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Shaping the Future:
A Rail Network for Northern Ireland

All Island Strategic Rail Review
Feasibility Studies

Message from Minister of State for Rail

As Minister of State for Rail, I am delighted to introduce this report, which sets out Translink's bold aspirations for the future of the railway network in Northern Ireland.

I am also delighted that the four feasibility studies that underpin this report – undertaken with financial support from my Department – support the vision for UK transport connectivity that I set out in my Union Connectivity Report 2021. This demonstrates the UK Government's commitment to working collaboratively to improve transport connectivity in Northern Ireland and indeed right across the UK.

We all want to deliver on our collective ambition to provide better transport connections that strengthen communities, support economic growth and bring people closer together. The analysis of schemes set out in this report provides a strong evidence base that will guide future decisions and ensure investment delivers real benefits for passengers, businesses and communities. The findings confirm strong demand and technical feasibility, as well as promoting the benefits of improved integration with cross-border services and a shift towards more sustainable travel.

Improved connectivity is about more than just transport, it is about opportunity, inclusion, and progress. Together, we'll work to build stronger, better-connected networks that will serve communities for generations to come.

Lord Hendy of Richmond Hill CBE
Minister of State for Rail
UK Department for Transport

Message from Minister for Infrastructure

The North of Ireland stands at a pivotal moment in its transport journey. The vision set out in this document represents more than just infrastructure, it is a commitment to connecting communities, driving inclusive growth, and building a sustainable future for generations to come.

As Minister for Infrastructure, I am proud to support the ambition to reshape our rail network. The All-Island Strategic Rail Review has provided a bold and transformative roadmap, one that seeks to reconnect regions long underserved, enhance accessibility, and support our shared climate goals. From the reopening of historic lines to the electrification of key corridors, these proposals reflect the scale of our ambition and the depth of our commitment to delivering a modern, integrated transport system.

This vision is not just about trains and tracks, it is about people. It is about ensuring that every citizen, regardless of geography, has access to opportunity, mobility, and connection. It is about supporting economic development, reducing emissions, and fostering regional balance.

The scale of investment required to deliver this vision is substantial, and we are operating within a constrained budget environment. Difficult decisions lie ahead, and prioritisation will be essential. Yet, even in the face of these challenges, we remain committed to progressing this work, maintaining momentum, and securing the partnerships and funding necessary to turn vision into reality.

Together, with Translink and all our stakeholders, we will continue to advocate for the funding and support needed to deliver a rail network that truly serves all the people.

Liz Kimmins MLA
Minister for Infrastructure

Message from Translink Group Chief Executive

Public transport is the backbone of a thriving, inclusive and sustainable Northern Ireland. With over 81 million bus and rail passenger journeys made annually, it plays a vital role in connecting people to places, opportunities and each other.

In partnership with the Department for Infrastructure (DfI), Translink is leading the transformation to shape a modern, sustainable and connected public transport network that meets the needs of today while preparing for tomorrow. The continued growth in rail passenger numbers in recent years reflects increasing public confidence and demand, fuelled by strategic investments such as the landmark Belfast Grand Central Station, new fleet, and new ticketing, but there is more we can do to enhance accessibility, regional connectivity and deliver social, economic and environmental benefits for our communities through growing Northern Ireland's rail network.

The All-Island Strategic Rail Review (AISRR), co-sponsored by DfI, provided a strategic vision for a transformed, sustainable rail network through to 2050. Supported by funding from the Department for Transport (DfT), Translink has completed feasibility studies for a number of key schemes within the AISRR, including re-opening the line between Antrim and Lisburn, restoring rail from Portadown to Armagh, a new intercity route from Portadown to the North-West as well as electrification of the Belfast–Border corridor. This document sets out the key findings, ongoing work and next steps for each.

The work to date has been invaluable as a critical catalyst for change. Further funding will be required to build on this work and maintain momentum on these strategic schemes.

Chris Conway
Group Chief Executive
Translink

Introduction

Translink is Northern Ireland's public transport provider. Operating within a public service agreement with the Department for Infrastructure (DfI), Translink currently serves more than 81 million passenger journeys each year.

Our mission is to lead the transformation of transport in Northern Ireland. We will create the advanced public transport services and integrated networks which connect people and communities, enhance the economy and improve health and the environment.

Through our Better. Connected strategy, Translink aims to create and deliver an integrated transport network that makes everyday mobility simpler and more inclusive, improving access to work, education, healthcare, shopping, sport, leisure, and social activities for communities across Northern Ireland.

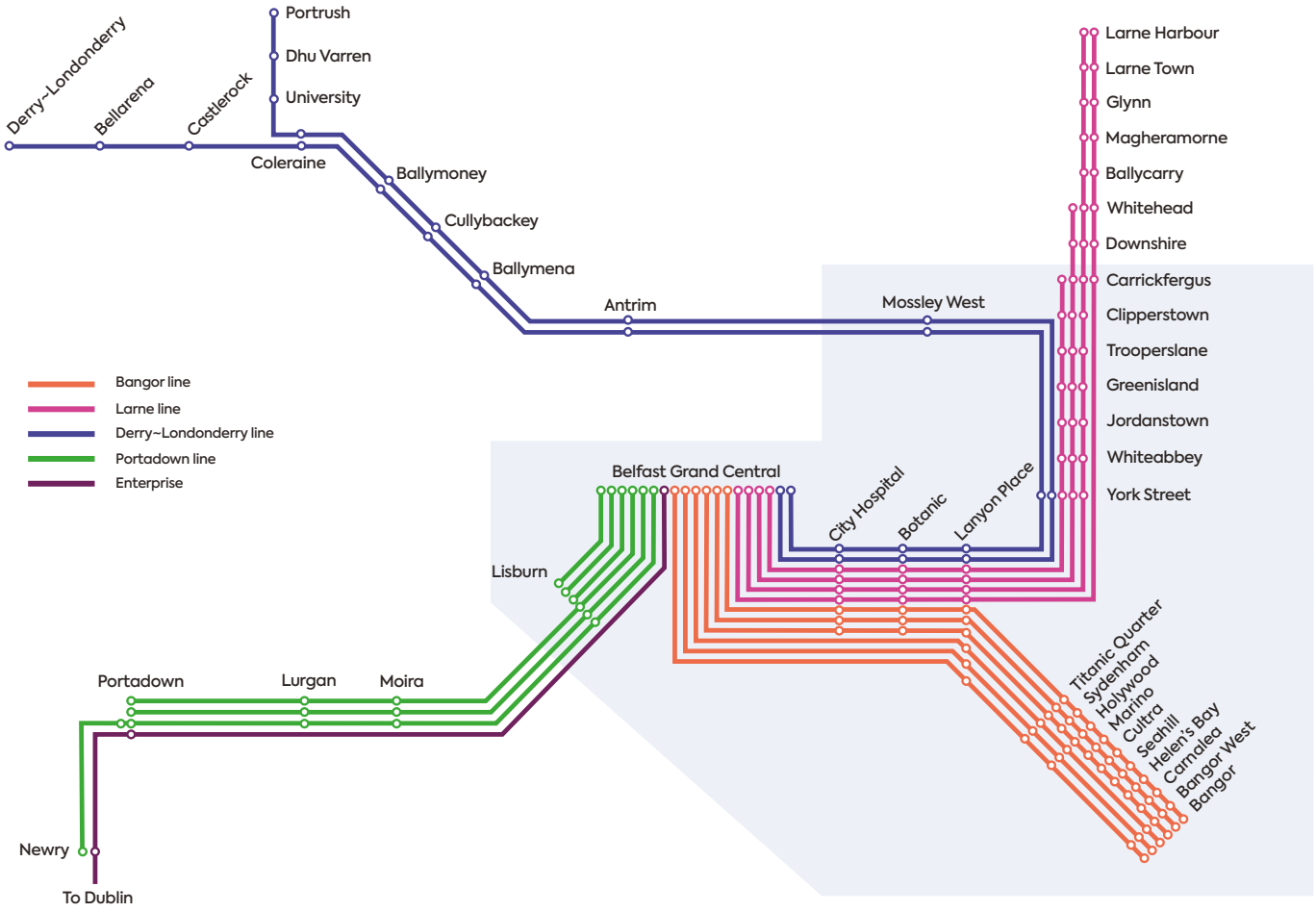
The rail network has seen significant investment in recent years. Improved capacity in a modern, expanded fleet, upgrades to infrastructure and passenger facilities, enhanced service offerings and the use of modern technologies such as contactless ticketing have made public transport a more attractive choice for many.

Passenger numbers across the rail network have rebounded strongly post-pandemic, with demand growing further following the opening of Belfast Grand Central Station and the launch of an hourly Belfast–Dublin rail service in 2024 boosting passenger numbers by over 40% on this route alone. Approximately 15 million journeys are forecast across the rail network in 2025-26.

Further investment in the rail network will be required in the coming years to improve our fleet and infrastructure, improve technology and operate enhanced services. This will support sustained growth and the development of an integrated, accessible network meeting the future needs for our communities, the economy and the environment.

The Case for Change

Current Network - Peak Service



Northern Ireland's current rail network covers more than 200 route miles, serving 54 stations and halts.

The extent of the rail network today reflects the impact of widespread line closures in the 1950s and 1960s, that disconnected many communities from the rail network.

The current service pattern in peak periods is shown above. The Belfast to Dublin 'Enterprise' service is jointly operated with Irish Rail.

All Island Strategic Rail Review

The 2024 All-Island Strategic Rail Review (AISRR), co-sponsored by the Department for Infrastructure (DfI) and the Department of Transport (DoT), set out a strategic vision for the development of the island's rail network through to 2050.

The AISRR explored how rail can:

- Support the decarbonisation of transport
- Enhance connectivity between major cities
- Improve regional accessibility
- Promote balanced regional development
- Foster economic activity

The review recommended a range of interventions in the short, medium and long term which, if implemented, are expected to double the number of journeys undertaken by rail.

The vision for the rail network in Northern Ireland is particularly transformational. The proposals would see the network grow by over 40%, reconnecting regions to the network, particularly in the west and significantly improve connectivity and accessibility.

Please note: This is an indicative artistic interpretation of the recommendations presented within this document. The pathways delineated on this illustration are conceptual in nature and should not be interpreted as a precise or literal depiction of potential routes or route corridors.

AISRR Future Network Vision

The Hendy Review

The Hendy Review, published in late 2021 supported the AISRR's goals. Specifically, it proposed improving connections to the north-west, Northern Ireland's airports and to explore the case to re-open railway lines across Northern Ireland.

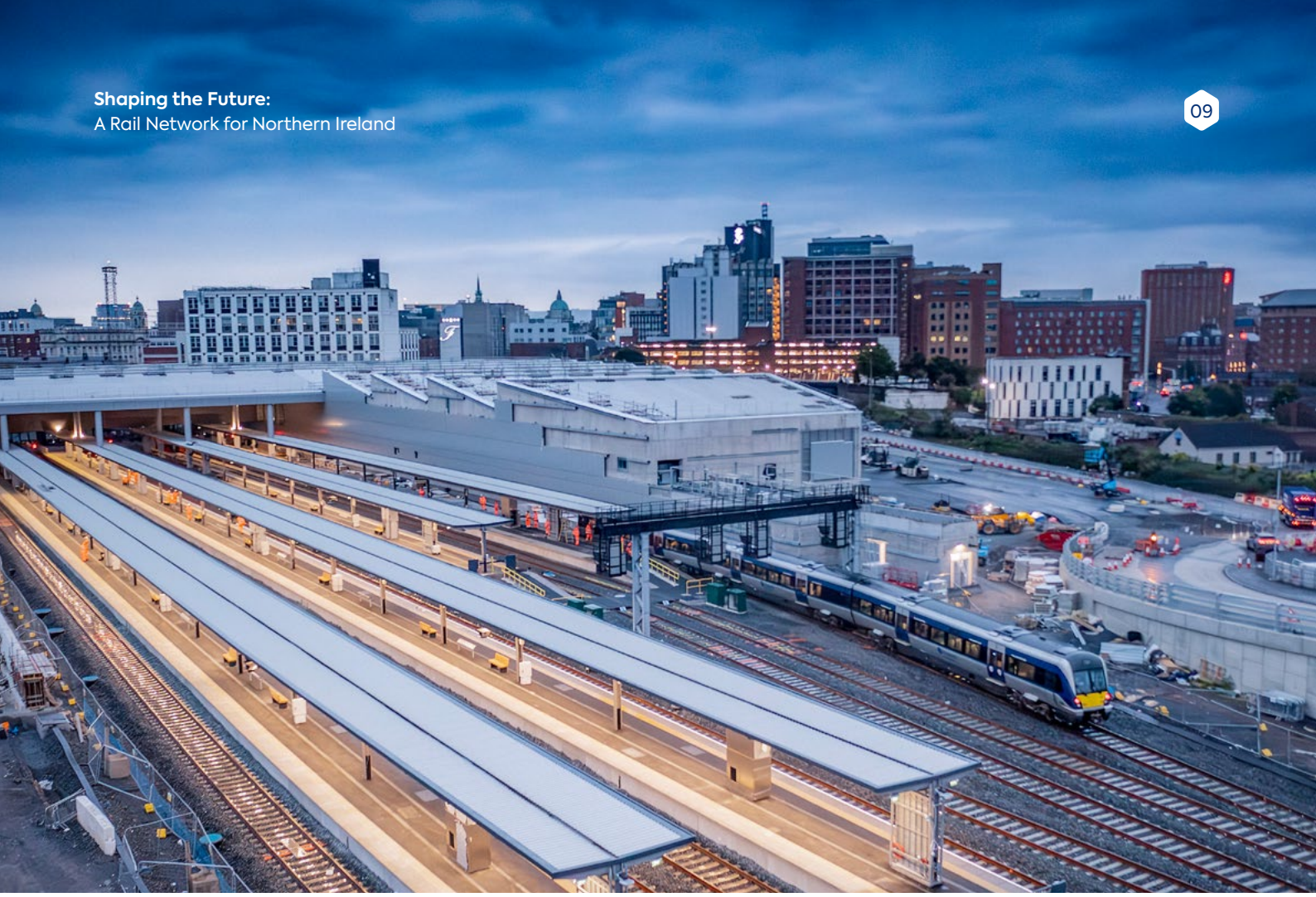
Supported by funding from The Department for Transport, Translink has been able to undertake feasibility studies on four key projects that were recommended in the AISRR for implementation in the short to medium-term:

- Re-opening the Antrim–Lisburn line with a link to Belfast International Airport
- Restoring the Portadown–Derry~Londonderry line with stations at Dungannon, Omagh and Strabane~Lifford
- Restoring the Portadown–Armagh line
- Electrification Phase 1 - Belfast - Border route

The future rail network vision for Northern Ireland reflective of the four projects and work completed to date, is shown below.

Northern Ireland Network Vision

Reflecting the four feasibility studies is shown below.



Study Outcomes

The feasibility studies have been invaluable, allowing us to understand the schemes in more detail and test their viability through technical assessment.

Demand forecasting has confirmed the potential for significant modal shift to rail. Cost estimating has considered both capital investment and costs to operate the new routes. Economic analysis has demonstrated the significant economic, social and environmental benefits that would be delivered for communities across Northern Ireland and set out a strong case for further investment.

In developing the four feasibility studies, consideration has also been given to other network development requirements, including the expansion of fleet to provide greater capacity on the network, and proposed new halts at locations such as Lisburn West, Ballymartin and Belfast City Airport.

Delivering the future network will consider how best to optimise utilisation of the existing network whilst expanding and integrating new routes and services as envisioned in the AISRR.

Further Development - DfI Funding

Upon completion of the DfT studies, DfI has allocated £1m of funding to maintain momentum until the end of 2025/26. This funding will enable priority development tasks to progress, alongside engagement with stakeholders including planning authorities to identify future rail corridors.

An overview of the four feasibility studies are included in the following sections.

1. Re-opening Antrim–Lisburn
2. Portadown–Derry~Londonderry
3. Portadown–Armagh
4. Electrification Phase 1

Re-opening the Antrim to Lisburn Line

Existing Network

Proposed Alignment

New International Airport station

Potential to re-open halts at Crumlin, Glenavy and Ballinderry. New halts also planned at Ballymartin and Lisburn West

Existing stations

New connection to Belfast International Airport

Potential Passenger Journeys
1 million

Potential service frequency
20 minutes

AISRR recommended project be delivered in short-term

Enhance Connectivity and Resilience across Network

Route Assessment

The railway line between Antrim and Lisburn was closed to operational services in 2002. The route from Antrim connecting to the existing network at the proposed Lisburn West halt is approximately 18.5 miles.

Whilst the single-track line has been retained for engineering trains, it is not suitable for passenger services. The study has confirmed that a full track renewal and lineside management is required to bring the infrastructure up to the modern standards to enable a fast, frequent, and modern rail service. Line speeds of up to 90mph are possible.

To operate the desired service frequencies dualling of the track will be required at several locations to allow trains to pass. Our analysis has shown that this is feasible, although full dualling of the route would be challenging due to constraints along the route.

Improvements or alternative access to user worked crossings along the route will be required prior to the re-introduction of passenger services. This could be delivered as part of an enabling package of work.

There is no signalling or telecoms infrastructure along the majority of the route. The project will require the installation of a modern signalling system, integrated with the existing network.

Options for decarbonisation of the line, such as Overhead Line Electrification (OLE), have been considered including their impacts on infrastructure requirements and future rolling stock procurement. The installation of OLE infrastructure would require the replacement or modification of bridges, tunnels and other structures along the line.

Potential Operating Model

A number of potential operating models have been considered. It is expected that services would operate from Belfast Grand Central Station via Lisburn, with up to 3 trains per hour in each direction.

Journey times will be dependent on stopping patterns for stations on the new route and between Lisburn and Belfast.

Demand forecasting indicates a potential 1 million additional journeys per annum would be created by the line's reopening.

International Airport Connection

A rail connection to Belfast International Airport is a key driver for the project, enhancing regional accessibility and supporting more sustainable travel.

The airport is ranked 10th in the UK and 2nd on the island of Ireland for passenger numbers, reinforcing the strategic value of the connection. Whilst the line was not previously connected to the airport, the terminal building is just over 1km from the existing railway.

Several options have been developed within the study, including a rail spur from the main line towards the terminal, or an interchange station located on the existing line with connecting transit to the terminal.

Other Stations

Subject to planning approval, new halts could be constructed at Belfast International Airport, Crumlin, Ballinderry and Glenavy. All proposed stations would require full reconstruction due to their existing condition.

Park and Ride facilities have the potential to improve rail accessibility across the wider South Antrim area. The construction of a third platform at Antrim is also proposed to enable smooth interchange with services on the Derry~Londonderry line.

Designs for the proposed halt at Lisburn West have been future proofed for the reopening of the Lisburn to Antrim line.

Cost Estimate

The capital cost to re-open the line will vary depending on the final service pattern selected, the airport connection, and in particular whether the line is re-opened with overhead line electrification (OLE) or using alternative traction.

In today's prices, the capital cost estimate (inclusive of risk allowances typically applied at the early stages of projects) ranges from £300m (non-electrified) to over £500 million with full OLE infrastructure installed. The costs allow for the procurement of additional rolling stock to operate services and new stations. More detailed cost estimates will be developed as the project progresses, including exploration of opportunities to phase the delivery of the scheme.

The estimate to undertake the on-site surveys, design work, planning and development to reach the next major milestone, the Outline Business Case (OBC), is £10-15 million.

Additional government subsidy is likely to be required to operate the service following the line's reopening.

Ongoing Work

The funding allocation from DfI until the end of 2025/26 has enabled priority development tasks to progress, including the following:

- Further design work and assessment of the connection to the Belfast International Airport
- Engagement with planning authorities
- Signalling and electrification development
- Assessment of user-worked crossing interfaces along the route

Portadown to Derry~Londonderry

Existing Network

Proposed Alignment

New stations at Dungannon, Omagh, Strabane~Lifford and Derry~Londonderry

Future connection to Letterkenny

Secure connection at Portadown in short-term

Restoring regional connectivity

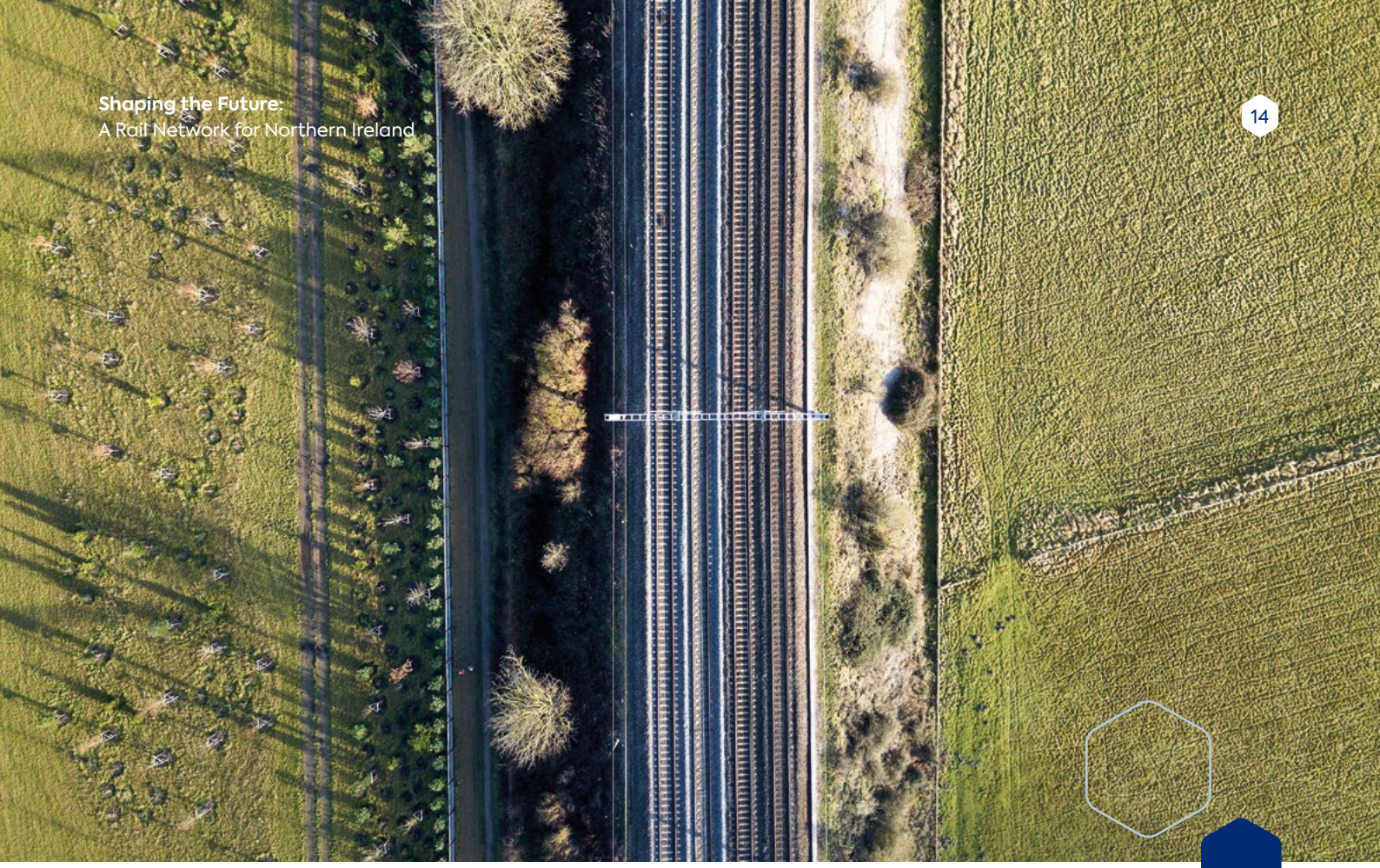
to the West / Northwest

Potential Passenger Journeys
3 million

Potential service frequency
20-30 minutes

Would grow the size of the NI Rail Network by over a third

An electrified railway capable of speeds up to **125mph,** offering transformational journey times to both **Belfast** and **Dublin**



Route Assessment

The former railway line between Portadown and Derry~Londonderry, which once operated as the main corridor to the north-west, was closed in 1965. The 75-mile route is no longer in public ownership and has been largely developed on in the intervening years.

Whilst some sections of the historic route could be utilised, a largely new alignment has been considered compatible with the requirements of modern railway standards.

The concept route extends from the existing network at Portadown via new stations planned at Dungannon, Omagh and Strabane~Lifford. The new alignment will be compatible with the requirements of a modern twin track electrified railway, with line speeds of up to 125mph. The concept route minimises the need for tunnelling or major viaducts, and the avoidance of key environmental or other significant constraints.

From Strabane to Derry~Londonderry, options have been developed to follow either the west or east banks of the Foyle along two historic rail corridors. Both options could accommodate a connection to Letterkenny, in line with the aspirations of the AISRR.

Potential Operating Model

It is envisaged that the route would operate at up to 3 trains per hour (tph) in each direction, and has been modelled on the basis of 2tph to Belfast and 1tph to Dublin. Portadown would provide interchange to other destinations across the network.

The journey time savings would be transformational; with the potential for a ~1hr 30m duration from Derry~Londonderry to Belfast and ~2hr 45m to Dublin. Journey times between stations on the new line would be significantly reduced and highly competitive.

The new route would dramatically enhance accessibility and connectivity of the Western and Northwest region to the rail network, strengthening the economic and social links and opportunities along the new corridor.

Demand forecasting indicates approximately 3 million journeys per annum would be generated by the new route, increasing to 4 million by 2050 inclusive of the proposed connection to Letterkenny.

To deliver the proposed service levels, up to 18 additional train units would be required, alongside the development of a new engineering depot to support operations and maintenance.

New Stations

Derry~Londonderry

The location of the proposed Derry~Londonderry station will be influenced by the preferred route north of Strabane, as well as accessibility and integration with the city centre. At this stage, options have been identified to locate the station on the east bank or west bank. Both options are retained for further assessment

Strabane~Lifford

The location of this station will also be influenced by the preferred route to Derry~Londonderry as well as accessibility to both Strabane and Lifford. A large Park & Ride facility with local transport connections is envisaged. The station will be designed with a twin through platform layout and passenger facilities.

Omagh & Dungannon

Both Omagh and Dungannon station locations will optimise accessibility to the towns and the wider area. Large Park & Ride facilities and local transport connectivity are envisaged for both locations. The stations will be designed with a twin through platform layout and passenger facilities.

Portadown Connection

The AISRR identified securing the connection at Portadown as a priority.

Modifications to the track and platforms will be required to accommodate the new lines to both Derry~Londonderry and Armagh. Upon delivery, Portadown will be restored as a key junction for the railway network in Northern Ireland.

Cost Estimate

This is a significant infrastructure project at a very early stage of development, with a high level of cost uncertainty at this point.

The initial cost estimate for the scheme in today's prices is between £2 billion and £3 billion. The cost estimate has assumed full electrification of the line, four new stations, the procurement of 18 additional trains to operate services as well as the construction of a new rail maintenance and engineering depot. Costs will be refined as the project progresses through the future development phases.

Whilst a significant capital investment, the work to date has confirmed extensive economic and social benefits and a positive and resilient business case to progress the scheme further. The estimate to undertake the on-site surveys, design, planning and development work to progress the project fully to the Outline Business Case (OBC) milestone, is around £50-60 million.

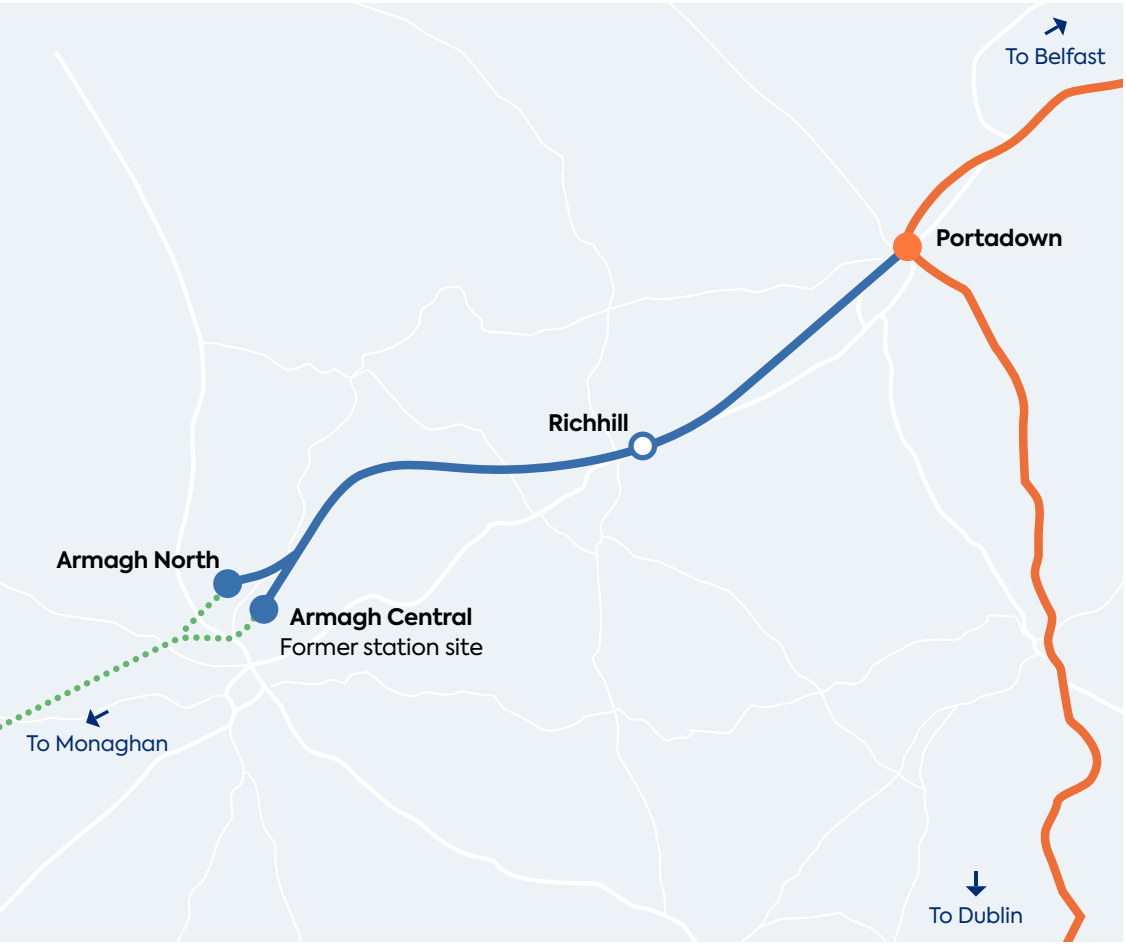
Additional government subsidy is likely to be required to operate the service following the line's reopening.

Ongoing Work

The funding allocation from DfI for 2025/26 has enabled priority development tasks to progress, including:

- Further route assessment, particularly between Strabane and Derry~Londonderry
- Evaluation of station options
- Portadown connection development
- Engagement with planning authorities and key stakeholders on route protection

Portadown to Armagh



Two viable station locations in Armagh have been identified, Central and North.

Potential intermediate halt at Richill with Park and Ride facility.

Future extension opportunities to Monaghan and beyond as recommended in the AISRR.

Armagh

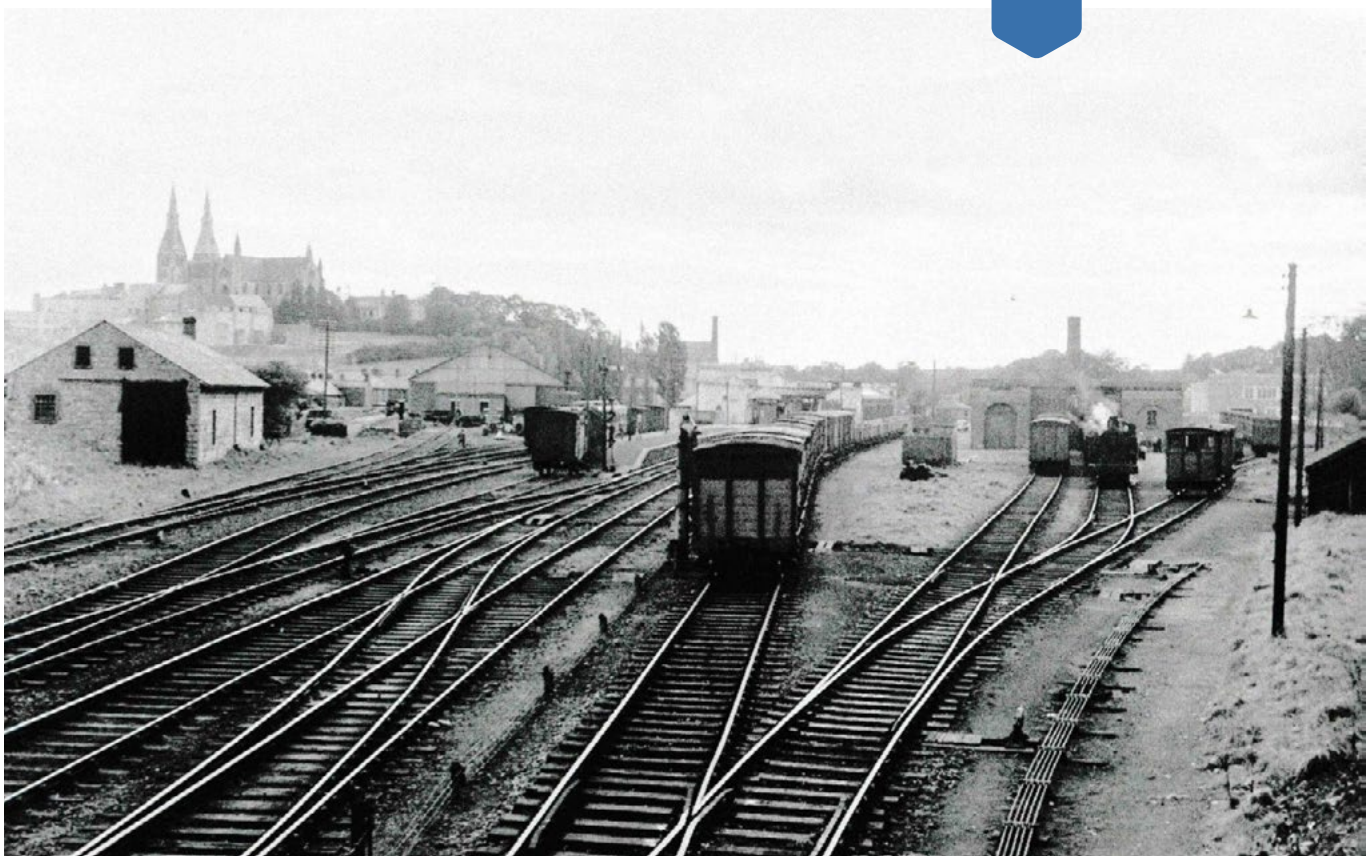
is the only city in Ireland without a rail connection

Potential Passenger Journeys
500,000

Potential service frequency
20 minutes

Support economic competitiveness and sustainable growth in Armagh

Journey times between **Armagh** and **Belfast** in around **40 minutes,** with future **cross-border extension** viable



Route Assessment

The former railway line between Portadown and Armagh was closed in 1957. The historic route of 10.5 miles is no longer in public ownership.

Whilst a number of alternative routes were considered, the historic alignment appears viable for reinstatement as a modern railway. Twin tracks are possible along the majority of the corridor, with at least one section required to be dual track to achieve the desired service frequencies.

Exiting Portadown, the historic alignment has been partially encroached on by the A3 road, which presents some constraints. Analysis indicates that a single-track railway remains feasible through this section. The alignment would also pass through the existing Park and Ride facility at Portadown station, which will require relocation.

On the approach towards Armagh there are two route options depending on the preferred station location. For both options, the study has considered the potential for future extensions from Armagh to Monaghan and onwards in line with the vision set out within the AISRR.

Potential Operating Model

The optimal solution is expected to see services operate as extensions of the existing Belfast-Portadown service, with up to 2-3 trains per hour on the line feasible. This service would require a passing loop to be installed at Richill.

Estimated rail journey times are:

- ~10 minutes between Armagh and Portadown
- ~40 minutes between Armagh and Belfast

Options to interchange at Portadown or Belfast Grand Central will provide access to the wider rail network. Demand analysis indicates that approximately 500k journeys per annum would be generated by the new route, with 2 additional train sets anticipated to be required.

New Stations

Two options for a station in Armagh have been identified. Both designs are based on operating as a terminus initially, but with the potential for through services to operate to Monaghan in the longer term.

Armagh – Central

Armagh Central would be located in the vicinity of the previous rail station. This site is now partially occupied by Translink's bus engineering depot, which would require relocation.

This central site is within walking distance of the principal attractions of the City, and would offer some Park and Ride capacity. A future connection towards Monaghan is possible but requires more detailed assessment.

Armagh – North

The Armagh North option would be situated on the northern edge of the city. This location would support a larger Park and Ride facility, with active travel and shuttle bus links to the City Centre. This location faces fewer constraints to constructing the planned future connection towards Monaghan.

Richhill

The study confirmed a positive case for reinstating an intermediate halt at Richhill to serve the village and surrounding area. Whilst the previous halt location is considered unsuitable for a modern railway, viable alternative sites have been identified, strategically located close to the A3 roundabout at Ballyleny. A large Park and Ride facility is intended to serve the wider catchment area.

Cost Estimate

The capital cost estimate for the project at this stage in today's prices is in the range of £200m - £245m. This includes the procurement of additional rolling stock, new stations and assumes that trains will operate using battery power along the route from Portadown to Armagh.

More detailed cost estimates will be developed as the project progresses and more detailed planning and engineering data become available.

The estimate to undertake the on-site surveys, design work, planning and development activities to reach the next major milestone, the Outline Business Case (OBC), is £10-15 million.

Additional government subsidy is likely to be required to operate the service following the line's reopening.

Ongoing Work

The work to date has presented a strong case for further development of the scheme. The additional funding allocated from DfI will enable:

- Further assessment and optioneering of the route options and station locations in Armagh
- Engagement with planning authorities and stakeholders on route protection

Electrification Phase 1
Belfast to Border

Background

The Climate Change Act (Northern Ireland) 2022 sets a target of net-zero greenhouse gas emissions by 2050. Translink's Climate Positive and Fleet Replacement Strategies aim for a fully net-zero bus and rail fleet by 2040.

Electrifying the rail network is a critical step in achieving these targets, reducing carbon emissions while delivering a range of operational and environmental benefits. Compared to diesel traction, electric traction offers faster journey times, increased network capacity, improved reliability, better air quality, reduced noise pollution, and lower whole-life operating costs.

● Indicative substation / grid connection locations

NET ZERO

Net Zero Emissions

Reduced journey times

Increased network capacity

Improved **air quality**

Reduced noise pollution

Lower whole life cost

Improved train **reliability**

Route Assessment

Phase 1 of the Electrification programme is focussed on the Belfast to Dublin corridor as recommended in the AISRR.

The section within the Northern Ireland Railways network from Belfast to the border is 52.5 miles passing through Lisburn, Portadown and Newry. The route, which is twin track, is currently designed for 90mph maximum line speed, though new inter-city rolling stock for the line will be capable of speeds up to 110mph.

Technical Assessment

Initial technical studies were undertaken to assess the available rail electrification systems. These studies recommended a 25kV AC overhead line system which would deliver power to the train through a roof mounted pantograph.

The feasibility study looked at several options, including full overhead electrification and a range of discontinuous solutions utilising onboard batteries to power the train through areas where installing the overhead lines would be difficult.

The multi-disciplinary assessment considered route clearance works such as the modification of low structures, the immunisation of existing signalling and telecommunication systems, potential grid connection locations and the operational / business change impacts.

Throughout the study, we have worked closely with key stakeholders and industry partners to ensure the proposals are practical, cost-effective, and aligned with regional and cross-border planning. The study drew on lessons from previous projects and emerging technology to help reduce costs and make electrification as efficient as possible.

Recommendations

The feasibility study recommended:

- Full electrification between Belfast Grand Central Station and the border
- Discontinuous electrification / battery traction between Belfast Grand Central Station and the rolling stock maintenance depots at York Road and Fortwilliam

Benefits

The feasibility study and Strategic Outline Case (SOC) has identified significant benefits including:

- Net Zero Emissions
- Reduced journey times
- Increased network capacity enabling additional train paths
- Improved train reliability
- Improved air quality
- Reduced noise pollution
- Lower operating costs

Conceptual Cost and Timeline

The conceptual cost for electrification of the line is estimated in today's prices to be £620m - £725m.

Costs will be further refined as the project develops through the next phases. The estimate to reach to the Outline Business Case (OBC) milestone is £40 million, including design for the immunisation of existing assets, electrification / traction power infrastructure, electrical control room, maintenance and depot facilities.

The indicative timeline including funding approval, land purchases, statutory approvals and grid connection estimates a phased energisation of the route between 2035-38.

Ongoing Work

The funding allocated by DfI for 2026/26 will enable:

- Delivery of route wide surveys.
- Development of outline designs for the civil enabling works e.g. overhead structure modifications, track lowers, utility diversions etc.

Delivering the Vision

This rail network vision represents an opportunity to deliver a transformed public transport network which meets the future needs of Northern Ireland, compatible with the targets and objectives set by the UK and Irish Governments and the Northern Ireland Executive.

The step change in network accessibility, regional connectivity and journey times will deliver wide-ranging social, economic and environmental benefits.

It is recognised that significant effort and investment is required to make this vision a reality. Support from a wide range of key stakeholders, at local and regional levels, will be essential.

Whilst some of these major projects are likely to be medium-term aspirations for delivery, it is key that momentum is maintained and critical milestones achieved in their planning and development over the coming years.

Following completion of the ongoing work packages, the next critical milestone for these projects will be the Outline Business Case (OBC). This will require additional funding to complete the necessary site surveys, planning, design work and stakeholder engagement, allowing us to further develop options, refine costs and set out delivery timelines.

Current estimates to complete the OBC stage for each project are shown below.

Project	Estimate
Antrim - Lisburn	£10-15m
Portadown – Armagh	£10-15m
Portadown -Derry~Londonderry	£50-60m
Electrification Belfast-Border	£40m

The studies to date have been invaluable in developing our understanding and validating these transformational proposals for the railway in Northern Ireland.

Translink will continue to work closely with the Department for Infrastructure (DFI) and other key stakeholders to continue development of the schemes, and to explore funding opportunities for their delivery. Alongside this, it is vital to protect the potential rail corridors within both area and regional planning policy.

Enable doubling of rail journeys

Enhance regional connectivity and accessibility

Significantly increase rail network coverage

Improved Intercity journey times

NET ZERO

Decarbonise the rail network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