmarking

Actual tendered or delivery costs were used as benchmarks for station cost estimates. The robustness of these costs as being representative of the market delivery costs within Ireland is underpinned by the procurement process undertaken by Iarnród Éireann. Stations delivered to date have been procured under the Government Construction Contracts Committee's Form of Contract, which complies with both Iarnród Éireann procurement governance and European Procurement Regulations. Moreover, as works at a number of stations are now complete, it is outturn costs rather than tender costs that have been included in the benchmarking exercise, ensuring that any changes and lessons learnt during construction which will be carried forward to delivery of future stations are captured in the cost estimates.

Whilst the above rationale provides confidence that the cost estimates are robust and representative of the conditions within the Irish market, a wider benchmarking exercise was also undertaken to understand delivery of similar projects elsewhere, focused on the UK. Although the UK market is considered to be under different economic constraints from that in Ireland, it can be considered as reasonably representative of a similar culture and capability within the construction sector for station accessibility interventions.

Typical costs for accessibility projects in the UK (see Table 6-3) can vary significantly, but equivalent costs in Euros relate well to values used within cost estimates for the Iarnród Éireann Stations Accessibility Programme, indeed if anything exceeding them, thus validating the exercise undertaken by Iarnród Éireann in establishing an appropriate benchmark using tender and outturn costs.

Contingency and risk

In determining programme intervention costs, the approach to assessing appropriate allowances for risk and contingency has followed the guidance and methodologies for cost estimating enshrined in Cost Management Guidelines (CMG) required by the NTA, specifically:

- Contingency Calculator (NTA CMG 001_B123_CC); and
- QRA calculator (NTA CMG 013_B23_QRA).

The calculators are used to assess contingency and risk values for stations at stages of scheme development as appropriate, providing unique values to each station according to its scheme development stage, specific circumstances and interventions. Risk and contingency are inherently uncertain, so financial appraisal has taken output from the risk and contingency calculators and utilised average values for risk and contingency for 5-

year periods. As calculators have not yet been complete for stations in the final 5-year period (Package C), the average values of risk and contingency for stations in the first and second 5-year periods (Packages A & B) have been used. Higher values of risk and contingency may be expected for these, but the inherent progression and consistency of approach to cost development and cost referencing through the programme brings clear knowledge of typical risks, so higher values are inappropriate and disproportionate in the assessment of costs for stations in the final 5-year period (Package C), and hence use of values assessed for stations being delivered through the first and second 5-year periods (Packages A & B) are appropriate.

Optimism bias

The percentage uplift for contingency in either the Preliminary Cost Estimate or the Post Tender Cost estimate has been applied to total project costs including risk output. The contingency calculator provides a methodical, consistent and recognized approach to establish an appropriate allowance for contingency. The calculator includes a forecasting methodology based on principles of 'Reference Class Forecasting', based on previous project performance. The base costs provided for the Station Accessibility Programme have been prepared using current market costs and recent costs from similar projects, as well as risks that have manifested in similar projects in the past. As such, combined with the use of the NTA contingency calculator to calculate a set of contingency uplifts for the programme, it is considered that the cost estimates used in the Station Accessibility Programme PBC are robust, and include sufficient allowance for risk and contingency meaning that no further allowance is required for optimism bias beyond this.

Inflation

Inflation has been applied to base year (2022) cost rates. Inflation rates contained in The National Transport Authorities (NTA) Inflation bulletin February 2024 were applied to determine year-by-year costs. The base inflation adjustment rate for Civil Engineering works was used and a cumulative inflation adjustment amount applied to year(s) of construction, taking costs from the base of 2022 to that year.

Risk register

Guidance from the NTA Cost Management Guidelines (CMG), specifically '004_B1_QRA_CMG-QRA-Guidance-Part-2_V1 Risk Register', was used to establish the appropriate allowance for risk. This tool is used to record, assess and analyse risks, and allows risks to be allocated to the party best placed to manage them and to identify/record mitigation strategies implemented to remove the risk, reduce the likelihood of it occurring and reduce the impact if it does occur. The risk register establishes a percentage that is applied to base costs.

1.5.4 Optioneering process

It is important to note that the long-term nature of the Station Accessibility Programme and the way that it includes multiple discrete stations means that optioneering has taken, and continues to take, several forms across a number of steps. In effect there are four steps across the gestation of the programme, beginning with the first step to identify stations to include in the programme (which is complete) and going on to include consideration of options at programme level for interventions and delivery, as well as options for interventions at individual station level. Figure 6-1 (Section 6) shows the steps in the optioneering process.

1.6 Programme Options Assessment

On-going development of the programme, and changes to guidance and permissions[8], mean that adjustments to programme delivery can be introduced which need to be appraised. Four programme options have been developed to ensure that different approaches are rigorously considered, that provide different levels of improvement at stations, as set out in Table 1-1. The aim of deriving and assessing a series of programme options is to determine the impacts of the programme overall as well as consider the optimum approach to delivering the programme. Figure 7-1 (Section 7) shows options cross referenced with appraised interventions and regulations.

[8] Introduction of: Transport Appraisal Framework (TAF) in June 2023; Infrastructure Guidelines in December 2023 (which replaced the previous Public Spending Code); and revised NTA Project Approval Guidelines (March 2024).

Table 1-1: Programme options & interventions

Option	Intervention	Description
A	Do nothing	No change to the existing station infrastructure.[9]
B	Compliance Do Minimum ('B' measures)	Upgrades to the station that achieve compliance with national and EU regulations including PRM TSI (2017), Building Regulations (2010)[10] and the Disability Act (2005). All stations in the programme have some level of intervention to ensure compliance with regulations.
C	Enhanced changing places Do Something (includes 'C' measures, plus 'B' measures)	Upgrades to the station that achieve compliance with national and EU regulations ('B' measures), plus where possible the provision of a new changing places facility as outlined in the Part M Amendment to the Building Regulations (2022)[11], also consistent with EN 17210:2021.[12] Six of the stations in the overall programme are suitable for these facilities (Longford, Roscommon, Ballyhaunis, Sligo, Killarney and Wexford).
D	Improved local multi-modal access Do Something (includes 'D' measures, plus 'B' measures, plus 'C' measures where applicable)	Upgrades to the station that achieve compliance with national and EU regulations ('B' measures), plus where possible the provision of improved multi-modal access facilities local to the station ('D' measures), plus where possible the provision of enhanced changing places ('C' measures). A further eight of the stations in the overall programme are suitable for this form of enhancement (Little Island, Banteer, Athy, Boyle, Rushbrooke, Enniscorthy, Ballyhaunis and Wexford).

Options B, C and D all include measures to ensure compliance with PRM TSI (2017), Building Regulations (2010) and the Disability Act (2005). These measures are initially defined by Option B, so Option C and Option D are additive to Option B. To understand the net additional impact of a project, Infrastructure Guidelines (section 1.4.2) recommends the careful consideration of what would happen without the proposal, i.e. the investment counterfactual. Because Iarnród Éireann do not have approval for expenditure at the appraised stations outside of regular station maintenance, and such ongoing station maintenance expenditure will only result in upkeep of existing assets at the stations and not improve station accessibility, no interventions can be delivered as part of a counterfactual of the Station Accessibility Programme. Hence, Option A 'Do-Nothing' represents the baseline or the counterfactual for the programme. This is consistent with guidance in TAF Module 4 (section 4.9.12). [13]

However, while there are compliance interventions ('B' measures) at all stations, Option C interventions ('C' measures) require an appropriate building for the installation of a changing places facility and Option D interventions ('D' measures) require suitable opportunities for enhancing local access. Only six stations can also have enhanced changing places ('C'), with a further eight stations being compatible with interventions to improve multi-modal access ('D'); and two stations can incorporate both 'C' and 'D' measures.

Table 1-2 shows the 51 stations in the Station Accessibility Programme (from 2022 onwards), cross referenced with programme option levels of intervention, i.e., the measures that each station can accommodate.

[9] It is acknowledged that this option does not meet the principal objective of the programme to provide 'compliant' infrastructure at all stations, but as noted is included as a de facto 'do nothing' alternative against which the various compliance Options can be compared.

[10] An amendment to the Building Regulations Technical Guidance Document M (2022), has subsequently been released. However, the updated guidance came into effect after the commencement of the programme (on the 1st January 2024). As such, the Transitional Arrangements outlined within the updated guidance document state that the 2010 edition of Technical Guidance Document M still applies, with Option B interventions achieving compliance against this set of guidance.

[11] https://www.irishstatutebook.ie/eli/2022/si/608/made/en/print

[12] EN 17210:2021: 'Accessibility and usability of the built environment – Functional requirements'

[13] Given that compliance with accessibility and disability standards is ultimately mandatory, albeit there is a recognition that it will take a pragmatic amount of time to achieve this, programme Option B, which provides a basic level of compliance with initial accessibility standards, arguably functions as an ultimate de facto 'do minimum' for the programme. However, as noted, measures in any of the intervention options of the Station Accessibility Programme are hitherto not committed to a degree that they can be categorised as 'do minimum' for appraisal purposes. As such, appraisal of the options in the PBC uses the 'do nothing' Option A as the counterfactual.

Table 1-2: Do Something programme options – stations & interventions

Station	Measures			Station	Measures			Station	Measures		
	B	C	D		B	C	D		B	C	D
Dalkey	✓	-	-	Roscommon	✓	✓	-	Sligo	✓	✓	-
Gormanston	✓	-	-	Dromod	✓	-	-	Collooney	✓	-	-
Little Island	✓	-	✓	Rosslare Strand	✓	-	-	Leixlip Confey	✓	-	-
Banteer	✓	-	✓	Muine Bheag	✓	-	-	Enfield	✓	-	-
Rathmore	✓	-	-	Farranfore	✓	-	-	Killarney	✓	✓	-
Athy	✓	-	✓	Fota	✓	-	-	Millstreet	✓	-	-
Rathdrum	✓	-	-	Castlerea	✓	-	-	Rosslare Europort	✓	-	-
Maynooth	✓	-	-	Ballyhaunis	✓	✓	✓	Wexford	✓	✓	✓
Boyle	✓	-	✓	Carrigaloe	✓	-	-	Foxford	✓	-	-
Claremorris	✓	-	-	Drumcondra	✓	-	-	Carrick-on-Shannon	✓	-	-
Glounthaune	✓	-	-	Broombridge	✓	-	-	Ballina	✓	-	-
Rushbrooke	✓	-	✓	Kilcock	✓	-	-	Westport	✓	-	-
Longford	✓	✓	-	Leixlip Louisa Bridge	✓	-	-	Thomastown	✓	-	-
Arklow	✓	-	-	Castleknock	✓	-	-	Mullingar	✓	-	-
Wicklow	✓	-	-	Tralee	✓	-	-	Ballymote	✓	-	-
Gorey	✓	-	-	Kilcoole	✓	-	-	Castlebar	✓	-	-
Enniscorthy	✓	-	✓	Cobh	✓	-	-	Manulla Junction	✓	-	-

1.7 Programme Options - Financial Analysis

The primary focus of financial appraisal is affordability and financial impact on the Sponsoring Agency and the Exchequer, assessing budgetary impacts considering the pattern of projected related cash flows. The appraisal uses a counterfactual/do minimum for comparison between the programme and an assumption about a future situation without it. Option A is the counterfactual for the Station Accessibility Programme, which assumes no change to existing station infrastructure.

Financial analysis has been conducted in line with requirement in Infrastructure Guidelines (IG) and Transport Appraisal Framework (TAF), making use of the 'Financial Analysis Template for Proposals More than 1 Million' (Euros) to consistently asses the programme options. The core assumptions used in the analysis are as follows:

- Costs incurred since (and including) 2022 are included in the appraisal and not treated as sunk costs.[14]
- All values are based upon 2022 prices discounted to 2022 using real discount rate where Present Value (PV) figures are quoted; For present value calculations, a real discount rate recommended by the National Development Finance Agency (NDFA) of 3.07% was used;[15] the appraisal period is 30 years, capturing 30 years of operations from completion of capital works.
- Costs incurred are incremental above the do nothing/counterfactual; furthermore, capital, operating and maintenance costs only for the infrastructure enhancements at the stations in the accessibility programme have been included within the appraisal.
- VAT is excluded from base costs and Exchequer cash flow analysis; appropriate adjustments are applied for Sponsoring Agency's cash flow analysis; different VAT rates are recommended for elements of capital, operational and maintenance costs, with a standard rate of 23% applied to professional time and utilities, and a lower rate of 13.5% applied to other elements of capital and operating costs.

[14] Although the current Station Accessibility Programme commenced in 2022, work commenced in 2019 on defining and implementing interventions related to PRM TSi compliance at stations on the IÉ network, which included track crossing elements (nominally footbridges with lifts). As such some expenditure incurred prior to 2022 that could be considered de facto 'sunk costs' for the Station Accessibility Programme. This amounted to €1.8m in 2019, €3.6m in 2020 and €4.8m in 2021.

[15] On 22nd February 2024, following consultation with the National Treasury Management Agency

- Allowance for risk and contingency is included in capital costs, which were developed in line with the NTA CMG Contingency calculation and reflect the type of risks and the impacts of their occurrence captured in the risk register. A 3% risk allowance has been applied to all station costs. The allowance for contingency is dependent on the stage of a station's design, with 11.5% contingency at stations in the detailed stages of their design, and 24.3% contingency is applied to costs at stations that are at preliminary stages of design and are to be delivered later in the programme.
- Base costs have been prepared using current market figures and recent costs from similar projects, as well as risks that have manifested in similar projects in the past. Furthermore, cost estimates have made use of the NTA CMG contingency calculator.
- Inflation rates in the NTA Inflation Bulletin February 2024 were applied to determine year-by-year costs; adjustment for 'Civil Engineering' works was used, and a cumulative inflation adjustment amount applied to year(s) of construction, taking costs from the base of 2022 to that year.
- No capital expenditure is envisaged to be occurred by the counterfactual, as it is 'do nothing'; similarly, there are no operating and maintenance costs applied in the counterfactual.
- Incidental or indirect demand benefits and revenue increases have not been included. As noted earlier, while demand uplifts may occur as a result of the programme's interventions, it is not possible to robustly link demand changes to the specific measures delivered by the programme.

1.7.1 Expenditure

Programme option cost estimates were developed by IÉ on a station-by-station and year-by-year basis across the whole timescale of programme implementation. Detailed build-up of these option costs by stations, cost categories and anticipated years of expenditure are presented in Appendix C: Cashflow tables. Appendix C includes option specific financial cashflow (Appendix C1) and exchequer cashflow (Appendix C2) spreadsheets.

IÉ have sourced additional annual operating and maintenance cost benchmark estimates for new infrastructure to be delivered by the programme. These benchmarks reflect experience of operating stations and associated assets across Ireland. Individual operation and maintenance cost profiles have been developed for each station in the programme and are presented in the station-by-station option cost tables in Appendix C: Cashflow tables.

Applying costs over time and allowing for inflation and VAT in addition to base costs for capital expenditure, as well as operating and maintenance costs, over the life of the programme, results in outturn costs used in the financial appraisal. Table 1-3 shows total programme option outturn costs, including inflation and VAT alongside the base costs by category. Table 1-4 shows similar information, but for programme option capital expenditure only.

Table 1-3: Programme Option outturn costs - total costs

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€18,585,000	€18,879,000	€19,282,000
Construction cost	€93,412,000	€95,971,000	€98,144,000
Contingencies	€23,686,000	€24,412,000	€24,904,000
Operation	€5,760,000	€5,999,000	€6,514,000
Maintenance	€36,630,000	€37,531,000	€39,053,000
Total costs, incl. contingencies (real)	€178,073,000	€182,792,000	€187,897,000
Inflation	€67,954,000	€70,181,000	€72,569,000
Total costs, incl. contingencies & inflation (nominal)	€246,027,000	€252,973,000	€260,466,000
VAT	€35,794,000	€36,797,000	€37,917,000
Total Programme Outturn costs, incl. contingencies, inflation and VAT (nominal)	€281,821,000	€289,771,000	€298,382,000

Table 1-4: Programme Option outturn costs - capital expenditure only

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€18,585,000	€18,879,000	€19,282,000
Construction cost	€93,412,000	€95,971,000	€98,144,000
Contingencies	€23,686,000	€24,412,000	€24,904,000
Total Capex, incl. contingencies (real)	€135,683,000	€139,262,000	€142,330,000
Inflation	€35,182,000	€36,439,000	€37,193,000
Total Capex, incl. contingencies & inflation (nominal)	€170,865,000	€175,701,000	€179,523,000
VAT	€24,670,000	€25,347,000	€25,885,000
Total Programme Outturn Capex, incl. contingencies, inflation and VAT (nominal)	€195,535,000	€201,048,000	€205,408,000

The capital cost for achieving the compliance standard outlined in Building Regulations Technical Guidance Document M (2010) is estimated at €136 million (Option B). Option C (further compliance with EN17210:2021 with changing places facilities at some stations) is estimated to be marginally higher, at €139 million. Costs for Option D, which goes beyond core compliance, are estimated to be higher again at €142 million. The relatively small increases for Options C and D costs compared to Option B is because not all stations can incorporate such measures. Only stations not constrained by physical limitations, and/or with a wider stakeholder commitment demonstrating the need for additional facilities and infrastructure, are included in these options.

1.7.2 Financial Appraisal

Initial Cash Flow

Building on the analysis of programme options expenditure, initial cash flow profiles have been derived as inputs to the discounted cash flow analysis that form the main elements of the financial appraisal process.

Full details of initial cash flows of the programme options are in Appendix C: Cashflow tables, with summary information in Table 1-5 for the initial expenditure profiles of Programme Options B, C and D.

Discounted Cash Flow (DCF) of programme options related to the Sponsoring Agency

Analysis with respect to Sponsoring Agency cash flows was conducted for the three programme options. This also included sensitivity testing of NPVs related to changing capital and operating/maintenance costs. There are four sensitivity test scenarios, including 20% increases and 10% reductions in both capital costs and operating/maintenance costs. Results are summarised in

Table 1-6. A completed IG financial analysis template spreadsheet for cash flow related to the Sponsoring Agency for each option is presented in Appendix C1: Financial cash flow.[16]

Programme options Exchequer cash flow (ECF)

DCF analysis with respect to Exchequer cash flows was also conducted for the three programme options, as well as the same four sensitivity tests relating to capital and operating/maintenance costs undertaken for the financial cash flows for the Sponsoring Agency. Results are summarised in

Table 1-7. A completed IG financial analysis template for Exchequer cash flows for each option is presented in Appendix C2: Exchequer cash flow.

[16] Note that the programme option counterfactual Option A has zero capital and operating/maintenance costs, so costs for all of the other options (B, C & D) are incremental to zero.

Table 1-5: Programme Options - initial expenditure profiles

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme...					...to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Option B									
Capital Costs	4,273	9,972	6,172	10,972	12,425	91,869	-	-	135,683
Operating Costs	-	10	15	20	25	826	3,264	1,600	5,760
Maintenance Costs	-	72	108	144	180	5,742	20,757	9,627	36,630
Total Net Cash Flow (Real)	4,273	10,054	6,295	11,136	12,630	98,437	24,021	11,227	178,073
Inflation	-	616	680	1,637	2,360	32,313	17,290	13,059	67,954
Total Net Cash Flow (Nominal)	4,273	10,670	6,975	12,773	14,990	130,750	41,311	24,286	246,027
VAT	624	1,637	1,137	1,916	2,181	18,580	6,110	3,608	35,794
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,307	8,111	14,690	17,171	149,330	47,421	27,894	281,821
Option C									
Capital Costs	4,273	9,998	6,207	11,000	12,509	95,275	-	-	139,262
Operating Costs	-	10	15	20	25	846	3,400	1,684	5,999
Maintenance Costs	-	72	108	144	180	5,817	21,268	9,942	37,531
Total Net Cash Flow (Real)	4,273	10,080	6,330	11,164	12,714	101,938	24,668	11,626	182,792
Inflation	-	617	683	1,641	2,375	33,581	17,755	13,528	70,181
Total Net Cash Flow (Nominal)	4,273	10,697	7,013	12,805	15,089	135,519	42,422	25,154	252,973
VAT	624	1,643	1,144	1,923	2,198	19,241	6,282	3,742	36,797
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,340	8,158	14,728	17,287	154,760	48,705	28,896	289,771
Option D									
Capital Costs	4,273	10,005	6,243	11,938	12,777	97,094	-	-	142,330
Operating Costs	-	10	15	20	29	941	3,694	1,804	6,514
Maintenance Costs	-	72	108	144	187	5,991	22,128	10,424	39,053
Total Net Cash Flow (Real)	4,273	10,087	6,366	12,102	12,993	104,026	25,822	12,228	187,896
Inflation	-	618	687	1,779	2,427	34,237	18,591	14,230	72,569
Total Net Cash Flow (Nominal)	4,273	10,705	7,053	13,881	15,420	138,262	44,413	26,458	260,465
VAT	624	1,645	1,151	2,075	2,245	19,635	6,599	3,943	37,917
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,350	8,204	15,956	17,665	157,897	51,012	30,401	298,382

Table 1-6: Programme options financial cash flows

Scenario / Option	Option B	Option C	Option D:
Programme Financial Cash Flow			
Total project cash flow (undiscounted, incl inflation & VAT)	€281,821,000	€289,771,000	€298,382,000
NPV (discounted costs in 2022 prices and values)	€204,748,000	€210,080,000	€215,836,000
Sensitivity 1 – 20% increase in capital costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€320,928,000	€329,980,000	€339,464,000
NPV (discounted costs in 2022 prices and values)	€236,938,000	€243,105,000	€249,591,000
Sensitivity 2 – 10% reduction in capital costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€262,268,000	€269,666,000	€277,841,000
NPV (discounted costs in 2022 prices and values)	€188,653,000	€193,567,000	€198,958,000
Sensitivity 3 – 20% increase in operating and maintenance costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€299,079,000	€307,515,000	€316,977,000
NPV (discounted costs in 2022 prices and values)	€213,507,000	€219,071,000	€225,248,000
Sensitivity 4 – 10% reduction in operating and maintenance costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€273,193,000	€280,898,000	€289,085,000
NPV (discounted costs in 2022 prices and values)	€200,368,000	€205,584,000	€211,130,000

Table 1-7: Programme options Exchequer cash flows (ECF)

Scenario / Option	Option B	Option C	Option D:
Programme Exchequer Cash Flow			
Total project cash flow (undiscounted, excl inflation & VAT)	€ 246,027,000	€ 252,973,000	€ 260,465,000
NPV (discounted costs in 2022 prices and values)	€ 178,741,000	€ 183,403,000	€ 188,419,000
Sensitivity 1 – 20% increase in capital costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€ 280,200,000	€ 288,114,000	€ 296,370,000
NPV (discounted costs in 2022 prices and values)	€ 206,858,000	€ 212,252,000	€ 217,908,000
Sensitivity 2 – 10% reduction in capital costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€ 228,941,000	€ 235,403,000	€ 242,513,000
NPV (discounted costs in 2022 prices and values)	€ 164,682,000	€ 168,979,000	€ 173,674,000
Sensitivity 3 – 20% increase in operating and maintenance costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€ 261,060,000	€ 268,428,000	€ 276,654,000
NPV (discounted costs in 2022 prices and values)	€ 186,371,000	€ 191,235,000	€ 196,613,000
Sensitivity 4 – 10% reduction in operating and maintenance costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€ 238,511,000	€ 245,246,000	€ 252,371,000
NPV (discounted costs in 2022 prices and values)	€ 174,925,000	€ 179,487,000	€ 184,321,000

1.8 Programme Options – Economic Analysis

1.8.1 Transport & Accessibility Appraisal

The Transport & Accessibility Appraisal (TAA) includes appraisal within six overall primary criteria, within which are 19 sub-criteria, assessed using 29 indicators. Most indicators are considered in assessments; exceptions include three indicators in two sub-criteria that relate to freight transport and deprived groups indicators in social impacts (effectively duplicates of accessibility indicators). An additional indicator has been included in the 'transport users with different mobility needs' sub-criteria under the 'social impacts' criteria to reflect the specific objectives of the programme in aiming for compliance with relevant accessibility and disability regulation. Limited information is available because this is a programme option level assessment, so as such are made up of high-level qualitative appraisals. Summary results of the TAA assessment of the Station Accessibility Programme options are shown in Table 1-11 (summary of economic appraisal of programme options), with a more detailed summary in Figure 9-1; full details from the TAA assessment templates are contained in Appendix D1.

There's little difference between Options C and D in TAA assessments; impacts are 'positive' (social and land use impacts), and 'slight positive' (accessibility and climate change) and 'neutral' (local environment). Both are slightly better than Option B, in that land use impact is only 'slight positive'. It should be noted though that measures for options B and C cannot be implemented at all stations. Option A, as do nothing counterfactual, has no effect on any indicators.

1.8.2 Economic Costs

Assessment of economic costs is based on guidance in IG and TAF. The base capital and operating/maintenance cost estimates, as well as assumptions for risk/contingency and optimism bias, are the same as those used for financial analysis, as is treatment of the (Option A) counterfactual, and that any costs spent to date are included within the appraisal, and not treated as sunk costs, though the initial cost values are processed differently in the economic analysis. The main economic cost analysis assumptions are as follows:

- Separate VAT values for different cost categories were not applied, the market price adjustment factor of 16% from TAF Module 8 (8.1.6) was adopted.
- Inflation was excluded from economic cost analysis; price adjustment from 2022 prices to 2016 prices were based on CSO Inflation Calculator recommended in TAF Module 8 (8.7.1).
- Shadow price factors of public funds and labour were used (TAF Module 8 Tables 2 & 3 respectively).
- Present values (PV) are 2016 prices discounted to 2016, using the real discount rate recommended in TAF Module 8 Table 1 (4.0% for the first 30 years and 3.5% for 31-60 years); the appraisal period is 30 years.

Appraisal of economic costs include capital and operating/maintenance costs for new assets delivered by the programme. Incidental/indirect demand benefits and revenue increases are not included. Demand uplifts may occur, but it is not possible to robustly link changes to specific measures delivered by the programme. The results of economic cost analysis are summarised in Table 1-8, which also includes financial appraisal NPVs for reference. Note that NPV outputs from the financial appraisal differ from economic cost NPVs, as a result of differences in key assumptions such as the year of prices and values, discount rates and shadow prices.

Table 1-8: Economic costs of programme options

Options	Financial appraisal NPV (total discounted costs 2022 prices and values)	Economic costs NPV (total discounted costs 2016 prices and values)
Option A: Do nothing / counterfactual	€0	€0
Option B: Compliance Do Minimum option	€204,748,000	€129,494,049
Option C: Enhanced changing places Do Something (incl. 'B' measures)	€210,080,000	€132,561,131
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	€215,836,000	€135,995,814

1.8.3 Multi Criteria Analysis

A Multi Criteria Analysis (MCA) can be used to either accompany a CBA or as an alternative where a monetised cost benefit assessment is not feasible. As part of the economic appraisal of programme options, an MCA has been undertaken to evaluate how the options align with objectives for the programme.[17] Each objective has been considered as an equally weighted criterion for the MCA, additionally with a review of the potential deliverability constraints. All criteria have been scored using the 1-7 MCA scale outlined in section 7.4 of TAF Module 7, with the assessment evaluating the alignment of an option with the objectives. The results of the programme level MCA are included in Table 1-9.

Table 1-9: Programme level - MCA scores

Options	Comply with regulations	Customer experience	Improve accessibility	Reduce reliance on cars	Improve safety at stations	Deliverability	Total
Option A	1	1	2	2	1	4	11
Option B	6	6	5	5	6	4	32
Option C	7	7	6	6	7	4	37
Option D	5	7	7	7	7	2	35

The MCA shows that Option C achieves the greatest alignment with programme objectives, as it is likely to improve customer experience and safety at upgraded stations, as well as increasing the attractiveness of rail as the primary mode of transport for all groups, including those with limited mobility. This in turn could lead to the improved access to jobs, education and other opportunities, as well as reducing reliance on cars for mobility impaired passengers. Both options B and C are designed in ways that reduce potential deliverability constraints, as the costs associated with most deliverability risks are included within the expenditure profiles for the interventions, and all planned works are contained within the stations' red line boundaries. This means that both options score higher than Option D in relation to deliverability, as some works are outside of the stations' red line boundaries and would require additional funding to be obtained.

1.8.4 Cost Effectiveness Analysis

The purpose of Cost Effectiveness Analysis (CEA) is to assess value for money, generally used when modelling or data limitations mean it is not feasible to undertake a Cost Benefit Analysis (CBA). The primary focus of the programme is to achieve compliance with standards for accessible station design. However, interventions to do this as part of the programme do not in themselves generate benefits that can be robustly monetised, being reliant on consequential attitudinal relationships or effects to produce monetised results. While the programme will provide new or enhanced station facilities such as accessible footbridges, and techniques exist than can be used to generate generalised cost savings that can in turn generate monetised benefits, there are no specific parameters or agreed methodologies for use in Ireland. Moreover, the application of such techniques can only be done on an individual station basis, and needs full details of specific interventions, along with demand and journey data for each station, in order to provide robust results.

Case study evidence and econometric analysis show that station accessibility/quality interventions can result in demand uplifts, but can vary widely dependent on the location, journey type, improvements implemented and the current condition of the station. Any demand uplifts would thus be small and difficult to quantify, and moreover to isolate as being specifically related to the programme for apportionment in a cost benefit analysis. And in a similar way to station facilities, there are no specific parameters or agreed methodologies for use in Ireland. It is therefore not considered possible to robustly monetise project benefits for the Station Accessibility Programme, and as such a detailed Cost Effectiveness Analysis (CEA) informed by an option specific financial appraisal is the most appropriate form of detailed economic analysis to be conducted rather than Cost Benefit Analysis (CBA).[18]

CEA is therefore a more appropriate approach to test value for money of the programme options. Pivoting off the programme options' MCA scores and capital costs, Table 1-11 shows the CEA scores. Given the marginal

[17] MCA conducted for programme options is different to MCA undertaken for station specific options delivered as part of Years 1 -5 activities. Details of this station specific MCA are in Section 1.11 of the Executive Summary and Section 9.4 in Part 3 of the PBC.

[18] TAF Module 4, section 4.10.3

difference in three intervention-based programme options' costs and MCA scores, their CEA scores are quite similar. Driven by its MCA score, Option C achieves the highest CEA score. Option D has marginally higher costs and lower MCA score compared to Option C. As a result, Option C achieves a slightly lower CEA score compared to Option D. Despite having the lowest costs, Option B's CEA score is lower than that of Options C and D. This is primarily because Option B achieves the lowest MCA score amongst the three intervention-based programme options.

Table 1-10: CEA of programme options

Options	MCA Total Score	Total Capital Costs including contingencies (2022 prices, € millions)	CEA Score
Option A: Do nothing / counterfactual	11	-	-
Option B: Compliance Do Minimum option	32	€135.68 million	0.24
Option C: Enhanced changing places Do Something (includes 'B' measures)	37	€139.26 million	0.27
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	35	€142.33 million	0.25

1.8.5 Summary of Economic Appraisal

Summary results of the TAA, MCA and CEA of programme options is presented in Table 1-11. Overall, Option C performs the best, closely followed by other intervention-based options, namely Options B and D. Option D is considered to have notable delivery risks regarding stakeholder commitment, funding and deliverability of improvements on third party assets outside of the stations' boundaries. Option A, which is the programme's do nothing or counterfactual options, is the worst performing option.

Table 1-11: Summary of economic appraisal - programme options

Option	Accessibility	Social	Land Use	Safety	Climate Change	Local Environment	MCA Score	CEA Score
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	11	-
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	32	0.24
C	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	37	0.27
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	35	0.25

1.8.6 Emerging Preferred Option

Within the above appraisal context, Option A was discarded. Of the three intervention options, Option C can achieve more than Option B in complying with all relevant regulation (including Disability Act 2005, Building Regulations 2010, Technical Guidance Document M, EN 17210:2021 'Accessibility and usability of the built environment – Functional requirements' and the subsequent Part M Amendment of Building Regulation 2022) for only a small increase in cost. Option D is discarded as undeliverable within IÉ's purview, though IÉ will work with stakeholders to such measures where appropriate, such as securing additional funding and eliminating other delivery limitations.

Option C is the preferred way forward for the Station Accessibility Programme. [19]

[19] For practical reasons, at some stations it will not be possible to provide interventions that would typically be identified with Option C. Whether they ultimately do will be based on a wider determination of where changing places facilities should be provided in the community and on the rail network in particular, as well as then any associated physical constraints. In assessments carried out to date, only the physical constraints of the existing stations have been used to determine whether Option C measures could be delivered, specifically whether there is an appropriate building for the installation of a changing places facility. It is possible that wider societal consideration will determine that facilities should be provided at particular stations, requiring more infrastructure to do so. This level of detail is beyond the current scope of the programme.

1.9 Years 1-5 Activities Assessment

Though it has evolved, a key element of the approach to delivering the Station Accessibility Programme is appraisal, monitoring and assessing expenditure over discrete 5-year periods. The scale of the programme is such that the most practical approach is to deal with approximately a third of stations in the programme at a time, in a package to be delivered over its own 5-year period. The 5-year period (package) approach was thus determined at the outset of the programme, and likewise a corresponding process to manage the programme on the same 5-year periodic basis for approvals and funding was developed. Additionally the 5-year periodic approach allows for flexibility in responding to potential changes in guidance and regulation. The aim of deriving and assessing the Years 1-5 Activities in more detail is to determine the impacts of the programme over the first five years, with specific impacts considered at stations where work is undertaken in the 5-year period. [20]

Of the 51 stations included in the overall programme 31 stations incur some expenditure in the first 5-year period and are thus included in assessments of Years 1-5 Activities. Measures related to the four programme options are carried through only three are suitable for 'C' measures (none completed in the first 5 years), and 'D' measures are only applicable to seven stations (four completed in Years 1-5). Table 1-12 shows the stations included in Years 1-5 Activities, along with their compatibility with programme option measures.

Table 1-12: Years 1-5 Activities - progress and programme option measures at stations

Full delivery Years 1-5				Detailed design Years 1-5 & Year 6 completion				Prelim. & Planning Design only in Years 1-5			
	B	C	D		B	C	D		B	C	D
Dalkey	✓	-	-	Claremorris	✓	-	-	Gorey	✓	-	-
Gormanston	✓	-	-	Glounthaune	✓	-	-	Enniscorthy	✓	-	✓
Little Island	✓	-	✓	Rushbrooke	✓	-	✓	Roscommon	✓	✓	-
Banteer	✓	-	✓	Longford	✓	✓	-	Dromod	✓	-	-
Rathmore	✓	-	-	Arklow	✓	-	-	Rosslare Strand	✓	-	-
Athy	✓	-	✓	Wicklow	✓	-	-	Muine Bheag	✓	-	-
Rathdrum	✓	-	-					Farranfore	✓	-	-
Maynooth	✓	-	-					Fota	✓	-	-
Boyle	✓	-	✓					Castlerea	✓	-	-
								Ballyhaunis	✓	✓	✓
								Carrigaloe	✓	-	-
								Drumcondra	✓	-	-
								Broombridge	✓	-	-
								Kilcock	✓	-	-
								Leixlip Louisa Bridge	✓	-	-
								Castleknock	✓	-	-

Note that compliance interventions ('B' measures) at the Years 1-5 stations that will be either fully delivered in Years 1-5 or have detailed design completed have been developed in reasonable detail, and in doing so more than one set of potential compliance measures have been considered at some stations, especially where there may be deliverability constraints present.

1.10 Years 1-5 Activities – Financial Analysis

Financial appraisal of Years 1-5 Activities has been carried out based on the same guidance, and using the same methodology and assumptions, as financial appraisal of the programme options (see Section 1.7 for details).

[20] Note that, although Option D has been discounted as a preferred programme option, where applicable, potential Option D measures have been included in the assessment of options at stations involved in Years 1-5 Activities for comparative purposes. In addition, given that compliance with accessibility and disability standards is ultimately mandatory, albeit there is a recognition that it will take a pragmatic amount of time to achieve this, programme Option B, which provides a basic level of compliance with initial accessibility standards, arguably functions as an ultimate de facto 'do minimum' for the programme. However, measures in any of the intervention options of the Station Accessibility Programme are hitherto not committed to a degree that they can be categorised as 'do minimum' for appraisal purposes. As such, appraisal of the options in the PBC uses the 'do nothing' Option A as the counterfactual.

1.10.1 Expenditure

The key difference is that the costs included are only those incurred by stations that are involved in Years 1-5 Activities of the programme. This includes full capital costs for stations which will be delivered between 2022 and 2026, and development costs for stations which will be delivered after the first 5-year period, but that will specifically incur development costs in the first 5-year period. In addition, operating and maintenance costs for stations that are completed in the first 5-year period are included for a full 30-year appraisal period.

Applying costs over time and allowing for inflation and VAT in addition to base costs for capital expenditure, as well as operating and maintenance costs, over Years 1-5 Activities of the programme, results in outturn costs used in the financial appraisal. Table 1-13 shows total Years 1-5 Activities outturn costs, including inflation and VAT alongside the base costs by category. Table 1-14 shows similar information, but for Years 1-5 Activities capital expenditure only.

The cost for achieving the required compliance standard (Programme Option B) is estimated at €43.8 million. Costs for Option C are marginally more at €44 million, as this only includes development costs for three stations to be delivered after year 5. Option D costs are estimated at €45.2 million, again not much more than Option B costs, reflecting the limited scope for such measures. Note that there is no difference in operations and maintenance costs between options B and C for station included in Years 1-5 of the programme, because no stations completed in the time can have Option C measures.

Table 1-13: Years 1-5 Activities outturn costs - total costs

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€9,731,000	€9,845,000	€10,077,000
Construction cost	€30,389,000	€30,448,000	€31,320,000
Contingencies	€3,694,000	€3,694,000	€3,839,000
Operation	€1,290,000	€1,290,000	€1,464,000
Maintenance	€9,180,000	€9,180,000	€9,530,000
Years 1-5 costs, incl. contingencies (real)	€54,284,000	€54,457,000	€56,230,000
Inflation	€11,801,000	€11,826,000	€12,359,000
Years 1-5 costs, incl. contingencies & inflation (nominal)	€66,085,000	€66,283,000	€68,589,000
VAT	€9,903,000	€9,938,000	€10,288,000
Total Years 1-5 Outturn costs, incl. contingencies, inflation and VAT (nominal)	€75,987,000	€76,221,000	€78,877,000

Table 1-14: Years 1-5 Activities outturn costs - capital expenditure only

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€9,731,000	€9,845,000	€10,077,000
Construction cost	€30,389,000	€30,448,000	€31,320,000
Contingencies	€3,694,000	€3,694,000	€3,839,000
Years 1-5 Capex, incl. contingencies (real)	€43,814,000	€43,987,000	€45,236,000
Inflation	€5,211,000	€5,237,000	€5,429,000
Years 1-5 Capex, incl. contingencies & inflation (nominal)	€49,025,000	€49,224,000	€50,665,000
VAT	€7,400,000	€7,435,000	€7,641,000
Total Years 1-5 Outturn Capex, incl. contingencies, inflation and VAT (nominal)	€56,425,000	€56,659,000	€58,306,000

1.10.2 Financial Appraisal

Initial Cash Flow

Building on the analysis of programme options expenditure, initial cash flow profiles have been derived as inputs to the discounted cash flow analysis that form the main elements of the financial appraisal process. Full

details of initial cash flows of the programme options are in Appendix C: Cashflow tables, with summary information in Table 1-15 for the initial expenditure profiles of Years 1-5 Activities for Options B, C and D.

Discounted Cash Flow (DCF) of Years 1-5 Activities related to the Sponsoring Agency

Analysis with respect to Sponsoring Agency cash flows was conducted for the three programme options. This also included sensitivity testing using the same four scenarios as programme options. Results are summarised in

Table 1-16. A completed IG financial analysis template spreadsheet for cash flow related to the Sponsoring Agency for each option is presented in Appendix C1: Financial cash flow. Note that the programme option counterfactual Option A has zero capital and operating/maintenance costs, so costs for all of the other options (B, C & D) are incremental to zero.

Years 1-5 Activities Exchequer cash flow (ECF)

DCF analysis with respect to Exchequer cash flows was also conducted for the three programme options, as well as the same four sensitivity tests as undertaken for the financial cash flows for the Sponsoring Agency. Results are summarised in Table 1-17. A completed IG financial analysis template for Exchequer cash flows for each option is presented in Appendix C2: Exchequer cash flow.

Table 1-15: Programme Options - initial expenditure profiles

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme...					...to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Option B									
Capital Costs	4,273	9,972	6,172	10,972	12,425	-	-	-	43,814
Operating Costs	-	10	15	20	25	344	731	145	1,290
Maintenance Costs	-	72	108	144	180	2,448	5,202	1,026	9,180
Total Net Cash Flow (Real)	4,273	10,054	6,295	11,136	12,630	2,792	5,933	1,171	54,284
Inflation	-	616	680	1,637	2,360	937	4,270	1,301	11,801
Total Net Cash Flow (Nominal)	4,273	10,670	6,975	12,773	14,990	3,729	10,203	2,472	66,085
VAT	624	1,637	1,137	1,916	2,181	547	1,497	363	9,903
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,307	8,111	14,690	17,171	4,276	11,700	2,835	75,987
Option C									
Capital Costs	4,273	9,998	6,207	11,000	12,509	-	-	-	43,987
Operating Costs	-	10	15	20	25	344	731	145	1,290
Maintenance Costs	-	72	108	144	180	2,448	5,202	1,026	9,180
Total Net Cash Flow (Real)	4,273	10,080	6,330	11,164	12,714	2,792	5,933	1,171	54,457
Inflation	-	617	683	1,641	2,375	937	4,270	1,301	11,826
Total Net Cash Flow (Nominal)	4,273	10,697	7,013	12,805	15,089	3,729	10,203	2,472	66,283
VAT	624	1,643	1,144	1,923	2,198	547	1,497	363	9,938
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,340	8,158	14,728	17,287	4,276	11,700	2,835	76,221
Option D									
Capital Costs	4,273	10,005	6,243	11,938	12,777	-	-	-	45,236
Operating Costs	-	10	15	20	29	392	833	165	1,464
Maintenance Costs	-	72	108	144	187	2,544	5,406	1,069	9,530
Total Net Cash Flow (Real)	4,273	10,087	6,366	12,102	12,993	2,936	6,239	1,234	56,230
Inflation	-	618	687	1,779	2,427	985	4,491	1,372	12,359
Total Net Cash Flow (Nominal)	4,273	10,705	7,053	13,881	15,420	3,921	10,730	2,606	68,589
VAT	624	1,645	1,151	2,075	2,245	579	1,585	385	10,288
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,350	8,204	15,956	17,665	4,500	12,314	2,991	78,877

Table 1-16: Discounted cash flow (DCF) of Years 1-5 Activities related to the Sponsoring Agency

Scenario / Option	Option B	Option C	Option D:
Years 1-5 Activities Financial Cash Flow			
Total project cash flow (undiscounted, incl inflation & VAT)	€75,987,000	€76,221,000	€78,877,000
NPV (discounted costs in 2022 prices and values)	€63,677,000	€63,891,000	€65,958,000
Sensitivity 1 – 20% increase in capital costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€87,273,000	€87,553,000	€90,538,000
NPV (discounted costs in 2022 prices and values)	€74,160,000	€74,416,000	€76,783,000
Sensitivity 2 – 10% reduction in capital costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€70,345,000	€70,555,000	€73,046,000
NPV (discounted costs in 2022 prices and values)	€58,436,000	€58,628,000	€60,545,000
Sensitivity 3 – 20% increase in operating and maintenance costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€79,900,000	€80,133,000	€82,991,000
NPV (discounted costs in 2022 prices and values)	€65,930,000	€66,143,000	€68,324,000
Sensitivity 4 – 10% reduction in operating and maintenance costs			
Total project cash flow (undiscounted, incl inflation & VAT)	€74,031,000	€74,265,000	€76,820,000
NPV (discounted costs in 2022 prices and values)	€62,551,000	€62,764,000	€64,774,000

Table 1-17: Years 1-5 Activities Exchequer cash flows (ECF)

Scenario / Option	Option B	Option C	Option D:
Years 1-5 Activities Exchequer Cash Flow			
Total project cash flow (undiscounted, excl inflation & VAT)	€66,085,000	€66,283,000	€68,589,000
NPV (discounted costs in 2022 prices and values)	€55,359,000	€55,540,000	€57,338,000
Sensitivity 1 – 20% increase in capital costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€75,890,000	€76,128,000	€78,722,000
NPV (discounted costs in 2022 prices and values)	€64,466,000	€64,683,000	€66,744,000
Sensitivity 2 – 10% reduction in capital costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€61,182,000	€61,361,000	€63,523,000
NPV (discounted costs in 2022 prices and values)	€50,805,000	€50,968,000	€52,635,000
Sensitivity 3 – 20% increase in operating and maintenance costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€69,497,000	€69,695,000	€72,174,000
NPV (discounted costs in 2022 prices and values)	€57,323,000	€57,504,000	€59,400,000
Sensitivity 4 – 10% reduction in operating and maintenance costs			
Total project cash flow (undiscounted, excl inflation & VAT)	€64,379,000	€64,577,000	€66,797,000
NPV (discounted costs in 2022 prices and values)	€54,377,000	€54,558,000	€56,307,000

1.11 Years 1-5 Activities – Economic Analysis

1.11.1 Transport & Accessibility Appraisal

The same basic approach has been followed for Transport & Accessibility Appraisal (TAA) of both programme option and Years 1-5 station assessments. Stations assessed are those which are due to be completed, or for which detailed design will be completed, in Years 1-5 of the programme, and for options for which measures can be implemented at the station (as shown in Table 1-12). Summary results of the TAA assessment of stations completed in Years 1-5 stations are shown in Table 12-2; more detailed station summaries (including sub-criteria and indicators) are shown in Appendix D2; full details from the TAA assessment templates for all of the stations are contained in Appendix D3.

At the summary level, TAA results for all of the stations completed in Years 1-5 are the same for Option B and (where applicable) Option D stations, except land use impact which is 'positive' for Option D and 'slight positive' for Option B. Stations with Option D measures record a 'high positive' score for compliance with accessibility and disability regulations, as they comply with all relevant regulations. Stations with Option B measures record a 'positive' score for compliance, as the level of compliance is lower (principally in not including changing places facilities). There are differences at more detailed sub-criteria or indicator level. It should be remembered though that the slightly more positive results for Option D only apply at the few applicable stations. No stations have been assessed for Option C, as none will be completed with these measures in Years 1-5 Activities.

1.11.2 Multi Criteria Analysis

The purpose of Multi Criteria Analysis (MCA) is to identify the preferred intervention option for stations involved in Years 1-5 Activities, though stations incurring only development costs during the first five-year period are excluded from this analysis. Criteria included in the MCA include results of CEA, because the same modelling and data limitations apply to the Years 1-5 stations as the programme options, meaning CBA is not practical. Other criteria included within the MCA include costs, option alignment with policy and required improvements, option deliverability constraints, and station demand (as a proxy for likely benefits). Table 12-3 outlines the criteria and data sources, and Table 12-4 sets out the scoring mechanism for the criteria.

A summary of the MCA results is included in Table 1-18, with a detailed breakdown of the MCA results for each station included in Appendix E: Multi-Criteria Analysis (MCA) Proformas. for these stations. As for TAAs, due to physical deliverability constraints at the stations being delivered during the Years 1-5 activities, Option C interventions have not been appraised using the MCA and are marked as not applicable (n/a) in the table.

Table 1-18: Years 1-5 Activities stations - MCA scores

Station	Option A	Option B[21]			Option C	Option D
		B1	B2	B3		
Dalkey	6	20	23	22	n/a	n/a
Gormanston	3	24	n/a	n/a	n/a	n/a
Little Island	4	26	n/a	n/a	n/a	23
Banteer	1	16	21	n/a	n/a	19
Rathmore	2	22	n/a	n/a	n/a	n/a
Athy	6	26	n/a	n/a	n/a	22
Rathdrum	2	14	23	n/a	n/a	n/a
Maynooth	6	19	27	n/a	n/a	n/a
Boyle	3	19	25	n/a	n/a	22

[21] Where more than one compliance option has been considered for a station, each of the compliance option 'B' measures considered (referred to as B1, B2, etc) is appraised as part of the MCA analysis; Appendix B sets out the options considered at each station.

1.11.3 Economic Cost Analysis

Economic cost analysis of Years 1-5 Activities has been carried out based on the same guidance, and using the same methodology and assumptions, as economic cost appraisal of the programme options (see Section 1.8.2 for details). Results of economic cost analysis of Years 1-5 Activities are summarised in Table 1-19, which also includes financial appraisal NPVs for reference (financial NPVs differ from economic cost NPVs, as a result of differences in key assumptions such as the year of prices and values, discount rates and shadow prices).

Table 1-19: Economic costs of Years 1-5 Activities options

Options	Financial appraisal NPV (total discounted costs 2022 prices and values)	Economic costs NPV (total discounted costs 2016 prices and values)
Option A: Do nothing / counterfactual	€0	€0
Option B: Compliance Do Minimum option	€63,677,000	€46,783,963
Option C: Enhanced changing places Do Something (incl. 'B' measures)	€63,891,000	€46,942,513
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	€65,958,000	€48,353,437

1.11.4 Emerging Preferred Option

Assessment of the Station Accessibility Programme's first five years between 2022 and 2026 encompasses the same four short-listed programme options identified for the overall programme.

Programme Option C is the preferred way forward for the Station Accessibility Programme.

However, no Option C measures are feasible for any of the stations being fully delivered during the first 5-year period.[22] As previously noted, it is not straightforward though to directly apply the option concepts to measures at all of the stations on an individual basis.

1.12 Preferred Option

1.12.1 Approach to delivery

Option C, which can achieve compliance with all relevant regulation, has been identified as the preferred programme option. However, Option C measures are not feasible for any stations being delivered between 2022 and 2026. Measures associated with Option B will be delivered at these stations.

Years 1-5 Activities also includes development costs for stations which would be delivered in subsequent years. No preferred options for these stations have been identified yet. The selection of preferred options for these stations will be undertaken as part of the PBCs for subsequent 5-year period. It is likely that, based on the assessment of programme options, a similar approach would be followed, with Option C being preferred where such facilities can be provided, and Option B measures where not feasible. Option D could be identified as the preferred option for individual stations in the future, if the wider situation and constraints at the station are conducive. This will be subject to further economic and financial analysis in future.

1.12.2 NIFTI Assessment

The National Investment Framework for Transport in Ireland (NIFTI) has four investment priorities for transport investment to support National Strategic Outcomes from the National Planning Framework: 'decarbonisation'; 'protection & renewal'; 'enhanced regional & rural connectivity'; and 'mobility of people & goods in urban areas'. The preferred option has been considered against these priorities, with positive impacts assessed against all. With no negative impacts there are also no designated mitigations, so impacts are the same for both.

[22] In the assessments carried out to date, physical constraints at existing stations have been used to determine whether Option C measures could be delivered, specifically whether there is an appropriate building for the installation of a changing places facility. It is possible though that wider consideration of will determine that facilities should be provided at some of these stations, in turn requiring more infrastructure to do so. However, this level of detail is beyond the current scope of the programme, so not considered in the PBC.

1.12.3 Climate & Environmental Performance

As a programme containing a large number of discrete projects to be delivered over a period of many years, the amount of detailed information available at individual stations varies significantly. Therefore, the approach to climate and environmental performance assessment at the PBC stage is to consider a qualitative assessment of the construction impacts of the whole programme. Subsequently, a qualitative approach will also be pursued for station-specific FBCs, and as more information becomes available, more detailed qualitative information will be provided at the station level. At this (PBC) stage the qualitative assessment of the overall preferred programme option is slightly negative in carbon emissions. There should ultimately be a small benefit from increased rail demand that partially off-sets construction emissions. But the construction effort and materials use is not significant by the standards of linear land transport infrastructure provision, so considered low overall. Future assessments (FBC stage) will provide commentary on the impacts at individual stations.

1.13 Implementation & Monitoring

1.13.1 Programme Affordability

The affordability of a programme is important to ensure that the required intervention can be delivered in the most cost-effective manner for the taxpayer whilst also delivering benefits to the users of the new intervention. Financial appraisal of the Station Accessibility Programme and Years 1-5 Activities outlines the programme's affordability, including considerations of the envelope of total investment required to deliver the intervention, timings of costs, the cost associated with the ongoing operation and maintenance of the new infrastructure and the impact on the general government balance sheet (financial affordability criteria that the Infrastructure Guidelines indicate as important to consider).

1.13.2 Programme Funding & Deliverability

The NTA, through the IÉ Station Accessibility Programme, have committed to a separate and continuing multi-annual funding stream to provide fully compliant PRM TSI station infrastructure across the IÉ rail network. The IÉ Capital Investments department has set up a Project Management team to manage the programme. The IÉ procurement department also has specific delivery frameworks set up to service and meet the needs and expectations of the programme to completion in 2034. IÉ's management of infrastructure is funded under EU regulation by a 5-year Infrastructure Manager Multi-Annual Contract (IMMAC) direct from the DoT. It is proposed that costs associated with infrastructure maintenance of measures provided through the Station Accessibility Programme would be covered through the IMMAC.As such, it can be confirmed there is sufficient resource and capacity to fund, deliver and complete the programme in the manner and timescales envisaged.

1.13.3 Project Execution & Governance

A Governance structure and plan for developing and delivering the programme has been derived, aligned with Capital Works Management Framework guidance. This follows IÉ's in-house requirements and procedures for rigorous project governance and assurance, as governance and assurance processes apply to all IÉ Capital Investment Division projects. As the Station Accessibility Programme is greater in value than €20m it is considered a Band 3 project the level of governance and assurance applied to the project, specifically being applied from Phase 3 through to Phase 7 of the IÉ Project Management Procedures. The programme (and projects within it) must therefore follow the procedures outlined in IE PMP 004 – 'Project Governance and Assurance Procedures'. Figure 14-1 sets out the governance organisation chart for delivering the Station Accessibility Programme, which is built around the principles and requirements set out in IE PMP 004.

1.13.4 Delivery & Procurement

The procurement process for each station's works will be carried out in accordance with CIÉ Group Procurement Policies and Procedures, Department of Finance's Capital Works Management Framework and all National and European Union procurement requirements. A specific Framework Agreement for Consultancy Services has already been set up to support the delivery of the Accessibility Programme across all project life cycle stages. Post-delivery of the designated infrastructure works, the IG's six-stage project lifecycle stage 6 considers the 'Implementation and Post Completion Review and Benefits Realisation' stages of the project lifecycle. The Stage 6 review, undertaken immediately following programme completion, considers whether an investment proposal was delivered in line with its intended scope and budget and in line with the IG.

1.13.5 Risk Assessment & Management

Consideration of risk is enshrined in various elements of the PBC, as the assessment of risk forms an integral part of the proposed intervention as it moves through the project lifecycle. Guidance on the use of specific risk controls are included in PMP-004 (Project Governance & Assurance Procedure), which notes that all projects are required to have a risk register which meets the PMP-002 – Project Risk & Contingency Management Procedure requirements and that the Project Manager is accountable for ensuring that the risk register meets the requirements. Assessing project risks should be on a 'current risk' basis, allowing trust for the controls that are in place to prevent or mitigate the risk. The confidence (effectiveness) in the risk controls can lower the risk rating. Practically, risk registers will be prepared on a station-by-station basis, as detailed consideration of requirements and designs are carried out. Risk registers will therefore develop an both content and detail as the level of design detail also develops.

1.13.6 Monitoring & Evaluation

The 'Infrastructure Guidelines: Post Completion Review and Benefit Realisation', recommends completion of 'Project Completion Reports' and 'Ex-Post Evaluation Reports'. Similar requirements are also outlined in Transport Appraisal Framework (TAF) Module 9 'Project Implementation, Review and Ex-Post Evaluation'. The Infrastructure Guidelines (IG) also state that where a programmatic approach is undertaken, that the Project Completion Reports should be completed for each constituent project as well as the overall programme. Furthermore though, it is also noted that for proposals with an estimated capital cost of less than €20 million, Ex-Post Evaluations on all constituent projects are not required, and rather that a representative sample would suffice. Recommended monitoring and evaluation activities for the Station Accessibility Programme include:

- Monitoring and Evaluation Plan (MEP), setting out a proportionate approach in detail for the programme, each 5-year window, and individual stations;
- Project Completion Reports, for individual stations, 5-year periods and the overall programme, to cover whether proposals have been delivered in line with IG, the basis on which intervention was delivered was correct, business case and management procedures were satisfactory and benefits have been realised; and
- Ex-Post Evaluation, for reports for each 5-year window and the overall programme. to determine whether expected benefits and outcomes materialised, operational performance of the proposals is as expected; and planned outcomes were appropriate responses to public needs.

While the detail of information to be contained in each plan and report will vary according to the needs of the particular plan or report, it is likely that key performance indicators related to the programme's objectives will form part of this process. Derivation of objectives included identifying potential key performance indicators (KPI) related to each objective. KPIs, plus related objectives, are shown in Table 1-20.

Table 1-20: Station Accessibility Programme - potential performance indicators

Key Performance Indicators	Related to objectives	
• Quantity and quality of assets delivered at stations throughout the programme. • Successful audit demonstrating compliance with PRM-TSI and Building Regulation (2010) Technical Guidance M • Compliance achieved at all programme stations by 2034	Compliance	Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner and as soon as reasonably practicable.
• Improved customer satisfaction at programme stations, captured within the bi-annual Customer Satisfaction Monitor	Customer experience	Improve customer experience at stations included in the programme, in line with the IÉ implementation plan.
• Evaluation of station usage statistics compared to usage pre compliance upgrade. • Review of customer satisfaction surveys and feedback in relation to station accessibility.	Accessibility	Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers.

Key Performance Indicators	Related to objectives	
• Modal shift from personal vehicles to Train / DART / Luas within the National Household Travel Survey. • Review of customer satisfaction surveys and feedback in relation to station accessibility. • PRM TSI compliant station demand	Reliance on cars	Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems.
• Incident reporting • Statistics for passenger injury are reported in CRR annual documents of 'Railway Safety Performance in Ireland'	Safety	Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents

1.14 Recommendations & Next Steps

1.14.1 Recommendations

Recommendation 1: the preferred programme option

Option A was discarded. Option C can achieve more than Option B in complying with all relevant regulation (including Disability Act 2005, Building Regulations 2010, Technical Guidance Document M, EN 17210:2021 'Accessibility and usability of the built environment – Functional requirements' and the subsequent Part M Amendment of Building Regulation 2022) for a small increase in cost. Option D is discarded as undeliverable within IÉ's purview, though IÉ will work with stakeholders to such measures where appropriate, such as securing additional funding and eliminating other delivery limitations.

Option C is the preferred way forward for the Station Accessibility Programme.

Recommendation 2: the preferred Years 1-5 Activities' option

Option C, which can achieve compliance with all relevant regulation as noted above, has been identified as the preferred programme option. Option C measures are not actually feasible for any of the stations being delivered during the first 5-year period between 2022 and 2026. Hence, measures related to compliance Option B will be delivered at these stations. Activities in the first five years also include design and development costs for stations which would then be delivered in subsequent years. No preferred options for these individual stations have been identified as yet, as details need to be refined further. The selection of the preferred option for these stations will need to be undertaken as part of update PBCs for subsequent 5-year periods. For the stations being delivered after the first five-year period of the programme, based on the assessment of programme options noted above, Option C is the preferred option.

1.14.2 Next Steps

The PBC seeks Approving Authority's approval for the recommendations outlined above. TAF Module 4 (4.17.3) notes that the selection of the preferred option must also be accompanied with a recommendation for the Approving Authority to proceed with the proposal to the next stage of the project lifecycle. As such, the PBC also seeks the Approving Authority's approval to proceed with the Station Accessibility Programme to the next stage of the project lifecycle, specifically Approval Gate 1 approval to proceed to Stage 2 Pre-Tender – Project Design, Planning and Procurement Strategy.

To draw down capital expenditure for stations delivered in the first 5-year period, as outlined in the approved SAR, concise and focused station memos will be developed prior to construction, to obtain approval for each individual station. Contents will be subject to discussions with the Approving Authority at an appropriate time however it is envisaged that the core input will be closely aligned station specific elements from within the PBC, combined with any material updates in design and costings post PBC submission.

The memos, which will be treated as station specific FBCs, will reconfirm the programme need, the rationale for intervention at the specific station, and the station specific economic appraisal undertaken for selecting the preferred option. This would be a summary of the station specific MCA, TAA and CEA analysis undertaken as part of the respective PBC, combined with any design changes or cost updates since the PBC was submitted. For clarity, the memo submissions will be proportionate to the cost per each Decision Gate, i.e., most would be short summary documents building on information the PBC.

PBCs for subsequent 5-year period will be developed and submitted to the NTA for subsequent approvals. These PBCs will include further lessons learnt from delivery of any previously approved stations. As with the memos for stations delivered during the first 5-year period, similar station specific memos will also be prepared for Approving Authority's approval, prior to drawing down any capital funding for these stations.

The Appraisal Plan presented in the approved SAR also identifies the need for a Technical Note: Planning Costs. This will include actual annual cashflow of planning and design costs across all prioritised stations. Key contents of the Technical Note will include:

- An annual expenditure profile of Phase 3-5 scheme costs for each of the prioritised shortlisted station to be delivered across various packages; and
- A programme of key deliverables e.g., preparation of final designs, tender costs for specific station's works, etc, as appropriate.

The Technical Note is intended to be submitted to the Approving Authority alongside the PBC to obtain an early approval for all planning and design costs associated with the Station Accessibility Programme. It could be maintained as a live document, with updated versions submitted periodically, as appropriate and as required.

2. Introduction

2.1 The Preliminary Business Case

This document forms the Preliminary Business Case (PBC) for the Iarnród Éireann (IÉ) Station Accessibility Programme, assessing options the whole programme as well as more detailed consideration of activities in the first five years of the programme. This is the next stage of the appraisal plan initially set out in the programme's Strategic Assessment Report (SAR).

The aim of the Station Accessibility Programme is to upgrade stations on the IÉ network to meet European Union (EU), national and IÉ standards for accessible design. Since the late 1990s, substantial improvements have already been delivered, meaning that almost two thirds of stations meet accessibility standards, leaving just over 50 stations still requiring further improvement. Works required at the remaining stations are to be delivered through a series of multi-annual funding packages, where the stations included are based on a prioritisation process and stakeholder input; the first 5-year period is 2022-2026.

The PBC is the first stage of the project lifecycle (Approval Gate 1) set out in the Project Lifecycle Approval Stages of the Infrastructure Guidelines (IG)[23]. This takes forward the appraisal process set out in the Station Accessibility Programme SAR, updating the approach to accommodate changes to project appraisal guidance in the Transport Appraisal Framework (TAF).[24] Similarly, the approach has evolved to include requirements enshrined in the Infrastructure Guidelines (which replaced the previous Public Spending Code in December 2023) and revised NTA Project Approval Guidelines (PAG), which were updated in March 2024.

The PBC brings together evidence to support the contention that Approval Gate 1 Approval in Principle should be granted and forms the basis upon which the Approving Authority can make decisions to progress to subsequent stages and ultimately sanction implementation at individual stations.

2.2 This Document

The PBC is in six parts, within which are 15 chapters and six appendices:

- Part 1: contains the Executive Summary (chapter 1) and this brief introduction (chapter 2);
- Part 2: sets out the background to the Station Accessibility Programme:
  - Chapter 3 discusses the overall context of the programme;
  - Chapter 4 describes the strategic alignment of the programme with key polices and legislation;
  - Chapter 5 sets out the programme's objectives; and
  - Chapter 6 covers development of the programme.
- Part 3: presents analysis of programme delivery options:
  - Chapter 7 describes the programme options;
  - Chapter 8 covers financial appraisal of programme options (including general financial assessment, exchequer flows and a funding and affordability assessment); and
  - Chapter 9 presents the economic appraisal of programme options, including Transport & Accessibility Appraisal (TAA) of stations, Cost Effectiveness Analysis (CEA) of options and economic cost analysis, as well as introducing the preferred programme option.
- Part 4: goes focuses on appraisal of programme activities in Years 1-5:
  - Chapter 10 describes the stations and interventions involved in the first five years of the programme;

[23] The Infrastructure Guidelines (issued in December 2023) set out value for money guidelines for evaluation, planning and management of public investment projects, including purchase or acquisitions of assets or shareholdings, in Ireland. They replace the previous Public Spending Code (PSC) requirements for capital expenditure, although incorporates some elements of detailed appraisal from the PSC: https://www.gov.ie/en/collection/e8040-infrastructure-guidelines/

[24] The Transport Appraisal Framework (TAF), issued in June 2023, provides appraisal and implementation guidance for investment in the transport system which meets the needs of society, fulfils strategic policy objectives, and delivers value for money to develop a common framework for appraising transport investments, replacing the Common Appraisal Framework (CAF) for Transport Projects and Programmes. TAF was previously aligned with the Public Spending Code (PSC), which was itself superseded by the Infrastructure Guidelines (see previous foot note): https://www.gov.ie/en/publication/c9038-transport-appraisal-framework-taf/

  - Chapter 11 covers financial appraisal of the costs of Years 1-5 activities (including general financial assessment, exchequer flows and a funding and affordability assessment); and
  - Chapter 12 outlines the economic appraisal of station options which form part of the programme's Years 1-5 activities, including Transport and Accessibility Appraisal (TAA) of stations, multi-criteria analysis (MCA) of options and economic cost analysis, as well as introducing the preferred options.
- Part 5: concludes the PBC, drawing together the results of programme and Years 1-5 analysis:
  - Chapter 13 reiterates the preferred option for the programme overall and its Years 1-5 activities, as well as presenting NIFTI (National Investment Framework for Transport in Ireland) assessment of the preferred option and the approach to the assessment of climate and environmental performance;
  - Chapter 14 describes the implementation and monitoring of the programme, including affordability, funding, delivery, risk management and evaluation; and
  - Chapter 15 provides conclusions, including recommendations for the next steps towards delivery.
- Part 6: includes the seven Appendices to the PBC:
  - Appendix A, objectives:
    - Sets out the programme's objectives, including the tables used to set out the SMART objectives.
  - Appendix B, interventions:
    - Describes details of potential interventions and measures at the stations included in analysis of Years 1-5 of the programme.
  - Appendix C, detailed cashflow tables:
    - C1: Financial cashflow; and
    - C2: Exchequer cashflow.
  - Appendix D, Transport & Accessibility Appraisal (TAA):
    - D1: Full TAA tables for the programme options;
    - D2: Summary of TAA assessments for individual stations involved in Years 1-5 activities; and
    - D3: Full TAA tables for individual stations involved in Years 1-5 activities.
  - Appendix E, Multi-Criteria Appraisal (MCA) of Programme Options:
    - MCA proformas for Programme Options.
  - Appendix F, Multi-Criteria Appraisal (MCA) of Years 1-5 Activities:
    - MCA proformas for individual stations involved in Years 1-5 activities.
  - Appendix G:
    - Preferred option NIFTI Assessment template.

Part 2:
Background to the Iarnród Éireann Station Accessibility Programme

3. Station Accessibility Programme in Context

3.1 Introduction

The Irish Government's overall aim to improve inclusivity across society in Ireland is enshrined in many relevant policies and resulting programmes, notably the Equal Status Acts 2000 to 2018[25] and the Disability Act 2005. These acts cover a wide-ranging array of societal aspects, with reference to the transport network in the context of inclusivity and accessibility as appropriate. Specific requirements for transport systems from these acts are subsequently enshrined in relevant policies and regulations for transport providers. Iarnród Éireann's role in improving inclusivity and accessibility is through its network of stations and services, ultimately to ensure that they provide opportunities for all to use the rail network. The station accessibility programme is a key part of that role, focusing specifically on access to stations that it has been determined do not acceptably do so, in turn based on audits of current situations against requirements derived from the wider policies and regulations, with the consequent specific objective of ensuring compliance with accessibility regulations at rail stations.

Without addressing the issues at stations which have been identified as not providing acceptable access, the rail network will remain inaccessible for users with a number of different disabilities. Specific access challenges differ on a station-by-station basis, ranging from accesses which are difficult and/or uncomfortable to navigate or require significant detours, to arrangements which make access to one or both platforms impossible for some disabled users and in turn leave them unable to use the rail network. These compliance issues also impact IÉ as well as disabled users of the network. IÉ currently provide a service to travellers where, should advance notice be provided, they seek to provide a member of staff for a temporary ramp assist. Should a temporary ramp assist not be available, or the station is unstaffed, a mobility taxi or bus transfer from the station will be provided, however this service is not always guaranteed or available, and has had problems with reliability in the past.

The Iarnród Éireann Station Accessibility Programme will ensure that stations on IÉ's network meet accessibility requirements, mandated by Irish and EU regulations. Work to upgrade stations across the IÉ network will be completed over several years, with multiple stations progressed simultaneously, in a prioritised order. IÉ will apply for funding to complete the required upgrades in line with the costed programme, in a series of 5-year spending plans. The Programme will work to progressively deliver full compliance with accessibility regulations as identified in the IÉ Strategy 2027 and ensure compliance with the latest versions of appraisal and spending guidance. The Preliminary Business Case (PBC) is the part of the first stage of the project lifecycle (Approval Gate 1) as set out in the Infrastructure Guidelines (IG). It is the first stage of approval for the multi-annual funding framework of the Station Accessibility Programme.

3.2 Investment Rationale

The core rationale for investment is compliance with statutory obligations, in line with the Disability Act 2005 and the European Union (EU) Persons of Reduced Mobility (PRM) regulations. The Disability Act 2005 is a key part of Ireland's National Disability Strategy launched by the government in 2004. The act required that public bodies made their buildings accessible to people with disabilities by 2015. However, due to funding constraints, it was recognised by the (then) Department of Transport, Tourism and Sport[26] 'Sectoral Plan for Accessible Transport', contained within the Disability Act 2005 (2012 edition), that the required works would not be able to be completed at all stations by 2015. Instead, progress would continue to be made up to and past this time, subject to the availability of funding.

Works undertaken at stations in the programme will also be completed taking into account standards set out in EN 17210:2021 (Accessibility and usability of the built environment – functional requirements). This is the current EU standard for the minimum functional requirements that are needed to create an accessible and usable built environment for a wide range of users, including, but not limited to, persons with disabilities. However, it also does not just apply to transport infrastructure in general, or stations in particular, and includes some elements that are not relevant in such environments. The Station Accessibility Programme initially focuses on interventions at stations to ensure compliance with the policies set out in the Disability Act 2005, but the NTA have indicated that this should also consider how some stations could also contribute to the wider

[25] The Equal Status Act was initially set out in 2000 as an act to promote equality and prohibit types of discrimination, harassment and related behaviour in connection with the provision of services, property and other opportunities to which the public generally or a section of the public has access, with further subsequent acts issued over the period 2000-2018

[26] The 'Department of Transport, Tourism and Sport' is now known as the Department of Transport (DoT)

standards laid out in EN17210:2021. In particular, this is enshrined in the delivery of enhanced changing places facilities where these interventions fit in with a broader strategy of providing such facilities, and where they would be feasible within the constraints of a station.

To bring Irish regulations and standards in line with the latest EU technical guidance, such as EN 17210:2021, the Government of Ireland released an amendment to the Building Regulations Technical Guidance Document M[27]. The update, released in 2022, added guidance around the development of changing places facilities in buildings to the Technical Guidance Document M[28], and came into effect from 1st January 2024. Due to the change in guidance, Transitional Arrangements have been outlined for projects that had already commenced, allowing the 2010 edition of Technical Guidance Document M to remain in effect for these programmes. As the Station Accessibility Programme was being developed and delivered before 1st January 2024, the 2010 edition of Technical Guidance Document M remains suitable for measuring the compliance achieved by the programme. However, to assess the potential for achieving the greatest level of compliance possible, options that achieve compliance with both the 2010 and 2022 editions of Technical Guidance Document M have been appraised for the programme.

At present, funding is required to complete the first 5-years of the IÉ Station Accessibility Programme. The Station Accessibility Programme will result in outcomes that positively align with several national wider policy objectives, as well as ensuring compliance with the necessary PRM standards. While the key driver of the Station Accessibility Programme is to ensure compliance with necessary standards, the outcome of these changes will also contribute to these wider policy objectives, as upgrading the stations will improve the quality of the rail service offering. By improving accessibility to rail services this will address key issues associated with social inclusion, improve safety at rail stations and reduce car dependency. A detailed assessment of both legislative and regulatory requirements and subsequent fit with wider policy objectives are included in Chapter 4.

The IÉ Strategy 2027 will deliver improvements to the IÉ network that are needed to align with the wider Project Ireland 2040 National Strategic Outcomes. In 2019, more people travelled by train in Ireland than ever before. Demand for rail services had increased by 6% per annum between 2014 and 2019 and it is expected that this growth will continue after the COVID-19 pandemic. As a result, fleet and infrastructure investment is underway to provide additional capacity for passengers. The Central Growth Scenario included in the IÉ Strategy 2027 indicates that it is expected passenger numbers will more than double by 2040 (growing from 48 million passengers in 2018 to 104 million passengers in 2040).

Building upon the long-established policy that new or refurbished stations need to prioritise the needs of mobility and sensory impaired passengers, the IÉ Strategy 2027 reinforces IÉ's commitment to improving accessibility to services in outlining a costed programme to progressively deliver full compliance with the PRM directive. Working with local authorities and national government, a National Implementation Plan will be developed which looks to optimise returns on investment and maximise the percentage of passengers benefitting from each stage of the investment process.

During the construction phase, the Station Accessibility Programme will be linked to a set of selective investments, creating an improved interface with other transport modes. This investment will be primarily focussed on sustainable transport modes but will also include expanding park & ride facilities. IÉ will collaborate with local authorities and commercial partners all over Ireland to progressively improve the possible modal interchanges at every station contained within the package, with PRM issues prioritised.

Improved station accessibility has the potential to encourage model shift, with a higher number of people looking to travel by rail as opposed to private vehicles. The successful delivery of this strategy and as a result modal shift will be complimented by improvements to the standards of service and interaction across all customer-facing parts of the IÉ network. More journeys made by rail could reduce road traffic and congestion, having a positive impact on wider mobility and the environment.

3.3 Demand Analysis

The Station Accessibility Programme's main aim is to ensure compliance with accessibility regulations, as set out in the investment rationale. However, through achieving compliance with accessibility regulations, demand for rail services may increase, not least because the programme will provide facilities to enable persons with disabilities and reduced mobility to have greater scope to access rail services. There is also some potential for

[27] https://www.gov.ie/pdf/?file=https://assets.gov.ie/241161/31b7614c-7df1-439c-abcb-0f16fb3e93a7.pdf#page=null

[28] https://www.gov.ie/pdf/?file=https://assets.gov.ie/241151/31bf3383-e404-4a4f-84e5-ec233ba8aad3.pdf#page=null – Amendments to Technical Guidance Document M outlined in section 5.2.

increasing demand from the wider population, as journey quality for all users is improved as a result of the measures installed.

Hence, there could be collateral positive impact on demand for rail services from users with reduced mobility as well as the wider community. However, demand impacts are not a particular aim of the programme and the quantum is in any case unlikely to be substantial, and moreover less significant than, and indistinguishable from, more general changes in rail demand driven by other factors such as ticket prices and service levels. This is reflected in the appraisal methodology set out for the Station Accessibility Programme in the SAR that focuses on factors pertinent to the programme, in which demand impacts are not included.

Notwithstanding this, demand at stations included in the programme[29] provides important context for the programme as a whole. As such, the remainder of this section sets out baseline demand at the stations for stations earmarked for improvement within the programme, the size of the populations who report having disabilities within the stations' catchment areas, and a range of potential demand uplifts that these stations could experience.

3.3.1 Baseline Demand

Baseline demand, for the stations within the Station Accessibility Programme, from the 2019 and 2022 Iarnród Éireann National Rail Census reports is summarised in Table 3-1. Daily demand (in 2022) for services at the stations varies significantly, with the greatest being Maynooth with 6,164, and the lowest at Rosslare Europort (34 per day). The low demand at many of these stations may be indicative of a lack of accessibility and/or a lack of desire to use the stations' services for other reasons. It should be noted that demand appears to have been retained after the Covid pandemic, with the 2022 rail census recording almost the same total number of daily users at the stations within the Station Accessibility Programme as in 2019, though the picture is mixed across individual stations, with increase and decreases.

Table 3-1: Baseline demand - Iarnród Éireann Census, daily station users

Station	2019	2022	Station	2019	2022
Dalkey	3,586	3,712	Drumcondra	4,191	4,419
Gormanston	198	175	Broombridge	2,466	2,428
Little Island	1,510	1,425	Kilcock	796	621
Banteer	79	62	Leixlip (Louisa Bridge)	2,481	2,474
Rathmore	93	124	Castleknock	1,868	1,700
Maynooth	7,218	6,164	Tralee	613	771
Glounthaune	558	1,036	Kilcoole	124	58
Rathdrum	192	170	Sligo	913	1,018
Arklow	221	192	Cobh	787	1,172
Athy	1,148	1,059	Leixlip (Confey)	1,301	1,076
Longford	655	790	Enfield	528	467
Rushbrooke	213	447	Killarney	797	990
Wicklow	462	295	Rosslare Europort	28	34
Boyle	185	213	Wexford	243	293
Claremorris	227	184	Millstreet	115	163
Gorey	183	219	Collooney	149	162
Roscommon	242	226	Foxford	27	45
Enniscorthy	101	131	Thomastown	116	176
Dromod	200	249	Carrick-on-Shannon	299	402
Rosslare Strand	79	61	Ballymote	210	221
Farranfore	65	84	Ballina	134	183

[29] Identification of stations included in the programme is discussed in detail in Chapter 6 (Development of the Programme).

Station	2019	2022
Muine Bheag	349	259
Fota	231	158
Castlerea	198	155
Ballyhaunis	211	119
Carrigaloe	36	74

Station	2019	2022
Westport	346	357
Castlebar	302	284
Manulla Junction	249	377
Mullingar	1,192	1,122

3.3.2 Station Catchment Demographics

Indicative station catchment area demographics have been captured using data from the 2022 Census of Ireland. This considers the total population of station catchments, as well as the quantity and proportion of persons with disabilities and persons with reduced mobility, who could particularly benefit from the Station Accessibility Programme. In the context of the 2022 Census, a person with disabilities or person with reduced mobility is anyone who reports having at least one of the following long-lasting conditions or difficulties:

- Blindness or vision impairment;
- Deafness or hearing impairment;
- A difficulty with basic physical activities such as walking, climbing stairs, reaching, lifting or carrying;
- An intellectual disability;
- A difficultly with learning, remembering, or concentrating;
- A psychological or emotional condition or a mental health issue; and
- A difficulty with pain, breathing or any other chronic illness or condition.

It should be emphasised that impairments that limit accessibility to and/or use of public transport go beyond physical/movement. For example, individuals with vision impairments may be largely reliant on real-time announcements at train stations, and without them may be unable to use the rail network with associated adverse impact on inclusion and quality of life. Given how common many of the conditions or difficulties in the list above are (especially when considered in aggregate), a significant proportion of the Irish public may be entirely, or partially, cut off from the rail network and its associated benefits.

To determine the catchment areas of stations that lie in close proximity to other stations, only data from small areas that are closest to the station being considered has been gathered. This process ensures that no two stations' catchment areas overlap. Alternatively, for stations that lie in more rural areas or towns with no nearby stations, settlement-level data has been gathered to accurately capture the demographics of the stations' nearby urban cores/built-up areas. All data has been gathered using the CSO Census Mapping tool.

Table 3-2 summarises the stations' catchment area profiles in terms of their populations, the number and proportion of persons with disabilities and persons with reduced mobility population within the catchment.

Table 3-2: Station catchment area profiles

Station	All people	Persons with disabilities and persons with reduced mobility	
		Total	%
Dalkey	5,114	1,275	25%
Gormanston	3,809	762	20%
Little Island	1,195	212	18%
Banteer	362	99	27%
Rathmore	766	152	20%
Maynooth	17,259	3,179	18%
Glounthaune	1,375	296	22%

Station	All people	Persons with disabilities and persons with reduced mobility	
		Total	%
Drumcondra	7,375	1,399	19%
Broombridge	1,312	358	27%
Kilcock	8,674	1,366	16%
Leixlip Louisa Bridge	7,509	1,406	19%
Castleknock	2,595	508	20%
Tralee	26,079	6,259	24%
Kilcoole	4,569	1,052	23%

Station	All people	Persons with disabilities and persons with reduced mobility	
		Total	%
Rathdrum	2,264	556	25%
Arklow	13,399	3,460	26%
Athy	11,035	2,757	25%
Longford	10,952	2,645	24%
Rushbrooke	3,514	721	21%
Wicklow	12,957	3,048	24%
Boyle	2,915	859	29%
Claremorris	3,857	757	20%
Gorey	11,517	2,862	25%
Roscommon	6,555	1,497	23%
Enniscorthy	12,310	3,224	26%
Dromod	753	150	20%
Rosslare Strand	1,795	486	27%
Farranfore	333	76	23%
Muine Bheag	2,945	801	27%
Fota	418	49	12%
Castlerea	2,348	602	26%
Ballyhaunis	2,773	575	21%
Carrigaloe	602	101	17%

Station	All people	Persons with disabilities and persons with reduced mobility	
		Total	%
Sligo	20,608	5,346	26%
Cobh	1,260	350	28%
Leixlip Confey	3,138	693	22%
Enfield	3,663	691	19%
Killarney	14,412	2,970	21%
Rosslare Europort	2,247	563	25%
Wexford	21,524	5,950	28%
Millstreet	1,722	409	24%
Collooney	1,797	382	21%
Foxford	1,452	404	28%
Thomastown	2,305	601	26%
Carrick-on-Shannon	4,743	1,028	22%
Ballymote	1,711	402	23%
Ballina	2,959	566	19%
Westport	6,872	1,521	22%
Castlebar	13,054	2,826	22%
Manulla Junction	418	82	20%
Mullingar	22,667	4,893	22%

The proportion of the population of station catchment areas with persons with disabilities and persons with reduced mobility range significantly, from 12% in Fota's catchment area to 29% in the Boyle catchment. Overall, aggregating the catchment areas' total populations, the proportion of is almost 23%, which is higher than the national rate of 22%, and the proportion of the catchment areas' populations that are unable to work due to permanent sickness or disability is 4%. This is potentially indicative of significant latent demand and employment impacts that this intervention can help to unlock, enabling communities that have previously been unable to access the rail network to benefit from improved opportunities for employment.

3.3.3 Potential Demand Uplifts

The main aim of the Station Accessibility Programme is to upgrade non-compliant stations on the IÉ network to meet EU, national and IÉ standards for accessible station design. Therefore, the principal driver for these interventions is statutory compliance as opposed to providing enhancements to station infrastructure and environments. Nonetheless, as highlighted previously, accessibility focused station improvements could indirectly lead to increased demand in some areas.

Case study evidence and econometric analysis indicate that station accessibility/quality interventions can result in a wide range of demand uplifts dependent on the location, journey type, the station improvements implemented and the current condition of the station. Table 3-3 summarises a range of potential demand uplifts resulting from station accessibility/quality upgrades based upon empirical evidence from the UK. This illustrates that accessibility improvements in isolation have the potential to increase demand for a station's services by up to 3%, and up to a further 2% through other individual complementary station upgrades such as information screens, help points, waiting facilities and general station upgrades.

Table 3-3: Station improvement demand uplift ranges

Station quality improvement	Demand uplift range
Accessibility – upgrading from stairs only to stairs and lifts[30]	1% - 3%
Accessibility – upgrading from stairs and ramps to stairs and lifts	1% - 2%
Accessibility – upgrading from stairs only to stairs and ramps	0.5% - 1%
Information screens	0.5% - 1%
Help points	0.5% - 1.5%
Waiting facilities	Up to 2%
General station upgrades	0.5% - 1.5%

3.4 Lessons Learnt

As a long-term programme of implementing improvements at more than 50 stations over almost 15 years, Iarnród Éireann will take on board lessons learnt in design, costing and procurement from within the Station Accessibility Programme itself, as well as other previous and on-going projects and programmes. This covers the whole gamut of programme implementation and is reflected throughout the process and the PBC. Key programme delivery elements where lessons learnt are of particular relevance are summarised as follows:

- Internal programme lessons – prioritised and staged approach:
  - The stations that require upgrading have been prioritised across the programme period, based on an assessment of their existing patronage, current limits to station usage and positive stakeholder engagement. This results in staged delivery, with work being undertaken in a rolling fashion, and early technical work being completed on stations to be delivered later, whilst construction is still being completed for earlier stations. Undertaking the station upgrade work in this manner will increase the programme efficiency and value for money, by allowing project technical teams to continue working on different packages and applying specific lessons learnt from stations completed earlier in the programme to those processed later, as well as to future upgrade projects elsewhere.
- Other projects and programmes:
  - The development of schemes within this Programme will link with other projects and programmes on a station-by-station basis, however no particular dependencies are anticipated that will cause this programme (or linked programmes) to be materially affected. Programme Manager Liaison groups will ensure joined up working between any linked programmes and projects and continue learning lessons on an ongoing basis. Examples of programmes and projects that it is anticipated could have synergies with the Station Accessibility Programme (for example the Station Customer Service Strategy (SCSS)) are summarised in Chapter 4.
- Cost estimates and benchmarking:
  - As part of the cost estimate review process, an assessment of costs for previous station works should look to identify where efficiencies and good practices have allowed project costs to be reduced. This process will allow lessons to be learnt both from other schemes and over time, increasing the cost efficiency of future stages of the programme.
- Risks:
  - The risk management approach is a key tool that will be used by the delivery team to manage outcomes of the programme, and incorporate lessons learnt from throughout programme lifecycle, including informing the risk identification process. The phased approach to the programme, with the station upgrades being delivered in packages, means that risk registers and lessons learnt from earlier stages of the programme will be able to be adopted into later stages of work.
- Tendering and contractor procurement:
  - IÉ will take lessons learned from previous projects to ensure the tender documents include works that are suitably described together with clear demarcation on tender information. The contractor procurement strategy for the early-implementation stations in the programme will form the blueprint

[30] The source material refers to 'lifts/escalators' but does not distinguish between the two.

for the procurement strategy throughout the remainder of programme, subject to modification for station-specific requirements and lessons learned through procurement of early-implementation stations.

- Governance:
  - Governance principles will incorporate lessons learned reviews and practical examples from other successful projects. In particular, programme governance will also be informed by lessons learned by Iarnród Éireann for delivering similar compliance improvements at stations and will be aligned with the Capital Works Management Framework guidance.
- Monitoring and evaluation:
  - An intrinsic element of monitoring and evaluation is that of enhancing knowledge and learning lessons through the programme implementation and operation. A capital programme such as the Station Accessibility Programme, with multiple projects and phases of implementation over a long period, supports ongoing benefit review, management and realisation, as has already been noted under other headings. Monitoring activities will ensure that lessons are identified, and that they inform ongoing programme implementation. Thus, evaluation of early delivery elements of the programme will be used to generate lessons learnt to help inform delivery of later delivery elements. Furthermore, lessons learned from evaluations of the station accessibility programme will inform development and implementation of similar programmes in the future.

4. Strategic Alignment

As noted in section 3, the Irish Government's overall aim to improve inclusivity across society in Ireland in enshrined in many relevant policies and resulting programmes. Specific requirements for transport systems from these acts are enshrined in relevant policies and regulations for transport providers. Iarnród Éireann's role in improving inclusivity and accessibility is through its network of stations and services, ultimately to ensure that they provide opportunities for all to use the rail network. The Station Accessibility Programme is a key part of that role, focusing specifically on access to stations that it has been determined do not acceptably do so. This chapter set out how the Station Accessibility Programme aligns with accessibility requirements and other rail and transport policies and strategies in Ireland.

Public transport, and the increased use of rail services across Ireland, will play a role in Ireland fulfilling its net zero and climate action targets. As a result, it is important to consider how planned upgrades to the IÉ network align with the objectives of other agencies, departments and government policies. Considering any overlap between IÉ's work and wider existing Irish Government policy can ensure that policy objectives and interventions will not impede each other, and where possible, allow them to work together to successfully achieve their aims in an efficient manner. Three main policy areas are covered:

- Legislative context which outlines the statutory obligations and covers the necessary standards;
- National and international disability policy context; and
- Specific transport investment strategies and policy focused upon the National Investment Framework for Transport in Ireland (NIFTI) and the Iarnród Éireann Strategy 2027.

4.1 Legislative Context

Statutory policy and guidance contained within the Disability Act 2005, Building Regulations (2010) Technical Guidance Document M, PRM TSI and CCE-TMS-312 form the basis for the development of the Station Accessibility Programme. The interventions delivered as part of the programme will ensure compliance with the statutory requirements outlined in these documents and the proposed interventions have been developed in line with the required methods, standards and specifications included in the documents.

4.1.1 Disability Act 2005

As identified in the Investment Rationale, the core driver behind the Station Accessibility Programme is to achieve compliance with the requirements set out in the Disability Act 2005. The Disability Act 2005 places a statutory obligation on public service providers to support access to services and facilities for people with disabilities. Under the Act, all public bodies were required to make their buildings compliant and services accessible to people with disabilities by December 2015 in compliance with the Part M Amendment, of the Building Regulations 2010.

4.1.2 Building Regulations (2010) Technical Guidance Document M

Building Regulations (2010) Technical Guidance Document (TGD) M[31], applies to *"works or buildings in which certain material changes of use take place, where the works commence or the change of use takes place, as the case may be on or after 1 January 2012."* Since accessibility upgrades are material changes to current infrastructure, they need to comply with this guidance. The document sets out materials, methods of construction, standards and other specifications which are likely to be suitable for the purposes of the regulations. Section 1 refers to access and use of buildings other than dwellings; some specific guidance includes limits for ramp gradients and lengths, handrails, power-operated doors, aids to communication etc.

4.1.3 Amendment to Building Regulations Technical Guidance Document M (2022)

In 2022, an amendment to the Building Regulations Technical Guidance Document M was released following the publication of updated European Union guidance EN 17210:2021. EN 17210:2021 relates to the minimum functional requirements of the built environment to ensure that a space is designed for all. To align with EN 17210:2021, the amendment to Building Regulations Technical Guidance Document M introduces guidance

[31] https://assets.gov.ie/100486/12a529ae-7fda-49ab-bc3b-0521fe5be50b.pdf

on the introduction of changing places facilities within buildings, where space is available to do so. A changing places toilet is defined as *"an accessible sanitary facility with a toilet, hoist, basin, adult-sized changing bench and optional shower, with adequate space for use by persons with a range of abilities who may require assistance."* The changing places guidance sits alongside existing guidance included in Technical Guidance Document M, outlined in section 4.1.2, and came into effect on the 1st January 2024. With the change in guidance, Transitional Arrangements have been outlined for projects that had already commenced, allowing the 2010 edition of Technical Guidance Document M to remain in effect for these programmes. As the Station Accessibility Programme had already commenced before the 1st January 2024, the guidance included in the 2010 edition of Technical Guidance Document M is still in effect. However, the programme has also considered how additional changing places facilities could be delivered as part of the interventions.

4.1.4 National Implementation Plan PRM TSI (2017)

In November 2014, the European Union approved regulation No 1300/2014 on the Technical Specification for Interoperability (TSI) relating to accessibility of the Union's rail system for persons with disabilities and person with reduced mobility (PRM)[32]. Article 8(1) of the regulation states *"Member States shall adopt national implementation plans"* (NIP), hence the creation of Ireland's National Implementation Plan PRM TSI (2017)[33]. The National Implementation Plan defines person with disabilities and person with reduced mobility as: *"any person who has a permanent or temporary physical, mental, intellectual or sensory impairment which, in interaction with various barriers, may hinder their full and effective use of transport on an equal basis with other passengers or whose mobility when using transport is reduced due to age"*, going on to add that: *"'people with reduced mobility' means people with physical, sensory, learning or cognitive difficulties (whether permanent or temporary) and others whose access to traditionally constructed transport vehicles, services and infrastructures is limited, to a greater or lesser extent, on account of age, because of accompanying children or because they are carrying luggage or shopping or are otherwise impaired in their use of the transport system."*

4.1.5 Iarnród Éireann Technical Document CCE-TMS-312

Building upon the European and National standards, Iarnród Éireann Technical Document CCE-TMS-312, issued in 2020, identifies standards and guidelines that are applicable to the railway industry. Additionally, it goes on to provide guidance on the application of standards when providing new, renewed or replacement facilities. All licensed passenger train and station operators in Ireland, including Iarnród Éireann, must follow these guidelines whenever they install, renew or replace infrastructure across the IÉ network. Specifically, the CCE-TMS-312 guidance document contains the mandatory European standards (taken from the PRM TSI) which must be applied when any "major work" is being undertaken; mandatory national standards that must be applied to all other installations, renewals and replacements; and best practice guidance which should be applied wherever possible.

A revised version of the PRM TSI came into force on the 1st January 2015 meaning that all new station projects are subject to the revised TSI. This revision has meant that the scope of the PRM TSI has been extended to cover the entire rail network. It will apply where new stations and trains are introduced or where major work and refurbishment takes place across the Republic of Ireland railway network. It is possible that some smaller works undertaken across the network do not meet the requirements for the revised PRM TSI but these works will still be subject to the European and national standards referred to in the CCE-TMS-312 guidance document.

4.2 Strategic Policy Alignment

4.2.1 National Policy

4.2.1.1 National Development Plan

The National Development Plan 2021-2030 (NDP) sets out the investment programme designed to support spatial planning and deliver economic, social, environmental and cultural development across Ireland. Enhancing accessibility to rail stations represents a strategic investment priority within the NDP, which outlines an annual investment programme to:

[32] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014R1300

[33] https://transport.ec.europa.eu/transport-modes/rail/interoperability-safety/interoperability/persons-reduced-mobility-prm-tsi-nip_en

- Upgrade existing train stations to enhance accessibility; and
- Ensure that accessibility features such as wheelchair access, audio and visual aids are provided at all new public transport infrastructure projects.

Within this context, the proposed Station Accessibility Programme will support the NDP's efforts to enhance access to existing train stations by promoting compliance with accessibility regulations at the fifty stations currently failing to meet minimum accessibility thresholds.

4.2.1.2 National Planning Framework

Project Ireland 2040: National Planning Framework (NPF) provides strategic guidance relating to development and investment priorities up to 2040. It recognises the ability of rail infrastructure, and accessibility to rail stations, to enhance transport connectivity and in turn, play a critical role in harnessing the full potential of the island. It also highlights the importance of providing appropriate public transport infrastructure and services to meet the needs of smaller towns, villages and rural areas, supporting the 'Enhanced Regional Accessibility' strategic outcome in the process. By ensuring compliance with accessibility regulations in a rail context, the Station Accessibility Programme will contribute to these aims by providing socially inclusive connectivity to key transport networks. In turn, it will also support realisation of National Policy Objective 28 which aims to *"Plan for a more diverse socially inclusive society that targets equality of opportunity and a better quality of life for all citizens, through improved integration and greater accessibility".*

4.2.1.3 National Investment Framework for Transport in Ireland

The National Investment Framework for Transport in Ireland (NIFTI)[34] is the Department for Transport's "*high-level strategic framework for the future investment in the land transport network.*" The Station Accessibility Programme aligns with the 'public transport' investment theme within NIFTI's modal hierarchy, given the programme aims to remove or reduce barriers faced by people with reduced mobility and has the potential for modal shift from private vehicles to rail. The programme also aligns with the 'maintain' theme within NIFTI's intervention hierarchy. This is because the programme will deliver targeted maintenance and renewal measures to ensure asset accessibility in tandem with new, inclusive rail infrastructure, aiming to improve the existing infrastructure and optimise its accessibility to the Irish public. Table 4-1 provides further details on the alignment of the programme with NIFTI.[35]

Table 4-1: Alignment of Station Accessibility Programme with NIFTI

Investment Priority	Scheme Alignment
Mobility of People & Goods in Urban Areas	Improved station accessibility has the potential for mode shifting, encouraging more demand for travel by rail as opposed to private vehicles. More journeys made by rail will reduce road traffic and congestion, having a positive impact on mobility.
Decarbonisation	The potential mode shifting through improved accessibility means less single-occupancy vehicles on the road network contributing to carbon emissions.
Protection & Renewal	The main objective for the scheme is to make amendments to already existing stations, ensuring they are fully compliant with the necessary regulations. Safety and accessibility are regarded as fundamental performance standards that must be present for the relevant asset to be deemed fit for purpose.
Enhanced Regional & Rural Connectivity	Creating more accessible rail stations enables a new sustainable travel option for people with reduced mobility who may face barriers with the current facilities. These users therefore may experience enhanced connectivity through the rail network to jobs, leisure, and public services regionally and nationally.

4.2.1.4 Climate Action Plan 2024

The Climate Action Plan 2024 outlines the measures and actions required to ensure compliance with emissions targets, as well as a roadmap to reaching net zero by no later than 2050. The Plan identifies transport as one of the primary sources of Greenhouse Gas emissions (contributing 17.1% of Ireland's total). The Station Accessibility Programme could play a role in reducing the transport sector's emissions, by making rail-based

[34] https://www.gov.ie/en/publication/cfae6-national-investment-framework-for-transport-in-ireland-nifti/

[35] Assessment for the preferred programme option with respect to NIFTI priorities has been carried out – section 13.3

travel more attractive, easier to access and more inclusive. In particular, the Climate Action Plan notes that *"accessible transport for all members of society, especially more vulnerable users, for example disabled and older people, also forms a key part of the modal shift from private to public transport";* the Station Accessibility Programme can directly support this ambition for modal shift.

4.2.2 National & European Disability Policy

4.2.2.1 Sectoral Plan for Accessible Transport

The Department of Transport's[36] Sectoral Plan for Accessible Transport under the Disability Act 2005 (2012 edition)[37] states that *"economic circumstances will have an impact on investment in accessibility as in all other sectors of the economy."* Furthermore, *"while the commitment to achieving the goal of comprehensive accessible public transport services remains, restrictions on investment will mean that some accessibility improvements will, of necessity, take longer to deliver."* The Plan explains that accessibility must be an *"integral part of all policy-making and transport planning and of the provision of transport services so that wherever possible the needs of people with disabilities are met within mainstream services and facilities as far as financial resources allow."*

By ensuring compliance with the regulation set out in the Disability Act 2005 and associated legislation, the Station Accessibility Programme help Ireland's rail network better meet the needs of all users/potential users, enhancing customer experience, delivering improved connectivity to social and economic opportunities and reduce reliance on private cars. This will contribute to the Sectoral Plan's aim for comprehensive accessible public transport.

4.2.2.2 National Disability Inclusion Strategy (2017-2021)

The National Disability Inclusion Strategy (2017-2021)[38], last updated March 2022, outlines 8 strategy areas and many smaller action points, which aim to improve the lives of people with disabilities, creating the best possible opportunities for individuals to fulfil their potential. Strategy area 8 addresses actions relating to transport and accessible places. Specifically, action point 100 states:

"We will improve the accessibility and availability of public transport, especially inter-city buses and rural transport and accessibility of train and bus stations. We will focus on linking up the different forms of transport and make connections accessible as well as transport information, including audible announcements. We will prioritise the maintenance, management and monitoring of systems and services which make transport accessible."

The Station Accessibility Programme will enhance access to and availability of rail infrastructure and improve the user experience for people with disabilities, meeting the requirements of the Strategy in the process.

4.2.2.3 EN 17210:2021. Accessibility and usability of the built environment - functional requirements

The recent European standard EN 17210:2021 'Accessibility and usability of the built environment – Functional requirements' is also being taken into account in deriving interventions. This standard outlines the minimum functional requirements and recommendations across the full spectrum of the built environment, aiming to create accessible and usable built environments for all users. It is not specifically aimed at transport infrastructure, but usability requirements and recommendations it describes are relevant to the design, construction, refurbishment, adaptation, and maintenance of all built environments.

By delivering accessibility improvements to the rail network that align with the various standards and requirements set out, the Station Accessibility Programme will create journey options previously unavailable for disabled passengers. These improved journey possibilities will open up more opportunities for people with reduced mobility to access further education, employment and other journey options which enable the whole population of Ireland to maintain the best possible physical, mental and emotional well-being.

[36] Was known as the 'Department of Transport, Tourism and Sport' (DTTAS) at the time of publication of this plan.

[37] https://assets.gov.ie/18894/eb3d59b0f6754bda8deac5b9cb2f60f8.pdf

[38] https://www.gov.ie/en/publication/8072c0-national-disability-inclusion-strategy-2017-2021/

4.2.3 Other Policy

4.2.3.1 Iarnród Éireann's Strategy 2027

Accessibility represents a central theme underpinning Iarnród Éireann's Strategy 2027 [39] , reflecting the importance of complying with the Persons of Reduced Mobility (PRM) Directive. The Strategy notes that full accessibility improvements have been delivered at around 80 stations on the network since the late 1990s, and identifies the Station Accessibility Programme as a mechanism to continue making rail services more accessible for passengers through to 2027 and beyond. Within this context, the Programme will support the Strategy's vision to deliver full network station accessibility. The Station Accessibility Programme will deliver interventions that achieve full compliance with the PRM directive, in a co-ordinated and cost-effective manner.

4.2.3.2 All-Island Strategic Rail Review

The Customer Experience section of the All-Island Strategic Rail Review (AISRR) highlights the public's concerns over the accessibility of the rail network, based on responses given in public consultation, with the document stating that these concerns 'should and could' be alleviated in the short term. The same section proceeds to highlight that there are opportunities to improve the wider passenger experience by improving the availability of information to persons with disabilities which make it harder to access information and services. The AISRR also highlights that there is the need to ensure the railway estate is accessible for passengers with reduced mobility. On the basis of this customer experience feedback, the AISRR recommends the following to both jurisdictions:

- AISRR Customer Experience Recommendation 25: 'Continue to invest in initiatives that deliver a seamless customer journey, such as improving information provision and catering';
- AISRR Customer Experience Recommendation 26: 'Continue to benchmark and monitor service quality and deliver continuous improvement'; and
- AISRR Customer Experience Recommendation 28: 'Invest in improving integration within rail and between rail and other transport options'.

The Station Accessibility Programme will directly support efforts to reduce the public's concerns over the rail network's accessibility and improve the journey experience of persons with disabilities, not least through delivery of proposed infrastructure including: induction loops, RTPI, lighting, CCTV, step-free access, seating and PA systems.

4.2.3.3 Regional Spatial and Economic Strategies

The **Regional Spatial and Economic Strategies (RSES)** are consistent in promoting the role of transport as a key policy area through which a more socially inclusive society, that benefits from integration and accessibility across all societal needs and physical abilities, can be achieved. The Station Accessibility Programme supports the RSES by ensuring that rail infrastructure:

- Can support improved strategic and local connectivity;
- Is more attractive, thereby increasing rail demand, reducing reliance on private transport and reducing congestion; and
- Can enable equitable access for all, including those with mobility, sensory and cognitive impairments, in line with Regional Planning Objective 159 (Southern Region) and Regional Planning Objective 6.32 (Northern and Western Region).

[39] https://www.irishrail.ie/en-ie/about-us/company-information/iarnrod-eireann-strategy

4.3 Projects

4.3.1 Station Customer Service Systems project

The Station Customer Service Systems (SCSS) project is providing customer service equipment such as passenger information displays (PIDS), closed-circuit television systems (CCTV), wayfinding, help points, public address (PA) systems and ticket vending machines at stations across the IÉ network. This project has the stated objectives of:

- Providing high quality information, giving customers accurate, consistent and timely information as they need it, across the rail network in Ireland and through digital channels;
- Enhancing the customer experience, delivering best-in-class customer support on-demand, ensuring that rail travel is accessible, safe and secure for all; and
- Effective management and decision-making, providing our employees with the data and insight they need to improve efficiency and enhance the quality of rail services.

As such, the project will enable greater station accessibility and provide information across all stations in a more consistent manner, enhancing the overall customer experience.

While this project is not derived directly from PRM or legislative compliance, its outcome of improved, consistent provision of information and its associated enhancement to overall customer experience may contribute to uplifting rail patronage, synergising with the Station Accessibility Programme's stated objective of increasing long term rail patronage.

Furthermore, the Station Accessibility Programme will also provide some customer service system upgrades at stations within the programme. This includes the installation of hearing loops and help points. Where these interventions are being installed as part of the Station Accessibility Programme, this will reduce the need for further interventions to be delivered as part of the SCSS project.

4.3.2 Multi-Modal Interchange

Currently in pre-project phase, the aim of Multi-Modal Interchange access is to ensure that all modes are better catered for at stations through the provision of active travel (walking and cycling) infrastructure, interchange infrastructure with public transport, and charging points for e-vehicles. As such, the delivery of this project in tandem with the Station Accessibility Programme will not only augment persons with disability and persons with reduce mobility's ability to interact with the facilities/services available at the station but will also augment their ability to access the station via public transport. In combination with the Station Accessibility Programme, the Multi-Modal Interchange project also aligns with sections of the NIFTI Intervention Priorities and Investment Hierarchy by improving multi-modal sustainable transport options across Ireland. The two projects will optimise the transport network in Ireland, as well as providing urban and rural connectivity and decarbonisation benefits.

4.3.3 Cork Area Commuter Rail (CACR)

In 2020, the NTA, in partnership with Cork City Council, Cork County Council, and TII finalised the Cork Metropolitan Area Transport Strategy (CMATS) 2040. Cork Area Commuter Rail (CACR) is a central component of this strategic vision, comprising the heavy rail element of CMATS and is a transformative rail improvement programme for the Cork Rail Network. The programme involves developments and enhancements to the rail network from Mallow through Cork to Cobh and Midleton, including the delivery of new rail infrastructure, electrification and re-signalling across the 3 main lines of Mallow, Cobh and Glounthaune to Midleton. The CACR scheme is being progressed through several interrelated projects which will be delivered in specific work packages, including:

- **Kent Station Through Platform** – providing a new platform at Kent Station to facilitate through running services from Mallow to Cobh/Midleton. This will provide for increases in capacity and frequency across the CACR network.
- **Signalling and Communications Upgrade** – to facilitate the proposed increase in capacity and service frequencies across the CACR network.
- **Glounthaune to Midleton Twin-Track Upgrade** – upgrading the Glounthaune to Midleton line to a twin-track configuration.

- **New Stations, Track Works, Civils & Structures** – additional works to support planned increases in services; this includes track reconfiguration, station upgrades and construction of new stations at Monard, Blarney/Stoneview, Blackpool/Kilbarry, Tivoli, Dunkettle, Carrigtwohill West, Water Rock and Ballynoe; many stations will also incorporate park & ride facilities to accommodate increased rail patronage.
- **New Fleet Depot** – designed to cater for a newly electrified fleet.
- **Electrification** – either through the construction of overhead power lines and the use of electric units, installation of battery charging infrastructure and the use of battery/electric hybrid units, or the use of alternatively fuelled trains.
- **Rolling Stock** – providing a new fleet to provide for the planned increase in train services.

Many stations within the CACR network are also earmarked for accessibility improvements within the Station Accessibility Programme, such as Millstreet, Banteer, Little Island, Glounthaune, Fota, Carrigaloe, Rushbrooke and Cobh. As such, there is clear strategic alignment between the CACR programme and the Station Accessibility Programme, with the former delivering a step-function increase in the quality, frequency, and reliability of station services available and the latter ensuring their compliance with accessibility regulation.

4.3.4 DART+ programme

The Dublin Area Rapid Transit (DART) is an electrified rail network serving the coastline and city of Dublin. The DART+ programme will see the DART network grow from approximately 50km in length to over 150km, promoting multi-modal transit, active transport and increase regional connectivity by delivering more frequent, modern, electrified services within the Greater Dublin Area. Specifically, the programme will deliver rail improvements along the following extents:

- **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; and
- **DART+ Fleet** – purchase of new train fleet to increase train services.

Strategic alignment between the DART+ and Station Accessibility Programme stems from two primary sources. Firstly, Maynooth station (within the DART+ West programme) has been earmarked for improvements as part of both the DART+ and Station Accessibility Programme. As such, not only will the frequency and quality of its services improve, but also its accessibility to persons with disabilities and persons with reduced mobility. Secondly, by increasing persons with disabilities and persons with reduced mobility's access to the wider IÉ network, their ability to access stations within the Greater Dublin Area and, therefore, interact with the DART+ network is also increased.

5. Programme Objectives

5.1 Key Objectives

As noted in section 3, the Irish Government's overall aim to improve inclusivity across society in Ireland in enshrined in many relevant policies and resulting programmes. Specific requirements for transport systems from these acts are enshrined in relevant policies and regulations for transport providers. Iarnród Éireann's role in improving inclusivity and accessibility is through its network of stations and services, ultimately to ensure that they provide opportunities for all to use the rail network.

The Station Accessibility Programme is a key part of that role, focusing specifically on access to stations that it has been determined do not acceptably do so, in turn based on audits of current situations against requirements derived from the wider policies and regulations, with the consequent specific objective of ensuring compliance with accessibility regulations at rail stations. The programme's core activities are to continue the upgrades to stations which have not yet received accessibility improvements, ensuring compliance with the statutory obligations under the Disability Act 2005 and associated technical design specifications which determine the necessary standards for stations. To date the two key activities of the Programme have been:

1. Upgrade non-compliant stations on the Iarnród Éireann network to meet EU, national and IÉ standards for accessible station design; and

2. Undertake these works in a prioritised manner as expeditiously as possible while taking account of the various constraints on such works, with the core constraints being funding and planning requirements.

As part of the development of the Station Accessibility Programme, objectives have been identified and refined. Initially, a set of Programme Objectives were developed for the SAR, but it was acknowledged at the same time that there would be a need to further refine the objectives as the project proceeds as more information became available, and in particular in progressing through to develop the PBC, as this stage is the most appropriate for more detailed objective and sub-objective setting. For reference, the initial high-level SAR objectives are set out in Appendix A.

The key objectives identified for the PBC have been developed by refining the SAR objectives and considering how station accessibility upgrades have the potential to improve passenger experience and safety at stations, as well as encouraging modal shift and the move towards a low emission transport system. The identified objectives for the programme are broken down into one primary objective, which outlines the main aim of the programme, and four secondary objectives, also to be achieved through the completion of the programme. Each of these objectives have been developed using SMART principles. The SMART tables used to define the objectives are included in Appendix A, and the final objectives are as follows.

The primary objective of the Station Accessibility Programme is:

- Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner, for completion by 2034.

The secondary objectives of the Station Accessibility Programme are:

- Improve customer experience at stations in the programme, in line with the IÉ implementation plan;
- Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers;
- Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems; and
- Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents.

It is worth briefly noting that (as also discussed in Chapter 3), although not an aim of the Station Accessibility Programme, measures delivered by the programme will support long term patronage growth on IÉ services, not least because the programme will provide facilities to enable persons with disabilities and reduced mobility to have greater scope to access rail services. Such measures at stations can also result in potential demand uplifts in their own right, but these will be small and difficult to quantify and isolate as being related to the programme. As such, it is not a specific objective of the programme to drive demand, but the programme should work to support an increase rail use as part of the non-motorised transport offer in Ireland; this also links to the secondary objective of the programme to reduce reliance on cars.

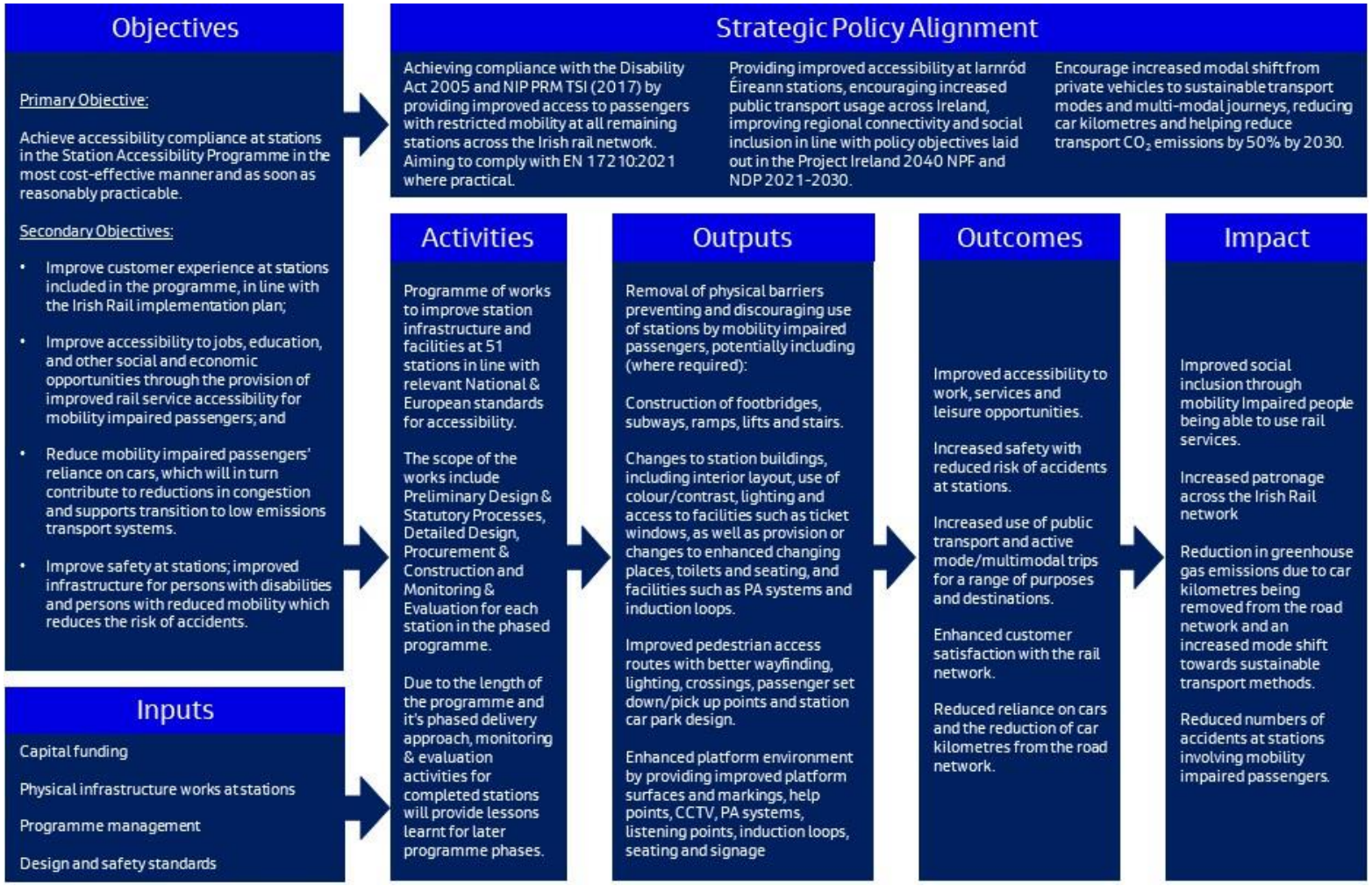
5.2 Logic Path

The Transport Appraisal Framework (TAF) recommends that a Logic Path Model (LPM) should be developed as part of the Preliminary Business Case as the development of an LPM can help identify the possible KPIs for an intervention. Furthermore, it is good practice to use an LPM to set out the intervention logic for any programme or scheme that is to be evaluated, as this demonstrates the assumed links between:

- Objectives – the overarching programme level objectives;
- Inputs – what is being invested in terms of resources;
- Activities – the actions to turn inputs into outputs;
- Outputs – the implemented programme elements;
- Outcomes – short- and medium-term outcomes (e.g. changes in traffic flow and modal shift); and
- Impacts – long term results (e.g. economic growth, improved health, environmental benefits which should form the basis of indicators for monitoring and evaluation).

A programme-level Logic Path Model (LPM) has been prepared for the Station Accessibility Programme, which is shown in Figure 5-1.

Figure 5-1: Station Accessibility Programme Logic Path



6. Development of the Programme

6.1 Introduction

The main objective of the Station Accessibility Programme is to achieve accessibility compliance at stations in the programme in the most cost-effective manner and as soon as reasonably practicable. Hence, the primary driver for the intervention is accessibility, which has been considered in the long listing of potential stations and intervention options.

As such, long listing of potential options for the Station Accessibility Programme started by identifying stations that require interventions, going on to set out specific interventions and to prioritise stations' position in the programme. As statutory compliance with accessibility regulations is required, a 'do nothing' option does not present an acceptable or viable option. The lowest acceptable level of intervention is therefore an option that provides compliance with accessibility standards as defined by CCE-TMS-312 (Design Standard Guidance for Accessibility Works) that meets the statutory requirements.

The remainder of this chapter begins with a discussion of the key intervention consideration within the Station Accessibility Programme, namely options to provide accessibility where track crossing is required, going on to describe the processes undertaken since the overall programme began in 2014, identifying the stations and the accessibility work required, as well as prioritise investment and stations included.

6.2 Consideration of Interventions

The key presumption across programme in developing the long listing of potential options is that accessibility compliance at stations will be achieved most cost effectively through the introduction of a Mobility Impaired Access Structure (MIAS) consisting of provision of both lifts and stairs linking to an overbridge arrangement. An underpass can represent an alternative station-specific option which could achieve compliance, however there is a general presumption against underpasses unless there are station-specific constraints that justify their use, as underpasses generally have significant disadvantages compared to over track crossings for the following reasons:

- Public security, both in real terms and in terms of public perceptions are considered significantly worse for underpass arrangements. The loss of external visibility and introduction of blind corners increases the risks of anti-social behaviour and physical assaults.
- Underpass arrangements require deep excavations, which result in significant volumes of arisings being generated for disposal, increasing both scheme costs and its impact on sustainability.
- Deep and more significant excavations for underpasses compared to over track crossings create greater uncertainty due to unknown ground conditions at each station, impacting the viability of the scheme and increasing the risk to progression. Pre-construction costs are also significantly increased due to the need for far more extensive geotechnical investigation works.
- Underpasses create greater uncertainty during the construction phase, as progression of works is heavily dependent on ground conditions and fluctuations in water tables. This has the potential to significantly increase construction duration, increasing the impact on the travelling public during construction.
- To ensure safety during excavation works, underpasses require shoring of excavations which increase the overall footprint of the works. Station environs are often significantly constrained and therefore this leads to additional complexity at construction, more significant health and safety risks to be managed, and a consequently greater potential for impacting on public travel.

Ramps also offer a means of improving accessibility across the railway as an alternative to lifts. However, ramp options are not compliant with the requirements for access routes in TGD Part M 2022, which notes that ramps should not be provided where the vertical rise required to be achieved is greater than 2000mm.[40] The vertical rise associated with a track crossing is significantly greater than this, as the standard footbridge headroom to the railway is 5.3m above track level. Whilst non-compliant with access routes guidance in TGD Part M 2022 as noted, ramps can still improve accessibility but in doing so can present a greater challenge to users than lifts, as a result of significantly longer in-station distances involved given the need to achieve a large vertical rise without exceeding a compliant gradient.

[40] Building Regulations Technical Guidance Document M (2022), Section 1.1.3.4 (i)

As a result of this scale, ramps are also generally less cost effective than overhead MIAS structures and increase the overall footprint of interventions at stations significantly, thus also increasing the impact of the project across a number of criteria driven by spatial use, such as environmental and ecological impacts. Ramps also increase the visual impact of interventions, which can be of particular importance at some stations due to the presence of heritage structures, where minimising the visual impact of interventions on the existing historical setting is also crucial to achieving compliance with statutory planning regulations.

It should still be noted though that although there are presumptions against the use of underpasses and ramps as part of the Station Accessibility Programme as outlined above when considering options at a programme level, it is important to consider that there may be some benefit to considering these options where there are particular station specific reasons and/or constraints that mean these options perform could better than the standard MIAS approach. Therefore, during preliminary design at a station (Phase 3) this presumption should be revisited and full station specific assessment is undertaken to consider the relative merits of options.

6.3 Accessibility Project Feasibility Report (2014)

Produced in March 2014, the Accessibility Project Feasibility Report formed the first phase of a project to augment accessibility across the 54 stations that had not yet received any improvements under the IÉ Accessibility Programme.

The first stage of the study was a process of station surveys, data collection, and comparisons against the PRM-TSI and other relevant guidance, to identify the accessibility requirements and options at each station. After identification of potential accessibility works at each station was undertaken, a parallel costing process developed high-level costs for three scenarios covering a range of modification works. These scenarios were:

1. Do Minimum (2014 definition) – works to address perceived significant potential safety concerns within the context of the accessibility works scope and works to address critical accessibility deficiencies;

2. Do Maximum (2014 definition) – This option was effectively the full list of works identified during the surveys that are required to achieve full accessibility compliance with PRM-TSI; and

3. Do Moderate – established by starting with the Do Maximum full compliance scope and removing certain elements of work which could be postponed in accordance with the PRM-TSI and elements of work that are deemed to be lower priority as agreed previously with the project sponsor.

With a list of required works to meet full compliance having been established for each station, the next stage was to prioritise the works for budget allocation purposes. A prioritisation process was developed that was based on scoring each station on several criteria, drawing out aspects of the stations related to accessibility. These included the presence or deficiencies in facilities (e.g., lighting, access routes, etc), which were in turn given a weighting, and the weighted scores added to give a total score for each station. Table 6-1 shows a summary of the criteria used and maximum attributable score to each category to develop a weighted total score; the station with the largest overall score was adjudged to have the highest priority, and so on.

Table 6-1: Station prioritisation criteria and weighting

Criteria	Maximum Weighted Score
Passenger Numbers	14527
Key accessibility safety items concerning Platforms	2000
Other key accessibility safety items	900
Customer Information accessibility deficiencies	1200
Track Crossing accessibility deficiencies	1000
Station Access accessibility deficiencies	800
Lighting accessibility deficiencies	600
Car Park and Station Approach accessibility deficiencies	400
User Group input	1000
Buildings & Facilities input	1000
Operator input	1000

Criteria	Maximum Weighted Score
Local facilities and amenities relevant to persons with disabilities and persons with reduced mobility	900
Potential temporary use of nearby compliant accessible station with use of taxis	-1000
Unstaffed stations	1000

The study resulted in a concise, prioritised list of 54 stations for the overall programme, as well as three cost scenarios developed for each station. The cost of interventions at individual stations ranged from less than €50,000 to over €3.5 million (including VAT), with an average of between €0.8m for 'do minimum' approaches to €1.5m for 'do maximum' approaches.

6.4 Supplementary Study (July 2014)

Following release of the initial accessibility Project Feasibility Report, a 'Supplementary Study' was carried out and issued in July 2014. This requirement arose as a result of projected high-level costing, identified within the initial report, as being significant, and the funding allocated to the programme likely being insufficient to cover these costs. As such, the supplementary study was undertaken to consider a reduced do-minimum option to focus only on works which would enable 'a wheelchair user to board and alight from a train and enter and leave each station', aiming to progress these elements earlier than the wider programme of interventions, commensurate with the level of available funding.

The supplementary study considered both assisted and un-assisted routes for wheelchairs to reach the platform(s) of the station, from station boundary points or accessible parking bays. Specifically, this considered provision of un-assisted wheelchair access to a single platform per station and not necessarily another platform at stations where there are more than one platform. Routes between platforms were also considered separately. Where interventions are required, the costs for crossing tracks are typically much higher than just external access to platforms. As such, the report recommended prioritising the provision of routes to platforms, with track crossing interventions to follow.

6.5 Progress & Approvals (2015-2018)

Between 2015 and 2018, a series of annual approvals for funding resulted in minor upgrade works being completed across all 54 stations, at a total cost of approximately €4 million. Furthermore, in December 2018, the Board approved a further €3.25 million for the 2019 Accessibility Programme to be partially allocated to minor upgrade works at Coolmine, thus increasing the number of stations within the programme to 55.

6.6 Project Review (2019)

A review of the original accessibility project was carried out in 2019, with an associated report issued in January 2020. The review is an addendum to the 2014 IÉ Accessibility Project Feasibility Report, the objectives of which were to update the prioritisation model for the rollout of upgrade works, taking account of improvement works completed to date, the latest passenger census figures, the latest operational requirements, up to date stakeholder feedback and user group needs.

Three further stations were included in the programme at this stage based on stakeholder feedback (Dalkey, Gormanston and Castlebar), increasing the total number of stations within the programme to 58. However, as a result of linkages with the DART+ Programme, three stations have been removed from the list for major upgrades (Connolly, Ashtown and Coolmine). Hence, the 2019 Review report provided updated assessments and prioritisation for 55 stations. The resulting prioritised list of stations in the 2019 Review forms the basis for subsequent programme development.

Following the 2019 review and report, the NTA confirmed that developing proposals for full TSI compliance at the Station Accessibility Programme stations could commence. In addition to ongoing design and/or construction work, it was also proposed to progress with preliminary design and planning stages for the first 15 stations in the prioritised list. Further work has also since been undertaken to consider accessibility issues across the IÉ network to further develop the programme and refine the list of stations requiring intervention.

Accessibility improvements works at three of the 55 stations in the 2019 Review list are now complete (Carlow, Ennis and Edgeworthstown), and Limerick has been removed from the programme as works were carried out under other auspices. As such, the future programme, seeking funding from 2022 onwards, includes 51

stations. These were originally divided into three 'packages' for the completion of works associated with preliminary design and statutory approval (Phases 3 and 4), with each being completed over 5-year periods, beginning with Package A (the first 15 stations in the prioritised list), following by Package B (next 15 stations), and finally Package C (the remaining 21 stations). Table 6-2 identifies the stations in each of the three packages of stations that were originally set out for programme implementation.

Table 6-2: Station Accessibility Programme - packages from prioritisation after 2019 review

Package A		Package B		Package C	
Priority	Station	Priority	Station	Priority	Station
1	Dalkey	16	Gorey	31	Castleknock
2	Gormanston	17	Roscommon	32	Tralee
3	Little Island	18	Enniscorthy	33	Kilcoole
4	Banteer	19	Dromod	34	Sligo
5	Rathmore	20	Rosslare Strand	35	Cobh
6	Maynooth	21	Farranfore	36	Leixlip Confey
7	Glounthaune	22	Muine Bheag	37	Enfield
8	Rathdrum	23	Fota	38	Killarney
9	Arklow	24	Castlerea	39	Rosslare Europort
10	Athy	25	Ballyhaunis	40	Wexford
11	Longford	26	Carrigaloe	41	Millstreet
12	Rushbrooke	27	Drumcondra	42	Collooney
13	Wicklow	28	Broombridge	43	Foxford
14	Boyle	29	Kilcock	44	Thomastown
15	Claremorris	30	Leixlip Louisa Bridge	45	Carrick-on-Shannon
				46	Ballymote
				47	Ballina
				48	Westport
				49	Castlebar
				50	Manulla Junction
				51	Mullingar

6.7 Delivery the Station Accessibility Programme

As briefly discussed above, it was originally anticipated that the full Station Accessibility Programme would take 13-15 years to complete, with works at four to five stations being completed per year, to ensure the continued availability of resources to work on the programme. The programme was thus divided into the three 'packages' of stations to be delivered in three 5-year periods, with the three packages each including a sub-set of the stations' preferred options which would be delivered over successive 5-year periods. At the end of each 5-year period, an assessment was to be carried out to review the potential for employing additional resources and rationalising or streamlining the works to accelerate the delivery of the remaining programme.

The scale of the Station Accessibility Programme is such that it will be delivered over a number of years. For practicality with a large number of stations to deal with, delivery of the programme is based on considering the analysis, design and implementation of interventions for sub-sets or packages stations in the programme. The number of stations in the programme (51), and consequent timescale overall (almost 15 years), means that the most practical approach is to deal with approximately a third of stations in the programme at a time, in a package to be delivered over its own 5-year period. The 5-year period (package) approach was thus determined at the outset of the programme, and likewise a corresponding process to manage the programme on the same 5-year periodic basis for approvals and funding.

Additionally, the development of 5-year packages for delivery allows for flexibility in the Station Accessibility Programme, so that the programme can respond to potential changes in guidance and regulation. Guidance

documents and technical regulations are periodically updated, meaning that alterations to scheme designs may be required. By delivering interventions in 5-year packages, it is possible for proposals to evolve between packages, in line with updated guidance.

As such, the ethos of 5-year periods within the overall Station Accessibility Programme has been intrinsic to the development of the programme to date (e.g. the 'Preliminary Design Report' 2021 discussed below covered the first 15 stations, for implementation in the first 5-year period), and was set out in the SAR as the recommended approach for subsequent PBC(s). The current PBC document follows on from this by setting details for the first 5-years of the programme, as well as the programme overall. Following the same process, programme approvals would need to be revisited in 2026 to ensure that future funding can be obtained.

Alternative delivery approaches, such as a 'big-bang' approach where all works are delivered simultaneously, were not considered viable, due to the level of resources that would be required to complete the work and the high level of risk associated with completing all upgrade works in one period. Undertaking a programme of delivery allows for lessons to be learnt and adopted during different phases of the work and efficiency savings to be achieved during the programme.

However, through development of the programme and ongoing station-specific work, as well as amendments to guidance surrounding programme development, business cases and permissions, there have been some adjustments to the approach to programme delivery. In this first instance this has resulted in a series of more specific programme options being developed, that this PBC is providing assessment of. This is to ensure that approaches to delivering the interventions required are considered systematically, to further ensure that the compliance with accessibility regulations is delivered, but also rigorously considered alongside additional potential interventions. The next section of this PBC (Part 3) sets out and analyses the series of programme options considered.

Financial monitoring of programme delivery over 5-year periods is being retained, but circumstances are now such that the erstwhile station packages (A, B & C) identified above will not fit into 5-year periods as originally intended. As such, after the overall programme options are considered (in Part 3), the subsequent section of the PBC (Part 4) identifies the stations that are now being taken forward in the first 5-year period of activities in the programme and provide a more detailed analysis of the activities in the first 5-year period.

It should be noted at the outset though that, as intimated above, as a result of early progress and associated changes, this involves a subset of the 15 stations originally defined as 'Package A' being fully completed, with the remainder being completed in the next (second) 5-year period. Note also that Years 1-5 activities also include preparatory work at other stations originally defined as being part of 'Package B' and/or 'Package C'.

6.7.1 Preliminary Design Report

The Station Accessibility Programme 'Preliminary Design Report' was produced in December 2021, covering the initial 15 stations previously referred to as 'Package A' stations. The study that produced this report carried out an accessibility audit at each of the stations, and from this considered concept designs and optioneering (including potential footbridge designs) and from this produced initial costing and programme information. It went on to produce preliminary designs, initiate statutory processes and planning, and initial environmental screening reports.

Potential measures identified in the Preliminary Design Report have been incorporated into assessments in the PBC of both programme options and individual stations as applicable. Appendix B contains details of measures at stations, including those identified in the Preliminary Design Report along with further measures considered as part of other option.[41]

6.8 Cost Estimating

6.8.1 Base Construction Costs

The base construction costs for station accessibility measures were fixed at 2022 prices, in line with the start of the first five-year period of the Station Accessibility Programme (from 2022 to 2026). As the programme is

[41] Details of programme options and application to individual stations are provided in Chapter 7. The Preliminary Design Report provides compliance measures that have been included in assessments of Years 1-5 Activities, but have also fed into aggregate consideration of measures for programme options. Appendix B also sets out measures and interventions related to the other programme options.

already underway, actual costs could be used to benchmark further programme station cost estimates. Of the stations within the programme, five typical stations which included a new accessible footbridge with lifts, had already been tendered, were on site or were fully completed by the end of 2022, as follows:

- Ennis;
- Edgeworthstown;
- Carlow;
- Dalkey (which was tendered as a double station package with Gormanston); and
- Gormanston (as noted above, tendered as a double station package with Dalkey).

The overall works tendered for at these stations included all of the main work elements contained within the Station Accessibility Programme (footbridges, lifts, ramps, mechanical and electrical, platform works, telecoms, signage and finishes). As such, average tender return rates for each of the tender packages above were used to establish base costs for works at all future stations within the programme. Design and project management costs for each phase of the individual station projects (Phases 3-7) were applied using the same basis as above to determine amounts, being derived from an aggerate outturn of such costs for the five stations completed or partially completed up to 2022.

The average tender return costs from the first five stations were also benchmarked against the construction rates contained within the Society of Chartered Surveyors Ireland (SCSI) 'Construction Cost Index & Tender Price Index' (2022 & 2023) for similar types of work. In addition, other stations that would come forward in the programme in due course were reviewed to determine whether there could be other cost impacts, related to land purchase requirements, ESB supply upgrades, site access and compound restrictions, and potential for disruptive possession requirements. Cost uplifts were then applied where appropriate. VAT was applied to each respective element of the works as appropriate.

6.8.2 Cost Benchmarking

As noted in Section 6.8.1, actual tendered or delivery costs were used as benchmarks for station cost estimates. These costs were further developed on a station-by-station basis to ensure that costs included in the financial appraisal included within this report were as accurate as reasonably practical, given the information available at the point of undertaking the assessment.

The robustness of these costs as being representative of the market delivery costs within Ireland is underpinned by the procurement process undertaken by Iarnród Éireann. The stations delivered to date have been procured under the Government Construction Contracts Committee's Form of Contract, which complies with both Iarnród Éireann procurement governance and European Procurement Regulations. Contract tendering to date has been through Iarnród Éireann's Civils Works Qualification System, which has an appointed panel of 19 contractors, thus ensuring Iarnród Éireann receive a range of prices to select the most economically advantageous. As such, an average of six bidders per station has responded in providing tenders, demonstrating the competitive nature of the tendering environment which is the basis of driving better value for construction costs.

Preferred bidders for these station tenders are assessed using a transparent evaluation process, with a split of 70% cost and 30% quality in evaluation criteria, meaning that it is the preferred bidders whose costs have been used to inform benchmarking, which typically represent the most cost-efficient contractor. Moreover, as works at a number of stations are now complete, it is outturn costs rather than tender costs that have been included in the benchmarking exercise, ensuring that any changes and lessons learnt during construction which will be carried forward to delivery of future stations are captured in the cost estimates.

Typically, benchmarking should utilise the most representative information available within the market and draw on projects which are the most technically similar. The approach taken to benchmark costs estimates therefore represents best practice as the technical solution at each location will be very similar, and the market conditions are the same.

Whilst the above rationale provides confidence that the cost estimates are robust and representative of the conditions within the Irish market, a wider benchmarking exercise was also undertaken to understand delivery of similar projects elsewhere, focused on the UK. Although the UK market is considered to be under different economic constraints from that in Ireland, it can be considered as reasonably representative of a similar culture and capability within the construction sector for station accessibility interventions.

However, it should be noted that wider benchmarking such as this can only provide costs at a more indicative level, and although the station construction market in the UK is noted as being similar to that in Ireland, there are still potentially significant differences within the delivery of individual projects, such as:

- Differences in technical capability, including production capabilities, transportation costs, and labour market differences and availability;
- Technical differences in the specification of projects; for example there is a tendency towards utilising steel in MIAS footbridges in the UK, whereas greater use is made of concrete in Ireland; and
- Market differences such as the detailed forms of contract used, contractual structures and payment mechanisms and contractor/client behaviours during construction.

Table 6-3 includes reported delivery costs for example projects from the UK. It can be seen from the table that typical costs for accessibility projects in the UK can vary significantly (ranging from around £3m to over £6m, equivalent to €3.6m to €7.6m). However, it is significant to note that these typical equivalent costs in Euros relate well to the average of the values used within cost estimates for the Iarnród Éireann Stations Accessibility Programme, indeed if anything exceeding them (early Station Accessibility Programme station costs average a little over €3.0m), thus validating the exercise undertaken by Iarnród Éireann in establishing an appropriate benchmark using tender and outturn costs.

Table 6-3: Accessibility improvement costs

Station	Value	Delivery Year
Llanelli	€7.56m (£6.3m)	2024
Barnes	€6.84m (£5.7m)	2023/2024
Port Glasgow	€6.00m (£5.0m)	2023/2024
Teddington	€5.04m (£4.2m)	2023/2024
Croy	€3.72m (£3.1m)	2022
Northallerton	€3.60m (£3.0m)	2022

6.8.3 Contingency & Risk

In determining programme intervention costs, the approach to assessing appropriate allowances for risk and contingency has followed the guidance and methodologies for cost estimating enshrined in Cost Management Guidelines (CMG) required by the NTA, specifically:

- Contingency Calculator (NTA CMG 001_B123_CC); and
- QRA calculator (NTA CMG 013_B23_QRA).

The calculators are used to assess contingency and risk values for stations at stages of scheme development as appropriate, providing unique values to each station according to its scheme development stage, specific circumstances and interventions. Calculations have been carried out as required to pass through the project approval points; i.e. during preliminary design (project Phase 3) and detailed/tendered design (project Phases 5a/b). Note though that formal calculations of risk and contingency have not yet been done for all of the stations in the programme, as a result of the remaining length of the programme and individual stations' stage of development. While stations in the first 5-year period (referred to as Package A) and some stations in the second 5-year period (Package B) have had levels of risk and contingency calculated using the calculators, formal calculations have not yet been carried out for the final 5-year period (Package C stations). Moreover, stations in the first 5-year period (Package A) have had contingency calculations at either Phase 3 or Phase 5 of scheme development, those in the second 5-year period (Package B) have only been assessed at Phase 3.

Risk and contingency are inherently uncertain, even when scheme development reaches Phase 5, so financial appraisal has taken output from the risk and contingency calculators and utilised average values for risk and contingency for 5-year periods. As risk and contingency calculators have not yet been complete for stations in the final 5-year period (Package C), the average values of risk and contingency for stations in the first and second 5-year periods (Packages A & B) have been used. Note though that while higher values of risk and contingency may be expected for these schemes as they are at earlier phases of development, the inherent progression and consistency of approach to cost development and cost referencing through the whole of the Station Accessibility Programme consequently brings clear knowledge of typical risks. It has therefore been determined that higher allowances of risk and contingency would be inappropriate and disproportionate in the

assessment of costs for stations in the final 5-year period (Package C), and hence use of values assessed for stations being delivered through the first and second 5-year periods (Packages A & B) are appropriate.

Optimism bias

Optimism bias can occur when project developers underestimate the costs and timings and/or overestimate the benefits for a project or programme. The IG (PBC guidance) note that optimism bias should be taken into account in project planning at the PBC stage, in particular in the consideration of costs.

There is though no specific singular recommended methodology for taking optimism bias into account in costs, with the guidance noting that: *"Costing information is based on market costs, the most recent costs from similar projects, and informed by estimates of inflation and risks that have manifested in similar projects in the past. A number of tools are considered and used throughout the project lifecycle, as appropriate, to improve the accuracy of estimated costs for capital projects. These tools include external peer review, benchmarking and reference class forecasting. Deployment of these approaches can assist in mitigating the risks of optimism bias."*

The percentage uplift for contingency in either the Preliminary Cost Estimate or the Post Tender Cost estimate has been applied to total project costs including risk output. The contingency calculator provides a methodical, consistent and recognized approach to establish an appropriate allowance for contingency. The calculator includes a forecasting methodology based on principles of 'Reference Class Forecasting', based on previous project performance. The base costs provided for the Station Accessibility Programme have been prepared using current market costs and recent costs from similar projects, as well as risks that have manifested in similar projects in the past. As such, combined with the use of the NTA contingency calculator to calculate a set of contingency uplifts for the programme, it is considered that the cost estimates used in the Station Accessibility Programme PBC are robust, and include sufficient allowance for risk and contingency meaning that no further allowance is required for optimism bias beyond this.

6.8.4 Inflation

Inflation has been applied to base year (2022) cost rates. Inflation rates contained in The National Transport Authorities (NTA) Inflation bulletin February 2024 were applied to determine year-by-year costs. The base inflation adjustment rate for Civil Engineering works was used and a cumulative inflation adjustment amount applied to year(s) of construction, taking costs from the base of 2022 to that year.

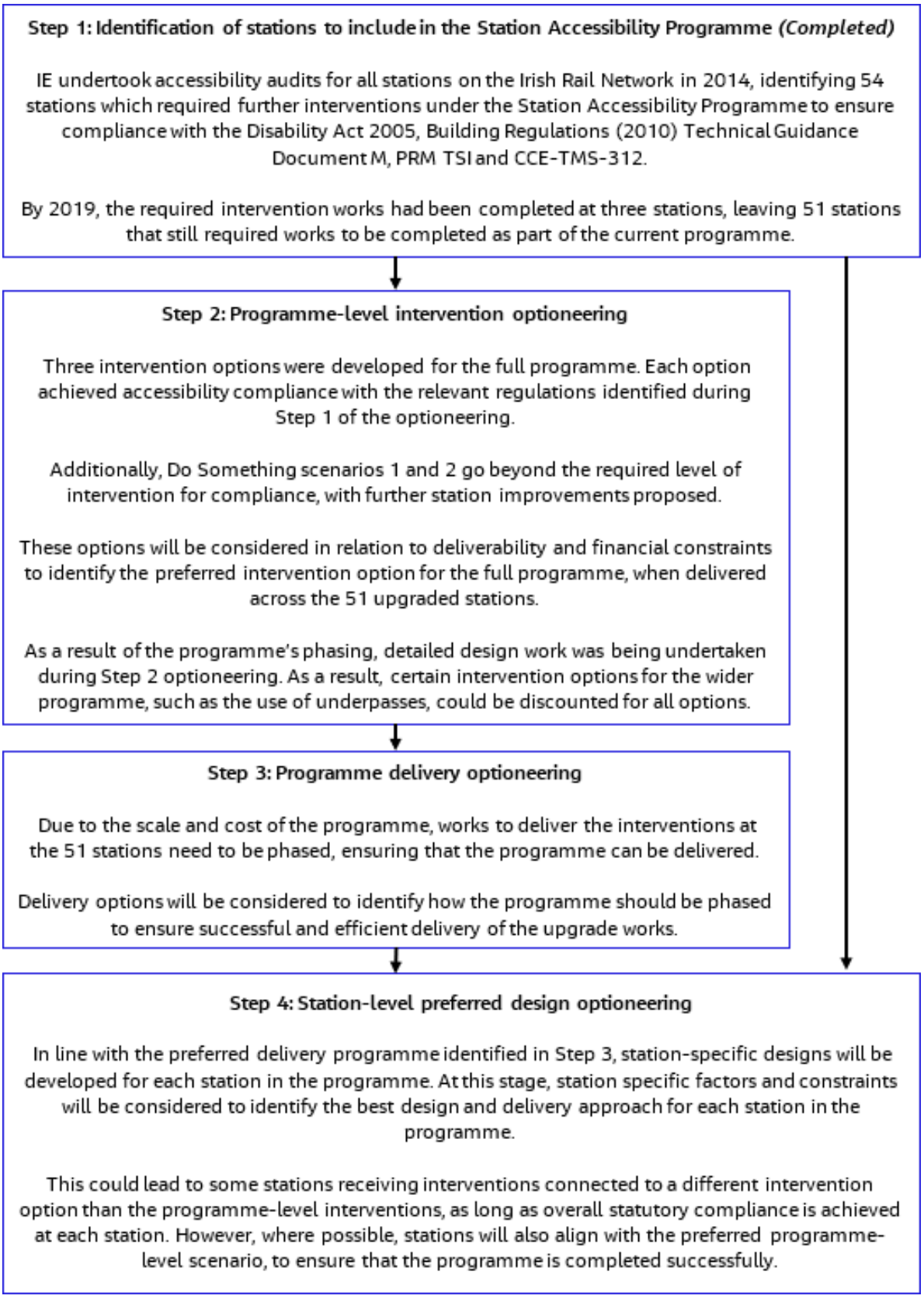
6.8.5 Risk register

Guidance from the NTA Cost Management Guidelines (CMG), specifically '004_B1_QRA_CMG-QRA-Guidance-Part-2_V1 Risk Register', was used to establish the appropriate allowance for risk. This tool is used to record, assess and analyse risks, and allows risks to be allocated to the party best placed to manage them and to identify/record mitigation strategies implemented to remove the risk, reduce the likelihood of it occurring and reduce the impact if it does occur. The risk register establishes a percentage that is applied to base costs.

6.9 Optioneering Process

It is important to note that the long-term nature of the Station Accessibility Programme and the way that it includes multiple discrete stations means that optioneering has taken, and continues to take, several forms across a number of steps. In effect there are four steps of optioneering across the gestation of the programme, beginning with the first step to identify stations to include in the programme (which is complete) and going on to include consideration of options at programme level for interventions and delivery, as well as options for interventions at individual station level. Figure 6-1 shows the steps in the optioneering process.

Figure 6-1: Station Accessibility Programme optioneering process



Part 3:
Programme Option Analysis

7. Programme Options

7.1 Introduction

Through on-going development of the programme, as well as changes to guidance surrounding programme development and permissions,[42] there have been adjustments to the approach to programme delivery which need to be appraised. A series of programme options have therefore been developed, to ensure that different approaches are rigorously considered. The programme options provide different levels of improvement at stations, with four levels of intervention being applicable to the stations, each level representing a different level of investment. The aim of deriving and assessing a series of programme options is to determine the impacts of the programme overall as well as consider the optimum approach to delivering the programme.

The three chapters in this section of the PBC first define the programme options and how they apply to each of the stations in the accessibility programme (Chapter 7), and subsequently provide financial analysis of the options identified (Chapter 8) and economic analyses and appraisals (Chapter 9), also identifying an emerging preferred programme option for future delivery.

7.2 Definition of Options

Four programme options have been identified. Option A is a reference case 'do nothing' option, which forms a counterfactual alongside which three 'do something' options have been derived for comparison. Options B, C and D incorporate measures representing different levels of accessibility-related intervention at the stations. Interventions related to the options are described in Table 7-1. Figure 7-1 shows options cross referenced with appraised interventions and regulations.

Table 7-1: Programme options and interventions

Option	Intervention	Description
A	Do nothing	No change to the existing station infrastructure.
B	Compliance Do Minimum ('B' measures)	Upgrades to the station that achieve compliance with national and EU regulations including PRM TSI (2017) and Irish Rail Document CCE TMS 312 Version 1.0 which sets out Irish Rail Standards in order to meet compliance with Building Regulations (2010)[43] and the Disability Act (2005). All stations in the programme have some level of intervention to ensure compliance with regulations.
C	Enhanced changing places Do Something (includes 'C' measures, plus 'B' measures)	Upgrades to the station that achieve compliance with national and EU regulations ('B' measures), plus where possible the provision of a new changing places facility as outlined in the Part M Amendment to the Building Regulations (2022)[44], also consistent with EN 17210:2021.[45] Six of the stations in the overall programme are suitable for these facilities (Longford, Roscommon, Ballyhaunis, Sligo, Killarney and Wexford).
D	Improved local multi-modal access Do Something (includes 'D' measures, plus 'B' measures, plus 'C' measures where applicable)	Upgrades to the station that achieve compliance with national and EU regulations ('B' measures), plus where possible the provision of improved multi-modal access facilities local to the station ('D' measures), plus where possible the provision of enhanced changing places ('C' measures). A further eight of the stations in the overall programme are suitable for this form of enhancement (Little Island, Banteer, Athy, Boyle, Rushbrooke, Enniscorthy, Ballyhaunis and Wexford).

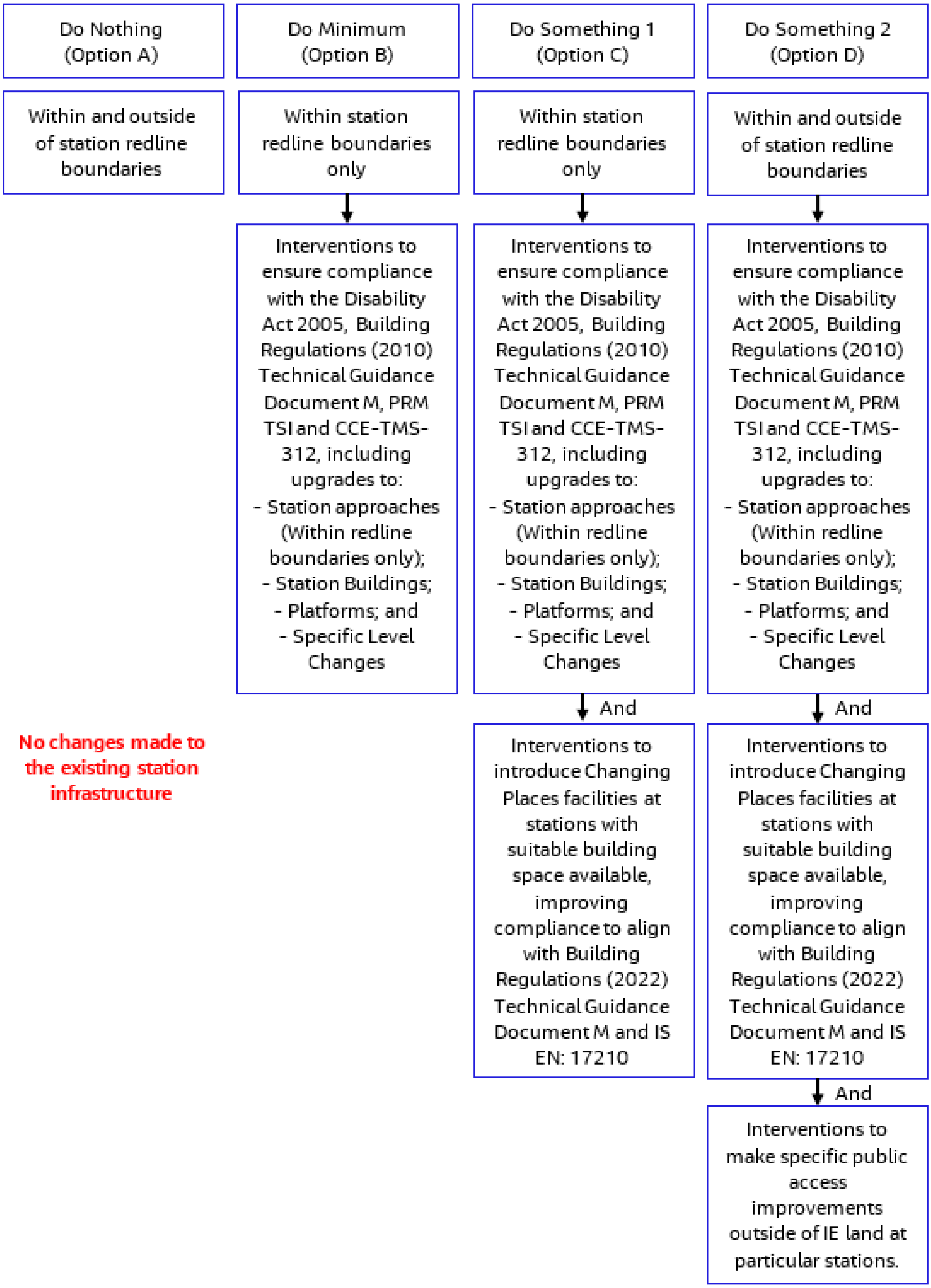
[42] Introduction of: Transport Appraisal Framework (TAF) in June 2023; Infrastructure Guidelines in December 2023 (which replaced the previous Public Spending Code); and revised NTA Project Approval Guidelines (March 2024).

[43] An amendment to the Building Regulations Technical Guidance Document M (2022), has subsequently been released. However, the updated guidance came into effect after the commencement of the programme (on the 1st January 2024). As such, the Transitional Arrangements outlined within the updated guidance document state that the 2010 edition of Technical Guidance Document M still applies, with Option B interventions achieving compliance against this set of guidance.

[44] https://www.irishstatutebook.ie/eli/2022/si/608/made/en/print

[45] EN 17210:2021: 'Accessibility and usability of the built environment – Functional requirements'

Figure 7-1: Appraised intervention options cross-referenced with options



Scenarios covered by options

To understand the net additional impact of a project, Infrastructure Guidelines (section 1.4.2) recommends the careful consideration of what would happen without the proposal, i.e. the investment counterfactual. Option A, as a 'do nothing' option is included as the 'counterfactual' against which the other compliance options can be compared. Because Iarnród Éireann do not have approval for expenditure at the appraised stations outside of

regular station maintenance, and such ongoing station maintenance expenditure will only result in upkeep of existing assets at the stations and not improve station accessibility, no interventions can be delivered as part of a counterfactual of the Station Accessibility Programme. Hence, 'Do-Nothing' represents the baseline or the counterfactual for the programme. This is consistent with guidance in TAF Module 4 (section 4.9.12).[46] At a broader level, this guidance also recommends that, in addition to a Do Nothing or Do Minimum there should be at least three Do Something options. Table 7-2 shows the alignment of the programme options with this aspect of TAF guidance.

Table 7-2: Alignment of Programme Options with TAF Guidelines

Scenario	Programme Options
Do Nothing	Option A
Do Minimum	Option B
Do Something 1	Option C
Do Something 2	Option D
Do Something 3	N/A

As the aim of the Station Accessibility Programme is to achieve compliance, Option B represents the do-minimum option. As set out previously in this chapter, the other Options (C and D) represent additional interventions which may be considered to improve accessibility beyond those which are required to achieve the minimum standards of accessibility. Provision of Option C represents exceeding this minimum standard of accessibility, and Option D goes a step beyond, considering additional accessibility interventions beyond the land owned by Iarnród Éireann. Option D is effectively a 'do maximum' approach, as it includes reasonable interventions in the immediate vicinity of the station environment, however out with Iarnród Éireann's current remit. Any interventions beyond this would not be within the purview of Iarnród Éireann and are impractical in a delivery sense within this programme, therefore are considered not relevant for inclusion within this report.

It is important to note that in the development of the four programme options, Iarnród Éireann engaged both with the NTA and wider stakeholders, including an ongoing quarterly meeting with the Disability User Group (DUG). Members of the DUG have also attended site inspections prior to opening of the accessibility projects which have been completed and provided feedback to Iarnród Éireann. Iarnród Éireann have considered this feedback, as well as that gathered from quarterly meetings and discussions with NTA in developing these options, and to date no feedback has been received which relates to works which would be beyond the works required across Options B to D of the Programme. As such, it is therefore not clear how an additional 'do something' option could realistically be developed.

Features of options

A key feature of the programme options is that interventions that constitute the three 'do something' options (Options B, C and D) all include measures that ensure the upgraded stations meet the accessibility standards required to ensure the stations' compliance with PRM TSI (2017), Building Regulations (2010) and the Disability Act (2005). These measures are initially defined in Option B, and as such Option C and Option D are both additive to Option B.[47]

Iarnród Éireann document CCE-TMS-312 V1.0, which is essentially the basis for Option B, is utilised by Iarnród Éireann to ensure compliance with PRM TSI (2017), Building Regulations (2010) and the Disability Act (2005) and in many instances goes beyond the requirements of these individual standards. For that reason, the difference in requirements between CCE-TMS-312 V1.0 and IS EN 17210, which is the basis for Option C, is limited to a small number of specific interventions, namely:

[46] TAF Module 4 section 4.9.12 states: "Do-Minimum options typically only include investments that have already been pre-committed, i.e., an existing funding commitment which has progressed through planning and is either under construction or programmed into the relevant capital expenditure budget. The Do-Minimum option typically does not include other schemes which are planned but not fully committed as defined above. However, such planned schemes may be considered within the appraisal process via sensitivity or scenario analysis. These Do–Minimum interventions may not fully address the investment rationale and may not provide the necessary capacity or conditions to meet projected demand in the long–term or fulfil the stated objectives of a proposed intervention."

[47] Given that compliance with accessibility and disability standards is ultimately mandatory, albeit there is a recognition that it will take a pragmatic amount of time to achieve this, programme Option B, which provides a basic level of compliance with initial accessibility standards, arguably functions as an ultimate de facto 'do minimum' for the programme. However, measures in any of the intervention options of the Station Accessibility Programme are hitherto not committed to a degree that they can be categorised as 'do minimum' for appraisal purposes. As such, appraisal of the options in the PBC uses the 'do nothing' Option A as the counterfactual.

- Facilities for assistance dogs;
- Toilets for children and accessible toilets for children with disabilities;
- Breast feeding rooms;
- Accessible toilets and bathrooms for people who are obese and bariatric patients;
- And additional ancillary interventions such as user interface controls and switches and additional fire safety measures.

In developing programme options, it was recognised that the key differentiator between Option B (CCE-TMS-312 V1.0) and Option C (Option B + IS EN 17210) at a programme level was the potential for the introduction of a changing places facility (providing suitable facilities for obese and bariatric patients, as well as children with disabilities), as these required an appropriate building for installation. This represented an assessment which could be undertaken on a programme wide basis and was of significant enough cost differential to be assessed, therefore represents the differentiator between Option B and C which will be referred to throughout this report.

The other differentiators between CCE-TMS-312 V1.0 and IS EN 17210 are typically of nominal cost to introduce, and therefore for the basis of this programme level business case are not practical for inclusion in the financial appraisal of Option C as they offer limited differential and cannot be fully understood until a more detailed appraisal is undertaken at each station including consideration of each individual toilet and its compliance. As these costs are nominal, should Option C represent the preferred option for the Station Accessibility Programme, the full remit of IS EN 17210 will be considered at each station during Preliminary Design and Detailed Design.

While compliance interventions ('B' measures) have been applied to all stations in the programme option assessment, interventions related to Options C and D can only be applied at applicable stations:

- Option C interventions ('C' measures) require an appropriate building for the installation of a changing places facility; and
- Option D interventions ('D' measures) require suitable opportunities for enhancing local access.

Therefore, as indicated in Table 7-1, while 'B' measures are applied at all stations in the programme, only six stations can also have enhanced changing places ('C' measures), with a further eight stations being compatible with interventions to improve multi-modal access ('D' measures). Two stations (Ballyhaunis and Wexford) can incorporate both 'C' and 'D' measures.[48]

Stations and options

Table 7-3 shows all the stations in the programme, indicating whether there are measures associated with Options B, C and D at each station. The table also includes the former 'package' for reference to development of the programme in Chapter 6, as well as the estimated completion dates of stations that are most advanced and form the nucleus of discussions of the programme's Years 1-5 activities (in Part 4 of the PBC).

Table 7-3: Do Something programme options - stations and interventions

Station			Measures			Station		Measures		
	former package ref.	est.completion	B	C	D		former package ref.	B	C	D
Dalkey	A	2022	✓	-	-	Drumcondra	B	✓	-	-
Gormanston	A	2022	✓	-	-	Broombridge	B	✓	-	-
Little Island	A	2023	✓	-	✓	Kilcock	B	✓	-	-
Banteer	A	2024	✓	-	✓	Leixlip Louisa Bridge	B	✓	-	-
Rathmore	A	2024/2025	✓	-	-	Castleknock	C	✓	-	-

[48] Note that measures at some stations have been developed in detail, with more than one compliance intervention under consideration, especially where deliverability constraints may be present. Such alternatives consider how to overcome any deliverability constraints, and the most cost-effective is typically recommended for implementation. Thus, where available a preferred intervention has typically already been identified at such stations, and this is used in aggregate appraisals of programme Options. When stations are considered in more detail in appraisal of Years 1-5 activities, where applicable the specific alternative compliance interventions are considered.

Station			Measures			Station		Measures		
	former package ref.	est.completion	B	C	D	former package ref.		B	C	D
Athy	A	2025/2026	✓	-	✓	Tralee	C	✓	-	-
Rathdrum	A	2025/2026	✓	-	-	Kilcoole	C	✓	-	-
Maynooth	A	2025/2026	✓	-	-	Cobh	C	✓	-	-
Boyle	A	2025/2026	✓	-	✓	Sligo	C	✓	✓	-
Claremorris	A	2026/2027	✓	-	-	Collooney	C	✓	-	-
Glounthaune	A	2026/2027	✓	-	-	Leixlip Confey	C	✓	-	-
Rushbrooke	A	2026/2027	✓	-	✓	Enfield	C	✓	-	-
Longford	A	2026/2027	✓	✓	-	Killarney	C	✓	✓	-
Arklow	A	2027	✓	-	-	Millstreet	C	✓	-	-
Wicklow	A	2027	✓	-	-	Rosslare Europort	C	✓	-	-
Gorey	B		✓	-	-	Wexford	C	✓	✓	✓
Enniscorthy	B		✓	-	✓	Foxford	C	✓	-	-
Roscommon	B		✓	✓	-	Carrick-on-Shannon	C	✓	-	-
Dromod	B		✓	-	-	Ballina	C	✓	-	-
Rosslare Strand	B		✓	-	-	Westport	C	✓	-	-
Muine Bheag	B		✓	-	-	Thomastown	C	✓	-	-
Farranfore	B		✓	-	-	Mullingar	C	✓	-	-
Fota	B		✓	-	-	Ballymote	C	✓	-	-
Castlerea	B		✓	-	-	Castlebar	C	✓	-	-
Ballyhaunis	B		✓	✓	✓	Manulla Junction	C	✓	-	-
Carrigaloe	B		✓	-	-					

8. Financial Analysis

8.1 Introduction

The Infrastructure Guidelines (IG) and Transport Appraisal Framework (TAF) outline the need for financial appraisal, irrespective of the project's scale. Such analysis provides evidence of the impact of a project or programme's implementation on the finances of the Sponsoring Agency and the Exchequer respectively.

The primary focus of the financial appraisal is on affordability and financial impact of the Station Accessibility Programme. This assesses the budgetary impacts of a project by considering the pattern of projected related cash flows. Financial analysis is an important building block in the overall appraisal process and acts as a first step before carrying out the economic appraisal. The financial analysis only considers financial cash flows whereas an economic analysis examines how costs (and where also appropriate benefits) impact more broadly on society and not just the direct financial flows arising from the programme. The core objectives of the financial appraisal are:

- Identifying and estimating the financial cashflows;
- Assessing financial sustainability;
- Determining the extent to which investment cost and ongoing maintenance and operational cost will not be recouped by net revenue;
- Calculating performance including the Net Present Value (NPV); and
- Assessing the funding sources (public, private, EU) for the project and examining the return on capital for different sources of funds.

In line with requirements of the guidance, the appraisal should clearly identify and examine a benchmark or counterfactual for comparative purposes. The counterfactual or do minimum involves an assumption about the future state of the world in the absence of the project or programme. As previously defined, the counterfactual for the Station Accessibility Programme assumes no change to existing station infrastructure. The financial appraisal is therefore based upon examining the incremental costs and revenues of the do something over the counterfactual/do minimum.

8.2 Assumptions

The financial appraisal has been conducted in line with IG and TAF requirements. The IG financial analysis template[49] was utilised to conduct financial appraisal. The core assumptions used in the analysis are as follows:

- Costs incurred since (and including) 2022 are included within the appraisal and not treated as sunk costs;
  - Although the current Station Accessibility Programme commenced in 2022, work commenced in 2019 on defining and implementing interventions related to PRM TSi compliance at stations on the IÉ network, which included track crossing elements (nominally footbridges with lifts). As such some expenditure incurred prior to 2022 that could be considered de facto 'sunk costs' for the Station Accessibility Programme. This amounted to €1.8m in 2019, €3.6m in 2020 and €4.8m in 2021.
- All values are based upon 2022 prices discounted to 2022 using real discount rate where Present Value (PV) figures are quoted;
- For present value calculations, a real discount rate of 3.07% was recommended by National Development Finance Agency (NDFA) for the Station Accessibility Programme;[50]
- An appraisal period 30 years was agreed with the NTA (based on suggested appraisal time horizons in the Infrastructure Guidelines). This seeks to capture 30 years of operations from scheme opening and completion of capital works. The last scheme's opening year is 2035 within the programme options for station works. The IG financial analysis template includes years to 2056. To account for remaining operating and maintenance costs past 2056, sufficient allocation has been accounted for within in year 2056 for each station affected;

[49] Infrastructure Guidelines – Financial Analysis Template for Proposals More than 1 Million: https://www.gov.ie/en/collection/e8040-infrastructure-guidelines/

[50] On 22nd February 2024, following consultation with the National Treasury Management Agency

- Costs incurred are incremental above the do nothing/counterfactual;
- Capital, operating and maintenance costs only for the infrastructure enhancements at the stations in the accessibility programme have been included within the appraisal;
- VAT is excluded from base costs, with specific adjustments applied for cash flow analysis as necessary. Further details of specific adjustments are presented later in this chapter;
- Contingency and inflation adjustments were also applied to the costs prior to conduction of cash flow analysis. Further details of these adjustments are presented later in this chapter;
- Any incidental or indirect demand benefits and revenue increases that could be associated with such enhancements have not been included (see also Chapter 3); and
- No capital expenditure is envisaged to be occurred by the programme's counterfactual, which was defined as 'do nothing'; likewise, no additional operating and maintenance costs (or revenue) were included in the appraisal for the counterfactual.

In the context of this PBC passenger fare revenue has not been estimated due to lack of a robust evidence base and modelling methodology to link the specific measures being considered to passenger demand uplifts. The financial assessment will therefore cover the capital costs and operating costs associated with new assets delivered by the Station Accessibility Programme.

8.3 Programme Options Expenditure

8.3.1 Capital Expenditure

This section presents an overview of capital expenditure for the following three intervention-based programme options by cost categories identified in the IG financial analysis template:

- Option B: Compliance ('B' measures);
- Option C: Enhanced changing places (adds 'C' measures where applicable, plus 'B' measures); and
- Option D: Improved local multi-modal access (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures).

The appraisal assumes that there are no capital costs incurred under Programme Option A (do nothing).

Table 8-1 outlines the capital cost associated with delivering each of the proposed programme options for the Station Accessibility Programme.

Table 8-1: Programme options' base capital costs, including contingencies, excluding VAT & inflation (Source: IÉ, in 2022 prices)

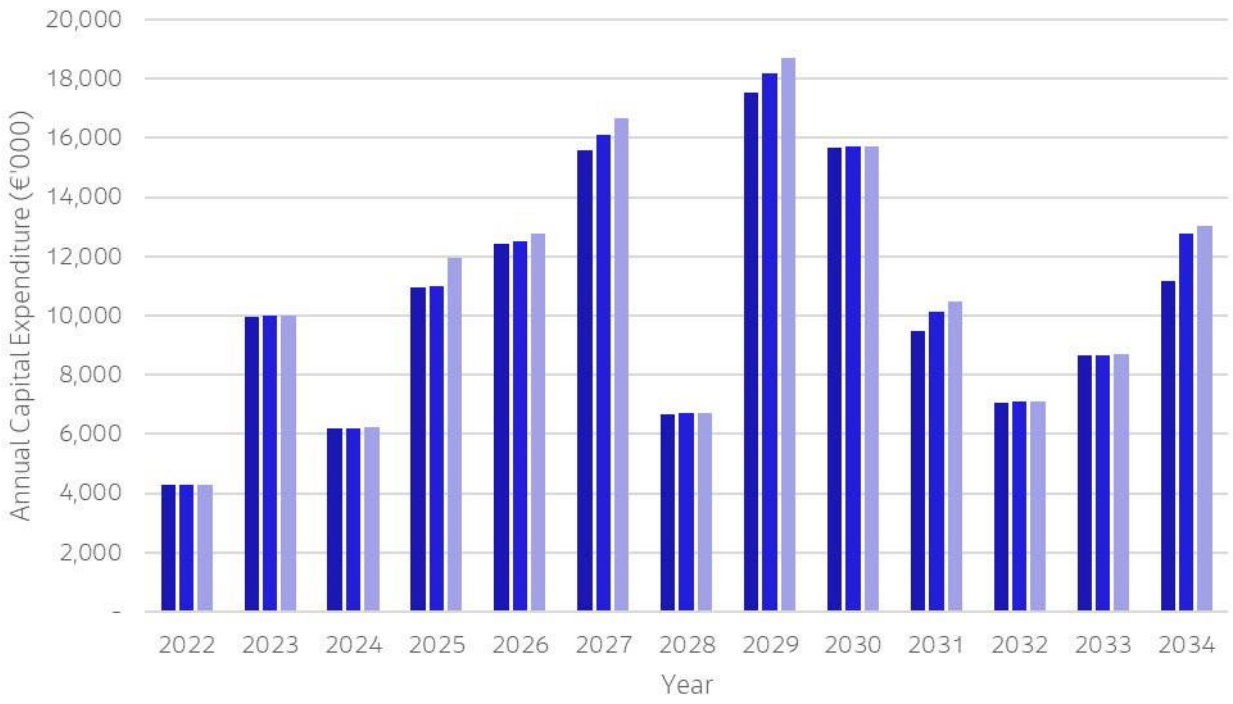
Cost Category	Option B	Option C	Option D
Design team fees	€10,937,000	€11,092,000	€11,244,000
Enabling works	€965,000	€992,000	€1,013,000
Investigation works	€1,888,000	€1,941,000	€1,986,000
Consultancy and Advisory	€3,095,000	€3,139,000	€3,180,000
Land acquisition	€1,170,000	€1,170,000	€1,300,000
Construction cost	€93,412,000	€95,971,000	€98,144,000
Contingencies	€23,686,000	€24,412,000	€24,904,000
Per cent for Art	€530,000	€545,000	€559,000
Total Capex, incl. contingencies (excluding VAT and Inflation)	€135,683,000	€139,262,000	€142,330,000

The cost for achieving the required compliance at the shortlisted stations, as outlined in Building Regulations Technical Guidance Document M (2010)[51] is estimated at €136 million (Programme Option B). Capital costs for Programme Option C, which achieves further compliance with EN17210:2021 through the delivery of changing places facilities at some stations is estimated to be marginally higher at €139 million. The costs for Programme Option D, which aims to go beyond the core compliance objectives of the Station Accessibility Programme, are estimated to be marginally higher than the Programme Option C costs, at €142 million. The relatively small increases in programme Option C and D costs when compared to the compliance-based programme Option B is due to not all short-listed stations being deemed suitable for the development of Options C or D interventions. In particular, programme Options C and D were only considered for stations which were not constrained by physical limitations and/or wider stakeholder commitment demonstrating the need for additional facilities and infrastructure.

Programme option cost estimates were developed by IÉ on a station-by-station basis. Detailed build-up of costs by station, cost categories and anticipated years of expenditure are presented in Appendix C: Cashflow tables. Appendix C includes option specific financial cashflow (Appendix C1) and exchequer cashflow (Appendix C2) spreadsheets. As mentioned earlier, these spreadsheets are based on IG financial analysis template.

In addition to the capital costs summarised in Table 8-1, Figure 8-1 presents annual capital expenditure profile for the three programme options. The figure highlights that options include a 13-year programme of works between 2022 and 2034.

Figure 8-1: Annual expenditure profile of programme options (Source: IÉ, in 2022 prices)



8.3.2 Operating & Maintenance Expenditure

A key requirement of the financial appraisal is to account for operational and maintenance expenditure. IÉ have sourced additional annual operating and maintenance cost benchmark estimates for new infrastructure planned to be delivered by Station Accessibility Programme interventions. These benchmarks reflect IÉ's experience of operating these stations and associated assets across Ireland and have been provided for each of the programme options. Table 8-2 and Table 8-3 show the benchmark operating costs used in the appraisal, for operation and maintenance of Option B interventions respectively. Table 8-4 and Table 8-5 show the benchmark operating costs used in the appraisal, for operation and maintenance of changing places facilities delivered as part of Option C. Table 8-6 and Table 8-7 show the range of benchmark operating costs used in

[51] An amendment to the Building Regulations Technical Guidance Document M (2022), has subsequently been released. However, the updated guidance came into effect after the commencement of the programme (on the 1st January 2024). As such, the Transitional Arrangements outlined within the updated guidance document state that the 2010 edition of Technical Guidance Document M still applies, with Option B interventions achieving compliance against this set of guidance.

the appraisal, for operation and maintenance of local access improvements delivered as part of Option D. Due to the range and variety of interventions proposed as part of option D, individual operation and maintenance cost profiles have been developed for each stations with an option D intervention. These profiles are in the station-by-station option cost tables presented in presented in Appendix C: Cashflow tables.

Table 8-2: Option B operating cost benchmarks (Source: IÉ, in 2022 prices)

Cost Category	Additional operating cost per annum for stations with...			
	...wider improvements (no new lifts or footbridges)	...new lifts only	...new lifts and footbridges	...new lifts, footbridges and other improvements
Utilities and electricity	€1,000 p.a.	€ 3,000 p.a.	€5,000 p.a.	€8,000 p.a.

Table 8-3: Option B maintenance cost benchmarks (Source: IÉ, in 2022 prices)

Cost Category	Additional maintenance cost per annum for stations with...	
	...no new footbridges	...receiving new footbridges
Lifts and M&E	€4,325 p.a.	€25,950 p.a.
Building fabric	€2,595 p.a.	€6,055 p.a.
RU operations	€1,730 p.a.	€4,325 p.a.

Table 8-4: Option C operating cost benchmarks (Source: IÉ, in 2022 prices)

Cost Category	Additional operating cost per annum for stations with...
	...new changing places facilities
Utilities and electricity	€1,330 p.a.

Table 8-5: Option C maintenance cost benchmarks (Source: IÉ, in 2022 prices)

Cost Category	Additional maintenance cost per annum for stations with...
	...new changing places facilities
Lifts and M&E	€3,340 p.a.
Building fabric	€667 p.a.
RU operations	€1,000 p.a.

Table 8-6: Option D operating cost benchmarks (Source: IÉ, in 2022 prices)

	Additional operating cost per annum for stations with...	
		...local access improvements
	Slight Interventions (e,g, new access ramp from the station car park)	Significant Intervention (e.g. new vehicle or pedestrian access point)
Utilities and electricity	€1,000 p.a.	€4,000 p.a.

Table 8-7: Option D maintenance cost benchmarks (Source: IÉ, in 2022 prices)

	Additional operating cost per annum for stations with...	
		...local access improvements
	Slight Interventions (e.g. new access ramp from the station car park)	Significant Intervention (e.g. new vehicle or pedestrian access point)
Lifts and M&E	€1,333 p.a.	€3,327 p.a.
Building fabric	€667 p.a.	€1,333 p.a.
RU operations	€667 p.a.	€1,667 p.a.

Using the IG financial analysis template, these annual benchmarks were adopted to develop project specific operating and maintenance costs over the programme's appraisal period, defined earlier in this chapter. Station specific estimates across the considered programme options were aggregated to forecast option specific operating and maintenance costs. Operating and maintenance cost estimates for the three programme options are summarised in Table 8-8 and Table 8-9.

Table 8-8: Programme options' operating expenses, excluding VAT & inflation (Source: IÉ, in 2022 prices)

Cost Category	Option B	Option C	Option D
Utilities and electricity	€5,760,000	€5,999,000	€6,514,000
Total Opex (excluding VAT and Inflation)	€5,760,000	€5,999,000	€6,514,000

Table 8-9: Programme options' maintenance costs, excluding VAT & inflation (Source: IÉ, in 2022 prices)

Cost Category	Option B	Option C	Option D
Operational maintenance	€4,710,000	€4,890,000	€5,186,000
Building fabric maintenance	€7,080,000	€7,200,000	€7,495,000
Mechanical and electrical maintenance	€24,840,000	€25,441,000	€26,372,000
Total Opex (excluding VAT and Inflation)	€36,630,000	€37,531,000	€39,053,000

8.3.3 Risk & Contingency

In determining programme intervention costs, the approach to assessing appropriate allowances for risk and contingency has followed the guidance and methodologies for cost estimating enshrined in Cost Management Guidelines (CMG) required by the NTA, specifically:

- Contingency Calculator (NTA CMG 001_B123_CC); and
- QRA calculator (NTA CMG 013_B23_QRA).

The calculators are used to assess contingency and risk values for stations at stages of scheme development as appropriate, providing unique values to each station according to its scheme development stage, specific circumstances and interventions. Risk and contingency are inherently uncertain, so financial appraisal has taken output from the risk and contingency calculators and utilised average values for risk and contingency for 5-year periods. As calculators have not yet been complete for stations in the final 5-year period (Package C), the average values of risk and contingency for stations in the first and second 5-year periods (Packages A & B) have been used. Higher values of risk and contingency may be expected for these, but the inherent progression and consistency of approach to cost development and cost referencing through the programme brings clear knowledge of typical risks, so higher values are inappropriate and disproportionate in the assessment of costs for stations in the final 5-year period (Package C), and hence use of values assessed for stations being delivered through the first and second 5-year periods (Packages A & B) are appropriate.

The types of risks and the impacts of their occurrence are captured in risk registers. Detailed station risk registers will be used to produce specific risk/contingency allowances for individual stations as part of their respective FBCs in due course. Typical risks for the intervention options include:

- Problems securing sufficient design resources and/or commercial support to prepare schemes;
- Public consultation issues and challenges to scheme content;
- Issues securing acceptance or approval for schemes to proceed to construction;
- Contractor availability to carry out works;
- Potential cost increases and/or material supply issues prior to commencement; and
- Impact of external factors and interface with other projects.

More details of the broader approach to risk can be found in Chapter 14.

Optimism Bias

The percentage uplift for contingency in either the Preliminary Cost Estimate or the Post Tender Cost estimate has been applied to total project costs including risk output. The contingency calculator provides a methodical,

consistent and recognized approach to establish an appropriate allowance for contingency. The calculator includes a forecasting methodology based on principles of 'Reference Class Forecasting', based on previous project performance. The base costs provided for the Station Accessibility Programme have been prepared using current market costs and recent costs from similar projects, as well as risks that have manifested in similar projects in the past. As such, combined with the use of the NTA contingency calculator to calculate a set of contingency uplifts for the programme, it is considered that the cost estimates used in the Station Accessibility Programme PBC are robust, and include sufficient allowance for risk and contingency meaning that no further allowance is required for optimism bias beyond this.

8.3.4 Indirect Taxation

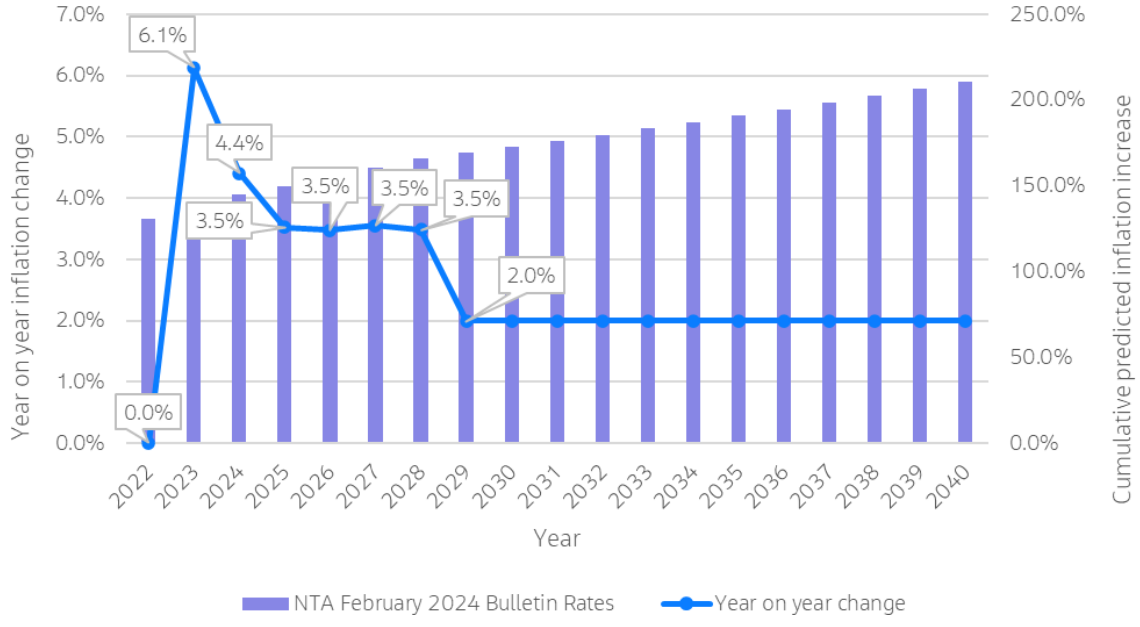
A key requirement for appraisal is to account for VAT flows generated from the activities associated with the project or programme following implementation, specifically for Sponsoring Agency's cash flow analysis. Various VAT rates recommended by IÉ for different capital, operational and maintenance costs are presented in Table 8-10. The rates shown were adopted for discounted cash flow analysis of options associated with the Sponsoring Agency. However, these rates were excluded from the Exchequer cash flow analysis.

Table 8-10: VAT rates used in analysis - capital, operating and maintenance costs (Source: IÉ)

Capital cost	
Category	VAT rate
Design team fees	23.0%
Enabling works	13.5%
Investigation works	13.5%
Consultancy and Advisory	23.0%
Land acquisition	13.5%
Construction cost	13.5%
Contingencies	13.5%
Per cent for Art	13.5%

Operating and Maintenance cost	
Category	VAT rate
Utilities and electricity	23.0%
Operational maintenance	13.5%
Building fabric maintenance	13.5%
Mechanical and electrical maintenance	13.5%

Figure 8-2: Civil engineering tender price indices, base (Source: NTA Inflation Bulletin February 2024)



8.3.5 Inflation

TAF Module 7 notes that inflation should be factored into financial analysis of schemes to forecast future costs. NTA requires that the Tender Price Index be used when assessing inflationary allowances for projects where it is the Approving Authority. NTA's Inflation Bulletin (February 2024) presents the latest tender price indices for

different project types. Station Accessibility Programme's interventions are best classified as 'civil engineering' project type, which is one of the categories considered in inflation indices referenced in the bulletin. [52]

Tender price inflation forecast up to 2040 for the civil engineering project type, sourced from NTA, were adopted by IÉ to forecast inflation allowance for all capital, operating and maintenance costs. These rates, summarised in Figure 8-2 (previous page), were deemed most suitable for all cost categories, including design, advisory, operating and maintenance expenditure, which may include a notable labour component. The civil engineering tender price indices were considered suitable for all cost categories because they capture the recent inflation trends and subsequent forecasts better than other comparator benchmarks such as Irish Government's medium to long term forecast of Harmonised Index of Consumer Price (HICP). For similar reasons, the civil engineering tender price indices were adopted for estimating inflation allowance for land acquisition costs. As mentioned earlier, tender price inflation forecast for civil engineering project type is available to 2040. The value forecast for annual inflation for 2040 (2% p.a.) was adopted for the remainder of the appraisal period.

8.3.6 Outturn costs and expenditure profiles

Applying inflation and VAT to base costs for capital expenditure, as well as operating and maintenance costs, over the life of the programme, results in outturn costs used in the financial appraisal. Table 8-11 shows total programme option outturn costs, including inflation and VAT alongside the base costs by category. Table 8-12 shows similar information, but for programme option capital expenditure only.

Table 8-11: Programme Option outturn costs - total costs

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€18,585,000	€18,879,000	€19,282,000
Construction cost	€93,412,000	€95,971,000	€98,144,000
Contingencies	€23,686,000	€24,412,000	€24,904,000
Operation	€5,760,000	€5,999,000	€6,514,000
Maintenance	€36,630,000	€37,531,000	€39,053,000
Total costs, incl. contingencies (real)	€178,073,000	€182,792,000	€187,897,000
Inflation	€67,954,000	€70,181,000	€72,569,000
Total costs, incl. contingencies & inflation (nominal)	€246,027,000	€252,973,000	€260,466,000
VAT	€35,794,000	€36,797,000	€37,917,000
Total Programme Outturn costs, incl. contingencies, inflation and VAT (nominal)	€281,821,000	€289,771,000	€298,382,000

Table 8-12: Programme Option outturn costs - capital expenditure only

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€18,585,000	€18,879,000	€19,282,000
Construction cost	€93,412,000	€95,971,000	€98,144,000
Contingencies	€23,686,000	€24,412,000	€24,904,000
Total Capex, incl. contingencies (real)	€135,683,000	€139,262,000	€142,330,000
Inflation	€35,182,000	€36,439,000	€37,193,000
Total Capex, incl. contingencies & inflation (nominal)	€170,865,000	€175,701,000	€179,523,000
VAT	€24,670,000	€25,347,000	€25,885,000
Total Programme Outturn Capex, incl. contingencies, inflation and VAT (nominal)	€195,535,000	€201,048,000	€205,408,000

52 https://www.nationaltransport.ie/wp-content/uploads/2024/02/2024-NTA-Inflation-Bulletin-Card.pdf

8.4 Financial Appraisal

TAF Module 7 notes that financial appraisal is required for short-listed options in the PBC, and the following types of analysis are required as part of the financial appraisal:

- Discounted Cash Flow (DCF) analysis of cash flows related to the Sponsoring Agency; and
- Exchequer Cash Flow (ECF) analysis of cash flow impacts related to the central Exchequer.

The guidance also indicates that sensitivity analysis should be performed within the financial appraisal in order to ensure best practice. The IG financial analysis template was utilised to bring together the various costs and assumptions outlined earlier in this chapter to conduct financial appraisal for the three programme options. The remainder of this section presents the summary findings of this analysis. Detailed DCF and ECF analysis for the programme options is presented in Appendix C: Cashflow tables.

8.4.1 Initial Cash Flow

Building on the analysis of programme options expenditure set out in the previous section of the PBC, initial cash flow profiles have been derived as inputs to the discounted cash flow analysis that form the main elements of the financial appraisal process.

Full details of initial cash flows of the programme options are in Appendix C: Cashflow tables, with summary information in Table 8-13 for the Programme Option B initial expenditure profile, Table 8-14 for Programme Option C and Table 8-15 for Programme Option D.

Table 8-13: Programme Option B - initial expenditure profile

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme…					…to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Capital Costs									
Design team fees	308	1,782	1,325	1,314	1,038	5,170	-	-	10,937
Enabling works	118	114	190	219	-	324	-	-	965
Investigation works	232	723	170	125	40	598	-	-	1,888
Consultancy and Advisory	186	162	514	429	336	1,468	-	-	3,095
Land acquisition	80	-	-	140	40	910	-	-	1,170
Construction cost	2,835	7,013	3,352	8,148	9,041	63,023	-	-	93,412
Contingencies	498	150	601	578	1,867	19,992	-	-	23,686
Per cent for Art	16	28	20	19	63	384	-	-	530
Subtotal – Capital Costs	***4,273***	***9,972***	***6,172***	***10,972***	***12,425***	***91,869***	***-***	***-***	***135,683***
Operating Costs									
Utilities and electricity	-	10	15	20	25	826	3,264	1,600	5,760
Subtotal – Operating Costs	***-***	***10***	***15***	***20***	***25***	***826***	***3,264***	***1,600***	***5,760***
Maintenance Costs									
Operational Maintenance	-	8	12	16	20	652	2,669	1,333	4,710
Building Fabric Maintenance	-	12	18	24	30	978	4,012	2,006	7,080
Mechanical & Electrical Maintenance	-	52	78	104	130	4,112	14,076	6,288	24,840
Subtotal – Maintenance Costs	***-***	***72***	***108***	***144***	***180***	***5,742***	***20,757***	***9,627***	***36,630***
Total Net Cash Flow (Real)	4,273	10,054	6,295	11,136	12,630	98,437	24,021	11,227	178,073
Inflation	-	616	680	1,637	2,360	32,313	17,290	13,059	67,954
Total Net Cash Flow (Nominal)	4,273	10,670	6,975	12,773	14,990	130,750	41,311	24,286	246,027
VAT	624	1,637	1,137	1,916	2,181	18,580	6,110	3,608	35,794
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,307	8,111	14,690	17,171	149,330	47,421	27,894	281,821

Table 8-14: Programme Option C - initial expenditure profile

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme...					...to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Capital Costs									
Design team fees	308	1,798	1,341	1,327	1,058	5,260	-	-	11,092
Enabling works	118	114	195	224	-	341	-	-	992
Investigation works	232	733	179	130	40	627	-	-	1,941
Consultancy and Advisory	186	162	519	434	341	1,497	-	-	3,139
Land acquisition	80	-	-	140	40	910	-	-	1,170
Construction cost	2,835	7,013	3,352	8,148	9,100	65,523	-	-	95,971
Contingencies	498	150	601	578	1,867	20,718	-	-	24,412
Per cent for Art	16	28	20	19	63	399	-	-	545
Subtotal – Capital Costs	***4,273***	***9,998***	***6,207***	***11,000***	***12,509***	***95,275***	***-***	***-***	***139,262***
Operating Costs									
Utilities and electricity	-	10	15	20	25	846	3,400	1,684	5,999
Subtotal – Operating Costs	***-***	***10***	***15***	***20***	***25***	***846***	***3,400***	***1,684***	***5,999***
Maintenance Costs									
Operational Maintenance	-	8	12	16	20	667	2,771	1,396	4,890
Building Fabric Maintenance	-	12	18	24	30	988	4,080	2,048	7,200
Mechanical & Electrical Maintenance	-	52	78	104	130	4,162	14,417	6,498	25,441
Subtotal – Maintenance Costs	***-***	***72***	***108***	***144***	***180***	***5,817***	***21,268***	***9,942***	***37,531***
Total Net Cash Flow (Real)	4,273	10,080	6,330	11,164	12,714	101,938	24,668	11,626	182,792
Inflation	-	617	683	1,641	2,375	33,581	17,755	13,528	70,181
Total Net Cash Flow (Nominal)	4,273	10,697	7,013	12,805	15,089	135,519	42,422	25,154	252,973
VAT	624	1,643	1,144	1,923	2,198	19,241	6,282	3,742	36,797
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,340	8,158	14,728	17,287	154,760	48,705	28,896	289,771

Table 8-15: Programme Option D - initial expenditure profile

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme...					...to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Capital Costs									
Design team fees	308	1,804	1,347	1,380	1,078	5,327	-	-	11,244
Enabling works	118	113	202	227	3	350	-	-	1,013
Investigation works	232	730	196	136	47	645	-	-	1,986
Consultancy and Advisory	186	167	525	442	344	1,516	-	-	3,180
Land acquisition	80	-	-	220	40	960	-	-	1,300
Construction cost	2,835	7,013	3,352	8,819	9,301	66,824	-	-	98,144
Contingencies	498	150	601	691	1,899	21,065	-	-	24,904
Per cent for Art	16	28	20	23	65	407	-	-	559
Subtotal – Capital Costs	***4,273***	***10,005***	***6,243***	***11,938***	***12,777***	***97,094***	***-***	***-***	***142,330***
Operating Costs									
Utilities and electricity	-	10	15	20	29	941	3,694	1,804	6,514
Subtotal – Operating Costs	***-***	***10***	***15***	***20***	***29***	***941***	***3,694***	***1,804***	***6,514***
Maintenance Costs									
Operational Maintenance	-	8	12	16	21	706	2,939	1,484	5,186
Building Fabric Maintenance	-	12	18	24	31	1,026	4,247	2,137	7,495
Mechanical & Electrical Maintenance	-	52	78	104	134	4,259	14,942	6,803	26,372
Subtotal – Maintenance Costs	***-***	***72***	***108***	***144***	***187***	***5,991***	***22,128***	***10,424***	***39,053***
Total Net Cash Flow (Real)	4,273	10,087	6,366	12,102	12,993	104,026	25,822	12,228	187,896
Inflation	-	618	687	1,779	2,427	34,237	18,591	14,230	72,569
Total Net Cash Flow (Nominal)	4,273	10,705	7,053	13,881	15,420	138,262	44,413	26,458	260,465
VAT	624	1,645	1,151	2,075	2,245	19,635	6,599	3,943	37,917
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,350	8,204	15,956	17,665	157,897	51,012	30,401	298,382

8.4.2 Discounted Cash Flow

Discounted cash flow analysis with respect to Sponsoring Agency was conducted for the three programme options based on the costs and other assumptions outlined earlier in this chapter. The results of this cash flow analysis are summarised in Table 8-16. This analysis was conducted using the IG financial analysis template. A completed spreadsheet for each programme option is presented in Appendix C1: Financial cash flow.

Table 8-16: Programme options financial cash flows

Options	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
Option B: Compliance Do Minimum option	€281,821,000	€204,748,000
Option C: Enhanced changing places Do Something (includes 'B' measures)	€289,771,000	€210,080,000
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	€298,382,000	€215,836,000

Sensitivity Analysis

Sensitivity testing has been carried out to test the impact on programme options' NPVs. Sensitivities focus on capital and operating/maintenance costs, as follows:

- 20% increase in capital costs;
- 10% reduction in capital costs;
- 20% increase in operating and maintenance costs; and
- 10% reduction in operating and maintenance costs.

The results of sensitivity analysis for programme Options B, C and D are presented in Table 8-17, Table 8-18 and Table 8-19 respectively.

Table 8-17: Financial cash flows - programme Option B sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
20% increase in capital costs	€320,928,000	€236,938,000
10% reduction in capital costs	€262,268,000	€188,653,000
20% increase in operating and maintenance costs	€299,079,000	€213,507,000
10% reduction in operating and maintenance costs	€273,193,000	€200,368,000

Table 8-18: Financial cash flows - programme Option C sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
20% increase in capital costs	€329,980,000	€243,105,000
10% reduction in capital costs	€269,666,000	€193,567,000
20% increase in operating and maintenance costs	€307,515,000	€219,071,000
10% reduction in operating and maintenance costs	€280,898,000	€205,584,000

Table 8-19: Financial cash flows - programme Option D sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
20% increase in capital costs	€339,464,000	€249,591,000
10% reduction in capital costs	€277,841,000	€198,958,000
20% increase in operating and maintenance costs	€316,977,000	€225,248,000
10% reduction in operating and maintenance costs	€289,085,000	€211,130,000

8.4.3 Exchequer Cash Flow

Exchequer cash flow analysis relating to the central Exchequer was also conducted for the three programme options based on the costs and other assumptions outlined earlier in this chapter. Consistent with the guidance, VAT was excluded from this assessment. The results of this cash flow analysis are summarised in Table 8-20. This analysis was conducted using the IG financial analysis template. A completed spreadsheet for each programme option is presented in Appendix C2: Exchequer cash flow.

Table 8-20: Programme options Exchequer cash flows

Options	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
Option B: Compliance Do Minimum	€246,027,000	€178,741,000
Option C: Option B + enhanced changing places Do Something	€252,973,000	€183,403,000
Option D: Option B/C + Improved local multi-modal access Do Something	€260,465,000	€188,419,000

Sensitivity Analysis

Sensitivity testing has also been carried out to test the impact on exchequer cash flows, using the same variations on capital and operating/maintenance costs as used for sensitivity testing of programme options' NPVs. The results of sensitivity analysis for programme Options B, C and D are presented in Table 8-21, Table 8-22 and Table 8-23 respectively.

Table 8-21: Exchequer cash flows - programme Option B sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
20% increase in capital costs	€280,200,000	€206,858,000
10% reduction in capital costs	€228,941,000	€164,682,000
20% increase in operating and maintenance costs	€261,060,000	€186,371,000
10% reduction in operating and maintenance costs	€238,511,000	€174,925,000

Table 8-22: Exchequer cash flows - programme Option C sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
20% increase in capital costs	€288,114,000	€212,252,000
10% reduction in capital costs	€235,403,000	€168,979,000
20% increase in operating and maintenance costs	€268,428,000	€191,235,000
10% reduction in operating and maintenance costs	€245,246,000	€179,487,000

Table 8-23: Exchequer cash flows - programme Option D sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
20% increase in capital costs	€296,370,000	€217,908,000
10% reduction in capital costs	€242,513,000	€173,674,000
20% increase in operating and maintenance costs	€276,654,000	€196,613,000
10% reduction in operating and maintenance costs	€252,371,000	€184,321,000

9. Economic Analysis

9.1 Introduction

The Station Accessibility Programme's key objectives, as set out in Chapter 5, are to upgrade non-compliant stations to meet EU, national and IÉ standards for accessible station design expeditiously whilst taking account of funding, planning, physical deliverability and other constraints. The four programme options are:

- Option A: Do nothing, which is the programme's counterfactual;
- Option B: Compliance ('B' measures);
- Option C: Enhanced changing places (adds 'C' measures where applicable, plus 'B' measures); and
- Option D: Improved local multi-modal access (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures).

The primary focus of the programme is to achieve compliance with standards for accessible station design. However, interventions to do this as part of the programme do not in themselves generate benefits that can be robustly monetised, being reliant on consequential attitudinal relationships or effects to produce monetised results. While the programme will provide new or enhanced station facilities such as accessible footbridges, and techniques exist than can be used to generate generalised cost savings that can in turn generate monetised benefits, there are no specific parameters or agreed methodologies for use in Ireland. Moreover, the application of such techniques can only be done on an individual station basis, and needs full details of specific interventions, along with demand and journey data for each station, in order to provide robust results.

Case study evidence and econometric analysis show that station accessibility/quality interventions can result in demand uplifts (see also Section 3.2.3). However, impacts can vary widely dependent on the location, journey type, the station improvements implemented and the current condition of the station. Any demand uplifts would thus be small and difficult to quantify, and moreover to isolate as being specifically related to the programme for apportionment in a cost benefit analysis. And in a similar way to station facilities, there are no specific parameters or agreed methodologies for use in Ireland.

It is therefore not considered possible to robustly monetise project benefits for the Station Accessibility Programme, and as such a detailed Cost Effectiveness Analysis (CEA) informed by an option specific financial appraisal is the most appropriate form of detailed economic analysis to be conducted rather than Cost Benefit Analysis (CBA).[53]

This compliance programme and its options will not generate any impacts which can be monetised. Hence, full cost benefit assessment is not feasible. As a result, and consistent with TAF Module 7, economic appraisal of Station Accessibility Programme's 'programme options' is focussed on:

- Transport & Accessibility Appraisal (TAA);
- Economic cost analysis; and
- Cost effectiveness analysis (CEA).

The remainder of this chapter presents the TAA, as well as key assumptions and findings of the economic cost assessment and CEA.

9.2 Transport & Accessibility Appraisal

9.2.1 Methodology

The Transport & Accessibility Appraisal (TAA) process is described in Module 7 of the Transport Appraisal Framework (TAF), including guidance and a template for assessments.[54] TAA assessment combines qualitative and (where/if available) quantitative impacts of a scheme, project or programme in a single place, to give decision makers a snapshot view of its potential effects across a range of impacts.

[53] TAF Module 4, section 4.10.3

[54] TAF Module 7 documentation and the TAA template are both available on the TAF website: https://www.gov.ie/en/publication/c9038-transport-appraisal-framework-taf/

The TAA template includes six overall primary criteria, within which there are 19 sub-criteria, which are in turn assessed using 29 indicators. Most indicators are considered in assessments in this PBC; exceptions include three the indicators in two sub-criteria that relate to freight transport, and the sub-criteria of deprived groups in social impacts (indicators for deprived groups are effectively duplicates of accessibility indicators in the context of the Station Accessibility Programme). An additional indicator has been included in the 'transport users with different mobility needs' sub-criteria under the 'social impacts' criteria to reflect the specific objectives of the programme in aiming for compliance with relevant accessibility and disability regulation.

Table 9-1 sets out the primary TAA criteria, along with sub-criteria and indicators, noting those not included in the assessment and the additional indicator. In completing assessments, it should be noted that only limited information is available for a number of the sub-criteria, not least because this is a programme option level assessment. As such, all the assessments are made up of high-level qualitative appraisals.

Table 9-1: TAA criteria, sub-criteria and indicators

Criteria	Sub-Criteria	Indicator	Used
Accessibility	Access to Services	Urban Centres	Yes
		Schools and educational institutions	Yes
		Hospitals and healthcare facilities	Yes
		Major land transport hubs and interchange facilities such as rail and bus stations	Yes
	Access to Recreational Facilities	Parks and playgrounds	Yes
		Sports clubs and facilities	Yes
	Access to jobs	Access to jobs	Yes
	Access to International Transport Gateways	Change in PT access	Yes
		Change in HGV/LGV access	No
	Freight Access	Freight Facilities change	No
		LGV access to urban centres	No
Social Impacts	Impact on deprived groups	Access to urban centres	No
		Access to schools	No
		Access to healthcare facilities	No
	Transport users with different mobility needs	Scheme facilities	Yes
		Compliance with relevant accessibility and disability regulation	Yes
	Gender Impacts	Scheme facilities	Yes
Land Use Impact	Public Realm	Scheme details	Yes
	Connectivity with existing public transport facilities	Scheme details	Yes
	Connection to zoned lands as part of national and regional planning.	Scheme details	Yes
Safety Impact	Safety Impact	Safety assessment	Yes
Climate Change	Climate Mitigation	Percentage change in mode share from private vehicles to public transport and active travel modes.	Yes
		Percentage change in private car kilometres travelled.	Yes
		Percentage change in CO2 emissions	Yes
	Climate Adaptation	Climate hazard assessment	Yes
Local Environment Impact	Air Quality	Air Quality Impact based on total score from Air Quality Scorecard Tab	Yes
	Noise and Vibration	Scheme details	Yes
	Biodiversity	Scheme details	Yes
	Water Resources	Scheme details	Yes

9.2.2 Appraisal of Programme Options

Summary results of the TAA assessment of the Station Accessibility Programme options are shown in Figure 9-1; full details from the TAA assessment templates are contained in Appendix D1. The remainder of this section briefly summarises the results of assessments.

Assessment of Option A

As a 'do nothing' counterfactual, it is not surprising that Option A has no impact on most of the indicators, and as such a 'neutral' score is recorded across all the indicators for main criteria and sub-criteria included in the assessment except the 'compliance with relevant accessibility and disability regulation' under the 'transport users with different mobility needs' sub-criteria of the overall 'social impacts' criteria, which is scored as 'high negative', and thus results in a 'slight negative' score for the overall 'social impacts' criteria. As such, reflecting non-compliance with regulations, the absence of interventions has a de facto negative impact on the future transport use of those who would otherwise benefit from the Station Accessibility Programme. Moreover, Option A singularly fails to meet the key objective of the programme in providing accessibility compliant infrastructure at stations.

Accessibility

The three do something Options (B, C & D) are all anticipated to have a 'Slight Positive' impact on accessibility, as compliance elements of the programme will improve access to the rail network for people with reduced mobility and people with disabilities. For those where their lack of access to the rail network severs them from services, recreational facilities, jobs and international transport gateways, the programme has the potential to deliver an increase in the ability to access these key pieces of infrastructure.

Option D could potentially improve more general accessibility at a small number of stations, as a result of providing enhanced station access routes. However, as only a limited number of stations have potential for such enhancements and the difficulty of providing these measures as they are outside the curtilage of the stations, plus the marginal impact this implies, it is inappropriate to increase criteria scores across several indicators on this basis for programme options level assessment.

Social Impacts

The most significant effects of the programme are on social impacts, and Options B, C and D are all anticipated to have a 'Positive' effect overall.

For Option B this on the basis of the accessibility compliance interventions having a positive impact on the 'transport users with different mobility needs' indicator, through compliance measures that are intrinsic to the programme. The overall inclusivity of station designs, in particular improvements to lighting and signage, can foster an enhanced sense of safety at the stations for all, and for female rail users in particular, reflecting a slight positive gender impact. Option B records a 'positive' score for compliance, as it complies with national and EU regulations including PRM TSI (2017), Building Regulations (2010) and the Disability Act (2005).

Option C has a slightly more beneficial effect on scheme facilities measure of the 'transport users with different mobility needs' indicator through provision of enhanced changing facilities, taking its score to high positive, though this doesn't affect the overall criteria score of 'Positive'. Gender impacts also slightly benefit through the provision of enhanced changing and breastfeeding facilities at some stations, but these facilities are not solely gender-related and the number of stations that have the potential for such enhancements is limited, so would be marginal whether this should merit increasing overall ratings in itself. Option C records a 'high positive' score for compliance. In addition to complying with national and EU regulations including PRM TSI (2017), Building Regulations (2010) and the Disability Act (2005), the inclusion of changing places across the wider transport network (in line with 2022 amendments to Part M Building Regulations and EN 17210:2021) means that Option C complies with all relevant interventions.

Option D has similar ratings to Option C and theoretically slightly more positive on transport users with different mobility needs than both Options B and C as a result of enhanced access routes. However, the limited number of stations that have the potential for such enhancements, and difficulty of providing these measures as they are outside the curtilage of the stations, and that the key indicator is already at the highest level, does not warrant increasing the overall rating for Option D from 'Positive'. Option D also records a 'high positive' score for compliance; Option D complies with the same regulations as Option C.

Land Use Impact

An overall 'Positive' impact on land use impact is anticipated across Options C and D, with 'Slight Positive' for Option B. While the programme is not directly aimed at improving the public realm surrounding the stations, a positive impact is anticipated from all options as a result of the proposed improvements to accessible routes to the stations. Options C and D have a higher positive impact on the 'connectivity with existing public transport facilities' indicator. The station improvements fundamentally augment areas of the population's connectivity with existing public transport facilities, and the stations' enhanced accessibility enables a greater proportion of the public to use them as an interchange to other public transport modes. This impact may be particularly pronounced at stations that lie within the DART/DART+ network or the Cork Area Commuter Rail network. Finally, although judged to be 'neutral' overall, there may be a positive impact on connection to zoned lands as part of national and regional planning where a specific station is located such that it is in or connected to such designated areas.

Option D could potentially provide slightly more connectivity benefit at a small number of stations, as a result of providing enhanced station access routes, but this can only be considered marginal compared to the other options, both in reflecting the limited number of stations such enhancements can be provided at and difficulty of providing these measures as they are outside the curtilage of the stations. However, in any case this indicator is already at the highest level, so it does not impact on the overall criteria score, which remains the same as Options B and C at 'Positive'.

Safety Impact

Also, a 'Slight Positive' impact on safety is anticipated across Options B, C and D, on the basis of lighting and signage improvements creating a generally enhanced sense of safety and stairs being replaced by ramps and lifts, resulting in fewer slips, trips and falls.

Climate Change

Similarly, a 'Slight Positive' impact on climate change is anticipated across Options B, C and D. This is on the basis of the potential mode shift away from private vehicles as a result of the enhanced accessibility of the stations within the programme and its resultant reduction in carbon emissions.

Local Environmental Impact

Finally, a 'Neutral' local environmental impact is anticipated across all Option B, C and D. While marginally positive impacts on air quality and noise and vibration (as a result of mode shift away from private vehicles to public transport) may occur, impacts on biodiversity, water resources and landscape and visual quality are variable on a station-by-station basis.

Figure 9-1: TAA summary results - programme options

SUMMARY OF OPTIONS			Programme Option A			Programme Option B			Programme Option C			Programme Option D		
Criteria	**Sub-Criteria**	**Indicator**	**Indicator Score**	**Sub-Criteria Score**	**Criteria Score**	**Indicator Score**	**Sub-Criteria Score**	**Criteria Score**	**Indicator Score**	**Sub-Criteria Score**	**Criteria Score**	**Indicator Score**	**Sub-Criteria Score**	**Criteria Score**
Accessiblity	Access to Services	Urban Centres	Neutral	Neutral	Neutral	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Neutral			Slight Positive			Slight Positive			Slight Positive		
		Hospitals & healthcare	Neutral			Slight Positive			Slight Positive			Slight Positive		
		Transport hubs & interchange	Neutral			Slight Positive			Slight Positive			Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Neutral	Neutral		Slight Positive	Slight Positive		Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Sports clubs and facilities	Neutral			Slight Positive			Slight Positive			Slight Positive		
	Access to jobs	Access to jobs	Neutral	Neutral		Slight Positive	Slight Positive		Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Neutral	Neutral		Slight Positive	Slight Positive		Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A			N/A			N/A			N/A		
	Freight Access	Freight Facilities change	N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A	
		LGV access to urban centres	N/A			N/A			N/A			N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Slight Negative	N/A	N/A	Positive	N/A	N/A	Positive	N/A	N/A	Positive
		Access to schools	N/A			N/A			N/A			N/A		
		Access to healthcare facilites	N/A			N/A			N/A			N/A		
	Transport users with different mobility needs	Scheme facilities	Neutral	Neutral		Positive	Positive		High Positive	High Positive		High Positive	High Positive	
		Compliance with regulations	High Negative	High Negative		Positive	Positive		High Positive	High Positive		High Positive	High Positive	
	Gender Impacts	Scheme facilities	Neutral	Neutral		Slight Positive	Slight Positive		Slight Positive	Slight Positive		Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Neutral	Neutral	Neutral	Positive	Positive	Slight Positive	Positive	Positive	Positive	Positive	Positive	Positive
	Connectivity with existing public transport facilities	Scheme details	Neutral	Neutral		Positive	Positive		High Positive	High Positive		High Positive	High Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral		Neutral	Neutral		Neutral	Neutral		Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Neutral	Neutral	Neutral	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Neutral	Neutral	Neutral	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Neutral			Slight Positive			Slight Positive			Slight Positive		
		Change in CO2 emissions	Neutral			Slight Positive			Slight Positive			Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral		Neutral	Neutral		Neutral	Neutral		Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Neutral	Neutral	Neutral	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Neutral	Neutral		Slight Positive	Slight Positive		Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral		Neutral	Neutral		Neutral	Neutral		Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral		Neutral	Neutral		Neutral	Neutral		Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Neutral	Neutral		Slight Negative	Slight Negative		Slight Negative	Slight Negative		Slight Negative	Slight Negative	

9.3 Economic Costs

Assessment of economic costs has been conducted in line with the Infrastructure Guidelines (IG) and TAF requirements. The core assumptions are as follows:

- Costs incurred are incremental above the do nothing/counterfactual;
- Any costs spent to date are included within the appraisal, and not treated as sunk costs;
- Capital, operating and maintenance costs only for the infrastructure enhancements at the stations in the accessibility programme have been included within the appraisal;
- Any incidental or indirect demand benefits and revenue increases that could be associated with such enhancements have not been included (see also Chapter 3);
- No capital expenditure is envisaged to be occurred by the programme's counterfactual, which was defined as 'do nothing'; likewise, no additional operating and maintenance costs (or revenue) were included in the appraisal for the counterfactual;
- Programme options' base capital costs including contingencies, in 2022 prices, are summarised in Section 8.3.1;
- Programme options' base operating and maintenance costs, in 2022 prices, are presented in Section 8.3.2;
- Risk/contingency and optimism bias assumptions for capital, operating and maintenance costs are presented in Sections 8.3.3 and 8.3.4 respectively;
- VAT adjustment assumptions for different cost categories, presented in Section 8.3.5, were not applied, instead market price adjustment factor of 16% sourced from TAF Module 8 (8.1.6) was adopted;
- Inflation was excluded from economic cost analysis; price adjustment from 2022 prices to 2016 prices were based on CSO Inflation Calculator recommended in TAF Module 8 (8.7.1);
- Shadow price factors of public funds and labour were sourced from TAF Module 8, from Tables 2 and 3 respectively;
- All present values are based upon 2016 prices discounted to 2016 using real discount rate where Present Value (PV) figures are quoted;
- For present value calculations, discount rates recommended in TAF Module 8 Table 1 were adopted:
  - 4.0% for the first 30 years; and
  - 3.5% for 31-60 years.
- An appraisal period 30 years was agreed with the NTA (based on suggested appraisal time horizons in the Infrastructure Guidelines). This seeks to capture 30 years of operations from scheme opening and completion of capital works. The last scheme's opening year is 2035 within the programme options for station works. The IG financial analysis template includes years to 2056. To account for remaining operating and maintenance costs past 2056, sufficient allocation has been accounted for within in year 2056 for each station affected.

Similar to the financial assessment, appraisal of economic costs also covers the capital costs and operating costs associated with new assets delivered by the Station Accessibility Programme.

The results of economic cost analysis are summarised in Table 9-2. Due to the differences in key assumptions such as discount rates and shadow prices, programme options' NPVs are reported as outputs of financial appraisal in Chapter 8 and differ from economic costs/NPVs presented in this chapter.

The economic cost NPVs were a key input for conducting programme options' CEA. Further details of the CEA conducted for programme options are presented in the remainder of this section.

Table 9-2: Economic costs of programme options

Options	Financial appraisal: NPV (total discounted costs in 2022 prices and values)	Economic costs: NPV (total discounted costs in 2016 prices and values)
Option A: Do nothing / counterfactual	€0	€0
Option B: Compliance Do Minimum option	€204,748,000	€129,494,049
Option C: Enhanced changing places Do Something (includes 'B' measures)	€210,080,000	€132,561,131
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	€215,836,000	€135,995,814

9.4 Multi Criteria Analysis

TAF Module 7 details that the purpose of a Multi Criteria Analysis is to establish preferences between the scheme/programme options being assessed in reference to an explicit set of criteria. The MCA can be used to consider a wide range of impacts associated with a scheme rather than just considering the monetary impact of the interventions. As a result, TAF suggests that MCA can be used to either accompany a CBA or as an alternative to it, where a monetised cost benefit assessment is not feasible.

As part of the economic appraisal of the programme level options for the Station Accessibility Programme, a Multi Criteria Analysis (MCA) has been undertaken to evaluate how each of the proposed programme options aligns with the objectives for the programme detailed in Chapter 5 of the PBC. Each of the programme objectives have been considered as an equally weighted criterion for the MCA, along with a review of the potential deliverability constraints associated with each of the proposed options. All criteria have been scored using the MCA scale outlined in section 7.4 of TAF Module 7, with the assessment evaluating the alignment of an option with the objectives. The MCA completed at the programme level appraisal is different from the station specific MCA conducted as part of the Year 1-5 assessment in Part 4 of the PBC.

For the programme level MCA, the following assessment criteria have been used to evaluate how successfully the programme options (outlined earlier in the report), align with the scheme objectives:

- Compliance with regulations:
  - Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner, for completion by 2034.
- Customer experience:
  - Improve customer experience at stations in the programme, in line with the IÉ implementation plan.
- Improved accessibility:
  - Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers.
- Reduced reliance on cars:
  - Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems;
- Improved safety at stations:
  - Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with reduced mobility or disabilities, which reduces the risk of accidents.
- Deliverability:
  - The option can be efficiently delivered to support the objectives of the programme.

The results of the programme level MCA are included in Table 9-3 with the full programme level MCA analysis included in Appendix E.

Table 9-3: Programme level - MCA scores

Options	Compliance with regulation	Customer experience	Improved accessibility	Reduced reliance on cars	Improved safety at stations	Deliverability	Total
Option A	1	1	2	2	1	4	11
Option B	6	6	5	5	6	4	32
Option C	7	7	6	6	7	4	37
Option D	5	7	7	7	7	2	35

The MCA shows that Programme Option C achieves the greatest alignment with the programme objectives, as the option is likely to significantly improve customer experience and safety at upgraded stations, as well as increasing the attractiveness of rail as the primary mode of transport for all groups, including those with limited mobility. The increased attractiveness of rail could lead to the improved access to jobs, education and other opportunities, as well as reducing reliance on cars for mobility impaired passengers.

Both Options B and C are designed in a way that reduces potential deliverability constraints associated with the interventions, as the costs associated with most deliverability risks are included within the expenditure profiles for the interventions, and all planned works are contained within the stations' red line boundaries. This means that both options score higher than Option D in relation to deliverability, as Option D would require works to be completed outside of the stations' red line boundaries and would require additional funding to be obtained.

9.5 Cost Effectiveness Analysis

TAF Module 7 highlights that the purpose of Cost Effectiveness Analysis (CEA) is to assess the value for money of the short-listed options, specifically when it is not feasible to undertake a CBA due to modelling of data limitations (as discussed in Section 9.1). As such, a CEA is more appropriate approach to test value for money of short-listed options, as the primary focus of the Station Accessibility Programme is to achieve compliance with the identified EU, national and IÉ standards for accessible station design and options will not deliver any monetised benefits. CEA is a more appropriate approach to test value for money of the programme options.

TAF Module 7 suggests using costs alongside the primary Key Performance Indicator (KPI) for deriving a CEA score. In the absence of a single clearly defined KPI for a scheme or where a scheme is attempting to deliver multiple objectives, TAF Module 7 suggests that an option's MCA score could be used instead of the KPI for the purpose of CEA analysis. In particular, TAF Module 7 requires the MCA score of each option to be divided by their respective costs to estimate CEA scores.

The results of the CEA analysis of the programme options are presented in

Table 9-4. Following the TAF guidance, this analysis compares the programme options' MCA scores presented in section 9.4 and capital costs presented in section 8.3. Given the marginal difference in three intervention-based programme options' costs and MCA scores, their CEA scores are quite similar. Driven by its MCA score, Option C achieves the highest CEA score. Option D has marginally higher costs and lower MCA score compared to Option C. As a result, Option C achieves a slightly lower CEA score compared to Option D. Despite having the lowest costs, Option B's CEA score is lower than that of Options C and D. This is primarily because Option B achieves the lowest MCA score amongst the three intervention-based programme options.

Table 9-4: CEA of programme options

Options	MCA Total Score	Total Capital Costs including contingencies (2022 prices, € millions)	CEA Score
Option A: Do nothing / counterfactual	11	-	-
Option B: Compliance Do Minimum option	32	€135.68 million	0.24
Option C: Enhanced changing places Do Something (includes 'B' measures)	37	€139.26 million	0.27
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	35	€142.33 million	0.25

9.6 Summary of Economic Appraisal

The TAA, MCA and CEA of short-listed programme options is presented in Table 9-5. Overall, Option C performs the best, closely followed by other intervention-based options, namely Options B and D. Option D is considered to have notable delivery risks regarding stakeholder commitment, funding and deliverability of improvements on third party assets outside of the stations' boundaries. Option A, which is the programme's do nothing or counterfactual options, is the worst performing option.

Table 9-5: Summary of economic appraisal - programme options

Option	Accessibility	Social	Land Use	Safety	Climate Change	Local Environment	MCA Score	CEA Score
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	11	-
B	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	32	0.24
C	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	37	0.27
D	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	35	0.25

9.7 Emerging Preferred Programme Option

The Station Accessibility Programme's key objectives are to upgrade non-compliant stations to meet EU, national and IÉ standards for accessible station design expeditiously whilst taking account of funding, planning, physical deliverability and other constraints. The PBC appraised the following options for the programme:

- Option A: Do nothing, which is the programme's counterfactual;
- Option B: Compliance Do Minimum ('B' measures);
- Option C: Enhanced changing places Do Something (adds 'C' measures where applicable, plus 'B' measures); and
- Option D: Improved local multi-modal access Do Something (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures).

As a result of the incremental nature of the options, programme Option B is a subset of Option C. Similarly, Option C is a subset of Option D.

Appraisal of the programme concludes that all options (apart from Option A) are capable of achieving the programme's key objectives. The appraisal highlights that Option B measures can achieve compliance against the core accessibility regulations (Disability Act 2005 and Building Regulations 2010, Technical Guidance Document M) in the most cost-efficient manner. However, Option C measures are required to comply with EN 17210:2021 'Accessibility and usability of the built environment – Functional requirements' and the Part M Amendment of Building Regulations 2022. The appraisal also concluded that Options D, which goes beyond the compliance objectives, achieved slightly more than Options B and C but at a commensurately higher cost, and with potential delivery issues with measures being outside the railway estate.

The relatively small increases in programme Options C and D costs when compared to the compliance-based programme Option B affirms that not all short-listed stations were deemed feasible for additional interventions of Options C or D. In particular, programme Options C and D were only considered for stations not constrained by physical limitations and/or wider stakeholder commitment demonstrating the need for additional facilities and infrastructure.

Economic appraisal of programme options included CEA and TAA. Option A achieved nil score in terms of CEA due to its inability to achieve compliance. Similar to the financial appraisal, compliance Option B achieved the maximum CEA score by achieving the compliance against Disability Act 2005 and Building Regulations 2010, Technical Guidance Document M in the most cost-efficient manner.

The CEA score for Option C is only marginally lower than Option B. The close relationship between the scores for Option B and C is notable, particularly because Option C achieves additional compliance for little additional cost (complying with EN 17210:2021 European standards and the subsequent Part M Amendment of Building Regulations 2022, in addition to Disability Act 2005 and Building Regulations 2010, Technical Guidance Document M). As noted though, Option C measures are only viable at a small number of stations due to physical constraints at the stations.

Option D measures achieve a CEA score that is lower again than Option C. Option D does aim to deliver more than the necessary compliance objectives, but these are unviable for most of the stations in the programme as a result of wider limitations on what is practical. These limitations include stakeholder commitment for securing additional funding required for improving third party assets which fall outside the remit of IÉ, along with planning and other deliverability constraints associated with delivering interventions on such third-party assets.

In considering results of the TAA, Option A is forecast to deliver no impacts. All intervention-based programme options are envisaged to deliver similar impacts in terms of nature and scale ('slight positive' across most TAA criteria, with positive social impact and neutral local environmental impact).

Within the above appraisal context, Option A was discarded. Of the three intervention options, Option C can achieve more than Option B in complying with all relevant regulation (including Disability Act 2005, Building Regulations 2010, Technical Guidance Document M, EN 17210:2021 'Accessibility and usability of the built environment – Functional requirements' and the subsequent Part M Amendment of Building Regulation 2022) for only a small increase in cost. Option D is discarded as undeliverable within IÉ's purview, though IÉ will work with stakeholders to such measures where appropriate, such as securing additional funding and eliminating other delivery limitations.

Option C is the preferred way forward for the Station Accessibility Programme. [55]

[55] For practical reasons, at some stations it will not be possible to provide interventions that would typically be identified with Option C. Whether they ultimately do will be based on a wider determination of where changing places facilities should be provided in the community and on the rail network in particular, as well as then any associated physical constraints. In assessments carried out to date, only the physical constraints of the existing stations have been used to determine whether Option C measures could be delivered, specifically whether there is an appropriate building for the installation of a changing places facility. It is possible that wider societal consideration will determine that facilities should be provided at particular stations, requiring more infrastructure to do so. This level of detail is beyond the current scope of the programme.

Part 4:
Years 1-5 Analysis

10. Years 1-5 Activities

10.1 Introduction

Through on-going development of the programme, as well as changes to guidance surrounding programme development and permissions, there have been adjustments to the approach to programme delivery which need to be appraised. As discussed in chapters of the previous section of the PBC, this resulted in a series of programme options being developed and analysed, to ensure that the programme is rigorously implemented.

Though the approach has evolved over time, a key methodological element of the delivery process for the Station Accessibility Programme is appraisal, monitoring and assessing expenditure over discrete 5-year periods that cover implementation of the programme overall. The scale of the programme is such that it will be delivered over a number of years. For practicality with a large number of stations to deal with, delivery of the programme is based on considering sub-sets or packages stations. The most practical approach is to deal with approximately a third of stations in the programme at a time, in a package to be delivered over its own 5-year period. The 5-year period (package) approach was thus determined at the outset of the programme, and likewise a corresponding process to manage the programme on the same 5-year periodic basis for approvals and funding. Additionally, the development of 5-year packages for delivery allows for flexibility in the Station Accessibility Programme, so that the programme can respond to potential changes in guidance and regulation. Guidance documents and technical regulations are periodically updated, meaning that alterations to scheme designs may be required. By delivering interventions in 5-year packages, it is possible for proposals to evolve between packages, in line with updated guidance.

As such, the ethos of 5-year periods within the overall Station Accessibility Programme has been intrinsic to the development of the programme to date. The current PBC document follows on from this by setting details for the first 5-years of the programme, as well as the programme overall. The aim of deriving and assessing the Years 1-5 activities in more detail is to determine the impacts of the Station Accessibility Programme over the first five years, with specific impacts considered at stations where work is undertaken in the 5-year period.

The three chapters in this section of the PBC first sets out the activities undertaken in the first 5-year period of the programme's implementation, including consideration of programme options as they relate to specific interventions at stations involved (Chapter 10), subsequently providing financial analysis of the expenditure involved identified (Chapter 11) and economic analyses and appraisals, also identifying an emerging preferred programme options for future delivery (Chapter 12).

10.2 Stations & Options

Of the 51 stations included in the overall programme 31 stations incur some expenditure in the first 5-year period and are thus included in assessments of Years 1-5 Activities. These include stations with a combination of fully delivered scheme interventions (9 stations), detailed design work is completed up to project Phase 5 (6 stations), and those where preliminary and/or planning design (project Phases 3 and 4 respectively) is underway (16 stations).

Interventions related to the four programme options assessed in Part 3 of the PBC are carried through to Part 4 and analysis of Years 1-5 Activities:

- Option A: Do nothing, which is the programme's counterfactual;[56]
- Option B: Compliance ('B' measures);[57]
- Option C: Enhanced changing places (adds 'C' measures where applicable, plus 'B' measures); and

[56] Because Iarnród Éireann do not have approval for expenditure at the appraised stations outside of regular station maintenance, and such ongoing station maintenance expenditure will only result in upkeep of existing assets at the stations and not improve station accessibility, no interventions can be delivered as part of a counterfactual of the Station Accessibility Programme. Hence 'do nothing' is used as the counterfactual (Section 9.2 sets out more reasoning for this).

[57] Given that compliance with accessibility and disability standards is ultimately mandatory, albeit there is a recognition that it will take a pragmatic amount of time to achieve this, programme Option B, which provides a basic level of compliance with initial accessibility standards, arguably functions as an ultimate de facto 'do minimum' for the programme. However, measures in any of the intervention options of the Station Accessibility Programme are hitherto not committed to a degree that they can be categorised as 'do minimum' for appraisal purposes. As such, appraisal of the options in the PBC uses the 'do nothing' Option A as the counterfactual.

- Option D: Improved local multi-modal access (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures). [58]

However, of the 31 stations included in the Years 1-5 Activities, only three are suitable for 'C' measures, of which none are actually completed within the period, with one being subject to detailed design (Phase 5) and the other two achieving preliminary design and planning (Phases 3 & 4) only. Similarly, 'D' measures are only applicable to seven stations, albeit four of these are due for completion in Years 1-5, with one being subject to detailed design and the remaining two to preliminary design and planning. Table 10-1 (at the end of this section) shows the stations included in Years 1-5 Activities, along with compatibility with programme option measures and progress in years 1-5 of the programme, as well as the former 'package' code for reference.

Note that compliance interventions ('B' measures) at the Years 1-5 stations that will be either fully delivered in Years 1-5 or have detailed design completed have been developed in reasonable detail, and in doing so more than one set of potential compliance measures have been considered at some stations, especially where there may be deliverability constraints present. As such, alternatives considered how to overcome any deliverability constraints, and in general the most deliverable and/or cost-effective alternative is likely to be recommended for implementation.

At stations where this applies, a preferred compliance intervention has generally been identified as part of scheme development, and this is used as the 'B' measures in aggregate financial and economic appraisals involving that station. However, where more than one compliance option has been considered for a station, each of the compliance option 'B' measures considered (referred to as B1, B2, etc) is appraised as part of the MCA analysis; Appendix B sets out the options considered at each station completed in Years 1-5 Activities, including where applicable multiple compliance options (B1, B2, etc) as well as any 'C' and 'D' measures that could be considered at each station.

Table 10-1: Years 1-5 activities stations - progress and programme option measures

Station			Measures		
	former package ref.	Years 1-5 progress (estimated completion)	B	C	D
Dalkey	A	Full Delivery (2022)	✓	-	-
Gormanston	A	Full Delivery (2022)	✓	-	-
Little Island	A	Full Delivery (2023)	✓	-	✓
Banteer	A	Full Delivery (2024)	✓	-	✓
Rathmore	A	Full Delivery (2024/2025)	✓	-	-
Athy	A	Full Delivery (2025/2026)	✓	-	✓
Rathdrum	A	Full Delivery (2025/2026)	✓	-	-
Maynooth	A	Full Delivery (2025/2026)	✓	-	-
Boyle	A	Full Delivery (2025/2026)	✓	-	✓
Claremorris	A	Part Delivery 2026, complete 2027	✓	-	-
Glounthaune	A	Part Delivery 2026, complete 2027	✓	-	-
Rushbrooke	A	Phase 5 Detailed Design (Year 6 completion)	✓	-	✓
Longford	A	Phase 5 Detailed Design (Year 6 completion)	✓	✓	-
Arklow	A	Phase 5 Detailed Design (Year 6 completion)	✓	-	-
Wicklow	A	Phase 5 Detailed Design (Year 6 completion)	✓	-	-
Gorey	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Enniscorthy	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	✓
Roscommon	B	Phase 3 prelim.design & Phase 4 planning design	✓	✓	-
Dromod	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-

[58] Note that, although Option D has been discounted as a preferred programme option, where applicable, potential Option D measures have been included in the assessment of options at stations involved in Years 1-5 Activities for comparative purposes.

Station			Measures		
	former package ref.	Years 1-5 progress (estimated completion)	B	C	D
Rosslare Strand	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Muine Bheag	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Farranfore	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Fota	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Castlerea	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Ballyhaunis	B	Phase 3 prelim.design & Phase 4 planning design	✓	✓	✓
Carrigaloe	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Drumcondra	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Broombridge	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Kilcock	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Leixlip Louisa Bridge	B	Phase 3 prelim.design & Phase 4 planning design	✓	-	-
Castleknock	C	Phase 3 prelim.design & Phase 4 planning design	✓	-	-

11. Financial Analysis

11.1 Introduction

Financial appraisal for Years 1-5 Activities was also undertaken similar to that performed for the programme options. This appraisal also follows the requirements outlined in IG and TAF. In particular, the analysis provides evidence of the project's implementation on the finances of the Sponsoring Agency and the Exchequer respectively. As outlined in earlier in Chapter 10, Years 1-5 Activities include capital expenditure for stations which will be delivered between 2022 and 2026, the first 5-year period of the Station Accessibility Programme. Chapter 10 also highlights that various stations which will be delivered in subsequent 5-year periods, will incur development costs in the first 5-year period. In agreement with NTA, these development costs will also be included within the financial appraisal for Years 1-5 Activities.

Options considered for Years 1-5 Activities are identical to those appraised at programme level, and include:

- Option A: Do nothing, which is the programme's counterfactual;
- Option B: Compliance ('B' measures);
- Option C: Enhanced changing places (adds 'C' measures where applicable, plus 'B' measures); and
- Option D: Improved local multi-modal access (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures).

The remainder of this section outlines the key assumptions and findings of the financial appraisal for Years 1-5 Activities' intervention-based options, when benchmarked against the do nothing based counterfactual.

11.2 Assumptions

The financial appraisal has been conducted in line with IG and TAF requirements. The IG financial analysis template[59]. The core assumptions are outlined as follows:

- Costs incurred since (and including) 2022 are included within the appraisal and not treated as sunk costs;
  - Although the current Station Accessibility Programme commenced in 2022, work commenced in 2019 on defining and implementing interventions related to PRM TSi compliance at stations on the IÉ network, which included track crossing elements (nominally footbridges with lifts). As such some expenditure incurred prior to 2022 that could be considered de facto 'sunk costs' for the Station Accessibility Programme. This amounted to €1.8m in 2019, €3.6m in 2020 and €4.8m in 2021.
- All values are based upon 2022 prices discounted to 2022 using real discount rate where Present Value (PV) figures are quoted;
- For present value calculations, a real discount rate of 3.07% was recommended by National Development Finance Agency (NDFA) for the Station Accessibility Programme, including Years 1-5 Activities;[60]
- An appraisal period 30 years was agreed with the NTA (based on suggested appraisal time horizons in the Infrastructure Guidelines). This seeks to capture 30 years of operations from scheme opening and completion of capital works. The last scheme's opening year is 2026 within the Years 1-5 Activities' options for station works. As a result, the final year of appraisal for these schemes is 2056. This means that no remaining operational and maintenance cost has had to be captured as part of the Year 1-5 activities;
- Costs incurred are incremental above the do nothing/counterfactual;
- Capital, operating and maintenance costs only for the infrastructure enhancements at the stations in the accessibility programme have been included within the appraisal;
- VAT is excluded from base costs, with specific adjustments applied for cash flow analysis as necessary. Further details of specific adjustments are presented later in this chapter;
- Contingency and inflation adjustments were also applied to the costs prior to conduction cash flow analysis. Further details of these adjustments are presented later in this chapter;

[59] Infrastructure Guidelines – Financial Analysis Template for Proposals More than 1 Million: https://www.gov.ie/en/collection/e8040-infrastructure-guidelines/

[60] On 22nd February 2024, following consultation with the National Treasury Management Agency

- Any incidental or indirect demand benefits and revenue increases that could be associated with such enhancements have not been included (see also Chapter 3); and
- No capital expenditure is envisaged to be occurred by the Years 1-5 Activities' counterfactual, which was defined as 'do nothing'; likewise, no additional operating and maintenance costs (or revenue) were included in the appraisal for the counterfactual.

In the context of this PBC passenger fare revenue has not been estimated due to lack of a robust evidence base and modelling methodology to link the specific measures being considered to passenger demand uplifts. The financial assessment will therefore cover the capital (including scheme development), operating and maintenance costs associated with new assets delivered by the Station Accessibility Programme.

11.3 Years 1-5 Activities Expenditure

11.3.1 Capital Expenditure

Years 1-5 Activities include construction expenditure for stations which will be delivered between 2022 and 2026, the first 5-year period. In addition, various stations which will be delivered in subsequent 5-year periods, will incur development costs in the first 5-year period. These construction and development costs are included within the financial appraisal for Years 1-5 Activities.

This section presents an overview of construction costs and development expenditure for the three intervention-based Years 1-5 Activities options by specific cost categories identified in IG financial analysis template:

- Option B: Compliance ('B' measures);
- Option C: Enhanced changing places (adds 'C' measures where applicable, plus 'B' measures); and
- Option D: Improved local multi-modal access (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures).

The appraisal assumes that there are no capital costs incurred under Option A (do nothing).

Table 11-1: Years 1-5 Activities options' capital costs, including contingencies, excluding VAT and inflation (Source: IÉ, in 2022 prices)

Cost Category	Option B	Option C	Option D:
Design team fees	€5,767,000	€5,832,000	€5,917,000
Enabling works	€641,000	€651,000	€663,000
Investigation works	€1,290,000	€1,314,000	€1,341,000
Consultancy and Advisory	€1,627,000	€1,642,000	€1,664,000
Land acquisition	€260,000	€260,000	€340,000
Construction cost	€30,389,000	€30,448,000	€31,320,000
Contingencies	€3,694,000	€3,694,000	€3,839,000
Per cent for Art	€146,000	€146,000	€152,000
Total Capex, incl. contingencies (excluding VAT and Inflation)	€43,814,000	€43,987,000	€45,236,000

Table 11-1 outlines the capital cost associated with achieving compliance at stations being delivered in the first 5-year period of the Station Accessibility Programme, along with development costs for other stations delivered later in the programme. The cost for achieving the required compliance standard (Programme Option B) is estimated at €43.8 million.

Capital costs for Programme Option C, which achieves further compliance with EN17210:2021 through the delivery of changing places facilities at some stations is estimated to be very marginally higher at €44 million. The marginal increase in cost is due to no Option C interventions at stations being fully delivered during the first 5-year period, due to a lack of suitable spaces available at the stations. Instead, the additional cost is associated with preparatory work being undertaken for the delivery of future Option C stations.

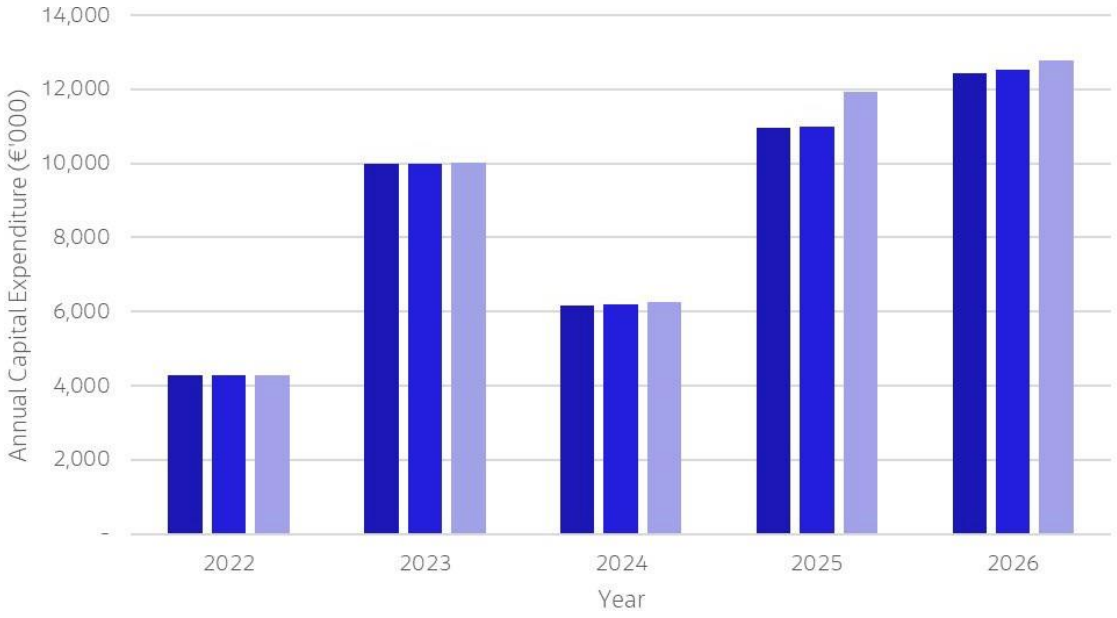
The costs for Programme Option D, which aims to go beyond the core compliance objectives of the Station Accessibility Programme, are estimated to be higher than the Programme Option C costs, at €45.2 million.

The relatively small increases in programme Option C and D costs when compared to the compliance-based Option B affirms IÉ's approach, where not all short-listed stations were deemed feasible for Options C or D. In particular, Options C and D were only considered for stations which were not constrained by physical limitations and/or wider stakeholder commitment demonstrating the need for additional facilities and infrastructure.

The options' capital costs summarised in the table above were developed by IÉ on a station-by-station basis. Detailed build-up of these option costs by stations, cost categories and anticipated years of expenditure are presented in Appendix C: Cashflow tables. Appendix C includes option specific financial cashflow (Appendix C1) and exchequer cashflow (Appendix C2) spreadsheets. As mentioned earlier, these spreadsheets are based on IG financial analysis template.

In addition to the capital costs summarised in Table 11-1, Figure 11-1 presents annual capital expenditure profile for the three options. The figure highlights that options include a 5-year programme of works between 2022 and 2026.

Figure 11-1: Annual expenditure profile of Years 1-5 Activities options (Source: IÉ, in 2022 prices)



11.3.2 Operating & Maintenance expenditure

IÉ have sourced additional annual operating and maintenance cost benchmark estimates for new infrastructure planned to be delivered by Station Accessibility Programme interventions. These benchmarks reflect IÉ's experience of operating these stations and associated assets across Ireland and are presented in Section 8.3.2.

Using the IG financial analysis template, these annual benchmarks were adopted to develop project specific operating and maintenance costs over the programme's appraisal period, defined earlier in this chapter. Station specific estimates across the considered programme options were aggregated to forecast option specific operating and maintenance costs.

As outlined in section 11.3.1, due to physical constraints at each of the stations fully delivered within the first 5-year window of the Station Accessibility Programme, no Option C interventions could be delivered within this period. As a result, the Years 1-5 analysis assumes that Option B interventions would be delivered at these stations, even with Option C selected as the preferred programme option for the full Station Accessibility Programme. This means that there is no difference in operations and maintenance costs between these options for station upgrades delivered in Years 1-5 of the programme.

Operating and maintenance cost estimates for the three options are summarised in Table 11-2 and Table 11-3.

Table 11-2: Years 1-5 Activities options' operating expenses, excl. VAT & inflation (Source: IÉ, 2022 prices)

Cost Category	Option B	Option C	Option D:
Utilities and electricity	€1,290,000	€1,290,000	€1,464,000
Total Opex (excluding VAT and Inflation)	€1,290,000	€1,290,000	€1,464,000

Table 11-3: Years 1-5 Activities options' maintenance costs, excl. VAT & inflation (Source: IÉ, 2022 prices)

Cost Category	Option B	Option C	Option D:
Operational maintenance	€1,020,000	€1,020,000	€1,098,000
Building fabric maintenance	€1,530,000	€1,530,000	€1,608,000
Mechanical and electrical maintenance	€6,630,000	€6,630,000	€6,824,000
Total Opex (excluding VAT and Inflation)	€9,180,000	€9,180,000	€9,530,000

11.3.3 Risk & Contingency

In determining programme intervention costs, the approach to assessing appropriate allowances for risk and contingency has followed the guidance and methodologies for cost estimating enshrined in Cost Management Guidelines (CMG) required by the NTA, specifically:

- Contingency Calculator (NTA CMG 001_B123_CC); and
- QRA calculator (NTA CMG 013_B23_QRA).

The calculators are used to assess contingency and risk values for stations at stages of scheme development as appropriate, providing unique values to each station according to its scheme development stage, specific circumstances and interventions. Risk and contingency are inherently uncertain, so financial appraisal has taken output from the risk and contingency calculators and utilised average values for risk and contingency for 5-year periods. As calculators have not yet been complete for stations in the final 5-year period (Package C), the average values of risk and contingency for stations in the first and second 5-year periods (Packages A & B) have been used. Higher values of risk and contingency may be expected for these, but the inherent progression and consistency of approach to cost development and cost referencing through the programme brings clear knowledge of typical risks, so higher values are inappropriate and disproportionate in the assessment of costs for stations in the final 5-year period (Package C), and hence use of values assessed for stations being delivered through the first and second 5-year periods (Packages A & B) are appropriate.

The types of risks and the impacts of their occurrence are captured in risk registers. Detailed station risk registers will be used to produce specific risk/contingency allowances for individual stations as part of their respective FBCs in due course. Typical risks for the intervention options include:

- Problems securing sufficient design resources and/or commercial support to prepare schemes;
- Public consultation issues and challenges to scheme content;
- Issues securing acceptance or approval for schemes to proceed to construction;
- Contractor availability to carry out works;
- Potential cost increases and/or material supply issues prior to commencement; and
- Impact of external factors and interface with other projects.

More details of the broader approach to risk can be found in Chapter 14.

Optimism Bias

As discussed in more detail in Chapter 8, it is considered that the cost estimates used in the Station Accessibility Programme PBC are robust, and include sufficient allowance for risk and contingency that no further allowance is required for optimism bias beyond this.

11.3.4 Indirect Taxation

A key requirement for appraisal is to account for VAT flows generated from the activities associated with the project or programme following implementation, specifically for Sponsoring Agency's cash flow analysis.

Various VAT rates recommended by IÉ for different capital, operational and maintenance costs are presented in Table 11-4. The rates shown in the table were adopted for conducting discounted cash flow analysis of options associated with the Sponsoring Agency. However, these rates were excluded from the Exchequer cash flow analysis.

Table 11-4: VAT rates used in analysis - capital, operating and maintenance costs (Source: IÉ)

Capital cost	
Category	VAT rate
Design team fees	23.0%
Enabling works	13.5%
Investigation works	13.5%
Consultancy and Advisory	23.0%
Land acquisition	13.5%
Construction cost	13.5%
Contingencies	13.5%
Per cent for Art	13.5%

Operating and Maintenance cost	
Category	VAT rate
Utilities and electricity	23.0%
Operational maintenance	13.5%
Building fabric maintenance	13.5%
Mechanical and electrical maintenance	13.5%

11.3.5 Inflation

NTA requires that the Tender Price Index be used when assessing inflationary allowances for projects where it is the Approving Authority. NTA's Inflation Bulletin (February 2024)[61] presents the latest tender price indices for different project types. IÉ confirmed that the programme's interventions, including Years 1-5 Activities, would be best classified as 'civil engineering' project type, which is one of the categories considered in inflation indices referenced above.

Tender price inflation forecast up to 2040 for civil engineering project type sourced from NTA were adopted by IÉ to forecast inflation allowance for all capital, operating and maintenance costs. As mentioned earlier for financial appraisal of programme options in Chapter 8, these rates (see Figure 8-2) were deemed most suitable for all cost categories, including design, advisory, construction, operating and maintenance expenditure, which may include notable labour component. As the tender price inflation forecast for civil engineering project type is only available up to 2040, the value forecast for annual inflation for 2040 (2% p.a.) was adopted for the remainder of the appraisal period.

11.3.6 Outturn costs and expenditure profiles

Applying inflation and VAT to base costs for capital expenditure, as well as operating and maintenance costs, over the life of the programme, results in outturn costs used in the financial appraisal. Table 11-5 shows total programme option outturn cost for Years 1-5 Activities, including inflation and VAT alongside the base costs by category. Table 11-6 shows similar information, but for Years 1-5 Activities capital expenditure only.

Table 11-5: Years 1-5 Activities outturn costs - total costs

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€9,731,000	€9,845,000	€10,077,000
Construction cost	€30,389,000	€30,448,000	€31,320,000
Contingencies	€3,694,000	€3,694,000	€3,839,000
Operation	€1,290,000	€1,290,000	€1,464,000
Maintenance	€9,180,000	€9,180,000	€9,530,000
Years 1-5 costs, incl. contingencies (real)	€54,284,000	€54,457,000	€56,230,000
Inflation	€11,801,000	€11,826,000	€12,359,000
Years 1-5 costs, incl. contingencies & inflation (nominal)	€66,085,000	€66,283,000	€68,589,000

[61] https://www.nationaltransport.ie/wp-content/uploads/2024/02/2024-NTA-Inflation-Bulletin-Card.pdf

VAT	€9,903,000	€9,938,000	€10,288,000
Total Years 1-5 Outturn costs, incl. contingencies, inflation and VAT (nominal)	€75,987,000	€76,221,000	€78,877,000

Table 11-6: Years 1-5 Activities outturn costs - capital expenditure only

Cost Category	Option B	Option C	Option D:
Preparation & other costs	€9,731,000	€9,845,000	€10,077,000
Construction cost	€30,389,000	€30,448,000	€31,320,000
Contingencies	€3,694,000	€3,694,000	€3,839,000
Years 1-5 Capex, incl. contingencies (real)	€43,814,000	€43,987,000	€45,236,000
Inflation	€5,211,000	€5,237,000	€5,429,000
Years 1-5 Capex, incl. contingencies & inflation (nominal)	€49,025,000	€49,224,000	€50,665,000
VAT	€7,400,000	€7,435,000	€7,641,000
Total Years 1-5 Outturn Capex, incl. contingencies, inflation and VAT (nominal)	€56,425,000	€56,659,000	€58,306,000

11.4 Financial Appraisal

TAF Module 7 notes that financial appraisal is required for short-listed options in the PBC, and that the following types of analysis are required to be completed as part of the financial appraisal:

- Discounted Cash Flow (DCF) analysis of cash flows related to the Sponsoring Agency; and
- Exchequer Cash Flow (ECF) analysis of cash flow impacts related to the central Exchequer.

The guidance also indicates that sensitivity analysis should be performed within the financial appraisal in order to ensure best practice. The IG financial analysis template was utilised to bring together the various costs and assumptions outlined earlier in this chapter to conduct financial appraisal for the three Years 1-5 Activities' options. The remainder of this section presents the summary findings of this analysis. Detailed DCF and ECF analysis for the Years 1-5 Activities' options is presented in Appendix C: Cashflow tables.

11.4.1 Initial Cash Flow

Building on the analysis of programme options expenditure set out in the previous section of the PBC, initial cash flow profiles have been derived as inputs to the discounted cash flow analysis that form the main elements of the financial appraisal process of Years 1-5 Activities.

Full details of initial cash flows of the programme options are in Appendix C: Cashflow tables, with summary information in Table 11-7 for the Programme Option B initial expenditure profile, Table 11-8 for Programme Option C and Table 11-9 for Programme Option D.

Table 11-7: Years 1-5 Activities programme Option B - initial expenditure profile

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme...					...to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Capital Costs									
Design team fees	308	1,782	1,325	1,314	1,038	-	-	-	5,767
Enabling works	118	114	190	219	-	-	-	-	641
Investigation works	232	723	170	125	40	-	-	-	1,290
Consultancy and Advisory	186	162	514	429	336	-	-	-	1,627
Land acquisition	80	-	-	140	40	-	-	-	260
Construction cost	2,835	7,013	3,352	8,148	9,041	-	-	-	30,389
Contingencies	498	150	601	578	1,867	-	-	-	3,694
Per cent for Art	16	28	20	19	63	-	-	-	146
Subtotal – Capital Costs	***4,273***	***9,972***	***6,172***	***10,972***	***12,425***	***-***	***-***	***-***	***43,814***
Operating Costs									
Utilities and electricity	-	10	15	20	25	344	731	145	1,290
Subtotal – Operating Costs	***-***	***10***	***15***	***20***	***25***	***344***	***731***	***145***	***1,290***
Maintenance Costs									
Operational Maintenance	-	8	12	16	20	272	578	114	1,020
Building Fabric Maintenance	-	12	18	24	30	408	867	171	1,530
Mechanical & Electrical Maintenance	-	52	78	104	130	1,768	3,757	741	6,630
Subtotal – Maintenance Costs	***-***	***72***	***108***	***144***	***180***	***2,448***	***5,202***	***1,026***	***9,180***
Total Net Cash Flow (Real)	4,273	10,054	6,295	11,136	12,630	2,792	5,933	1,171	54,284
Inflation	-	616	680	1,637	2,360	937	4,270	1,301	11,801
Total Net Cash Flow (Nominal)	4,273	10,670	6,975	12,773	14,990	3,729	10,203	2,472	66,085
VAT	624	1,637	1,137	1,916	2,181	547	1,497	363	9,903
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,307	8,111	14,690	17,171	4,276	11,700	2,835	75,987

Table 11-8: Years 1-5 Activities programme Option C - initial expenditure profile

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme...					...to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Capital Costs									
Design team fees	308	1,798	1,341	1,327	1,058	-	-	-	5,832
Enabling works	118	114	195	224	-	-	-	-	651
Investigation works	232	733	179	130	40	-	-	-	1,314
Consultancy and Advisory	186	162	519	434	341	-	-	-	1,642
Land acquisition	80	-	-	140	40	-	-	-	260
Construction cost	2,835	7,013	3,352	8,148	9,100	-	-	-	30,448
Contingencies	498	150	601	578	1,867	-	-	-	3,694
Per cent for Art	16	28	20	19	63	-	-	-	146
Subtotal – Capital Costs	***4,273***	***9,998***	***6,207***	***11,000***	***12,509***	***-***	***-***	***-***	***43,987***
Operating Costs									
Utilities and electricity	-	10	15	20	25	344	731	145	1,290
Subtotal – Operating Costs	***-***	***10***	***15***	***20***	***25***	***344***	***731***	***145***	***1,290***
Maintenance Costs									
Operational Maintenance	-	8	12	16	20	272	578	114	1,020
Building Fabric Maintenance	-	12	18	24	30	408	867	171	1,530
Mechanical & Electrical Maintenance	-	52	78	104	130	1,768	3,757	741	6,630
Subtotal – Maintenance Costs	***-***	***72***	***108***	***144***	***180***	***2,448***	***5,202***	***1,026***	***9,180***
Total Net Cash Flow (Real)	4,273	10,080	6,330	11,164	12,714	2,792	5,933	1,171	54,457
Inflation	-	617	683	1,641	2,375	937	4,270	1,301	11,826
Total Net Cash Flow (Nominal)	4,273	10,697	7,013	12,805	15,089	3,729	10,203	2,472	66,283
VAT	624	1,643	1,144	1,923	2,198	547	1,497	363	9,938
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,340	8,158	14,728	17,287	4,276	11,700	2,835	76,221

Table 11-9: Years 1-5 Activities programme Option D - initial expenditure profile

(€'000s, 2022 prices, undiscounted)	First 5 years of the programme...					...to 30-years of the programme		Residual	
	2022	2023	2024	2025	2026	2027-2034	2035-2051	2052-2081	Total
Capital Costs									
Design team fees	308	1,804	1,347	1,380	1,078	-	-	-	5,917
Enabling works	118	113	202	227	3	-	-	-	663
Investigation works	232	730	196	136	47	-	-	-	1,341
Consultancy and Advisory	186	167	525	442	344	-	-	-	1,664
Land acquisition	80	-	-	220	40	-	-	-	340
Construction cost	2,835	7,013	3,352	8,819	9,301	-	-	-	31,320
Contingencies	498	150	601	691	1,899	-	-	-	3,839
Per cent for Art	16	28	20	23	65	-	-	-	152
Subtotal – Capital Costs	***4,273***	***10,005***	***6,243***	***11,938***	***12,777***	***-***	***-***	***-***	***45,236***
Operating Costs									
Utilities and electricity	-	10	15	20	29	392	833	165	1,464
Subtotal – Operating Costs	***-***	***10***	***15***	***20***	***29***	***392***	***833***	***165***	***1,464***
Maintenance Costs									
Operational Maintenance	-	8	12	16	21	293	623	124	1,098
Building Fabric Maintenance	-	12	18	24	31	429	912	181	1,608
Mechanical & Electrical Maintenance	-	52	78	104	134	1,821	3,870	764	6,824
Subtotal – Maintenance Costs	***-***	***72***	***108***	***144***	***187***	***2,544***	***5,406***	***1,069***	***9,530***
Total Net Cash Flow (Real)	4,273	10,087	6,366	12,102	12,993	2,936	6,239	1,234	56,230
Inflation	-	618	687	1,779	2,427	985	4,491	1,372	12,359
Total Net Cash Flow (Nominal)	4,273	10,705	7,053	13,881	15,420	3,921	10,730	2,606	68,589
VAT	624	1,645	1,151	2,075	2,245	579	1,585	385	10,288
Total Net Cash Flow (Nominal inc. VAT)	4,897	12,350	8,204	15,956	17,665	4,500	12,314	2,991	78,877

11.4.2 Discounted Cash Flow

Discounted cash flow analysis with respect to the Sponsoring Agency was conducted for the three programme options, based on the costs and other assumptions outlined earlier. The results of this cash flow analysis are summarised in Table 11-10. This analysis was conducted using the IG financial analysis template. A completed spreadsheet for each option for Years 1-5 Activities is presented in Appendix C1: Financial cash flow.

Table 11-10: Years 1-5 Activities financial cash flows

Options	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
Option B: Compliance Do Minimum option	€75,987,000	€63,677,000
Option C: Enhanced changing places Do Something (includes 'B' measures)	€76,221,000	€63,891,000
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	€78,877,000	€65,958,000

Sensitivity Analysis

Sensitivity testing has been carried out to test the impact on Years 1-5 Activities options' NPVs. Sensitivities focus on capital and operating/maintenance costs, as follows:

- 20% increase in capital costs;
- 10% reduction in capital costs;
- 20% increase in operating and maintenance costs; and
- 10% reduction in operating and maintenance costs.

The results of sensitivity analysis for programme Options B, C and D are presented in Table 11-11,

Table 11-12 and Table 11-13 respectively.

Table 11-11: Years 1-5 Activities financial cash flows - Option B sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
20% increase in capital costs	€87,273,000	€74,160,000
10% reduction in capital costs	€70,345,000	€58,436,000
20% increase in operating and maintenance costs	€79,900,000	€65,930,000
10% reduction in operating and maintenance costs	€74,031,000	€62,551,000

Table 11-12: Years 1-5 Activities financial cash flows - Option C sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
20% increase in capital costs	€87,553,000	€74,416,000
10% reduction in capital costs	€70,555,000	€58,628,000
20% increase in operating and maintenance costs	€80,133,000	€66,143,000
10% reduction in operating and maintenance costs	€74,265,000	€62,764,000

Table 11-13: Years 1-5 Activities financial cash flows - Option D sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and VAT)	NPV (total discounted costs in 2022 prices and values)
20% increase in capital costs	€90,538,000	€76,783,000
10% reduction in capital costs	€73,046,000	€60,545,000
20% increase in operating and maintenance costs	€82,991,000	€68,324,000
10% reduction in operating and maintenance costs	€76,820,000	€64,774,000

11.4.3 Exchequer Cash Flow

Exchequer cash flow analysis relating to the central Exchequer was also conducted for the three Years 1-5 Activities options based on the costs and other assumptions outlined earlier in this chapter. Consistent with the guidance, VAT was excluded from this assessment. The results of this cash flow analysis are summarised in the Table 11-14. This analysis was also conducted using the IG financial analysis template. A completed spreadsheet for each Years 1-5 Activities option is presented in Appendix C2: Exchequer cash flow.

Table 11-14: Years 1-5 Activities Exchequer cash flows

Options	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
Option B: Compliance Do Minimum option	€66,085,000	€55,359,000
Option C: Enhanced changing places Do Something (includes 'B' measures)	€66,283,000	€55,540,000
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	€68,589,000	€57,338,000

Sensitivity Analysis

Sensitivity testing has also been carried out to test the impact on exchequer cash flows, using the same variations on capital and operating/maintenance costs as used for sensitivity testing of programme options' NPVs. The results of sensitivity analysis for programme Options B, C and D are presented in Table 11-15, Table 11-16 and Table 11-17 respectively.

Table 11-15: Years 1-5 Activities Exchequer cash flows - Option B sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
20% increase in capital costs	€75,890,000	€64,466,000
10% reduction in capital costs	€61,182,000	€50,805,000
20% increase in operating and maintenance costs	€69,497,000	€57,323,000
10% reduction in operating and maintenance costs	€64,379,000	€54,377,000

Table 11-16: Years 1-5 Activities Exchequer cash flows - Option C sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
20% increase in capital costs	€76,128,000	€64,683,000
10% reduction in capital costs	€61,361,000	€50,968,000
20% increase in operating and maintenance costs	€69,695,000	€57,504,000
10% reduction in operating and maintenance costs	€64,577,000	€54,558,000

Table 11-17: Years 1-5 Activities Exchequer cash flows - Option D sensitivity assessment

Sensitivities	Total project cash flow (total undiscounted costs, including inflation and excluding VAT)	NPV (total discounted costs in 2022 prices and values, excluding VAT)
20% increase in capital costs	€78,722,000	€66,744,000
10% reduction in capital costs	€63,523,000	€52,635,000
20% increase in operating and maintenance costs	€72,174,000	€59,400,000
10% reduction in operating and maintenance costs	€66,797,000	€56,307,000

12. Economic Analysis

12.1 Introduction

The Infrastructure Guidelines (IG) highlight the need for conducting an economic appraisal of short-listed options. TAF Module 7 notes that Cost-Benefit Analysis (CBA) is a key quantitative assessment tool for the detailed economic appraisal of options for transport proposals, which monetises social costs and benefits of a proposal. The document also indicates that depending on the context, specifically when it is not feasible to monetise any impacts, a Multi-Criteria Analysis (MCA) of options can used as an alternative to a CBA. TAF Module 7 also notes that for PBCs where none of the shortlisted options are estimated to cost more than €30 million, MCAs should be used as the primary tool for economic appraisal.

Station Accessibility Programme's key objectives are to upgrade non-compliant stations to meet EU, national and IÉ standards for accessible station design expeditiously whilst taking account of funding, planning, physical deliverability and other constraints.

The primary focus of the programme is to achieve compliance with standards for accessible station design. However, interventions to do this as part of the programme do not in themselves generate benefits that can be robustly monetised, being reliant on consequential attitudinal relationships or effects to produce monetised results. While the programme will provide new or enhanced station facilities such as accessible footbridges, and techniques exist than can be used to generate generalised cost savings that can in turn generate monetised benefits, there are no specific parameters or agreed methodologies for use in Ireland. Moreover, the application of such techniques can only be done on an individual station basis, and needs full details of specific intervention, along with demand and journey data for each station, in order to provide robust results.

Case study evidence and econometric analysis show that station accessibility/quality interventions can result in demand uplifts (see also Section 3.2.3). However, impacts can vary widely dependent on the location, journey type, the station improvements implemented and the current condition of the station. Any demand uplifts would thus be small and difficult to quantify, and moreover to isolate as being specifically related to the programme for apportionment in a cost benefit analysis. And in a similar way to station facilities, there are no specific parameters or agreed methodologies for use in Ireland.

It is therefore not considered possible to robustly monetise project benefits for the Station Accessibility Programme, and as such a detailed Cost Effectiveness Analysis (CEA) informed by an option specific financial appraisal is the most appropriate form of detailed economic analysis to be conducted rather than Cost Benefit Analysis (CBA).[62] Furthermore, none of the individual station intervention options appraised for Years 1-5 Activities are estimated to be more than €30 million.

As a result, economic appraisal of Station Accessibility Programme's Years 1-5 Activities options primarily focuses on a bespoke MCA, specifically for stations which will be delivered during this first 5-year window. The details of bespoke MCA framework, scoring mechanism and the results are presented in this chapter. These results are subsequently summarised alongside the TAA analysis.

The remainder of this chapter initially presents the Transport & Accessibility Appraisal (TAA), going on to cover the key assumptions and findings of the economic cost assessment and CEA.

12.2 Transport & Accessibility Appraisal

12.2.1 Methodology

The Transport & Accessibility Appraisal (TAA) process is described in TAF Module 7, combining qualitative and quantitative impacts of a scheme, project or programme in a single place across a range of impacts. Details of the criteria, sub-criteria and indicators, and their use the appraisal of both programme options and individual stations in the Station Accessibility Programme PBC, are set out in Section 9.2; the same basic approach has been taken for both programme option and station assessments.[63] Although more specific information is

[62] TAF Module 4, section 4.10.3

[63] As noted in Section 9.2, most indicators are considered in assessments; exceptions include three indicators in two sub-criteria that relate to freight transport and the sub-criteria of deprived groups in social impacts (indicators for deprived groups are effectively duplicates of accessibility indicators in the context of the Stations Accessibility Programme). And an additional indicator has been

available for individual stations involved in Years 1-5 activities than programme options, information is still limited at this stage. As such, the assessments are made up of high-level qualitative appraisals. Stations assessed are those which are due to be completed, or for which detailed design will be completed, in Years 1-5 of the programme.

Table 12-1 shows stations and options for which TAA assessments have been completed. Note that no specific assessment has been done for the Option A 'do nothing' counterfactual at individual stations, as it is the same for all stations as the Option A programme level TAA discussed in Section 9.2.[64] All Years 1-5 Activities stations have a TAA based on the basic compliance measures of Option B. In the event there is more than one potential compliance intervention the preferred measures were used (in practice, there is little distinction between the detail of compliance measures in carrying out a TAA assessment at this stage)[65]. There are also no Option C TAAs, as no stations being delivered in the first five years of the programme are compatible with enhanced changing places ('C' measures). Option D TAAs have been carried out at the four stations with improved multi-modal access ('D' measures).

Table 12-1: Years 1-5 Activities - stations with TAA assessment

Station		TAA for Option...		
	Years 1-5 progress (estimated completion)	B	C	D
Dalkey	Full Delivery (2022)	✓	-	-
Gormanston	Full Delivery (2022)	✓	-	-
Little Island	Full Delivery (2023)	✓	-	✓
Banteer	Full Delivery (2024)	✓	-	✓
Rathmore	Full Delivery (2024/2025)	✓	-	-
Athy	Full Delivery (2025)	✓	-	✓
Rathdrum	Full Delivery (2025)	✓	-	-
Maynooth	Full Delivery (2025)	✓	-	-
Boyle	Full Delivery (2025/2026)	✓	-	✓

12.2.2 Station TAA Results

Summary results of the TAA assessment of stations completed in Years 1-5 stations are shown in Table 12-2; more detailed station summaries (including sub-criteria and indicators) are shown in Appendix D2; full details from the TAA assessment templates for all of the stations are contained in Appendix D3.

included in the 'transport users with different mobility needs' sub-criteria under the 'social impacts' criteria to reflect the specific objectives of the programme in aiming for compliance with relevant accessibility and disability regulation

[64] A 'slight negative' impact was assessed for 'social impacts' for programme Option A; otherwise a 'neutral' impact was assessed across all other indicators included in the assessment.

[65] Measures at some stations have been developed with more than one compliance intervention under consideration, generally where deliverability constraints may be present. Where available, a preferred intervention has typically already been identified at such stations, and this is used in both the aggregate appraisals of programme and the TAA of individual stations. When Years 1-5 stations are considered in more detail in the form of MCA, any alternative compliance interventions are considered separately.

Table 12-2: TAA summary results - stations completed in Years 1-5

Station (Option)	Accessibility	Social	Land Use	Safety	Climate Change	Local Environment
Dalkey						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
Gormanston						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
Little Island						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral
Banteer						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral
Rathmore						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
Athy						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral
Rathdrum						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
Maynooth						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
Boyle						
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral

At the summary level in Table 12-2, TAA assessments for stations completed in Years 1-5 are similar for Option B and (where applicable) Option D, with both recording 'positive' scores for social impacts, and 'slight positive' scores for accessibility, safety impact and climate change, with a 'neutral' score for local environmental impact. The difference is that Option D scores a 'positive' impact for the land use impact. Stations with Option D measures record a 'high positive' score for compliance with accessibility and disability regulations, as they comply with all relevant regulations. Stations with Option B measures record a 'positive' score for compliance, as the level of compliance is lower (principally in not including changing places facilities).

There are differences at a more detailed sub-criteria or indicator level, indicated in summaries in Appendix D2. In the first instance, some stations record a 'slight negative' score for the local environmental impact indicator of landscape and visual quality, related to the potential scale and/or location of footbridges. Stations that have Option D measures record a 'high positive' score for social impacts indicator of 'transport users with different mobility', but this doesn't increase the overall social impacts score compared to Option B. Option D measures give a 'positive' score for the land use impact indicator 'connectivity with existing public transport facilities', but this is sufficient to increase the overall score of land use impact compared to Option B. It should be remembered though that the slightly more positive results for Option D only apply at the few applicable stations.

12.3 Multi Criteria Analysis

This section outlines the economic appraisal using the Multi Criteria Analysis (MCA) approach to define the preferred option for stations which will be fully delivered as part of the Years 1-5 Activities. The purpose of this MCA is to identify the preferred intervention option for these stations. Stations incurring development costs only during the first five-year period are excluded from this analysis. Further details of the station specific compliance measures considered for the MCA analysis are presented in Appendix B: Details of compliance measures for stations included in Years 1-5 Activities.

As outlined in Section 10.2, during the detailed design phase multiple sets of compliance option 'B' measures have been developed for some stations. This has typically been proposed when constraints exist which could potentially impact the delivery of an intervention at a station. Where multiple compliance options have been developed for a station, each of these options has been evaluated as part of the MCA appraisal, with the different options given the titles; compliance option 1 (B1), compliance option 2 (B2) or compliance option 3 (B3). The scope of the intervention is consistent across all three options, with a preferred option selected from the most cost effective and deliverable compliance options. An outline of the specific interventions being appraised is included in Appendix B, which contains details of compliance measures for stations included in Years 1-5 Activities.

The remainder of this section outlines the definition of the criteria, scoring mechanism for the MCA, and the results for each option on a station-by-station basis. Note that the station specific MCA completed as part of the assessment of Years 1-5 Activities is different from the programme level MCA included in Part 3 of the PBC. The station-specific MCA was developed separately from the programme level appraisal and the approach agreed as part of the previously approved SAR document. This means that the criteria used to assess the station specific options (outlined in section 12.3.2) differ from the objectives-based criteria used for the programme level MCA. Further details of the station specific MCA analysis are presented in Appendix F: Multi-Criteria Analysis (MCA) Proformas.

12.3.1 Cost Effectiveness Analysis

TAF Module 7 highlights that the purpose of Cost Effectiveness Analysis (CEA) is to assess the value for money of the short-listed options, specifically when it is not feasible to undertake a CBA due to modelling of data limitations (as discussed in Section 12.1). As such, a CEA is more appropriate approach to test value for money of the Years 1-5 Activities options within the Station Accessibility Programme. TAF Module 7 also suggests using option costs alongside the primary Key Performance Indicator (KPI) for deriving a CEA score. In the absence of a primary KPI, the programme's primary objective to achieve compliance expeditiously was considered as a primary driver for conducting the CEA. In particular, all intervention-based programme options are envisaged to achieve compliance equally. In contrast, the programme's do nothing or counterfactual will not be able to achieve compliance.

In light of the above, and aligned with the approved SAR, CEA has been included as a criterion within the MCA. The definition of the criterion and scoring mechanism is presented alongside other criteria, later in this chapter.

12.3.2 Criteria Definition & Analysis

As identified in the SAR, the selection of the preferred option for prioritisation has adopt the following process:

- Revisit the Do Minimum for each station. Given the rationale is driven by legislative requirements, it is assumed that a 'do nothing' scenario as a counterfactual would not be applicable.
- Develop at least one compliance option for each station, and aim to develop an alternative if feasible, within the defined Package which forms the basis of the PBC.
- Test station's compliance options using a lean MCA, which incorporates CEA as one of the criteria.

CEA will assist in the determination of the most effective way of determining the programme objectives i.e. compliance. Other criteria included within the MCA will include option costs, option alignment with policy and required improvements, option deliverability constraints, and station demand (as a proxy for likely benefits). Further details in the application of the of the criteria are as follows:

- All criteria will be equally weighted.
- Each criterion would be scored from 0-5.
- The compliance option achieving the highest score through this MCA, which includes a CEA, would be selected as the preferred option for the prioritised station.

Table 12-3 outlines the proposed MCA criteria and data sources, and Table 12-4 outlines the MCA scoring mechanism for each of the criteria. All criteria are equally weighted. Specific notes relating to some items of the criteria include:

- When determining deliverability constraints, the CEA will ensure that this the scoring is not influenced by constraints where mitigation measures have been costed for within the cost estimates. This would prevent

options where delivery risks have been adequately captured through increased cost and risk estimates potentially being scored down in two categories.

- When considering multiple compliance options at each station, demand will not influence scoring of the preferred compliance option at the given station, as demand will not vary between compliance options. This is included to ensure a measure of benefits of investment is included in the overall scoring which is necessary for a CEA.

Table 12-3: Station option selection MCA criteria definition and data sources

Criteria	Definition	Data Sources
Option Cost	Life cycle costs of the option, including capital, operational and maintenance cost considerations.	IÉ Design Team IÉ Station Operations Preliminary Design Reports
CEA	Least cost approach to achieve compliance objective for the option. This will account for elements where cost differentials are associated with different levels of compliance.	IÉ Design Team IÉ Compliance Team
Intervention – Compliance with policy requirements	The level of compliance with PRM TSI, Disability Act (2005) and Building Regulations (2010) Technical Guidance Document M[66] for the assessed option.	PRM TSI Disability Act (2005) Building Regulations (2010) Technical Guidance Document M
Intervention – Improvements at stations	Consideration of interventions to improve the accessibility of facilities being put in place at the stations	IÉ Design Team Preliminary Design Reports
Intervention – Access to stations	Consideration of interventions that provide enhanced access to the stations.	IÉ Design Team Preliminary Design Reports
Delivery Constraints	Consideration of all physical and soft delivery constraints and implementation risks. These would need to be to formally be agreed but key criteria are expected to include land requirements, physical constraints within individual stations such as topography, need for platform closures during works and impact on protected structures.	IÉ Design Team IÉ Compliance Team Preliminary Design Reports Stakeholder Groups (as appropriate)
Demand as a proxy for benefits	Scale of demand reflects the likely size of benefits of the option. Qualitative comparison between options costs and perceived benefits (drawn from demand) to consider the option's benefits.	IÉ Census Report (2019) IÉ longer term forecasts See above for option cost information

[66] An amendment to the Building Regulations Technical Guidance Document M (2022), has subsequently been released. However, the updated guidance came into effect after the commencement of the programme (on the 1st January 2024). As such, the Transitional Arrangements outlined within the updated guidance document state that the 2010 edition of Technical Guidance Document M still applies, with Option B interventions achieving compliance against this set of guidance.

Table 12-4: Station option selection MCA scoring mechanism

Criteria Scores	Option Cost Criterion	CEA Criterion	Compliance with policy	Improvements at stations	Access to stations	Deliverability Constraints	Demand as a proxy for benefits
5	Lowest cost option	Achieves compliance objectives for least cost	Interventions go beyond required level of technical compliance by providing additional station facilities and improved station access	Significant improvement in station facilities because of programme-based interventions	Significant improvement in station facilities because of programme-based intervention	No known deliverability constraints	High demand, has the potential to deliver a very high benefit
4	Up to 10% greater than lowest cost option	n/a	Interventions go beyond required level of technical compliance by providing additional station facilities or improved station access	Moderate improvement in station facilities because of programme-based interventions	Moderate improvement in station access because of programme-based interventions	No major delivery constraints: will require slight resources to implement and deliver the intervention	Good demand, has the potential to deliver a high benefit
3	10%-25 % greater than lowest cost option	n/a	Interventions achieve compliance with required standards in all areas	Minor improvement in station facilities because of programme-based interventions	Minor improvement in station access because of programme-based interventions	Some major delivery constraints: will require nominal resources to implement	Moderate demand, has the potential to deliver a medium benefit
2	25%-50% greater than the lowest cost option	n/a	n/a	n/a	n/a	Some major delivery constraints: will require significant resources to implement	Low demand, has the potential to deliver low benefit
1	50%-100% greater than the lowest cost option	Achieves compliance objectives for higher costs	n/a	No improvements to station facilities have been proposed – requirements unknown	No improvements to station access have been proposed – requirements unknown	Numerous major delivery constraints	Minimum demand with potential to deliver very low benefit
0	More than 100% greater than lowest cost option	Achieves compliance objectives for greatest cost [16]	No interventions proposed, meaning compliance is not achieved	Improvements to station facilities are required, but no interventions have been proposed	Improvements to station access are required, but no interventions have been proposed	n/a	n/a

12.3.3 MCA Analysis Results

Using the methodology and criteria outlined above, an MCA has been completed for all stations delivered during Years 1-5 activities. A summary of the MCA results is included in Table 12-5, with a detailed breakdown of the MCA results for each station included in Appendix F: Multi-Criteria Analysis (MCA) Proformas.

As noted in section 11.3, due to physical deliverability constraints at the stations being delivered during the Years 1-5 activities, no Option C have been considered for these stations. As such, option C interventions have not been appraised using the MCA and are marked as not applicable (n/a) in the table.

Table 12-5: Years 1-5 Activities stations - MCA scores

Station	Option A	Option B[67]			Option C	Option D
		B1	B2	B3		
Dalkey	6	20	23	22	n/a	n/a
Gormanston	3	24	n/a	n/a	n/a	n/a
Little Island	4	26	n/a	n/a	n/a	23
Banteer	1	16	21	n/a	n/a	19
Rathmore	2	22	n/a	n/a	n/a	n/a
Athy	6	26	n/a	n/a	n/a	22
Rathdrum	2	14	23	n/a	n/a	n/a
Maynooth	6	19	27	n/a	n/a	n/a
Boyle	3	19	25	n/a	n/a	22

12.4 Summary of Economic Appraisal

Results of the MCA have been combined with results of the station specific TAAs for options that apply to the individual stations.[68] Table 12-6 provides a summary of the combined MCA and TAA results which make up the economic appraisal for years 1-5 of the programme. As noted previously, measures specific to all the options cannot be implemented at all stations, so results are only presented for the options that can be implemented at each station, though for completeness, the other options are included in Table 12-6 as blank results (Table 10-1 provides a summary of the option-related measures that are compatible with stations being delivered in the first five years of the programme).

[67] Where more than one compliance option has been considered for a station, each of the compliance option 'B' measures considered (referred to as B1, B2, etc) is appraised as part of the MCA analysis; Appendix B sets out the options considered at each station

[68] Where more than one compliance alternative has been developed, TAA appraisal at each station is based on the preferred measures.

Table 12-6: Summary of economic appraisal - stations delivered in Years 1-5 Activities

Station (Option)	Access-ibility	Social	Land Use	Safety	Climate Change	Local Enviro-nment	MCA Score
Dalkey							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	6
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	22
C	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-
Gormanston							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	3
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	24
C	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-
Little Island							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	4
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	22
C	-	-	-	-	-	-	-
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	20
Banteer							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	1
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	22
C	-	-	-	-	-	-	-
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	20
Rathmore							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	2
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	22
C	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-

Station (Option)	Access-ibility	Social	Land Use	Safety	Climate Change	Local Enviro-nment	MCA Score
Athy							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	6
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	26
C	-	-	-	-	-	-	-
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	23
Rathdrum							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	2
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	23
C	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-
Maynooth							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	6
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	27
C	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-
Boyle							
A	Neutral	Slight Negative	Neutral	Neutral	Neutral	Neutral	3
B	Slight Positive	Positive	Slight Positive	Slight Positive	Slight Positive	Neutral	25
C	-	-	-	-	-	-	-
D	Slight Positive	Positive	Positive	Slight Positive	Slight Positive	Neutral	23

12.5 Economic Cost Analysis

An assessment of economic costs has been conducted for Years 1-5 Activities options at an aggregate level in line with IG and TAF requirements. Core assumptions for this assessment are as follows:

- Costs incurred are incremental above the do nothing/counterfactual;
- Any costs spent to date are included within the appraisal, and not treated as sunk costs;
- Capital, operating and maintenance costs only for the infrastructure enhancements at the stations in the accessibility programme have been included within the appraisal;
- Any incidental or indirect demand benefits and revenue increases that could be associated with such enhancements have not been included (see also Chapter 3);
- No capital expenditure is envisaged to be occurred by the programme's counterfactual, which was defined as 'do nothing'; likewise, no additional operating and maintenance costs (or revenue) were included in the appraisal for the counterfactual;
- Years 1-5 Activities options' base capital costs including contingencies, in 2022 prices are summarised in Section 11.3.1;
- Years 1-5 Activities options' base operating and maintenance costs, in 2022 prices, are presented in Section 11.3.2;
- Risk/contingency and optimism bias assumptions for capital, operating and maintenance costs are presented in Sections 12.3.3 and 12.3.4 respectively;
- VAT adjustment assumptions for different cost categories are presented in Section 11.3.5 were not applied, instead market price adjustment factor of 16% sourced from TAF Module 8 (8.1.6) was adopted;
- Inflation was excluded from economic cost analysis; price adjustment from 2022 prices to 2016 prices were based on CSO Inflation Calculator recommended in TAF Module 8 (8.7.1);
- Shadow price factors of public funds and labour were sourced from TAF Module 8 Tables 2 and 3 respectively;
- All present values are based upon 2016 prices discounted to 2016 using real discount rate where Present Value (PV) figures are quoted;
- For present value calculations, discount rates recommended in TAF Module 8 Table 1 were adopted:
  - 4.0% for the first 30 years; and
  - 3.5% for 31-60 years;
- An appraisal period 30 years was agreed with the NTA (based on suggested appraisal time horizons in the Infrastructure Guidelines). This seeks to capture 30 years of operations from scheme opening and completion of capital works. The last scheme's opening year is 2035 within the programme options for station works. The IG financial analysis template includes years to 2056. To account for remaining operating and maintenance costs past 2056, sufficient allocation has been accounted for within in year 2056 for each station affected.

Like the financial assessment, appraisal of economic costs also covers the capital, operating and maintenance costs associated with new assets delivered by the Years 1-5 Activities, along with development costs which will be incurred for stations delivered in subsequent 5-year windows.

The results of economic cost analysis are summarised in Table 12-7. Due to the differences in key assumptions such as discount rates and shadow prices, programme options' NPVs reported as outputs of financial appraisal in Chapter 12 and differ from economic costs / NPVs presented in this chapter.

Table 12-7: Economic costs of Years 1-5 Activities options

Options	Financial appraisal: NPV (total discounted costs in 2022 prices and values)	Economic costs: NPV (total discounted costs in 2016 prices and values)
Option A: Do nothing/counterfactual	€0	€0
Option B: Compliance Do Minimum option	€63,677,000	€46,783,963
Option C: Enhanced changing places Do Something (includes 'B' measures)	€63,891,000	€46,942,513
Option D: Improved local multi-modal access Do Something (includes 'B' & 'C' measures where applicable)	€65,958,000	€48,353,437

12.6 Emerging Preferred Option

Assessment of the Station Accessibility Programme's first five years between 2022 and 2026 encompasses the same four short-listed programme options identified for and assessed in Part 3 of the PBC.

Programme Option C is the preferred way forward for the Station Accessibility Programme.

However, no Option C measures are feasible for any of the stations being fully delivered during the first 5-year period.[69] As previously noted, it is not straightforward though to directly apply the option concepts to measures at all of the stations on an individual basis.

Financial appraisal was undertaken for all the options, incorporating the costs associated with all stations being delivered in the first 5-year period, as well as the costs of design work at stations that also takes place in the 5-year period, but interventions will be delivered subsequently. Economic appraisal, which included TAA and a bespoke MCA, which also includes an embedded CEA criterion, was undertaken for the stations to be delivered between 2022 and 2026.

As indicated above, activities in the first five years of the programme also include design and development costs for stations which would then be delivered in subsequent years. No preferred options for these stations have been identified as yet, as details need to be refined further. The selection of the preferred option for these stations will need to be undertaken as part of update PBCs for subsequent 5-year periods. For the stations being delivered after the first five-year period of the programme, based on the assessment of programme options noted above, a similar approach is likely. Hence, where it is feasible, Option C is the preferred option.

[69] In the assessments carried out to date, physical constraints at existing stations have been used to determine whether Option C measures could be delivered, specifically whether there is an appropriate building for the installation of a changing places facility. It is possible though that wider consideration of will determine that facilities should be provided at some of these stations, in turn requiring more infrastructure to do so. However, this level of detail is beyond the current scope of the programme, so not considered in the PBC.

Part 5:
Conclusions & Implementation

13. Preferred Option

13.1 Preferred Programme Option

The Station Accessibility Programme's key objectives are to upgrade non-compliant stations to meet EU, national and IÉ standards for accessible station design expeditiously whilst taking account of funding, planning, physical deliverability and other constraints. The PBC appraised the following options for the programme:

- Option A: Do nothing, which is the programme's counterfactual;
- Option B: Compliance Do Minimum ('B' measures);
- Option C: Enhanced changing places Do Something (adds 'C' measures where applicable, plus 'B' measures); and
- Option D: Improved local multi-modal access Do Something (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures).

As mentioned earlier in this document, as a result of the incremental nature of the options, programme Option B is a subset of Option C. Similarly, Option C is a subset of Option D. Financial and economic appraisals were undertaken for the three intervention options, as well as Option A, the programme's counterfactual.[70]

Within the above appraisal context, Option A was discarded. Of the three intervention options, Option C can achieve more than Option B in complying with all relevant regulation (including Disability Act 2005, Building Regulations 2010, Technical Guidance Document M, EN 17210:2021 'Accessibility and usability of the built environment – Functional requirements' and the subsequent Part M Amendment of Building Regulation 2022) for only a small increase in cost. Option D is discarded as undeliverable within IÉ's purview, though IÉ will work with stakeholders to such measures where appropriate, such as securing additional funding and eliminating other delivery limitations.

Option C is the preferred way forward for the Station Accessibility Programme.

13.2 Preferred Years 1-5 Option

Assessment of the programme's Years 1-5 Activities included consideration of the same four options identified for the programme analysis, though it is not straightforward to directly apply them to measures at stations, as measures related to both Option C and Option D cannot be implemented at all stations. Similarly, more than one compliance-based alternative has been identified at some stations being developed and/or delivered in the first 5-year period under the auspices of Option B (alternatives are set out in Appendix B).

Financial appraisal was undertaken for all the options, incorporating the costs associated with all stations being delivered in the first 5-year period, as well as the costs of design work at stations that also takes place in the 5-year period, but interventions will be delivered subsequently. Economic appraisal, which included TAA and a bespoke MCA, which also includes an embedded CEA criterion, was undertaken for the stations to be delivered between 2022 and 2026.

Option C, which can achieve compliance with all relevant regulation, has been identified as the preferred programme option. However, Option C measures are not feasible for any stations being delivered between 2022 and 2026.

Years 1-5 Activities also includes development costs for stations which would be delivered in subsequent years. No preferred options for these stations have been identified yet. The selection of preferred options for these stations will be undertaken as part of the PBCs for subsequent 5-year period. It is likely that, based on the assessment of programme options, a similar approach would be followed, with Option C being preferred where such facilities can be provided, and Option B measures where not feasible. Option D could be identified as the preferred option for individual stations in the future, if the wider situation and constraints at the station are conducive. This will be subject to further economic and financial analysis in future.

[70] Given that compliance with accessibility and disability standards is ultimately mandatory, albeit there is a recognition that it will take a pragmatic amount of time to achieve this, programme Option B, which provides a basic level of compliance with initial accessibility standards, arguably functions as an ultimate de facto 'do minimum' for the programme. However, measures in any of the intervention options of the Station Accessibility Programme are hitherto not committed to a degree that they can be categorised as 'do minimum' for appraisal purposes. As such, appraisal of the options in the PBC uses the 'do nothing' Option A as the counterfactual

13.3 NIFTI Assessment

The National Investment Framework for Transport in Ireland (NIFTI) sets out four broad investment priorities, and related factors to consider, including: decarbonisation; protection and renewal; enhanced regional & rural connectivity; and mobility of people and goods in urban areas. The purpose of the investment priorities is to ensure that transport investment supports delivery of National Strategic Outcomes from the National Planning Framework. Proposals should therefore alignment with one or more of the priorities.

The preferred option of the Station Accessibility Programme aligns with all of the NIFTI priorities:[71]

- Decarbonisation – the preferred option has a limited impact on promoting modal shift to sustainable transport modes, in making rail travel more accessible, which should help reduce demand for private cars.
- Protection and Renewal – the preferred option specifically aims to deliver accessibility improvements to the existing network and has some impact on delivering safety improvements to the existing network.
- Enhanced Regional & Rural Connectivity – enhancement of accessibility at stations can increase access to jobs, services and leisure, in rural and regional areas for those who currently find it had to use rail to do so.
- Mobility of People & Goods in Urban Areas – improvements at stations located in urban areas should help to reduce congestion and assist in enabling the efficient movement of people, especially in providing better opportunities for those with more limited mobility to use rail. No impact on goods.

Table 13-1 shows the summary NIFTI assessment for the preferred programme option; Appendix G contains more details in a completed NIFTI assessment template.

Table 13-1: Preferred programme option - NIFTI assessment summary

Investment Priority	Decarbonisation	Protection & Renewal	Enhance Regional & Rural Connectivity	Mobility of People & Goods in Urban Areas
Impact Score	Low Positive	High Positive	Low Positive	Low Positive
Impact after Mitigation	Low Positive	High Positive	Low Positive	Low Positive

Note: the impact score before and after mitigation should be described as:
High Negative; Negative; Low Negative; Neutral; Low Positive; Positive; or High Positive

No negative impacts are indicated in the assessment, with positive impacts anticipated across all priorities. The greatest positive impact is on the priority of 'protection & renewal', not least because the Station Accessibility Programme specifically delivers accessibility improvements to the existing network. As no negative impacts are envisaged, there are also no specific designated mitigations, and thus both the initial and post mitigation scores are the same.

13.4 Climate & Environmental Performance

13.4.1 Introduction

The Infrastructure Guidelines (IG), released in December 2023, and introduced a specific requirement that projects or programmes should indicate how they are to be assessed from a climate perspective. In particular, this includes an assessment of the impact on greenhouse gas emissions and the resilience to the impacts of climate change. In the case of greenhouse gas emissions and carbon, this impact should ideally be quantified, and that this should include the impacts of both capital expenditure (including development) and operation and use of assets delivered or improved (including impacts associated with new and existing trips). For a programme, information should (if possible) be presented separately for constituent projects in addition to impacts of the overall programme.

As the Infrastructure Guidelines were released following the inception of the Station Accessibility Programme and derivation of the overall approach to appraisal (as set out in the SAR), an approach to appraising climate

[71] All programme options that provide compliance with accessibility requirements align with the NIFTI investment priorities.

and environmental performance has been developed to align with guidelines as well the programme's aims and collected information to date. The approach is outlined in the next section.

13.4.2 Approach

As a programme containing a large number of discrete projects to be delivered over a period of many years, the level of development at individual stations in the programme varies considerably at any single point in time. The amount of detailed information available similarly varies at individual stations. As a minimum, all stations in the programme have been identified as needing interventions in order to comply with accessibility requirements, but the details of what this may require is only known in outline for some stations, based on how much design work has been undertaken.

At the PBC stage of the Station Accessibility Programme, it is therefore not possible to quantify climate and environmental performance of all stations to the same level of detail. Hence, the focus is on the programme overall. Two options were considered for the approach to assessment:

- Approach 1 – qualitative assessment of preferred programme option, for construction and operation/use, with no assessment of individual stations.
- Approach 2 – combination of high-level quantitative assessment of construction and qualitative assessment of operation/use of preferred programme option, with no assessment of individual stations. For construction impacts a high-level benchmark based quantified CO2 emissions analysis could develop and use emission benchmarks related to expenditure for professional services and relevant types of construction, based on cost estimates available for the PBC.

The significant scale and duration of the Station Accessibility Programme means that the level of design and development that has taken place at any point in time varies for each station within the programme. As a result, the level of quantitative assessment that could be undertaken will also vary depending on the current stage of development, with greater detail available for stations delivered in the first five-year period compared to those delivered later in the programme. This could lead to discrepancies in the depth of possible quantitative analysis completed for the programme.

A key advantage therefore of Approach 1, which focuses on qualitative assessment of potential environmental and climate impacts, is that a consistent approach can be taken across all stations contained within the preferred programme option, throughout delivery of the programme. A potential drawback of Approach 2 is that definitive high-level cost-based benchmarks for capital expenditure are not readily available, so would need to be refined from other source data and values agreed. Although this approach makes quantification part of the assessment, it would also not be possible to complete the full Capital Works Management Framework (CWMF) cost and carbon reporting template (noted in guidance as the way to report quantified assessments) for programme options with this approach. It is also likely that, were any subsequent more detailed analysis be carried out, the results could differ markedly.

Therefore, a qualitative approach ('Approach 1' above) will consider the construction impacts of the whole programme at the current (PBC) stage.

Going forward towards appraisals at subsequent stages of programme development, more information will become available for individual stations as design work progresses, though as noted above, the same detail will not be achieved at any one time for all stations in the programme, which will significantly complicate consistent approaches to assessment across the programme. Also, the interventions included in the Station Accessibility Programme are to ensure compliance with accessibility requirements at identified stations, only representing an incremental application of facilities. Specifically identifying the impact of these incremental facilities will not reflect the stations or rail service overall.

It is therefore proposed that the qualitative approach will be retained as the programme progresses, as this will present a more consistent appraisal over the life of the programme. Its output will though be further elaborated on as more information becomes available for the Detailed Business Case and Final Business Case. In particular, the outcomes will be presented for individual stations.

In terms of operation and use, impacts associated with programme outputs, as well as the operational climate impact in terms of additional maintenance, is envisaged to be negligible. There is potential for slight increases in user demand as a result of enhanced accessibility, but this is essentially a non-quantifiable benefit, as forecast of additional demand for rail use is not part of the defined appraisal process of the programme, and thus there is no scope for forecasting emission savings.

It is therefore proposed that the qualitative approach is used for assessments of the operation and use of the programme's interventions.

Overall therefore, the proposed approach is to pursue the qualitative approach for station-specific FBCs with no quantification of impacts (for construction or operation/use), but that as more information becomes available, more detailed qualitative information will be provided at the station level.

13.4.3 Initial Assessment

The principal purpose of the Station Accessibility Programme is that of regulatory compliance. As such, the climate and environmental performance of the programme is (arguably) secondary to the requirement for compliance. There is though scope for the programme to promote overall benefits for climate performance of the transport network, not least because the programme is seeking to maintain and enhance access to public transit, the use of which in lieu of private cars helps to reduce the emissions of greenhouse gases by the transport system.

In line with the NIFTI assessment, there is a potential low positive decarbonisation impact associated with the Station Accessibility Programme. This is based on a small (but unquantifiable) impact on the degree to which the programme promotes modal shift to sustainable transport modes and reduce travel demand for private passenger vehicles, which in turn could improve quality of the local environment.

TAA assessment of the programme indicated that a slight positive score should be achieved for climate change, based on the premise that measures in the programme help to promote trip mode shares for public transport and reduce private care use (hence positively impacting on carbon emissions). These impacts are small, and it is not possible to quantify and isolate the impact of the Station Accessibility Programme itself. Climate adaptation is considered neutral at this stage, though individual stations may require specific consideration.

A 'neutral' local environmental impact is anticipated in TAA assessments of the programme. While marginally positive impacts on air quality and noise and vibration (as a result of potential minor mode shift away from private vehicles to public transport) may occur, a 'neutral' impact is considered for biodiversity and water resources. Slight negative scores could be achieved for landscape and visual quality, but this will be specific to and variable on a station-by-station basis, based on the scale and location of in measures at a specific station.

The latest requirements in the December 2023 Infrastructure Guidelines to consider the carbon impacts in greater detail than previous guidance (in line with Irish Government's 'Climate Action Plan 2024', also released in December 2023) are more nuanced for a capital programme involving new and enhanced infrastructure like the Station Accessibility Programme. In essence, there is a need to consider both the carbon emissions 'embedded' in physical assets through construction, as well as the continuing emissions through use of the assets/system.

Most public transport schemes will have a balance of construction versus operation emissions that favours the latter, as a result of mode shift to the lower emission mode. This puts the Station Accessibility Programme at an apparent inherent disadvantage in that construction carbon emissions will definitely occur, and could theoretically be quantified, but while it is anticipated that accessibility enhancements will have some uplift in demand, it will be a small (but basically unquantifiable) impact. As such, and noted in the approach above, it is not proposed to quantify carbon emissions for the Station Accessibility Programme, and to provide qualitative assessments.

At this (PBC) stage the qualitative assessment of the overall preferred programme option is slightly negative in carbon emissions. There should ultimately be a small benefit from increased rail demand that partially off-sets construction emissions. But the construction effort and materials use is not significant by the standards of linear land transport infrastructure provision, so considered low overall. Future assessments (FBC stage) will provide commentary on the impacts at individual stations.

14. Implementation & Monitoring

14.1 Introduction

The PBC is the second stage of the project lifecycle (Approval Gate 1) set out in the Project Lifecycle Approval Stages of the Infrastructure Guidelines (IG)[72]. This takes forward the appraisal process set out in the Station Accessibility Programme SAR and its supporting documents, updating the approach to accommodate changes to project appraisal guidance in the Transport Appraisal Framework (TAF)[73]. The IG also sets out requirements for schemes to consider in a PBC during and after the implementation stage. While the requirements in terms of project implementation are essentially similar in TAF and IG, the ethos of both is arguably more closely aligned with the requirements of discrete projects than a programme involving around 50 individual schemes, in particular as they pertain to the details around implementation. Notwithstanding, this chapter of the PBC sets out some of the key elements of implementation drawn from the guidance, as follows:

- Programme affordability;
- Project execution & governance;
- Delivery & procurement;
- Risk assessment & management; and a section covering; and
- Monitoring & evaluation.

14.2 Programme Affordability

Considering the affordability of a project or programme is important to ensure it can be delivered in the most cost-effective manner for the taxpayer whilst also delivering benefits to the users. Financial appraisal of the Station Accessibility Programme and Years 1-5 Activities outlines the programme's affordability, including all of these considerations of the envelope of total investment required to deliver the intervention, timings of costs, the cost associated with the ongoing operation and maintenance of the new infrastructure and the impact on the general government balance sheet (financial affordability criteria that the Infrastructure Guidelines indicate as important to consider). Financial appraisal described earlier in this PBC (Chapter 8 (financial analysis) covers each of these points, with details of the assessments outlined in the following sections:

- Envelope of total investment required (irrespective of investment counterfactual):
  - Section 8.4 – Financial Appraisal with the detailed analysis in Appendix C.
- Timings of costs:
  - Section 8.3.1 – Capital Expenditure (Table 8 1) with a detailed station-by-station breakdown of cost profiles provided in Appendix C.
- Costs relating to ongoing operation and maintenance:
  - Section 8.3.2 – Operating & Maintenance Expenditure with a detailed station-by-station breakdown of operation and maintenance costs provided in Appendix C.
- Impacts on general government sheet:
  - Section 8.4.2 – Exchequer Cash Flow with the detailed analysis in Appendix C2: Exchequer cash flow.

With the scope and length of this programme, there is a reasonable potential for costs associated with the required interventions to change during the delivery. As such, the following sections of the report (dealing with governance, deliverability and monitoring) indicate how the expenditure of the programme will continue to be monitored and checked throughout the programme's delivery.

[72] The Infrastructure Guidelines (issued in December 2023) set out value for money guidelines for evaluation, planning and management of public investment projects, including purchase or acquisitions of assets or shareholdings, in Ireland. They replace the previous Public Spending Code (PSC) requirements for capital expenditure, although incorporates elements of detail from the PSC: https://www.gov.ie/en/collection/e8040-infrastructure-guidelines/

[73] The Transport Appraisal Framework (TAF), issued in June 2023, provides appraisal and implementation guidance for investment in the transport system which meets the needs of society, fulfils strategic policy objectives, and delivers value for money to develop a common framework for appraising transport investments, replacing the Common Appraisal Framework (CAF) for Transport Projects and Programmes. TAF was previously aligned with the Public Spending Code (PSC), which was itself superseded by the Infrastructure Guidelines (see previous foot note): https://www.gov.ie/en/publication/c9038-transport-appraisal-framework-taf/

14.3 Programme Funding & Deliverability

The Station Accessibility Programme is born out of a need to comply with accessibility requirements for public infrastructure, in particular for rail stations, outlined in the PRM TSI regulations (as set out in the programme SAR and Part 1 of the PBC). Additionally, the programme ensures compliance with the Disability Act 2005, which is a key part of the National Disability Strategy launched by the Irish Government in 2004. The 2005 Act actually required that public bodies make public buildings accessible to people with disabilities by 2015, but the Department of Transport, Tourism and Sport 'Sectoral Plan for Accessible Transport' under the Disability Act 2005 (2012 edition) recognised that the required works would not be completed at all stations on the Iarnród Éireann network by the target date of 2015, as a result of deliverability, practicality and funding constraints, but that progress would continue to be made, subject to the availability of funding.

As a result, the NTA through the IÉ Station Accessibility Programme (which has thus been in place and developing since 2015), have committed to a separate and continuing multi-annual funding stream to provide full PRM TSI station infrastructure compliance at stations across the IÉ network that have been identified as requiring interventions to comply with the requirements.

The IÉ Capital Investments department has set up a Project Management team to manage the Accessibility Programme of works. This team consist of approximately 15 personnel covering all major design & Project Management delivery disciplines as well as a wider team of Consultants and Internal stakeholders to support and assist where required.

The IÉ procurement department also has specific Consultant and Contractor delivery Frameworks set up to service and meet the needs and expectations of the current Accessibility programme to completion in 2034. Recent tender activities would indicate a high level of interest and capacity within the Contracting and Consulting industries to support the Station Accessibility Programme.

IÉ's management of infrastructure is funded under EU regulation by a 5-year Infrastructure Manager Multi-Annual Contract (IMMAC) direct from the DoT. It is therefore proposed that costs associated with infrastructure maintenance of measures provided through the Station Accessibility Programme would be covered through the IMMAC.

As such, it can be confirmed there is sufficient resource and capacity to fund, deliver and complete the programme in the manner and timescales envisaged.

14.4 Project Execution & Governance

The Strategic Assessment Report (SAR) set out a draft project execution plan for the Station Accessibility Programme, which in turn required a comprehensive Governance structure for the programme and plan for developing and delivering the programme, which should be informed by lessons learned by IÉ for delivering similar compliance improvements at stations. The governance framework should be based on best practice principles and recommendations from professional bodies, lessons learned reviews and practical examples from successful projects:

- Clarity of the decision-making authority across the Station Accessibility Programme;
- Integration of the project lifecycle with the governance and assurance framework;
- Integration of decision making relating to all relevant factors e.g. scope, schedule, delivery risk and cost, at common points to enable robust baseline setting and change management;
- A structured hierarchy of decision making and escalation with delegation of decision making to the most appropriate levels;
- Clear roles and responsibilities for everyone across the programme;
- Defined tolerances for escalation and informing corrective actions and a determined process for controlling change;
- A determined process for reporting and other communicating between the Programme Team and senior boards; and
- Underpinning of the governance approach by risk-based assurance.

These principles are in line with the Capital Works Management Framework (CWMF) guidance and the NTA Project Management Guidelines, being derived from good practice recommendations from the Organisation

for Economic Co-operation and Development (OECD), Institute of Directors, UK's Independent Commission on Good Governance in Public Services, and Project Management Institute.

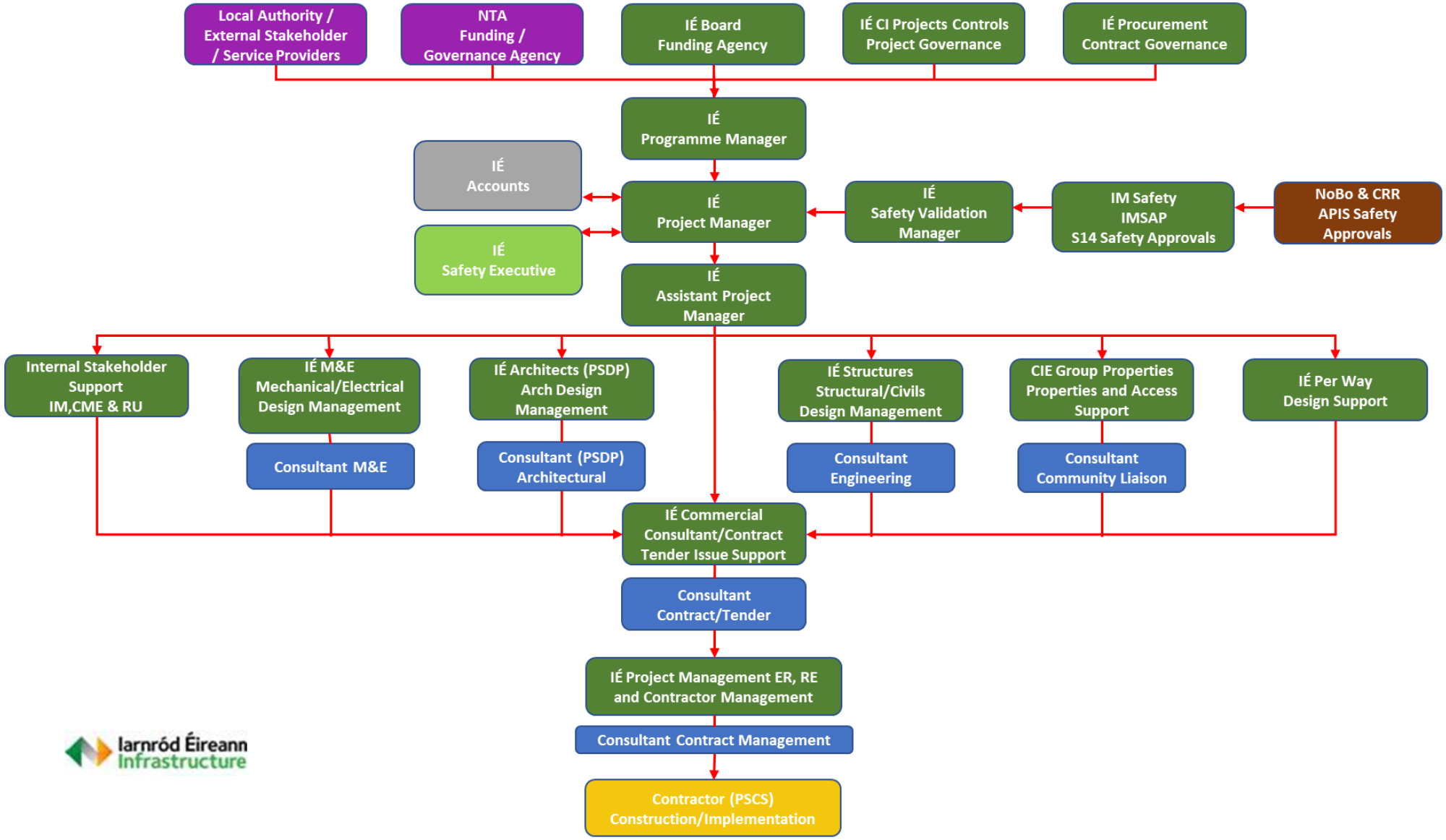
The resulting governance plan and is aligned with Capital Works Management Framework guidance. In particular, this follows IÉ's in-house requirements and procedures for rigorous project governance and assurance, as governance and assurance processes apply to all IÉ Capital Investment Division projects. As the Station Accessibility Programme is greater in value than €20m it is considered a Band 3 project the level of governance and assurance applied to the project, specifically being applied from Phase 3 through to Phase 7 of the IÉ Project Management Procedures. The programme (and projects within it) must therefore follow the procedures outlined in IE PMP 004 – 'Project Governance and Assurance Procedures'.

Figure 14-1 sets out the governance organisation chart for delivering the Station Accessibility Programme, which is built around the principles and requirements set out in IE PMP 004.

A copy of IE PMP 004 can be provided on request. In brief summary, it sets out:

- Scope and objectives related to project execution and governance, as well as responsibilities including those of:
  - Project Steering Group
  - Project Manager (IÉ); and
  - Assurance Provider.
- The context of the assurance and governance frameworks, including '3 lines of defence' to ensure that project assurance is appropriately designed and undertaken, being:
  - First Line assurance lies with the Project Delivery team and the application of processes and procedures in preparing project deliverables and delivering the programme;
  - Second Line assurance is undertaken through regular oversight by Capital Investment (CI) Managers, technical leads/authorities and group functions; and
  - Third Line assurance will come through independent review from Project Controls or third parties, Integrated Assurance Reviews (IAR) and potentially an 'expert challenge panel (or equivalent).
- The governance framework itself; and
- Assurance plan implementation, approval, reporting and monitoring of assurance activities.

Figure 14-1: Station Accessibility Programme governance organisation chart



14.5 Delivery & Procurement

The procurement process for each station's works will be carried out in accordance with CIÉ Group Procurement Policies and Procedures, Department of Finance's Capital Works Management Framework and all National and European Union procurement requirements.

A specific Framework Agreement for Consultancy Services has already been set up to support the delivery of the Accessibility Programme across all project life cycle stages. All tender and contracting processes are carried out in accordance with IÉ approved procedures and will follow existing procurement practices in the selection of suppliers. External suppliers are procured through a competitive tendering process.

All tender and contracting processes shall be carried out in accordance with IÉ approved procedures and will follow existing procurement practices in the selection of all appropriate suppliers. Variation management will be undertaken in compliance with IÉ Procurements Standard Operating Procedure – CPO-008 (dated 15th March 2021). Competitive tendering shall be the norm when external suppliers are required. The project shall ensure proper procurement process procedures are implemented including compliance with EU procurement directives and national guidelines.

Each discipline lead will be responsible for procuring of materials in their area. It is envisaged that the main civils contracts will be procured using the Public Works Contract for MINOR Building or Civil Engineering Works Designed by the Employer form FTS5 v2.3. Individual contract awards of greater value than €100k shall be approved in advance by the NTA.

Post-delivery of the designated infrastructure works, the IG's six-stage project lifecycle stage 6 considers the 'Implementation and Post Completion Review and Benefits Realisation' stages of the project lifecycle. The Stage 6 review, undertaken immediately following programme completion, considers whether an investment proposal was delivered in line with its intended scope and budget and in line with the IG. The wider purpose is to ensure lessons learned from the project or programme translate into improved knowledge for the sector and wider public service.

Reviews should be done systematically and feed into sectoral and national guidance as appropriate. It should consider whether the basis on which the programme was undertaken proved correct; the business case and management procedures were satisfactory, and any evidence of initial operational performance and initial benefits post opening. This will also consider any conclusions that can be drawn which are applicable to the future delivery of the programme, to the ongoing use of the asset, or to associated investment. The output of the review is the Project Completion Report, which also feeds into wider monitoring and evaluation.

14.6 Risk Assessment & Management

Consideration of risk is enshrined in various elements of the PBC, as the assessment of risk forms an integral part of the proposed intervention as it moves through the project lifecycle. The PBC includes assessments of risk in a number of steps, and in particular for the implementation stage there is a requirement to both assess and manage risk:

- Identification of risks e.g. examining each variable to assess the likelihood of the risk materialising;
- Risk assessment techniques to assess the level of risk and the impact of risk on project performance;
- Devising a risk management strategy including measures to contain, avoid and mitigate risks; and
- Communicating the risk management strategy to relevant stakeholders.

Guidance on the use of specific risk controls are included in PMP-004 (Project Governance & Assurance Procedure), which notes that all projects are required to have a risk register which meets the PMP-002 – Project Risk & Contingency Management Procedure requirements and that the Project Manager is accountable for ensuring that the risk register meets the requirements. Assessing project risks should be on a 'current risk' basis, allowing trust for the controls that are in place to prevent or mitigate the risk. The confidence (effectiveness) in the risk controls can lower the risk rating.

Practically, risk registers will be prepared on a station-by-station basis, as detailed consideration of requirements and designs are carried out. Risk registers will therefore develop an both content and detail as the level of design detail also develops. Table 14-1 sets out some of the typical risks identified.

Table 14-1: Station Accessibility Programme - typical risks identified

Cause	Could occur	Outcome
Lack of IÉ design resources	Poor design & tender documents	Additional costs and programme delay
Lack of Consultant design resources	Poor design & tender documents	Additional costs and programme delay
Lack of IÉ commercial support	Delay issuing tender docs. and dealing with claims	Programme delay
Lack of public consultation as Section 5 planning approvals received from Local Authorities	Possible Public challenge to construction works	Programme delay and additional costs
Lack of IÉ Stakeholder acceptance or approval	Programme may not proceed past internal approval points	Delay to programme
Lack of NTA acceptance or approval	Programme may be abandoned or further refinement sought	Delay to programme
Lack of track protection support and Isolation support from IÉ CCE and SET departments	Construction works will be delayed	Programme delays
Lack of Contractor availability to carry out the works	Delay to start of Construction works	Programme delays and inability to spend funding
Increase in Cost of works due to ongoing Covid/Brexit/Ukraine War effects	Cost escalation or works	Increase cost of works. Additional funding requirement
Delay to works due to ongoing material supply issues related to Covid/Brexit/Ukrainian War effects	Delay in completion of Construction works	Programme delays and inability to spend funding
Impact of other projects	Delay or cessation of site works	Increased cost and time for overall programme
Irish water sewer causing delay and additional cost to works	Delay or cessation of site works	Increased cost and time for overall programme

Table 14-2 is based on specific risk register entries from a station that has seen a high level of detailed preparedness, showing the risk category and description, project exposure probability and potential cost impact levels, along with responses in terms of mitigation and/or contingency.

Table 14-2: Specific risk register entries, exposure and responses/mitigation (example station)

Category	Description	Response (mitigation and/or contingency)	Risk Exposure		
			Probability		Cost Impact
			Level	Est. %	
Risk Category:	Statutory = Statutory Authorities / including Statutory Undertakers Design/Scope = design and/or scope changes				
Client	Changes to the brief	Brief to be kept under review.	Low	13%	High
Statutory	Inadequate internal & external stakeholder consultation	Key Internal stakeholder are met on a fortnightly and or monthly basis and issues addressed.	Low	13%	Medium
Statutory	Delays resulting from external consultation	Manage regular contacts with external Stakeholder (NTA, local authorities, utility & service providers, etc).	Low	13%	Medium
Environmental	Delays resulting from COVID-19	Monitor programme.	Low	13%	Medium
Design/Scope	Inadequate topographic or site investigation surveys	All topographic surveys, utility surveys and ground investigation well specified and undertaken prior to completion of preliminary design stage.	Low	13%	Medium
Design/Scope	Delays and cost increases resulting from the need to divert existing services	All services to be diverted have been picked up by surveys undertaken; however there is always a risk of uncharted services to be diverted.	Low	13%	Medium
Statutory	Failure to obtain Section 5 Approval	Pre consultation undertaken with relevant local authority. However always a risk that planning exemption or full planning will not be accepted.	Medium	36%	High
Statutory	Planning conditions requiring significant changes.	Regular consultation with relevant local authority prior to planning application being submitted.	Low	13%	Medium
Programme	Planning objections	Public consultation plan to be prioritised and kept under review.	Low	13%	Very Low
Statutory	Lack of possession arrangements in place to carry out the works	Early and full engagement with our infrastructure manager (IM) and Chief Civil Engineering (CCE) possession teams.	Medium	36%	High
Resources	Failure to obtain adequate funding for construction phase.	Consultation with NTA.	Low	13%	Low
Environmental	Flooding issues delaying or suspending works	All surveys undertaken and drainage outfalls established.	Very Low	3%	Very Low

Category	Description	Response (mitigation and/or contingency)	Risk Exposure		
			Probability		Cost Impact
			Level	Est. %	
Risk Category:	Statutory = Statutory Authorities / including Statutory Undertakers Design/Scope = design and/or scope changes				
Design/Scope	Failure to co-ordinate the various parts of the scheme	Design reviews undertaken fortnightly and as required. Internal resources being used which assists with coordination.	Low	13%	Medium
Environmental	Appropriate Assessment (AA) screening determines additional requirements	Appropriate Assessment (AA) screening report already completed and advised no further requirements.	Very Low	3%	Low
Statutory	Scope creep from internal stakeholders	Regular meetings held with internal stakeholders to lock agree limits of accessibility works.	Very Low	3%	Medium
Statutory	Implications of DART+ West works order on design	Regular reviews with DART+ project team to review any amendments.	Low	13%	High
Environmental	Archaeology	Excavation within existing limits of disturbed station so little risk	Very Low	3%	Low

14.7 Monitoring & Evaluation

14.7.1 Activities

The approved Station Accessibility Programme SAR recommended monitoring be undertaken up to three years post completion of each station compliance improvement, and that monitoring activities would follow the key principles outlined in the Common Appraisal Framework (CAF), which in its October 2021 update formed the relevant guidance at the time. The SAR recommended that a Monitoring and Evaluation Plan (MEP) be developed, to outline the relevant structure for monitoring activities, including roles and responsibilities along with reporting timeframes. The approved SAR also stated that monitoring would be carried out at each station, as appropriate based on completion of its compliance improvements, which would in turn be defined in a Full Business Case (FBC) for each station.

The current guidance, in the form of the 'Infrastructure Guidelines: Post Completion Review and Benefit Realisation', recommends completion of 'Project Completion Reports' and 'Ex-Post Evaluation Reports'. Similar requirements are also outlined in Transport Appraisal Framework (TAF) Module 9 'Project Implementation, Review and Ex-Post Evaluation'. The Infrastructure Guidelines (IG) also state that where a programmatic approach is undertaken, that the Project Completion Reports should be completed for each constituent project as well as the overall programme. Furthermore though, it is also noted that for proposals with an estimated capital cost of less than €20 million, Ex-Post Evaluations on all constituent projects are not required, and rather that a representative sample would suffice.

14.7.2 Content of plans

Within the above context, the refreshed recommended monitoring and evaluation activities for the Station Accessibility Programme include:

- Monitoring and Evaluation Plan (MEP):
  - Development of an MEP to outline a proportionate approach in detail for the programme, each 5-year window, and individual stations, reflecting the requirements of Project Completion Reports and Ex-Post Evaluations along with dissemination guidance outlined in IG and TAF.
- Project Completion Reports:
  - For each individual station, each 5-year window (e.g. 2022-2026 the first 5-year window,) and the overall programme. The reviews at this stage will assess whether:
    - Proposals have been delivered in line with the IG;
    - The basis on which the intervention was delivered was correct;
    - Business case and management procedures were satisfactory; and
    - Operational performance and initial benefits have been realised.
- Ex-Post Evaluation:
  - Preparation of Ex-Post Evaluation reports for each 5-year window and the overall programme. For each 5-year window, a sample of stations would be selected to inform the evaluation process (a sample of around three stations would potentially be appropriate). Using various primary and secondary data collection methods, the evaluations will aim to determine whether:
    - Expected benefits and outcomes materialised;
    - Operational performance of the proposals is as expected; and
    - Planned outcomes were appropriate responses to public needs.

Conclusions drawn from the MEP and Project Completion Reports will inform the lessons learnt for Station Accessibility Programme interventions on an ongoing basis. Equally, these lessons learnt will enhance knowledge for IÉ and wider rail industry for station improvements activities. All Project Completion Reports will be submitted to the Approving Authority for review. Project Completion Reports for the 5-year windows and the overall programme may also need to be submitted to the Department of Public Expenditure, National Development Plan Delivery and Reform (DPENDR) for dissemination.

Like Project Completion Reports, conclusions drawn from the Ex-Post Evaluation reports will inform also the lessons learnt for Station Accessibility Programme interventions on an ongoing basis. These lessons learnt would also improve knowledge for IÉ and wider rail industry for station improvements activities. All evaluation reports will be submitted to the Approving Authority for review. They may also need to be submitted to DPENDR for wider dissemination and changes to future guidance.

14.7.3 Potential performance indicators

As noted above, a series of plans and reports are required to monitor and evaluate the Station Accessibility Programme. While the detail of information to be contained in each plan and report will vary according to the needs of the particular plan or report, it is likely that key performance indicators related to the programme's objectives will form part of this process.

Derivation of the programme's SMART objectives (which is set out in more detail in Appendix A) included identifying potential key performance indicators (KPI) related to each objective. For completeness, KPIs, plus related objectives, are shown in Table 14-3.

Table 14-3: Station Accessibility Programme - potential performance indicators

Performance Indicators	Related to objectives	
• Quantity and quality of assets delivered at stations throughout the programme. • Successful audit demonstrating compliance with PRM-TSI and Building Regulation (2010) Technical Guidance M • Compliance achieved at all programme stations by 2034	Compliance	Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner and as soon as reasonably practicable.
• Improved customer satisfaction at programme stations, captured within the bi-annual Customer Satisfaction Monitor	Customer experience	Improve customer experience at stations included in the programme, in line with the IÉ implementation plan.
• Evaluation of station usage statistics compared to usage pre compliance upgrade. • Review of customer satisfaction surveys and feedback in relation to station accessibility.	Accessibility	Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers.
• Modal shift from personal vehicles to Train / DART / Luas within the National Household Travel Survey. • Review of customer satisfaction surveys and feedback in relation to station accessibility. • PRM TSI compliant station demand	Reliance on cars	Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems.
• Incident reporting • Statistics for passenger injury are reported in CRR annual documents of 'Railway Safety Performance in Ireland'	Safety	Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents

15. Recommendations & Next Steps

15.1 Recommendations

The Station Accessibility Programme's main aim is to upgrade non-compliant stations to meet EU, national and IÉ standards for accessible station design expeditiously, whilst taking account of funding, planning, physical deliverability and other constraints. The programme has shortlisted and prioritised stations where the need for intervention is greatest. The intervention need was identified through stakeholder engagement, an assessment of the specific station's accessibility context and a review of stations' baseline demand.

Cost assessments undertaken to date highlight programme capital costs to completion of €139.3 million (capital costs, including contingencies in 2022 prices, excluding VAT and inflation), [74] with funding being agreed and provided on an annual basis through standard IÉ funding and budgeting processes. The programme will be delivered over multiple 5-year periods. This Preliminary Business Case (PBC) presents an appraisal of the overarching programme and the first 5-year period of expenditure between 2022 and 2026.

The PBC appraised the following options for the programme:

- Option A: Do nothing, which is the programme's counterfactual;
- Option B: Compliance Do Minimum ('B' measures);
- Option C: Enhanced changing places Do Something (adds 'C' measures where applicable, plus 'B' measures); and
- Option D: Improved local multi-modal access Do Something (adds 'D' measures where applicable, also with 'C' measures where applicable, plus 'B' measures).

The PBC also appraised similar options for Years 1-5 Activities, in particular stations to be completed and/or design work carried out in the first five-year period.

The two primary recommendations from the PBC are:

Recommendation 1: the preferred programme option

Option A was discarded. Option C can achieve more than Option B in complying with all relevant regulation (including Disability Act 2005, Building Regulations 2010, Technical Guidance Document M, EN 17210:2021 'Accessibility and usability of the built environment – Functional requirements' and subsequent Part M Amendment of Building Regulation 2022) for a small increase in cost. Option D is discarded as undeliverable within IÉ's purview, though IÉ will work with stakeholders to such measures where appropriate, such as securing additional funding and eliminating other delivery limitations.

Option C is the preferred way forward for the Station Accessibility Programme. [75]

Recommendation 2: the preferred Years 1-5 Activities' option

Option C, which can achieve compliance with all relevant regulation as noted above, has been identified as the preferred programme option. Option C measures are not actually feasible for any of the stations being delivered during the first 5-year period between 2022 and 2026. Hence, measures related to compliance Option B will be delivered at these stations. Activities in the first five years also include design and development costs for stations which would then be delivered in subsequent years. No preferred options for these individual stations have been identified as yet, as details need to be refined further. The selection of the preferred option for these stations will need to be undertaken as part of update PBCs for subsequent 5-year periods. For the stations being delivered after the first five-year period of the programme, based on the assessment of programme options noted above, Option C is the preferred option.

[74] 2022 prices – Option C from Table 8 1 (Programme options' capital costs, including contingencies, excluding VAT and inflation)

[75] For practical reasons, at some stations it will not be possible to provide interventions that would typically be identified with Option C. Whether they ultimately do will be based on a wider determination of where changing places facilities should be provided in the community and on the rail network in particular, as well as then any associated physical constraints. In assessments carried out to date, only the physical constraints of the existing stations have been used to determine whether Option C measures could be delivered, specifically whether there is an appropriate building for the installation of a changing places facility. It is possible that wider societal consideration will determine that facilities should be provided at particular stations, requiring more infrastructure to do so. This level of detail is beyond the current scope of the programme.

15.2 Next Steps

The PBC seeks Approving Authority's approval for the recommendations outlined above. TAF Module 4 (4.17.3) notes that the selection of the preferred option must also be accompanied with a recommendation for the Approving Authority to proceed with the proposal to the next stage of the project lifecycle. As such, the PBC also seeks the Approving Authority's approval to proceed with the Station Accessibility Programme to the next stage of the project lifecycle, specifically Approval Gate 1 approval to proceed to Stage 2 Pre-Tender – Project Design, Planning and Procurement Strategy.

To draw down capital expenditure for stations delivered in the first 5-year period, as outlined in the approved SAR, concise and focused station memos will be developed prior to construction, to obtain approval for each individual station. Contents will be subject to discussions with the Approving Authority at an appropriate time however it is envisaged that the core input will be closely aligned station specific elements from within the PBC, combined with any material updates in design and costings post PBC submission.

The memos, which will be treated as station specific FBCs, will reconfirm the programme need, the rationale for intervention at the specific station, and the station specific economic appraisal undertaken for selecting the preferred option. This would be a summary of the station specific MCA, TAA and CEA analysis undertaken as part of the respective PBC, combined with any design changes or cost updates since the PBC was submitted. For clarity, the memo submissions will be proportionate to the cost per each Decision Gate, i.e., most would be short summary documents building on information the PBC.

PBCs for subsequent 5-year period will be developed and submitted to the NTA for subsequent approvals. These PBCs will include further lessons learnt from delivery of any previously approved stations. As with the memos for stations delivered during the first 5-year period, similar station specific memos will also be prepared for Approving Authority's approval, prior to drawing down any capital funding for these stations.

The Appraisal Plan presented in the approved SAR also identifies the need for a Technical Note: Planning Costs. This will include actual annual cashflow of planning and design costs across all prioritised stations. Key contents of the Technical Note will include:

- An annual expenditure profile of Phase 3-5 scheme costs for each of the prioritised shortlisted station to be delivered across various packages; and
- A programme of key deliverables e.g., preparation of final designs, tender costs for specific station's works, etc, as appropriate.

The Technical Note is intended to be submitted to the Approving Authority alongside the PBC to obtain an early approval for all planning and design costs associated with the Station Accessibility Programme. It could be maintained as a live document, with updated versions submitted periodically, as appropriate and as required.

Part 6: Appendices

Appendix A:
Objectives: PBC SMART tables & SAR high-level objectives

Primary Objective

SMART Category	Details	KPIs
Specific	Deliver assets that achieve compliance, such as Mobility Impaired Access Structures (e.g. lifts, footbridges, ramps etc.) and accessible facilities at all selected stations.	• Quantity and quality of assets delivered at stations throughout the programme. • Successful audit demonstrating compliance with PRM-TSI and Building Regulation (2010) Technical Guidance M • Compliance achieved at all programme stations by 2034
Measurable	Quantity and quality of assets delivered at the selected stations as identified in the station specific design plans.	
Attributable	Achieving compliance with appropriate accessibility standards.	
Realistic	The programme will be developed to deliver upgrades to selected stations given available levels of resources.	
Time-bound	Implementation plan developed by IÉ to ensure earliest delivery of compliance by 2034, at all selected stations.	
Primary Objective	Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner and as soon as reasonably practicable.	

Secondary Objectives

SMART Category	Details	KPIs
Specific	Improve customer experience for customers using stations included within the programme.	• Improved customer satisfaction at programme stations, captured within the bi-annual Customer Satisfaction Monitor
Measurable	Improved customer satisfaction connected to the selected stations.	
Attributable	Improved facilities at the stations to enhance customer experience.	
Realistic	As per the primary objective, upgrades will be delivered in line with available resources identified for the IÉ implementation plan.	
Time-bound	As per the primary objective, delivery of compliance options at selected station will follow the IÉ implementation plan.	
Secondary Objective	Improve customer experience at stations included in the programme, in line with the IÉ implementation plan.	

SMART Category	Details	KPIs
Specific	Provide better access to IÉ services for mobility impaired passengers.	• Evaluation of station usage statistics compared to usage pre compliance upgrade. • Review of customer satisfaction surveys and feedback in relation to station accessibility.
Measurable	Access take-up can be measured through monitoring of patronage, customer satisfaction and feedback and accessibility support requests.	
Attributable	Improves attractiveness of rail transport to disadvantaged groups while supporting wider IÉ objectives.	
Realistic	As per the primary objective, upgrades will be delivered in line with available resources identified for the IÉ implementation plan.	
Time-bound	As per the primary objective, delivery of compliance options at selected station will follow the IÉ implementation plan.	
Secondary Objective	Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers.	

SMART Category	Details	KPIs
Specific	Provide better access to IÉ services for mobility impaired passengers, increasing mode choice and reducing reliance on personal vehicles.	• Modal shift from personal vehicles to Train / DART / Luas within the National Household Travel Survey. • Review of customer satisfaction surveys and feedback in relation to station accessibility. • PRM TSI compliant station demand
Measurable	While it is challenging to identify modal change by type of traveller, the number of stations that are PRM TSI compliant, the level of demand at these stations pre and post compliance and additional IÉ surveys could be used to measure uptake in demand for mobility impaired passengers.	
Attributable	Improves attractiveness of rail transport to disadvantaged groups while supporting wider national net zero policies.	
Realistic	As per the primary objective, upgrades will be delivered in line with available resources identified for the IÉ implementation plan.	
Time-bound	As per the primary objective, delivery of compliance options at selected station will follow the IÉ implementation plan.	
Secondary Objective	Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems.	

SMART Category	Details	KPIs
Specific	Providing improved infrastructure for persons with disabilities and persons with reduced mobility which should in turn reduce the risk of accidents	• Incident reporting • Statistics for passenger injury are reported in CRR annual documents of 'Railway Safety Performance in Ireland'
Measurable	Quantity and quality of assets delivered at the selected stations and monitoring of passenger safety-related incidents.	
Attributable	Accessibility improvements will support a wider drive for safe railway environment.	
Realistic	As per the primary objective, upgrades will be delivered in line with available resources identified for the IÉ implementation plan.	
Time-bound	As per the primary objective, delivery of compliance options at selected station will follow the IÉ implementation plan	
Secondary Objective	Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents	

SAR Objectives

The Station Accessibility Programme SAR presented a set of high-level objectives for the programme. These initial objectives were developed to ensure that the impact of the Programme is aligned with both accessibility compliance requirements and wider strategic policy objectives. The objectives were as follows:

1. Upgrade non-compliant stations on the Iarnród Éireann network to meet EU, national and IÉ standards for accessible station design in a cost-effective manner that will provide value for money for the Irish taxpayer.
    a. Ensure that all stations contained within the Station Accessibility Programme are compliant with the Disability Act 2005, NIP PRM TSI (2017), IS EN 17210:2021 – Accessibility and Usability of the Build Environment and the Iarnród Éireann Technical Document CCE-TMS-312, Building Regulations (2010) Technical Guidance Document M and CEN/TR 17621:2021 Accessibility and usability of the built environment technical performance criteria and specifications, upon completion of the programme.
    b. Complete the works associated with all stations in line with the package schedules proposed at the Programme Business Case stage.
    c. Use a review at the end of the Package A programme to identify where further efficiencies could be built into the remaining programme.
2. Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for persons with disabilities and persons with reduced mobility.
3. Support long term patronage growth by enabling rail as an option for persons with disabilities and persons with reduced mobility who currently have difficulty or are unable to use the network.
4. Reduce the reliance of persons with disabilities and persons with reduced mobility on cars, which will in turn contribute to reductions in congestion and supports transition to a low emissions transport systems.
5. Provide a higher standard of customer experience.
6. Improve safety at Iarnród Éireann stations, by providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents.

Appendix B:
Details of interventions at stations included in Years 1-5 Activities

Station Facilities & Potential Measures

Audits undertaken for development of the Station Accessibility Programme and options identification assessed the level of accessibility provision at each station, assessing against the Building Regulations (2010) Technical Guidance Document M[76], which outlines the standards and guidance that building owners and operators should follow to ensure that buildings are accessible for all potential users. The audit covered the whole station area and was split into 21 sections or categories, with a number of sub-categories, as follows: [77]

1. Car Parking:
   (a) General location
   (b) Dimensions & number of spaces
   (c) Markings
2. Set-down and pick-up points
3. Locating & approaching the station
4. Unobstructed progress:
   (a) General
   (b) Building works
5. Doors
6. Lighting
7. Floors
8. Obstacles:
   (a) Furniture, walls & transparent obstacles
   (b) Furniture & free-standing devices
9. Signs:
   (a) General
   (b) Directional information
   (c) Font; Design; Sign lighting
   (d) Tactile (embossed & braille)
   (e) Display screens
   (f) Maps & detailed information
10. Announcements:
    (a) General
    (b) Induction loops
    (c) Emergency alarms
11. Help points
12. Ticket sale point:
    (a) Booking office, info & custom reference
    (b) Ticket vending; Machines
    (c) Ticket barriers
13. Lifts: *
    (a) General
    (b) Lift emergencies
    (c) Platform lifts (inside station building)
14. Ramps
15. Steps and stairs (incl. footbridges):
    (a) General
    (b) Stairs and step design
    (c) Landing & area beneath the stairs
    (d) Handrails
16. Escalators and moving walkways *
17. Platforms
18. Seating, waiting room & shelters
19. Toilets:
    (a) Standard toilets
    (b) Provision/location of wheelchair-accessible
    (c) Opening hours
    (d) Doors
    (e) Design & layout
    (f) WC pan & cistern
    (g) Grab-rails
    (h) Washbasins
    (i) Accessories & surface finishes
    (j) Lighting
    (k) Emergency
    (l) Baby-changing facilities
    (m) Changing and/or showering facilities
20. Platform lifts for boarding trains
21. Crossing the track: *
    (a) Crossing the track
    (b) Subways

The audit completed for each station identified upgrades needed to ensure compliance with PRM regulations, and the standards outlined in Technical Guidance Document M. Each of the stations delivered in Years 1-5 required the installation of a new Mobility Impaired Access Structure (MIAS), either in place of or in addition to an existing footbridge, to provide step free access to platforms. The MIAS has the same base structure for each station; footbridge with minor alterations to the shape of the bridge to ensure that access and egress points fit with the requirements for individual station. Where additional upgrades were identified through the station audit process, these changes have been assessed on a station-by-station basis.

[76] An amendment to the Building Regulations Technical Guidance Document M (2022), has subsequently been released. However, the updated guidance came into effect after the commencement of the programme (on the 1st January 2024). As such, the Transitional Arrangements outlined within the updated guidance document state that the 2010 edition of Technical Guidance Document M still applies, with Option B interventions achieving compliance against this set of guidance.

[77] Note that ***** denotes features not relevant to any of the assessed stations, because none of the stations being assessed currently have these features. If these are removed, 17 of the categories are applicable to some or all of the stations surveyed.

Options framework

Option	Intervention	Description
A	Do nothing	No change to the existing station infrastructure.
B	Compliance ('B' measures)	Upgrades to the station that achieve compliance with national and EU regulations including PRM TSI (2017) and Building Regulations Part M (2010)[78] and the Disability Act (2005). All stations in the programme have some level of intervention to ensure compliance with regulations.
C	Enhanced changing places (includes 'C' measures, plus 'B' measures)	Upgrades to the station that achieve compliance with national and EU regulations ('B' measures), plus where possible the provision of a new changing places facility as outlined in the Part M Amendment to the Building Regulations (2022), also consistent with EN 17210:2021.
D	Improved local multi-modal access (includes 'D' measures, plus 'B' measures, plus 'C' measures where applicable)	Upgrades to the station that achieve compliance with national and EU regulations ('B' measures), plus where possible the provision of improved multi-modal access facilities local to the station ('D' measures), plus where possible the provision of enhanced changing places ('C' measures).

Stations included in Appendix B - including progress in Years 1-5

Station	Progress in Years 1-5
Dalkey	Full Delivery (2022)
Gormanston	Full Delivery (2022)
Little Island	Full Delivery (2023)
Banteer	Full Delivery (2024)
Rathmore	Full Delivery (2024/2025)
Athy	Full Delivery (2025)
Rathdrum	Full Delivery (2025)
Maynooth	Full Delivery (2025)
Boyle	Full Delivery (2025/2026)
Claremorris	Part Delivery 2026, complete 2027
Glounthaune	Part Delivery 2026, complete 2027
Rushbrooke	Phase 5 Detailed Design (Year 6 completion)
Longford	Phase 5 Detailed Design (Year 6 completion)
Arklow	Phase 5 Detailed Design (Year 6 completion)
Wicklow	Phase 5 Detailed Design (Year 6 completion)

[78] An amendment to the Building Regulations Technical Guidance Document M (2022), has subsequently been released. However, the updated guidance came into effect after the commencement of the programme (on the 1st January 2024). As such, the Transitional Arrangements outlined within the updated guidance document state that the 2010 edition of Technical Guidance Document M still applies, with Option B interventions achieving compliance against this set of guidance.

Dalkey (fully implemented during years 1-5)[79]

Current context

Dalkey station is located in the town of Dalkey, County Dublin. The town is a suburb of Dublin, and the railway station is part of the DART suburban rail network, being served by trains on the Greystones to Howth and Malahide lines. In addition to being served by DART suburban services, the station is also served by intercity services between Dublin Connolly and Wexford/Rosslare Europort.

The station has two platforms which are connected by a footbridge with steps but no accessible provision between the platforms. The footbridge is located near the centre of each platform. Both platforms at the station are accessible to passengers with reduced mobility. Accessible access to platform 2 (southbound) is via the station building and platform 1 (northbound) is via a ramp which connects to Ardeevin Road to the south of the station.

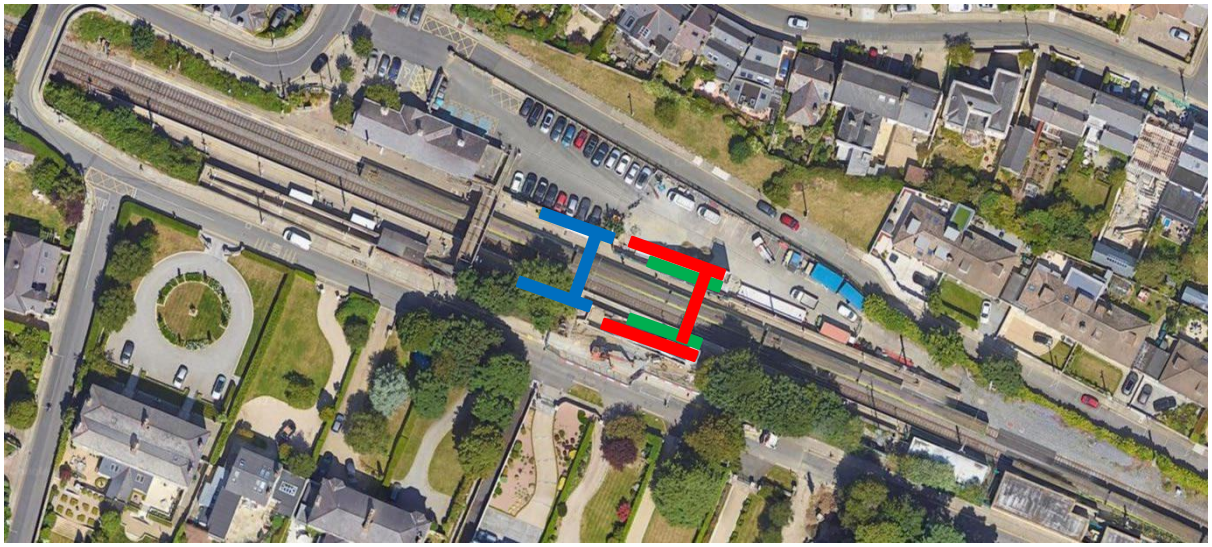
A 70-space car park is available at the station but is located near the station building on platform 2. As a result, passengers with reduced mobility who wish to access platform 1 are required to exit the station, cross over the railway using the road bridge between Railway Road and Ardeevin Road and re-enter the station using the ramp on Ardeevin Road. The station has a ticket office which is manned for a period in the morning, and accessible ticket machines available when the ticket office is closed.

Proposed alterations

The scope of the proposed development at Dalkey station includes the installation of a new Mobility Impaired Access Structure (MIAS) between both platforms, along with associated works. The new MIAS at the station will be a footbridge, with stairs and lifts providing access between the platforms and the overbridge. Associated works include modifications to the station car park and the installation of compliant pick-up/set-down areas, upgrading the existing station footbridge and station building to ensure compliance with current standards, installing platform end fencing on both platforms, and upgrading station lighting, waiting areas, signage and ticketing facilities.

During the Preliminary Design phase, three potential footbridge locations were considered. The locations of these proposed options are shown in Figure B-1.

Figure B-1: Proposed locations for the MIAS at Dalkey station



Option B1 - compliance option 1 - blue

Compliance option 1 is a new footbridge and lifts installed just to the south-east of the main station building at Dalkey station. Foundations for the footbridge would be located towards the back of the existing platforms in an older portion of the station. The installation of a footbridge in this location would require the removal of

[79] Upgrades at Dalkey station are already underway, with the new MIAS opening on the 21st June 2023.

existing granite walls at the station to provide access to the platforms. The removal of this wall, and placement of the footbridge in this location would have a negative impact on the heritage of the station.

Option B2 - compliance option 2 - green

Compliance option 2 is a new footbridge and lifts installed towards the eastern end of the platforms at Dalkey station. Foundations for the footbridge would be located towards the back of the existing platform and would require the removal of reconstituted walls (installed as part of an upgrade to the station in 2008) to provide access to the platforms. The placement of the footbridge on the existing platform would reduce the width of the platform and would require passengers to walk closer to the tracks and passing trains.

Option B3 - compliance option 3 - red

Compliance option 3 is a new footbridge and lifts installed towards the eastern end of the platforms at Dalkey station, in the same location as the proposed bridge for compliance option 2. Foundations for the footbridge would be located behind the existing platforms, resulting in a wider bridge span, and would require the removal of reconstituted walls to provide access to the platforms. While the wider span of the bridge would be likely to increase the cost of the bridge itself, passenger safety will be higher as the width of the platform will not be reduced to accommodate the new footbridge.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Dalkey station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Dalkey station has been discounted before the proposed alterations were considered as part of the PBC.

Gormanston (fully implemented during years 1-5)[80]

Current context

Gormanston station is located next to Gormanston beach, approximately 1.15km away Gormanston village, County Meath. The station is served by services on the Dublin to Dundalk line, with some peak hour services extending south of Dublin to Bray.

The station has two platforms which are not connected on IÉ property. Instead, passengers wishing to travel southbound must exit the station property, pass over a small road bridge which crosses the southern end of the station, and enter the station via a ramp behind Platform 1. Level access is possible to platform 2, making it possible for passengers with reduced mobility to travel northbound more easily but access to platform 1 is restricted for passengers with reduced mobility as the ramp that leads down from the public road to the platform is not easily accessible due to its location and the camber of the road at the access point. The station is unmanned but ticket machines are available on the platforms.

Proposed alterations

The proposed scope of development at Gormanston station includes the installation of a MIAS between the two platforms, along with associated works. The MIAS at the station will be a footbridge, with stairs and lifts providing access between the platforms and the overbridge. Additionally, associated works will include modification to the existing car park and the creation of a pick-up/set-down area, the installation of help points, emergency alarms and induction hearing loops on both platforms, and the upgrading of station signage, access ramps, platforms and waiting areas.

[80] Upgrades at Gormanston station are already underway, with the new MIAS opening on the 27th February 2023.

Option B1 - compliance option 1

During the preliminary design phase, only one MIAS option was considered, with space for the footbridge to be installed close to the centre of the platforms, just to the south of a former maintenance/storage building which remains in the station car park (Figure B-2). The footbridge will be installed behind the existing platforms in these locations, with the current station walls/fences removed, expanding the width of the platform, and providing access to the new stairs and lifts to the footbridge. The footbridge will be accessed from the existing platforms, with passengers able to access the station via either of the current access routes.

Figure B-2: Proposed location of new MIAS at Gormanston station

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Gormanston station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Gormanston station has been discounted before the proposed alterations were considered as part of the PBC.

Little Island (fully implemented during years 1-5)[81]

Current context

Little Island station is located next to the N25 dual-carriageway and the town and industrial area of Little Island, County Cork. The station is served by services on the Cork commuter network, with trains running from Mallow to Cobh and Midleton.

The station has two platforms which are connected by a S-shaped footbridge, at the western end of the station, with steps but no accessible provision. The station has two car parks, with a total of 64 spaces (61 standard spaces and 3 accessible parking bays), both of which are located to the north of the station. Platform 1 (to Cobh and Midleton) can be accessed via a ramp from the car parks but the accessible route to Platform 2 (towards Cork) is via Island Corporate Park and the R623 road bridge which crosses the railway just to the east of the station. Passengers are then required to use a path down the edge of the N25 eastbound off-slip to access a ramp to the station. This means that the route is difficult for a person with reduced mobility to use if they are dropped off at the station car park. The station is unstaffed with the main station building being closed to the public, but a ticket machine, that is accessible to wheelchair users, is available on each platform at the station.

[81] Upgrades at Little Island Station are already underway, with the footbridge span in place over the tracks, and additional upgrade works expected to be completed by the end of 2023.

Proposed alterations

The scope of the proposed development at Little Island station comprises the addition of a MIAS between platforms 1 and 2 at the station, along with associated works. The MIAS is proposed to be a footbridge with two staircases and lift shafts offering access between the platform and footbridge levels. Additionally, associated works include upgrading access ramps to both platforms 1 and 2, installing a pedestrian walkway between the overflow car park and the station access on platform 1, undertaking wider car park and platform modifications, the installation of help points on both platforms and work to upgrade signage, waiting areas and station lighting.

Option B1 - compliance option 1

The compliance option at Little Island station proposes the addition of a new MIAS at the station, as shown in Figure B-3. The proposed location for the footbridge is close to the existing station building and the existing access to platform 2, making it possible for passengers with reduced mobility to access both platforms without having to travel around the station in a similar way to the current arrangement. The foundations of the footbridge would be located behind the existing platform, with platform fences removed, to provide access to the footbridge from the platforms.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Little Island station has been discounted before the proposed alterations were considered as part of the PBC.

Option D – improved local multi-modal access

An improved local multi-modal access intervention at Little Island station proposes the extension of the new footbridge by 10m to meet the footpath that runs along the edge of the N25 off slip road, located to the south of the station. The extension of the footbridge to this location would reduce the distance passengers with reduced mobility would have to travel to access platform 2 from the south of the station. As part of the footbridge extension, a 3m x 3m area adjoining the footpath would be modified to house a new Ticket Vending Machine (TVM) and a gate to close off access to the station when the station is closed.

Extending the footbridge to meet the existing footpath and delivering facilitating works will increase the cost of installation. Additionally, the footpath along the edge of the N25 is managed by Cork County Council, meaning that IE would be required to engage with the local authority to gain permission for and deliver the programme option D intervention.

Figure B-3: Proposed location of new MIAS at Little Island station

Banteer (fully implemented during years 1-5)[82]

Current context

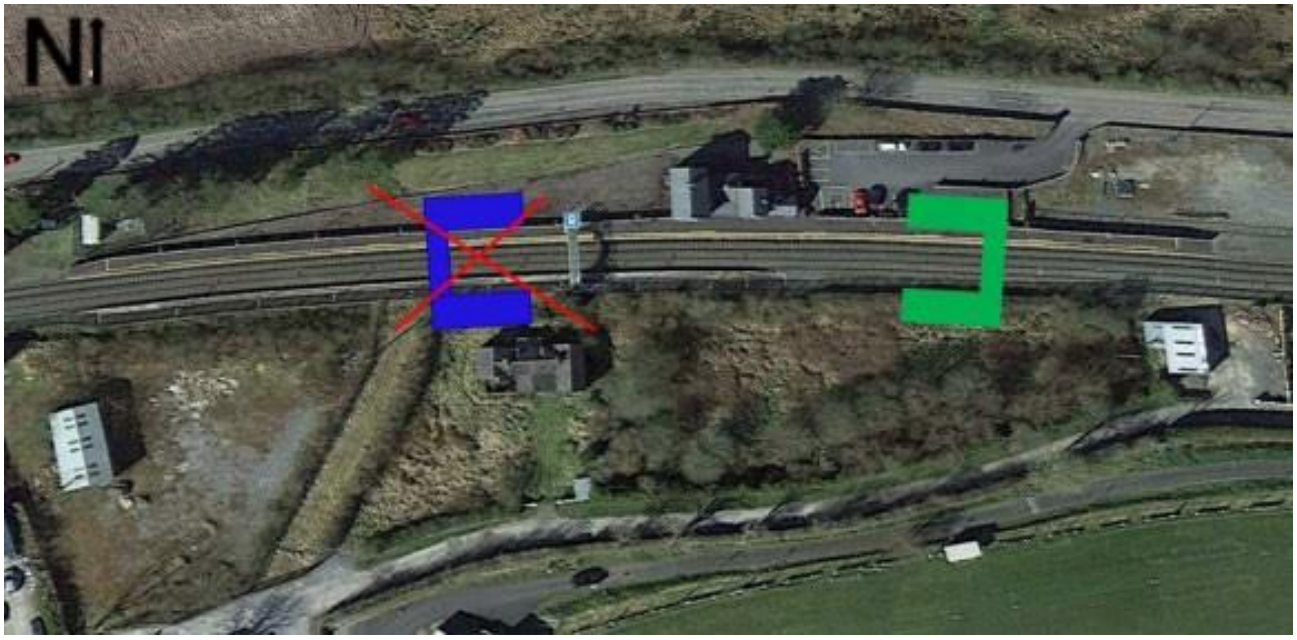
Banteer station is located on the edge of the town of Banteer, County Cork. The station is served by services on the Mallow to Tralee line, with some services serving the station also extending to Cork and Dublin Heuston.

The station has two platforms which are connected by a footbridge, located to the west of the existing station building with steps but no accessible provision that would provide step free access between the platforms. As a result, passengers with reduced mobility can access platform 1 (eastbound towards Mallow) but are unable to travel westbound (towards Tralee) from platform 2. The station has a small car park with 19 spaces (18 standard spaces and 1 accessible parking bay). There is also a large maintenance/siding area which stands adjacent to the station car park and is owned by IÉ. The station is staffed between 07:00 and 16:00, Monday to Thursday, and between 06:00 and 15:00 on a Friday. Outside of these times there is also a ticket machine available at the station that is accessible to wheelchair users.

Proposed alterations

The scope of proposed development at Banteer station comprises the addition of a MIAS between platforms 1 and 2 at the station, along with associated works. The MIAS will be a new footbridge, with two staircases and lift shafts connecting the platform and footbridge levels. Additional associated works include car park modifications, improved station lighting, the addition of tactile surfaces on walls or handrails and the installation of help points on both platforms. During the preliminary design phase, two footbridge options were assessed, and these options are shown in Figure B-4.

Figure B-4: Options for new MIAS at Banteer station



Option B1 - compliance option 1 - blue

Compliance option 1 at Banteer station would be a footbridge located to the west of the existing station building, connecting both existing platforms at the station. Passengers wishing to use the structure would be required to access Platform 1 via the station car park before making their way along the platform to the new footbridge. The footbridge would be located over the existing platforms, with the foundations placed behind the existing passenger areas. Given the location of the bridge already overlaps with the existing platforms at the station, this would reduce the costs associated with the installation of the footbridge. However, IÉ does not own the land behind Platform 2, which is currently a privately owned residence. As a result, IÉ would have to

[82] Upgrade enabling works have started at Banteer station, with the full accessibility upgrades expected to be completed in 2024.

consider purchasing the land to allow a footbridge to be installed in this location. This would increase the cost of the option, as well as potentially delaying the construction process.

Option B2 - compliance option 2 - green

Compliance option 2 would be a new footbridge located towards the eastern end of the existing station. The footbridge would not be placed in the area where the Platforms 1 and 2 currently overlap, meaning that Platform 2 would need to be extended by about 50m so the footbridge can line up with the platform. IÉ already owns the land to the east of Platform 2, meaning there would be no land take associated with this option. Access to the footbridge would be located close to the station entrance, meaning the location is accessible for passengers with reduced mobility. However, the installation of the footbridge in this location would require additional alterations to the station car park, over and above the minimum required for compliance, as the footprint of the bridge would extend into the current car park.

As part of this option and the need to extend Platform 2, additional associated works would need to take place with the ramp at the end of the current platform being recreated at the end of the new platform extension and the palisade fencing, which marks the edge of the public platform, being moved to reflect this new location. Additionally, a new waiting shelter will be installed on the new part of the platform.

Option C - enhanced changing places

A proposal for a programme option C intervention at Banteer station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

An improved local multi-modal access intervention at Banteer station would improve access from the village of Banteer to the station itself, alongside the upgrades outlined for compliance option 1 or 2. The railway station is located approximately 300m from the centre of Banteer village. A footpath is available along the edge of Main Street (L1120) which runs from the village to the station, but passengers are required to cross the road to access the station, and no crossing facilities are currently available.

For the option B/C + local access improvement option, a new 130m long protected footpath and cycleway will be installed across the existing IÉ sidings from the end of Main Street to the station. The installation of the new footpath would mean that passengers would no longer have to cross Main Street and could instead access the station directly from the village. As part of the installation of the path, new lighting, fencing, signage, road marking and a dropped kerb will also be installed.

Rathmore (fully implemented during years 1-5)

Current context

Rathmore station is located in the town of Rathmore, County Kerry. The station is served by trains on the Mallow to Tralee line, with some services extending to Cork and Dublin Heuston.

The station has two platforms which are connected by a footbridge, located to the western end of the station. The footbridge has steps between the platform and overbridge levels but no accessible provision that would provide step free access between the platforms. As a result, passengers with reduced mobility are able to travel on services stopping at platform 1, which has level access from the station car park but are unable to access platform 2. The station has a car park with 27 spaces and 2 accessible parking bays. The station has a staffed ticket office which is open between 07:00 and 19:00 Monday to Saturday and between 08:00 and 19:00 on Sundays. Outside of these times ticket machines are available on the platforms which are accessible to wheelchair users. In addition to the car parking space, there is a small maintenance/siding area to the east of the station car park.

Proposed alterations

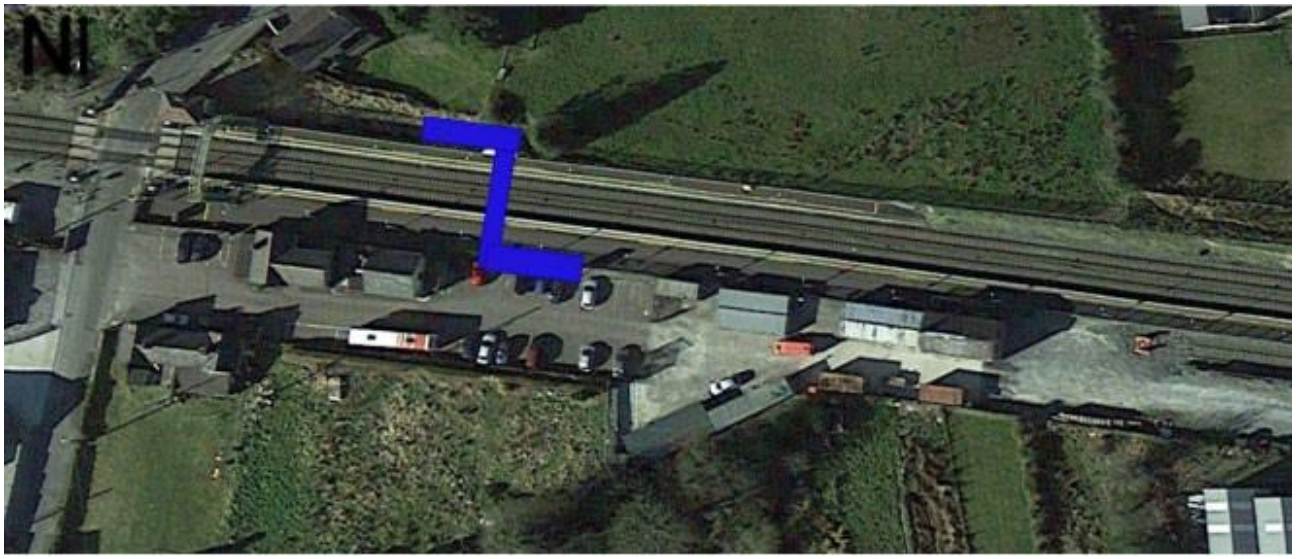
The scope of the proposed development at Rathmore station comprises the addition of a MIAS between platforms 1 and 2 at the station along with associated works. The MIAS will be a footbridge with two sets of staircases and lift shafts connecting the platforms to the footbridge walkway. Additionally, associated works

will include car park modifications and the installation of a new pick-up/set-down area, the installation of help points on both platforms and upgrades to station signage, access routes, waiting areas, station building and toilet facilities.

Option B1 - compliance option 1 - blue

During the preliminary design phase, only one compliance option was considered for the station, with the option proposing the installation of an S-shaped footbridge just to the east of the existing station building on platform 1 as shown in Figure B-5. Only one compliance option was considered as a result of land ownership constraints surrounding the station footprint. The space adjacent to platform 2 which has been selected for the footbridge is owned by IÉ but most of the surrounding land is owned by private landowners. Additionally, the existing footbridge at the station is on the County Kerry Protected Structures Register, meaning the area surrounding the bridge cannot be used for new construction.

Figure B-5: Proposed location of new MIAS at Rathmore station



In addition to influencing the proposed location of the footbridge, landownership must still be considered as part of the project, as temporary permission to access the surrounding private land is likely to be needed during the construction phase of the project. This could create potential issues when requesting planning permission for the station upgrade.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Rathmore station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Rathmore station has been discounted before the proposed alterations were considered as part of the PBC.

Athy (fully implemented during years 1-5)

Current context

Athy station is located in the centre of the town of Athy, County Kildare. The station is served by trains running on the Dublin Heuston to Waterford line.

The station has two platforms which are connected by a footbridge located towards the northern end of the station. The footbridge has steps providing access between the platforms and the overbridge but no accessible provision that would allow step free access to both platforms. Step free access is available to platform 1 via a

ramp from the station car park but no step free access is possible to Platform 2. The station has a car park with 84 standard spaces and 4 accessible parking bays. The station has limited staff availability and does not have a booking office. Instead, tickets can be purchased from two ticket machines next to the station entrance. These ticket machines are accessible for wheelchair users.

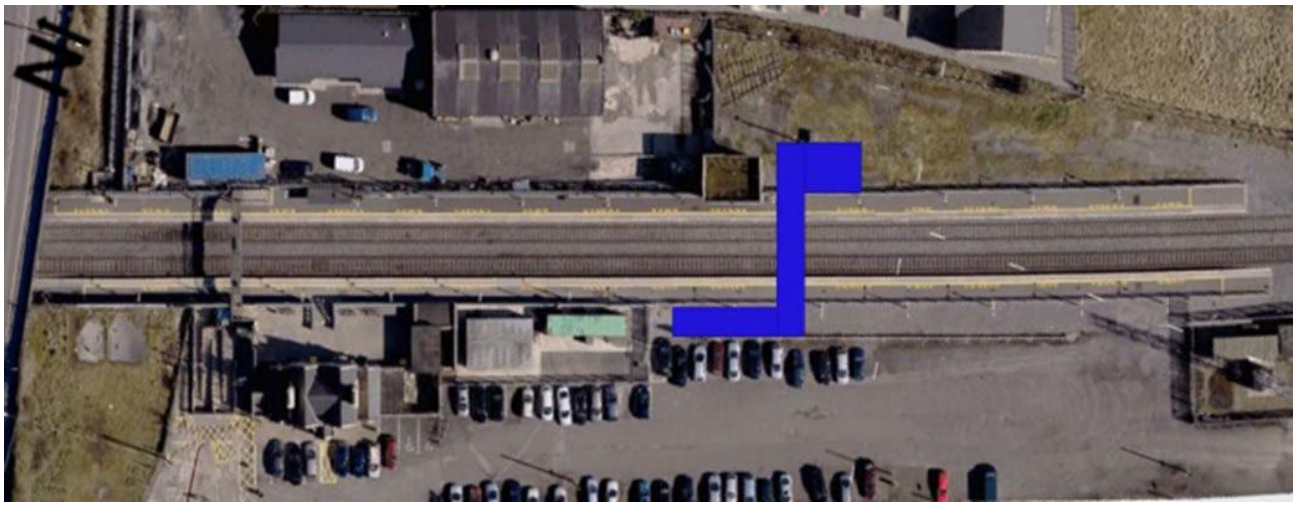
Proposed alterations

The scope of proposed development at Athy station comprises the installation of a MIAS between platforms 1 and 2 at the station, along with associated works. The MIAS will be a S-shaped footbridge that will have two sets of staircases and lift shafts that connect the platforms to the walkway across the tracks. Additionally, associated works include car park modifications and the installation of a new pick-up/set-down area, the installation of help points on both platforms and upgrades to the station access routes, signage, waiting areas and ticket office.

Option B1 - compliance option 1 - blue

During the preliminary design phase of the project, one compliance option was considered due to land constraints on the eastern side of the station. This option is the S-shaped footbridge (blue) located towards the southern end of the station, as shown in Figure B-6. The land behind the northern half of Platform 2 is owned by private landowners, constraining the potential location of the MIAS at the station. By placing the new footbridge at the southern end of the station land will be taken from IÉ sidings behind platform 2 and the existing station car park adjacent to Platform 1. Land take from the IÉ sidings is unlikely to require a change in wider operation of the site but some land will have to be taken from the car park and the site reconfigured to accommodate the new structure. Additionally, the location of the station has the potential to cause some issues during the construction phase of the station upgrade, as all plant and materials will have to access the site via surrounding residential streets.

Figure B-6: Proposed location of new MIAS at Athy station



Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Athy station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

In addition to the proposed compliance option, an improved local multi-modal access intervention has also been considered for Athy station. The intervention would install a new 20m long access ramp, providing an additional access route from the station car park to platform 1 and the new MIAS. The new ramp would be located towards the southern end of platform 1, providing additional access between the far end of the car park, and the platforms. This could reduce the distance passengers with reduced mobility could have to travel to access trains at Athy station. However, the existing accessible parking spaces, and pick-up/set-down areas at Athy station are located close to the existing ramp between the station car park and platform 1. This means that the benefit generated by the installation of the new ramp could be reduced.

Rathdrum (fully implemented during years 1-5)

Current context

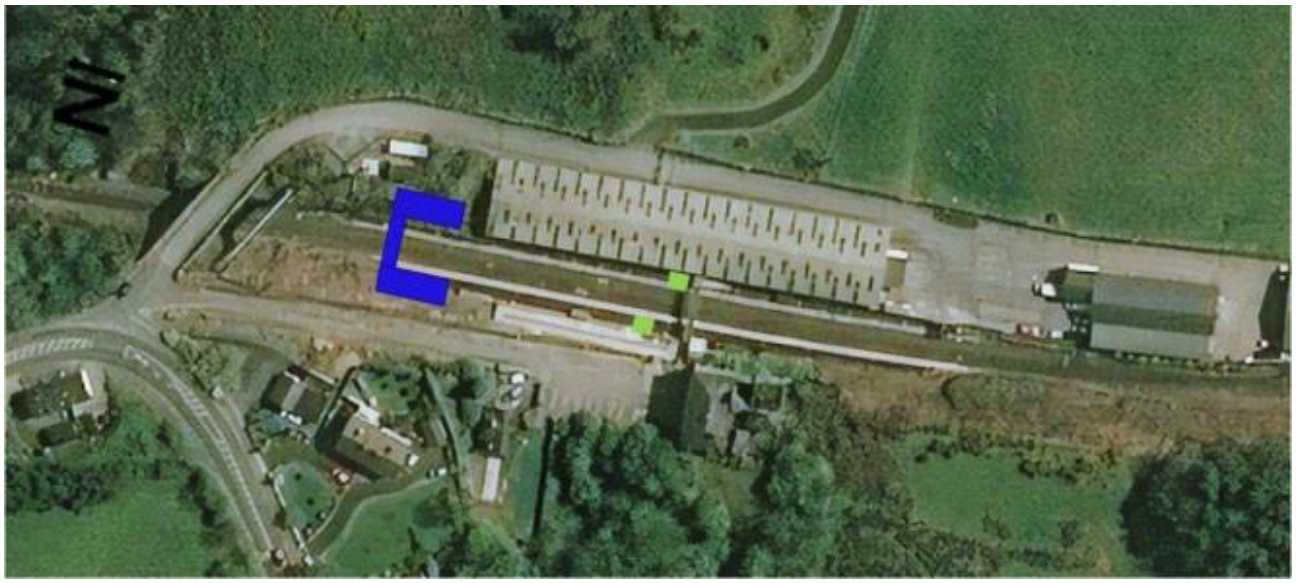
Rathdrum station is located approximately 400m southeast of the centre of the village of Rathdrum, County Wicklow. The station is served by trains on the Dublin Connolly to Wexford/Rosslare Europort route.

The station has two platforms which are connected by a footbridge, located near the centre of the platforms. The station is located in a cutting, meaning there is level access between the station car park and the overbridge with steps providing access down to both platforms. Platform 1 is accessible to passengers with reduced mobility via a ramp from the car park but there is no step-free access to Platform 2. Most trains that travel through Rathdrum use platform 1 where possible. However, in several instances trains are required to use platform 2 due to service requirements, and this means that these services are not accessible for passengers with reduced mobility. The station has a small car park with 20 spaces including one accessible parking bay. The station is unmanned but two ticket machines are available, with one being accessible for wheelchair users.

Proposed alterations

The scope of the proposed development at Rathdrum station comprises the addition of a Mobility Impaired Access Structures (MIAS), providing step-free access to both platforms for passengers with reduced mobility, along with associated work. During the preliminary design phase, two options were considered for potential MIAS installations at the station shown in Figure B-7. In addition to the installation of the new Mobility Impaired Access Structures at the station, associated works will include the modification of the station car park, upgrading access routes to the platforms, installing help points on both platforms and upgrading station signage and waiting areas.

Figure B-7: Proposed location of new MIAS at Rathdrum station



Option B1 - compliance option 1 - blue

Compliance option 1 (blue) would lead to a new footbridge being installed at the northern end of the station, utilising land owned by IÉ, adjacent to both platforms. The structure of the footbridge would be conventional, with passengers accessing the bridge from platform 1. Due to the location of the footbridge and the need to access the lifts via platform 1, the distance from the car park to the MIAS is still significant making it less suitable for passengers with reduced mobility.

Furthermore, due to the fact the station is located in a cutting, the installation of a new footbridge at the station would require significant groundworks and engineering to suitably place the bridge at the station. This would result in significant additional costs associated with the project. Additionally, signalling infrastructure at the station would also have to be moved to accommodate the new bridge.

Option B2 – compliance option 2 – green

Compliance option 2 (green) would lead to the installation of a new lift, attached to the existing footbridge structure at the station, that would provide step free access from the footbridge down to the platform level of Platform 2. The location of the footbridge close to the station entrance means that the new MIAS installation would be easily accessible for passengers with reduced mobility. Additionally, by attaching the lift to the existing footbridge, the cost of the works is significantly reduced.

However, due to the location of Rathdrum station in a cutting, the shape of the lift would have to be longer and thinner than usual. Additionally, the installation of the lift would also reduce the width of Platform 2. As part of the preliminary design work for the station, environmental, ecological, heritage and engineering assessments have been undertaken. These assessments have identified that by adding a lift column to the existing footbridge structure, the works at Rathdrum station have the potential to adversely impact the physical structure of the station. As a result, design mitigations would need to be considered to ensure that the installation of new infrastructure will safely interface with the existing station.

Option C – enhanced changing places

A proposal for an enhanced changing places intervention at Rathdrum station has been discounted before the proposed alterations were considered as part of the PBC.

Option D – improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Rathdrum station has been discounted before the proposed alterations were considered as part of the PBC.

Maynooth (fully implemented during years 1-5)

Current context

Maynooth station is located in the town of Maynooth, County Kildare. The station is served by trains on the Dublin Connolly to Sligo and Longford line, as well as additional services terminating at the station before returning to Dublin.

The station has two platforms which are connected by a footbridge. The footbridge has steps on both sides but does not have accessible provision between the platform and cross-span of the footbridge. Accessible access to the platform 1 (towards Dublin) is via the main station building on the northern side of the station, while access to platform 2 (westbound) is via a ramp on the southern side of the station, opposite the main station building. The station is manned between 06:30 and 21:00 Monday-Saturday and 09:30-21:00 on Sundays and Public Holidays with toilets (including accessible facilities) available for passengers. The station also has a large car park with 222 spaces available, including 5 accessible parking spaces.

In addition to the Station Accessibility Programme upgrades being brought forward at the station, Maynooth is also part of the DART+ West project, with additional upgrades planned as part of this scheme. DART+ upgrades include the installation of OHLE lines and stanchions that are required to run the new DART+ electric trains that will be introduced on the line. In addition to achieving accessibility compliance, the Station Accessibility Programme interventions at Maynooth have also been considered for their complementarity with the planned DART+ works.

Proposed alterations

The scope of proposed development at Maynooth station comprises the addition of a MIAS between platforms 1 and 2 at the station, along with associated works. The MIAS will be a new footbridge, with two staircases and lift shafts connecting the platform and footbridge levels. Additional associated works include car park modifications, improved station lighting, the addition of tactile surfaces on walls or handrails, the installation of help points on both platforms and improvements to the station building and toilet facilities.

Option B1 - compliance option 1

Compliance option 1 would lead to the installation of a new S-shaped footbridge and lifts installed at the centre of the platforms at Maynooth station, to the east of the existing station building and the west of the existing footbridge. Access to and from the overbridge would be via switchback staircases connecting to each platform. Placing the footbridge in this location would impact access to the station as the location would have a significant impact on an existing station access walkway which could need further modification as a result. Additionally, placing the new footbridge in this location would require a redevelopment of the proposed DART+ programme, as the footbridge would be located in the same place as one of the new OHLE stanchions required for that scheme.

Option B2 - compliance option 2

Compliance option 2 would lead to the installation of a new S-shaped footbridge and lifts installed at the centre of the platforms at Maynooth station, to the east of the existing station building and in place of the existing footbridge. Access to and from the overbridge would be via to switchback staircases to platform 2 and straight staircases to platform 1. The installation of a footbridge in this location would require modifications to be made to the existing footbridge as part of the initial facilitating works for the upgrade. However, general station access would be maintained, as compliance option 2 would have less of an impact on the existing station access routes relative to compliance option 1.

Furthermore, compliance option 2 would have greater complementarity with the DART+ programme as the location of the footbridge could work alongside the proposed locations for the new OHLE stanchions being installed at the station. This means that there is less potential for DART+ proposals to need to be modified or redesigned as a result of installing the footbridge in this location. Finally, the footbridge would also be located further away from private property located close to platform 2.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Maynooth station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Maynooth station has been discounted before the proposed alterations were considered as part of the PBC.

Boyle (fully implemented during years 1-5)

Current context

Boyle station is located to the south of the town of Boyle, County Roscommon. The station is served by services on the Dublin Connolly to Sligo line.

The station has two platforms which are connected by a footbridge near the eastern end of the station. The footbridge has steps to both platforms but no accessible provision that would provide step free access to both platforms. Step free access is available to the Dublin-bound platform, but no access is possible to the Sligo-bound platform. This means that passengers with restricted mobility who are looking to travel towards Sligo would not be able to board most trains at this station. The station has a car park with 55 standard spaces and 3 accessible parking bays. The station has a ticket office which is staffed between 07:00 and 15:30, Monday to Friday. Additionally, the station has two ticket machines which are accessible to wheelchair users.

Proposed alterations

The scope of the proposed development at Boyle station comprises the installation of a footbridge between platforms 1 and 2 at the station, along with associated works. The footbridge will consist of a pair of staircases and lift shafts which give access between the platforms and the overbridge. Additionally, associated works will consist of car park modifications and the creation of a pick-up/set-down area, the installation of help points on both platforms, and upgrades to station access routes, signage, waiting areas, ticket office and toilet facilities.

As part of the preliminary design work for the upgrades to Boyle station, two potential footbridge locations were proposed shown in Figure B-8.

Figure B-8: Proposed location of new MIAS at Boyle station

Option B1 - compliance option 1 - blue

Compliance option 1 (blue) would see a new footbridge installed next to the existing footbridge structure at the eastern end of the station. This location would place the footbridge directly next to the existing accessible parking spaces in the station car park, making it a suitable location for passengers with reduced mobility. However, during the construction phase there is the potential that work on the footbridge in this location could obstruct the entrance to the station. Additionally, there is potential that the installation of a new footbridge in this location could have a detrimental impact on the visual appearance of the station due to the bridge's location directly next to the existing footbridge.

Option B2 - compliance option 2 - green

Compliance option 2 (Green) is a new footbridge that would be installed close to the centre of the current platforms. Additional space is available adjacent to both platforms, creating the required space for the installation of the footbridge and space for the construction phase of the project to be managed efficiently without causing too significant obstruction to the current operation of the station. Additionally, the proposed location is further away from the existing footbridge at the station. This means that the protected structures at the station are less likely to be directly impacted by the installation of the new footbridge.

Placing the footbridge at this location would mean that the car park would need to be reconfigured, with some of the space in the car park given over to the new footbridge. Additionally, the current configuration of the car park means that accessible parking space would be located on the other side of the station building to the MIAS. However, this challenge could be addressed as part of wider car park modifications, with the accessible parking bays moved to be next to the new footbridge.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Boyle station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

In addition to the compliance options identified for Boyle station, an additional improved local multi-modal access intervention has been proposed to improve access from the station car park to the Dublin-bound platform and the new MIAS. A new 15m-long ramp would provide a second step free access route from the station car park to the Dublin-bound platform, reducing the required walking distance for commuters by about 80m compared to the existing step-free route.

Claremorris (fully implemented during years 1-5)

Current context

Claremorris station is located in the town of Claremorris, County Mayo. The station is served by services on the Dublin Heuston to Westport and Ballina line.

The station has three platforms (1 platform adjacent to the station car park, and one island platform with a running line on either side) that are connected by a footbridge at the southern end of the station. The footbridge has steps to both platforms but no accessible provision that would provide step free access to platforms 2 and 3. Most trains serving the station depart from platform 1, meaning that the services are accessible to passengers with restricted mobility. However, those services that call at platforms 2 or 3 are not accessible to passengers with reduced mobility. The station has a small car park with 30 standard spaces and 2 accessible parking bays. The station has a ticket office but opening times are sometimes restricted. Outside of the ticket office opening hours, tickets can be purchased from ticket machines at the station entrance. One of these machines is accessible to wheelchair users.

Proposed alterations

The scope of proposed development at Claremorris station comprises the installation of a new S-shaped footbridge between Platforms 1 and 2/3, along with associated interventions. The new footbridge at the station will include two sets of staircases and lift shafts allowing passengers to move between the platform and overbridge. Additional associated works will include car park modifications and the installation of a new pick-up/set-down area, the installation of help points on all platforms and the upgrade of station signage, waiting areas, ticket office and toilet facilities.

During the preliminary design phase of the project, two footbridge options were considered for use at the station, as shown in Figure B-9.

Figure B-9: Proposed location of new MIAS at Claremorris station

Option B1 - compliance option 1 - blue

Compliance option 1 (blue) would see a footbridge placed to the northwest of the main station building near the centre of the platforms. This location would make use of the maintenance area car park located behind Platform 1 and a wider part of Platforms 2/3 as the foundations of the footbridge. As the maintenance area is already owned by IÉ no land would need to be purchased for the footbridge to be installed in this location. However, because the footbridge foundations would permanently reduce the available space in the car park, additional car parking would have to be created elsewhere on the site. Additionally, the footbridge is not currently located in a public area, meaning an additional public access route would need to be added to the maintenance yard to provide access to the footbridge.

While the foundations of the footbridge on Platforms 2/3 would be located on a wider part of the platform, the installation of the structure within this area would still significantly reduce the width of the platforms.

Option B2 - compliance option 2 - green

Compliance option 2 (green) would see a new footbridge located to the southeast of the main station building, adjacent to Station Road. The footbridge would be located on a wider part of Platforms 2/3 meaning that the footbridge could be accommodated without additional platform space being created. However, this would mean that both Platforms 2 and 3 would be narrower than usual once the work has been completed. The location of the option 2 footbridge would provide good accessibility for passengers with reduced mobility as the entrance to the footbridge would be located close to the existing station car park and accessible parking bays. Additionally, the pick-up/set-down point for the station is also close to the proposed location, further improving access to the structure.

However, the option 2 footbridge would be a replacement for the existing footbridge at Claremorris station. As a result, the existing bridge would have to be demolished in advance of the new bridge being built. Because the existing bridge would have to be removed during the construction process, a temporary structure would have to be installed to ensure that access can be maintained to Platforms 2 and 3 during the duration of the works.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Claremorris station has been discounted before the proposed alterations were considered as part of the PBC.

Option D – improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Claremorris station has been discounted before the proposed alterations were considered as part of the PBC.

Glounthaune (fully implemented during years 1-5)

Current context

Glounthaune station is located approximately 750m east of the main village of Glounthaune, County Cork. The station is served by trains on the Cork suburban commuter network, with services running from Mallow to Cobh and Midleton.

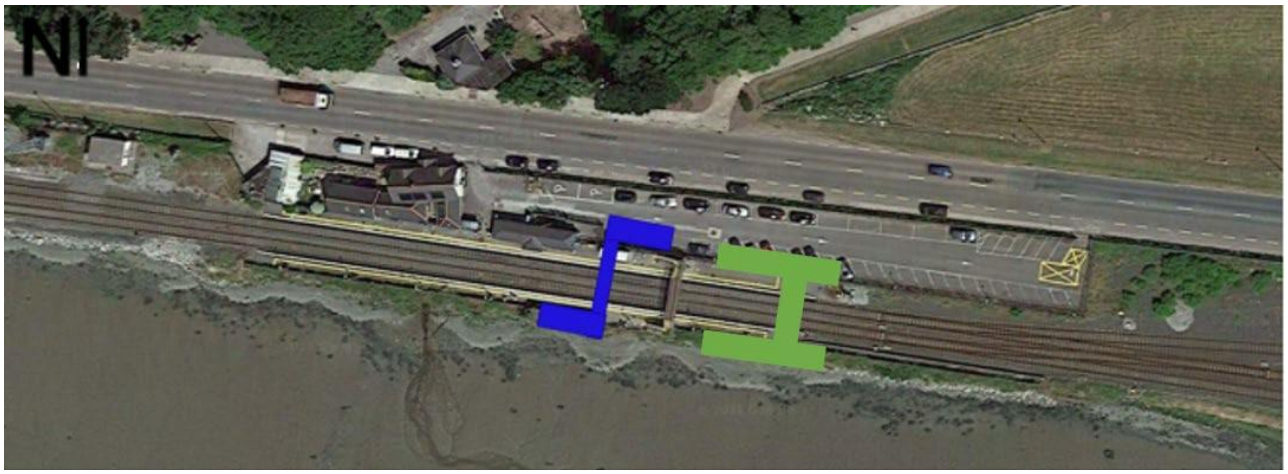
The station has two platforms which are connected by a footbridge, located at the eastern end of the station. The current footbridge has steps connecting the platforms to the overbridge, but no accessible provision that would provide step free access to both platforms. Due to the location of the station adjacent to Lough Mahon, there is no step-free access to Platform 2, meaning that passengers with reduced mobility are unable to travel westbound, towards Cork, from the station. As a result, passengers who require step free access and wish to board/alight Cork-bound services at the station must travel to the next accessible station on the route before changing onto the next available train to Glounthaune. This would mean that passengers with reduced mobility would potentially have to travel to Cork, Carrigtwohill or Cobh, depending on the destination of the train, before returning to Glounthaune. The station does not have a ticket office, but two ticket machines are available, with one being accessible for wheelchair users.

Proposed alterations

The scope of proposed development at Glounthaune station comprises the addition of a MIAS between Platforms 1 and 2 at the station, along with associated works. The MIAS will have two staircases and lift shafts connecting the platforms to the bridge level of the structure. In addition, associated works will include upgrading the access ramp to Platform 1, modifying the car park and platforms at the station, the installation of help points on both platforms and upgrading the station signage, lighting, and waiting areas.

Due to the location of the station, close to the edge of the Lough Mahon, the potential options for the location of the MIAS are limited, with only the area towards the eastern end of the station suitable for development. During the original preliminary design phase of the project only one intervention was considered, however, a second option has subsequently been considered, as plans for the redevelopment of the car park have changed the potential locations for development within the IÉ car park. This means that two options have been considered as part of the Multi Criteria Analysis as shown in Figure B-10.

Figure B-10: Proposed location of new MIAS at Glounthaune station



For both options, land on the foreshore of Lough Mahon will need to be claimed during the construction phase of the upgrade process, as well as once the footbridge is operational, and the space available for reclamation is limited. This means that additional work may need to take place so that the construction site at the station will be safe. During the construction phase, it is proposed that plant and materials for the work will use the level crossing at the western end of the station to access the foreshore, with a temporary haul road created along the length of Platform 2. Due to the confined working area, it is possible that platform 2 will need to be closed while the footbridge installed, potentially restricting the use of the station.

Environmental, ecological and heritage assessments have been completed for the proposed works and it was identified that there is potential for environmental impacts associated with the works. The impact is likely to be particularly large along the adjacent foreshore. Considerations have been made as part of these environmental assessments to consider how to mitigate against the risk of impacts on the surrounding environment. Additional winter bird and habitat surveys have been conducted to measure the potential impacts in these areas. Following these assessments further mitigations will be developed where feasible to reduce the impact of the upgrades.

The heritage assessment undertaken at Glounthaune station highlights that while the station is not a protected structure, the location of the station on the edge of Lough Mahon means that the new MIAS is likely to have a large visual impact on the surrounding area, with the new structure visible from the N25 highway on the opposite shore of Lough Mahon. As a result, the report recommends that IÉ should consider using materials and approaches sympathetic to the surrounding station infrastructure, where station upgrade budgets will allow this process to happen.

Option B1 - compliance option 1 - blue

Compliance option 1 is a S-shaped footbridge located just to the west of the existing footbridge at the station. The location of the footbridge would be close to the existing station entrance, making it accessible for passengers with reduced mobility. The footprint of the footbridge would be located directly behind the existing platforms meaning that space would be taken up in the existing station car park as well as from the foreshore of Lough Mahon. Additionally, the location of the new MIAS would be very close to the existing footbridge at the station potentially causing an additional challenge during the construction of a footbridge in this location.

Option B2 - compliance option 2 - green

Compliance option 2 is a new footbridge located to the east of the existing footbridge at the station. The location of the footbridge would be slightly further from the existing entrance compared to compliance option 1 but is still located close to the entrance at the eastern end of the station. The foundations of the footbridge would also take space away from the existing station car park, as well as the foreshore of Lough Mahon. If the MIAS was to be installed in this location, small platform extensions would be required on both platforms to be able to accommodate the lift shafts on the platforms. As a result of this work, a small number of additional associated tasks would need to be undertaken, with new platform ramps and fences marking the end of the public area of the platform.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Glounthaune station has been discounted before the proposed alterations were considered as part of the PBC.

Option D – improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Glounthaune station has been discounted before the proposed alterations were considered as part of the PBC.

Rushbrooke (detailed design completed during years 1-5)

Current context

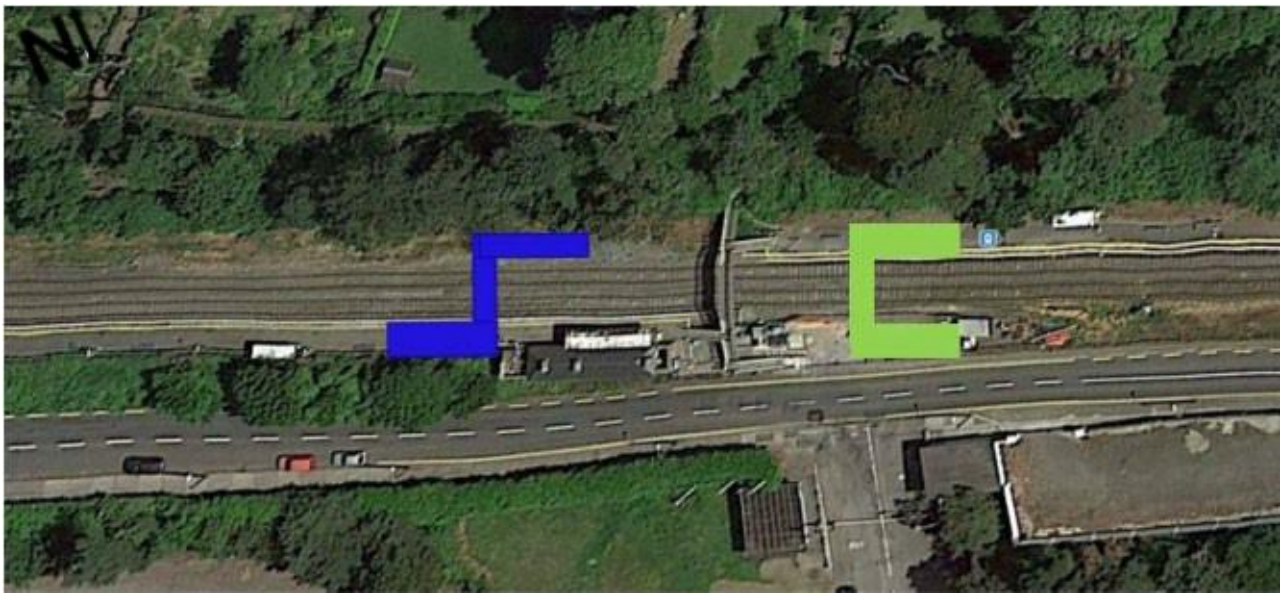
Rushbrooke is located in the town of Rushbrooke, County Cork, adjacent to the Rushbrooke Commercial Park. The station is on the Cork commuter rail network, with trains running from Mallow to Cobh.

The station has two platforms which are connected by a S-shaped footbridge with steps but no accessible provision that would provide step free access to both platforms. A ramp from the R624 at the front of the station provides step free access to platform 2 (for trains to Cork) but no access is possible to platform 1 (for trains towards Cobh). Passengers with reduced mobility who wish to board or alight trains from platform 1 must travel to the next accessible station along the line and then return to Rushbrooke on the other platform. Despite the step free access being available to platform 2, the station is likely to get limited use by persons with reduced mobility, as the station has no car park and a pedestrian route to the station would require most potential passengers to walk at least 400m via a road bridge to the nearby houses. A shorter pedestrian route is available to platform 1 but this does not provide step free access to the station. The station is unstaffed, but tickets can be purchased from a ticket machine on platform 2.

Proposed alterations

The scope of proposed development at Rushbrooke station comprises the instillation of a MIAS between platforms 1 and 2 at the station, along with associated works. The MIAS will be a footbridge with two sets of staircases and lift shafts that connect the platforms to the walkway across the tracks. In addition, associated works will include upgrading the access ramp to platform 1, completing platform modifications, installing help points on both platforms and upgrading station signage, lighting, and waiting areas. As part of the preliminary design work for Rushbrooke station, two footbridge options were considered as shown in Figure B-11. Discussion of the two options follows the figure.

Figure B-11: Proposed location of new MIAS at Rushbrooke station



Option B1 - compliance option 1 - blue

Compliance option 1 proposal is that a S-shaped footbridge would be installed halfway down platform 1, to the west of the existing station building. This location was considered as a viable option as space was available for the installation of the footbridge on Platform 1 as well as on the opposite side of the tracks. Additionally, the access/egress points for the footbridge are located on the platform itself rather than close to the station entrance and the live traffic on the R624.

However, this option would have required an extension to platform 2 to meet the footbridge, as well as moving a new GSMR mast, which has been given planning permission to be installed in the area opposite platform 1. This means that a large amount of facilitating work would be required to be able to create suitable conditions for the new footbridge to be installed. Additionally, the existing footbridge between Platforms 1 and 2 would have to be removed to facilitate the extension to Platform 2. This footbridge cannot be removed, as it is a public access route connecting the Rushbrooke Commercial Park to the rest of the town to the north of the railway station.

Option B2 - compliance option 2 - green

Compliance option 2 would see a footbridge installed at the western end of the existing Platform 2, meaning no platform extension would be required for this option. The foundations for the footbridge on the southern side of the station would be placed in an existing IÉ maintenance access area directly to the east of the existing station entrance. As IÉ already owns this land no additional land would need to be purchased for the footbridge to be installed in this location. However, IÉ would need to relocate their maintenance access to the railway as this space would be taken up by the new footbridge. One concern associated with this option is that the access point on the southern side of the station would be located close to the R624 which runs directly past the station. This means that passengers would exit the station and footbridge directly onto the side of the road and potentially into oncoming traffic.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Rushbrooke station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

In addition to the compliance options identified for Rushbrooke station, an additional improved local multi-modal access intervention has been proposed to improve access from residential areas to Rushbrooke station. The intervention proposes modifying an existing footpath, connecting from the existing footbridge at Rushbrooke station to Prospect Villas. The modifications will include regrading and resurfacing the footpath to make a new 130m long access pathway, allowing step-free access to Platform 1 and the station from the north-east, rather than step-free access to the station only being available from R624 and the south of the station.

Due to the gradient of the slope, some retaining elements and switchback ramps may be required to make the ramp more accessible. However, the access pathway will not achieve full compliance with the Building Regulation Part M requirements for an accessible ramp. Additionally, due to the location and length of the new ramp, the ramp would extend beyond the edge of the station boundary and into land not owned by IE. This would mean that additional land would need to be purchased to develop the option, as well as permission being required to be able to make the modifications.

Longford (detailed design completed during years 1-5)

Current context

Longford station is located in the centre of the town of Longford, County Longford. The station is on the Dublin Connolly to Sligo line, with a small number of peak hour services terminating at the station before returning to Dublin.

The station has two platforms which are connected by a footbridge located at the western end of the station. The footbridge is inaccessible to persons of reduced mobility. However, both platforms could be accessible, with platform 1 accessible via a ramp from the station car park and platform 2 accessible via a lift from the

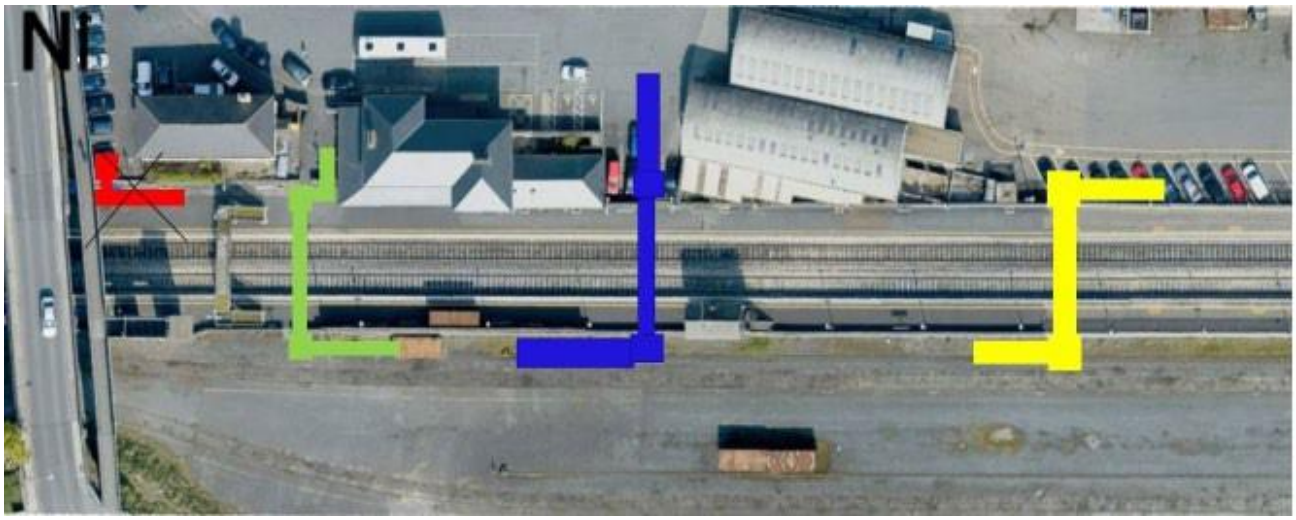
Sráid an larla road bridge which lies at the western end of the station. While the lift structure on the Sráid an larla road bridge remains in place, this structure is not currently operational, meaning that step-free access to platform 2 could be limited.

The station has a small car park with 27 standard spaces and 2 accessible parking bays. The station has previously had a staffed ticket office, but this is currently closed with ticket machines available for purchasing tickets. The ticket machines are accessible for wheelchair users.

Proposed alterations

The scope of proposed development at Longford station comprises the installation of a MIAS between platforms 1 and 2. The MIAS will be a footbridge with two staircases and lift shafts connecting the platforms and station car park to the overbridge. Additional associated works include car park modifications and the installation of a pick-up/set-down area, installation of help points on both platforms and upgrades to the station access routes, signage, waiting areas, ticket office and toilet facilities. As part of the preliminary design phase, three MIAS options were considered for Longford station as shown in Figure B-12. Outlines of each option follows the figure.

Figure B-12: Proposed location of new MIAS at Longford station



Option B1 - compliance option 1 - blue

Compliance option 1 would see a new footbridge located close to the centre of the platforms, with access from the station car park located in the space between the main station building and the Bus Éireann depot located directly next to it. The location would be potentially suitable for the installation of the footbridge as the space around platform 1 is wide enough to accommodate the foundations for the new bridge. A small number of car parking spaces on the eastern side of the station building would have to be removed but the location would have minimal impact on the car park. Additionally, the location is close to the station drop-off area, making it suitable for passengers with reduced mobility to access the MIAS.

However, placing the footbridge in the proposed location for option 1 has the potential to restrict access to the Bus Éireann depot located adjacent to the proposed access point for Platform 1. During the construction phase, the Bus Éireann depot would have to be closed, or access restricted, meaning that bus services in the Longford area would be restricted. This means that option 1 is considered less favourable, as this could have a negative impact on the profitability of Bus Éireann services, and wider public transport in the Longford area. Additionally, the foundations for the lift shaft and stairs for Platform 2 would be located in the existing marshalling yard which is located adjacent to the platform. This marshalling yard is still in use, meaning that train movements may have to be adjusted during the construction and operational phases of the project, with track work required to create the space required for the project.

Option B2 - compliance option 2 - green

Compliance option 2 is located towards the Western end of the station, with the access from Platform 1 and the station car park being located directly to the west of the main station building. As outlined in option 1, the Platform 1 is wide enough for the installation of the new footbridge. Part of the installation of the new footbridge in this location would require the relocation of the station bike stores which are located next to

Platform 1 and the main station building. This would increase the cost of the installation in this location, as the existing bike shed would have to be demolished, and an alternative provided as part of the work to install the footbridge.

As with option 1, a footbridge installed in this location would have some impact on the marshalling yard located to the south of Platform 2. How this potential impact is managed would need to be considered if this option is selected. Additionally, the proposed location of option 2 is close to protected structures at the station, meaning that any new structures in this area would be likely to have a visual or physical impact on these protected structures.

Option B3 - compliance option 3 - yellow

Compliance option 3 would place a footbridge at the eastern end of the platforms. The location of option 3 is the potential option located furthest away from protected structures at the station. Additionally, the location has the greatest working space for construction traffic during the installation of Platform 1 footings for the bridge. This is because the new footbridge would be located within the existing Bus Éireann car park, on land owned by Iarnrod Éireann. With agreement from Bus Éireann this space could be used by IÉ during the construction phase for the storage and movement of plant and materials.

Once operational, the footbridge would be the least accessible, as the Platform 1 access would be the other side of the Bus Éireann depot from the car park and pick-up/set-down point. Access to the footbridge would have to be agreed with Bus Éireann, and a new permanent route identified for passengers to use. As has been noted with options 1 and 2, a marshalling yard is located directly to the south of Platform 2, this means that the yard is likely to have to be modified because of the new footbridge being installed at the station.

Option C - enhanced changing places

In addition to the proposed compliance options at Longford station, an enhanced changing places intervention has been proposed for the station. This intervention would mean that a new compliant changing places facility would be constructed alongside other compliance interventions at the station, with new facilities installed in the existing station building. The additional facilities would improve services at the station for Iarnrod Éireann, but would not improve compliance at the station, as the policy requirements would be met through the compliance options being considered for the station.

Option D - improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Longford station has been discounted before the proposed alterations were considered as part of the PBC.

Arklow (detailed design completed during years 1-5)

Current context

Arklow station is located in the centre of the town of Arklow, County Wicklow. The station is served by services on the Dublin Connolly to Wexford/Rosslare Europort route.

The station has two platforms which are connected by a footbridge with steps but no accessible provision that would provide step free access to both platforms. The footbridge is located approximately halfway along the station platform to the south of the existing station building. Level access is available to platform 1, which allows passengers to board southbound services but platform 2 is inaccessible to passengers with reduced mobility. This means that these passengers are unable to board services travelling northbound through the station. The station has a large car park with 125 standard spaces and 9 accessible parking bays. The station is staffed between 05:30 and 21:00 and has a ticket office and toilet facilities which are available for passengers. Additionally, the station also has ticket machines which are accessible for wheelchair users.

Proposed alterations

The scope of proposed development at Arklow station comprises the addition of a MIAS between platforms 1 and 2 at the station, along with associated works. The MIAS will be a footbridge, with two flights of stairs and two lift shafts creating a link between the platforms and the overbridge. Additionally, associated works will

include car park modifications and the installation of a new pick-up/set-down area, the installation of help points on both platforms and upgrades to station signage, waiting areas and toilet facilities. During the preliminary design process, two potential MIAS options have been considered shown in Figure B-13.

Figure B-13: Proposed location of new MIAS at Arklow station

Option B1 - compliance option 1 - blue

Compliance option 1 would lead to a new footbridge being installed towards the southern end of the station, making use of an existing siding/maintenance area located adjacent to Platform 1. Option 1 is located close to the existed disabled parking spaces at the station and near space which could also be used for a new pick-up/set-down area. No land take is required at the station as IÉ owns the land surrounding both platforms. The new compliance option 1 footbridge would be built on a IÉ siding/maintenance area adjacent to Platform 1 and in existing space behind Platform 2. However, access would have to be provided by Tesco during the construction phase to allow access to the area behind Platform 2.

If option 1 was taken forward, the station entrance may have to be redesigned to make the footbridge more accessible, as the current station entrance and ticketing facilities are located a distance away from the proposed footbridge location. This reduces the accessibility of the option.

Option B2 - compliance option 2 - green

Compliance option 2 would see a new S-shaped footbridge installed towards the northern end of the platforms. It is located close to the existing station entrance and accessible parking spaces, making it a good option for passengers with reduced mobility. IÉ owns the land that would be required for the construction of the bridge. However, compared to compliance option 1, the space available is more limited, especially in the area adjacent to Platform 1. As is the case with compliance option 1, IÉ would need to agree access arrangements with Tesco to be able to construct the footbridge in the area adjacent to Platform 2.

The location of the proposed option 2 footbridge is located close to existing protected structures at the station. It has been identified that the construction of a footbridge in this location is likely to have a significant visual impact on the remainder of the station. Additionally, due to the restricted space available on Platform 1, this could leave to service alterations being required during the construction phase, to ensure that the site is safe.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Arklow station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

A proposal for a programme option D intervention at Arklow station has been discounted before the proposed alterations were considered as part of the PBC.

Wicklow (detailed design completed during years 1-5)

Current context

Wicklow station is located to the north of Wicklow, County Wicklow. The station is on the Dublin Connolly to Wexford/Rosslare Europort line.

The station has two platforms connected by a footbridge with steps but no accessible provision that would provide step free access to both platforms. Level access is available to platform one on the southern side of the station but platform 2 can only be accessed by the footbridge. This means that trains stopping platform 2 are not accessible for passengers with reduced mobility. The station has a car park with 64 standard spaces and 4 accessible bays. The station is staffed throughout the day, with a ticket office and toilet facilities. Additionally, there are two ticket machines next to the station entrance which are accessible to wheelchair users.

Proposed alterations

The scope of proposed development at Wicklow station comprises the installation of a MIAS between platforms 1 and 2 at the station, along with associated works. Associated works will include car park modifications and the installation of pick-up/set-down areas, the installation of help points on both platforms and upgrades to station access routes, signage, waiting areas, ticket office and toilet facilities.

The new MIAS at Wicklow station is being combined with wider work on the Wicklow Port Access Road (WPAR) Link. The WPAR Link project will provide access between the Wicklow Port Access Road and East Glendalough School and Wicklow station. At this time, preliminary design work is being undertaken for the project, with current proposals suggesting that a new active travel corridor will run over a bridge to the west of the existing station buildings in line with the end of Station Road. Staircases and lifts would be added to the new bridge, providing access from the overbridge to the platforms below.

Figure B-14 shows the option which would be considered in the absence of the WPAR scheme (blue) and the current proposed design as part of WPAR (green).

Figure B-14: Proposed location of new MIAS at Wicklow station

Option B1 - compliance option 1 - blue

Compliance option 1 would deliver a new footbridge and lifts installed near the centre of the platforms, but to the east of the existing footbridge and station building at Wicklow station, along with wider interventions required to achieve accessibility compliance. The footbridge would be located near the existing station access and accessible parking spaces, making it easily accessible for passengers looking to use the station. Compliance option 1 would be fully delivered by IÉ through the station accessibility programme, with the footbridge being independent of the wider WPAR scheme being developed in the area around Wicklow station.

There is available space for the foundations of the footbridge in the area around Platform 1, but due to the topography of the area behind Platform 2, additional work would have to be undertaken to remove trees and shrubs from behind the existing platform to accommodate the installation of the new footbridge.

Option B2 - compliance option 2 - green

Compliance option 2 would deliver the wider interventions required to achieve accessibility compliance through the Station Accessibility Programme, while the new MIAS at the station would be delivered as part of the WPAR project. The WPAR project plans to deliver a new overbridge that will provide improved active travel links to and from Wicklow station and the surrounding area. The bridge will be larger than a standard footbridge being delivered at other stations as part of the Station Accessibility Programme but would still provide step free access to both platforms at the station.

The plans for the footbridge are based upon a remodelled design of an expanded car park linking the expanded car park to the south of the station with the northern side station. Access to the bridge would replace the existing accessible parking spaces and station access. WPAR is being promoted by Wicklow County Council and looks to give local residents improve active travel access to a proposed terminal off the port road. As part of the scheme a new footbridge will be installed providing improved active travel links around the station, as well as creating a new car park to the north of the station.

Option C - enhanced changing places

A proposal for an enhanced changing places intervention at Wicklow station has been discounted before the proposed alterations were considered as part of the PBC.

Option D - improved local multi-modal access

A proposal for an improved local multi-modal access intervention at Wicklow station has been discounted before the proposed alterations were considered as part of the PBC.

Appendix C:
Cashflow tables

Appendix C1: Financial Cash Flow

[.xlsm templates provided separately]

Appendix C2: Exchequer Cash Flow

[.xlsm templates provided separately]

Appendix D:
Transport & Accessibility Appraisal (TAA)

Appendix D1: TAA tables for Programme Options

[separate PDF document]

Option	Intervention
A	Option A: Do nothing/counterfactual
B	Option B: Compliance option
C	Option C: Enhanced changing places (includes 'B' measures)
D	Option D: Improved local multi-modal access (includes 'B' & 'C' measures where applicable)

Appendix D2: TAA summaries for Years 1-5 Stations

Station		TAA for Option...		
		B	C	D
Dalkey	Full Delivery (2022)	✓	-	-
Gormanston	Full Delivery (2022)	✓	-	-
Little Island	Full Delivery (2023)	✓	-	✓
Banteer	Full Delivery (2024)	✓	-	✓
Rathmore	Full Delivery (2024/2025)	✓	-	-
Athy	Full Delivery (2025)	✓	-	✓
Rathdrum	Full Delivery (2025)	✓	-	-
Maynooth	Full Delivery (2025)	✓	-	-
Boyle	Full Delivery (2025/2026)	✓	-	✓

Dalkey

SUMMARY OF OPTIONS			Option B		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive		
		Hospitals & healthcare	Slight Positive		
		Transport hubs & interchange	Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A		
	Freight Access	Freight Facilities change	N/A	N/A	
		LGV access to urban centres	N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive
		Access to schools	N/A		
		Access to healthcare facilites	N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive	
		Compliance with regulations	Positive	Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive		
		Change in CO2 emissions	Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Slight Negative	Slight Negative	

Gormanston

SUMMARY OF OPTIONS			Option B		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive		
		Hospitals & healthcare	Slight Positive		
		Transport hubs & interchange	Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A		
	Freight Access	Freight Facilities change	N/A	N/A	
		LGV access to urban centres	N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive
		Access to schools	N/A		
		Access to healthcare facilites	N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive	
		Compliance with regulations	Positive	Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive		
		Change in CO2 emissions	Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Slight Negative	Slight Negative	

Little Island

SUMMARY OF OPTIONS			Option B			Option D		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive			Slight Positive		
		Hospitals & healthcare	Slight Positive			Slight Positive		
		Transport hubs & interchange	Slight Positive			Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive			Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A			N/A		
	Freight Access	Freight Facilities change	N/A	N/A		N/A	N/A	
		LGV access to urban centres	N/A			N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive	N/A	N/A	Positive
		Access to schools	N/A			N/A		
		Access to healthcare facilites	N/A			N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive		High Positive	High Positive	
		Compliance with regulations	Positive	Positive		High Positive	High Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive	Positive	Positive	Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive		High Positive	High Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral		Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive			Slight Positive		
		Change in CO2 emissions	Slight Positive			Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral		Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Slight Negative	Slight Negative		Slight Negative	Slight Negative	

Banteer

SUMMARY OF OPTIONS			Option B			Option D		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive			Slight Positive		
		Hospitals & healthcare	Slight Positive			Slight Positive		
		Transport hubs & interchange	Slight Positive			Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive			Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A			N/A		
	Freight Access	Freight Facilities change	N/A	N/A		N/A	N/A	
		LGV access to urban centres	N/A			N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive	N/A	N/A	Positive
		Access to schools	N/A			N/A		
		Access to healthcare facilites	N/A			N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive		High Positive	High Positive	
		Compliance with regulations	Positive	Positive		High Positive	High Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive	Positive	Positive	Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive		High Positive	High Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral		Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive			Slight Positive		
		Change in CO2 emissions	Slight Positive			Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral		Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Slight Negative	Slight Negative		Slight Negative	Slight Negative	

Rathmore

SUMMARY OF OPTIONS			Option B		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive		
		Hospitals & healthcare	Slight Positive		
		Transport hubs & interchange	Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A		
	Freight Access	Freight Facilities change	N/A	N/A	
		LGV access to urban centres	N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive
		Access to schools	N/A		
		Access to healthcare facilites	N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive	
		Compliance with regulations	Positive	Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive		
		Change in CO2 emissions	Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Slight Negative	Slight Negative	

Athy

SUMMARY OF OPTIONS			Option B			Option D		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive			Slight Positive		
		Hospitals & healthcare	Slight Positive			Slight Positive		
		Transport hubs & interchange	Slight Positive			Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive			Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A			N/A		
	Freight Access	Freight Facilities change	N/A	N/A		N/A	N/A	
		LGV access to urban centres	N/A			N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive	N/A	N/A	Positive
		Access to schools	N/A			N/A		
		Access to healthcare facilites	N/A			N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive		High Positive	High Positive	
		Compliance with regulations	Positive	Positive		High Positive	High Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive	Positive	Positive	Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive		High Positive	High Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral		Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive			Slight Positive		
		Change in CO2 emissions	Slight Positive			Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral		Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Slight Negative	Slight Negative		Slight Negative	Slight Negative	

Rathdrum

SUMMARY OF OPTIONS			Option B		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive		
		Hospitals & healthcare	Slight Positive		
		Transport hubs & interchange	Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A		
	Freight Access	Freight Facilities change	N/A	N/A	
		LGV access to urban centres	N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive
		Access to schools	N/A		
		Access to healthcare facilites	N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive	
		Compliance with regulations	Positive	Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive		
		Change in CO2 emissions	Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Neutral	Neutral	

Maynooth

SUMMARY OF OPTIONS			Option B		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive		
		Hospitals & healthcare	Slight Positive		
		Transport hubs & interchange	Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A		
	Freight Access	Freight Facilities change	N/A	N/A	
		LGV access to urban centres	N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive
		Access to schools	N/A		
		Access to healthcare facilites	N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive	
		Compliance with regulations	Positive	Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive		
		Change in CO2 emissions	Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Neutral	Neutral	

Boyle

SUMMARY OF OPTIONS			Option B			Option D		
Criteria	Sub-Criteria	Indicator	Indicator Score	Sub-Criteria Score	Criteria Score	Indicator Score	Sub-Criteria Score	Criteria Score
Accessiblity	Access to Services	Urban Centres	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Schools & educational	Slight Positive			Slight Positive		
		Hospitals & healthcare	Slight Positive			Slight Positive		
		Transport hubs & interchange	Slight Positive			Slight Positive		
	Access to Recreational Facilities	Parks and playgrounds	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Sports clubs and facilities	Slight Positive			Slight Positive		
	Access to jobs	Access to jobs	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Access to International Transport Gateways	Change in PT access	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
		Change in HGV/LGV access	N/A			N/A		
	Freight Access	Freight Facilities change	N/A	N/A		N/A	N/A	
		LGV access to urban centres	N/A			N/A		
Social Impacts	Impact on deprived groups	Access to urban centres	N/A	N/A	Positive	N/A	N/A	Positive
		Access to schools	N/A			N/A		
		Access to healthcare facilites	N/A			N/A		
	Transport users with different mobility needs	Scheme facilities	Positive	Positive		High Positive	High Positive	
		Compliance with regulations	Positive	Positive		High Positive	High Positive	
	Gender Impacts	Scheme facilities	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
Land Use Impact	Public Realm	Scheme details	Positive	Positive	Slight Positive	Positive	Positive	Positive
	Connectivity with existing public transport facilities	Scheme details	Positive	Positive		High Positive	High Positive	
	Connection to zoned lands (national & regional planning)	Scheme details	Neutral	Neutral		Neutral	Neutral	
Safety Impact	Safety Impact	Safety assessment	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Climate Change	Climate Mitigation	Mode share to PT/active travel	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
		Private car kms travelled	Slight Positive			Slight Positive		
		Change in CO2 emissions	Slight Positive			Slight Positive		
	Climate Adaptation	Climate hazard assessment	Neutral	Neutral		Neutral	Neutral	
Local Environmental Impact	Air Quality	Overall air quality impact	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive	Neutral
	Noise and Vibration	Scheme details	Slight Positive	Slight Positive		Slight Positive	Slight Positive	
	Biodiversity	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Water Resources	Scheme details	Neutral	Neutral		Neutral	Neutral	
	Landscape and Visual Quality	Scheme details	Neutral	Neutral		Neutral	Neutral	

Appendix D3: TAA tables for Years 1-5 Stations

[separate PDF document]

Station		TAA for Option...		
		B	C	D
Dalkey	Full Delivery (2022)	✓	-	-
Gormanston	Full Delivery (2022)	✓	-	-
Little Island	Full Delivery (2023)	✓	-	✓
Banteer	Full Delivery (2024)	✓	-	✓
Rathmore	Full Delivery (2024/2025)	✓	-	-
Athy	Full Delivery (2025)	✓	-	✓
Rathdrum	Full Delivery (2025)	✓	-	-
Maynooth	Full Delivery (2025)	✓	-	-
Boyle	Full Delivery (2025/2026)	✓	-	✓

Appendix E:
Programme Options Multi-Criteria Analysis (MCA) Proformas

Appendix E: MCA for Programme Options

Programme Objectives

Objective	Summary
Primary Objective	Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner, for completion by 2034.
Secondary Objectives	Improve customer experience at stations in the programme, in line with the IÉ implementation plan.
	Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers;
	Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems.
	Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents.

Programme Options

Option	Intervention
A	Option A: Do nothing/counterfactual
B	Option B: Compliance option
C	Option C: Enhanced changing places (includes 'B' measures)
D	Option D: Improved local multi-modal access (includes 'B' & 'C' measures where applicable)

Scoring mechanism

TAF Scoring Mechanism		TAF description	Station Accessibility Programme Interpretation
7	Highly Positive	The option is likely to significantly improve conditions in the relevant criteria.	Significant positive contribution to / alignment with the objective
6	Positive Impact	The option is likely to improve conditions in the relevant criteria.	Positive contribution to / aligned with the objective
5	Low Positive	The option is likely to somewhat improve conditions in the relevant criteria.	Somewhat positive contribution to / aligned with the objective
4	Neutral Impact	The option will result in no changes to conditions in the relevant criteria.	No contribution to / alignment with the objective
3	Low Negative	The option is likely to somewhat worsen conditions in the relevant criteria.	Somewhat negative contribution / alignment with the objective
2	Negative Impact	The option is likely to worsen conditions in the relevant criteria.	Negative contribute to / alignment with the objective
1	Highly Negative	The option is likely to significantly worsen conditions in the relevant criteria.	Significant negative contribution to / alignment with the objective

Table E-1: Station Accessibility Programme: Programme Options MCA - scores

Option & intervention		MCA Scoring Objectives						Total Score
		Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner, for completion by 2034	Improve customer experience at stations in the programme, in line with the IÉ implementation plan;	Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers	Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems	Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents	Deliverability	
A	Do nothing	1	1	2	2	1	4	11
B	Compliance ('B' measures) "	6	6	5	5	6	4	32
C	Enhanced changing places (incl. 'C' measures, plus 'B' measures)	7	7	6	6	7	4	37
D	Improved local multi-modal access (incl. 'D' measures, plus 'B' measures, plus 'C' measures where applicable)	5	7	7	7	7	2	35

Table E-2: Station Accessibility Programme: Programme Options MCA - justification

Option & intervention		MCA Scoring Objectives					
		Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner, for completion by 2034	Improve customer experience at stations in the programme, in line with the IÉ implementation plan;	Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers	Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems	Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents	Deliverability
A	Do nothing	Although there is no change in provision, continuation of the counterfactual is considered to be significantly misaligned with the objective	Although there is no change in provision, continuation of the counterfactual is considered to be significantly misaligned with the objective	Continuation of the reference case will negatively impact mobility impaired passengers	Reference case will negatively impact mobility impaired passengers and their continued reliance on cars	Continuation of the reference case will negatively impact mobility impaired passengers' safety	No delivery risks, as no capital costs are being incurred / no new assets being delivered.
B	Compliance ('B' measures) "	Achieves compliance with the core regulation only in cost effective manner	Will improve customer experience	Improvements at the stations would somewhat increase the attractiveness of rail as a primary mode of travel for all groups, including mobility impaired passengers	Improvements at the stations would somewhat increase the attractiveness of rail as a primary mode of travel for all groups, including mobility impaired passengers	Improvements at the stations would improve safety of mobility impaired passengers	Costs for managing most risks for delivering the option are included within the expenditure profile. Interventions to be delivered within the stations' red line boundaries.
C	Enhanced changing places (incl. 'C' measures, plus 'B' measures)	Achieves compliance with all regulations / requirements in most cost effective manner	Will significantly improve customer experience at the station	Improvements at the stations would increase the attractiveness of rail as a primary mode of travel for all groups, including mobility impaired passengers	Improvements at the stations would increase the attractiveness of rail as a primary mode of travel for all groups, including mobility impaired passengers	Improvements at the stations would significantly improve safety of mobility impaired passengers	Costs for managing most risks for delivering the option are included within the expenditure profile. Interventions to be delivered within the stations' red line boundaries.

Option & intervention		MCA Scoring Objectives					
		Achieve compliance with accessibility regulations at stations in the Station Accessibility Programme in the most cost-effective manner, for completion by 2034	Improve customer experience at stations in the programme, in line with the IÉ implementation plan;	Improve accessibility to jobs, education, and other social and economic opportunities through the provision of improved rail service accessibility for mobility impaired passengers	Reduce mobility impaired passengers' reliance on cars, which will in turn contribute to reductions in congestion and supports transition to low emissions transport systems	Improve safety at Iarnród Éireann stations; providing improved infrastructure for persons with disabilities and persons with reduced mobility which reduces the risk of accidents	Deliverability
D	Improved local multi-modal access (incl. 'D' measures, plus 'B' measures, plus 'C' measures where applicable)	Achieves compliance with the regulation in least cost effective manner, as the option aims to deliver much more than compliance with regulation	Will signifcantly improve customer experience at the station	Improved multi-modal access to the stations, along with improvements at the stations, would increase the attractiveness of rail as a primary mode of travel for all groups, including mobility impaired passengers	Improved multi-modal access to the stations, along with improvements at the stations, would increase the attractiveness of rail as a primary mode of travel for all groups, including mobility impaired passengers	Improvements at the stations would significantly improve safety of mobility impaired passengers	Notable residual delivery and funding risks, as interventions include activities outside the redline boundary.

Appendix F:
Multi-Criteria Analysis (MCA) Proformas

Appendix F: MCA for Years 1-5 Stations

[separate PDF document]

Station	Years 1-5 progress
Dalkey	Full Delivery (2022)
Gormanston	Full Delivery (2022)
Little Island	Full Delivery (2023)
Banteer	Full Delivery (2024)
Rathmore	Full Delivery (2024/2025)
Athy	Full Delivery (2025)
Rathdrum	Full Delivery (2025)
Maynooth	Full Delivery (2025)
Boyle	Full Delivery (2025/2026)

Appendix G:
Preferred option NIFTI assessment template

Preferred option NIFTI assessment template

	Decarbonisation	Protection and Renewal	Enhanced Regional and Rural Connectivity	Mobility of People and Goods in Urban Areas
Factors to consider and discuss when assigning scores	Degree to which an option promotes modal shift to sustainable transport modes; Support adoption of EVs and LEVs; Reduce travel demand for private passenger vehicles; and Improve quality of the local environment.	Deliver safety improvements to the existing network; Deliver accessibility improvements to the existing network; Maintain/improve capacity of inter-urban transport networks; and Address infrastructure vulnerability to an identified risk such as those arising from climate change.	Improve journey time and reliability between urban centres; Increase access to jobs, services and leisure, in rural and regional areas; and Improve freight access to markets and ports/airports.	Reduce congestion in urban areas; Enable the efficient movement of people in urban areas; Enable the efficient movement goods in urban areas; and Enable compact growth and reduce the need for need to travel.
Iarnród Éireann - Station Accessibility Programme - preferred option				
Impact Description	The Station Accessibility Programme preferred option has a limited impact on promoting modal shift to sustainable transport modes, as it makes rail travel more accessible, thus encouraging grater use. This doesn't specifically support adoption of EVs and LEVs, but should help reduce demand for private passenger vehicles, which in turn helps to improves quality of the local environment.	The key of the aim Station Accessibility Programme preferred option is to deliver accessibility improvements to the existing network, so this is a strong positive link with this priority. It also has some impact on delivering safety improvements to the existing network. It does not specifically improve the capacity of inter-urban transport networks, but does help them to retain capacity in terms of accessibility for all. The programme is not aimed at addressing infrastructure vulnerability (such as those arising from climate change), but would be designed to do so if any new infrastructure is located in such a location.	By virtue of its enhancement of accessibility at stations, the Station Accessibility Programme preferred option can increase access to jobs, services and leisure, in rural and regional areas for those who currently find it had to use rail to do so. The programme does not improve journey time and reliability between urban centres as such to any degree, nor does it address freight movements.	Through its accessibility improvements at those stations located in urban areas, the Station Accessibility Programme preferred option should help to reduce congestion and assist in enabling the efficient movement of people in those urban areas, in generally making rail stations more accessible, but especially in providing better opportunities for those with more limited mobility to use rail. There is no direct impact on the movement goods in urban areas (other than if congestion is reduced). Enabling compact growth and reducing the need for need to travel are not specifically addressed by the programme.
Impact Score	**Low Positive**	**High Positive**	**Low Positive**	**Low Positive**
Mitigation Description	No mitigation is requried - where applicable the programme supports the aims of this priority	No mitigation is requried - where applicable the programme supports the aims of this priority	No mitigation is requried - where applicable the programme supports the aims of this priority	No mitigation is requried - where applicable the programme supports the aims of this priority
Imapct After Mitigation	**Low Positive**	**High Positive**	**Low Positive**	**Low Positive**