



Rialtas  
na hÉireann  
Government  
of Ireland

Tionscadal Éireann  
Project Ireland  
2040



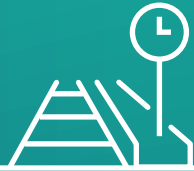
# DART EXPANSION

NATIONAL  
DEVELOPMENT  
PLAN 2018-2027



Iarnród Éireann  
Irish Rail

# WHY DO WE NEED DART EXPANSION?



## INCREASING RAIL CAPACITY

Heavy rail network in GDA operating near capacity

Achieving sustainable economic and population growth

Demand for high capacity integrated transport for GDA

Enhanced regional capacity to and from the GDA



## ACHIEVING CLIMATE CHANGE TARGETS

Achieving Project Ireland 2040 "National Strategic Outcomes"

Targeted reduction in transport emissions



## SUPPORTING ECONOMIC, HOUSING AND POPULATION GROWTH

Facilitation of higher density developments with high capacity rail

Segregated public transport can achieve high capacity/reliability that other modes can't



## PROMOTING MODAL SHIFT TO PUBLIC TRANSPORT

Currently a heavy reliance on private car

Climate change targets require modal shift

Maintain and improve on high levels of customer experience

Only solution to heavy road congestion is high capacity public transport

# WHAT IS DART EXPANSION?

- **Increased Passenger Capacity**
- **Integrated GDA network**
- **Electrification with reduction in CO2 emissions**
- **€2 billion has been allocated to DART Expansion under the National Development Plan 2018-2027**

The DART Expansion Programme is a transformative railway project, which will modernise and improve the existing rail network, which radiates from Dublin City Centre. It will provide a sustainable, electrified, faster, reliable and user friendly rail system, which increases train frequencies and customer carrying capacity.

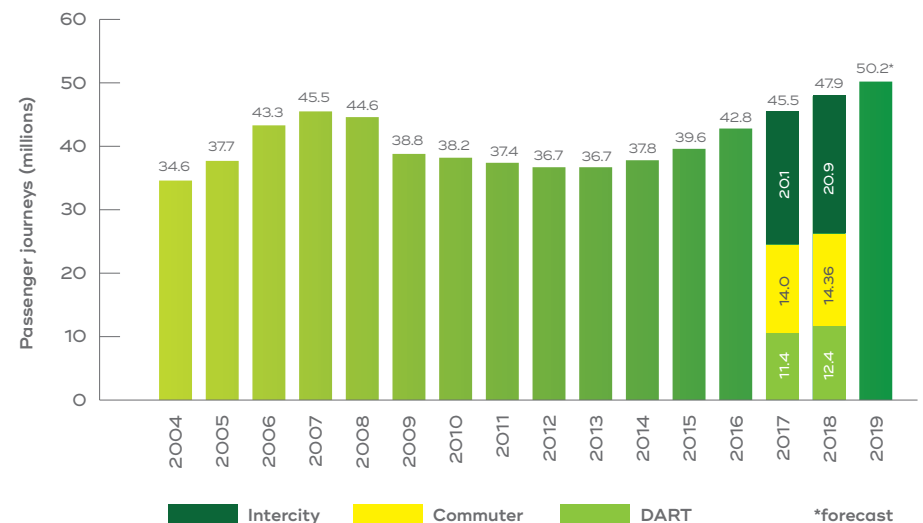
It will create a full metropolitan area DART network for Dublin, with all of the lines linked and connected. This will transform the rail system in the Greater Dublin Area, delivering new DART services between the City Centre and Drogheda, Maynooth – M3 Parkway and Hazelhatch – Celbridge. DART Expansion will enable an increase in capacity network-wide from the Regions to the GDA.

Customer capacity and train service frequency on these lines will be significantly increased as a result of the programme. This will help to deliver a more efficient transport system, allowing more people to make sustainable travel choices that reduce their carbon footprint and prevent chronic road congestion helping to meet the goals set out in the state's Climate Action Plan.

Our ambition is to increase train frequency from the current ten minute frequency to a five minute all day frequency and to lengthen all trains to eight carriages.

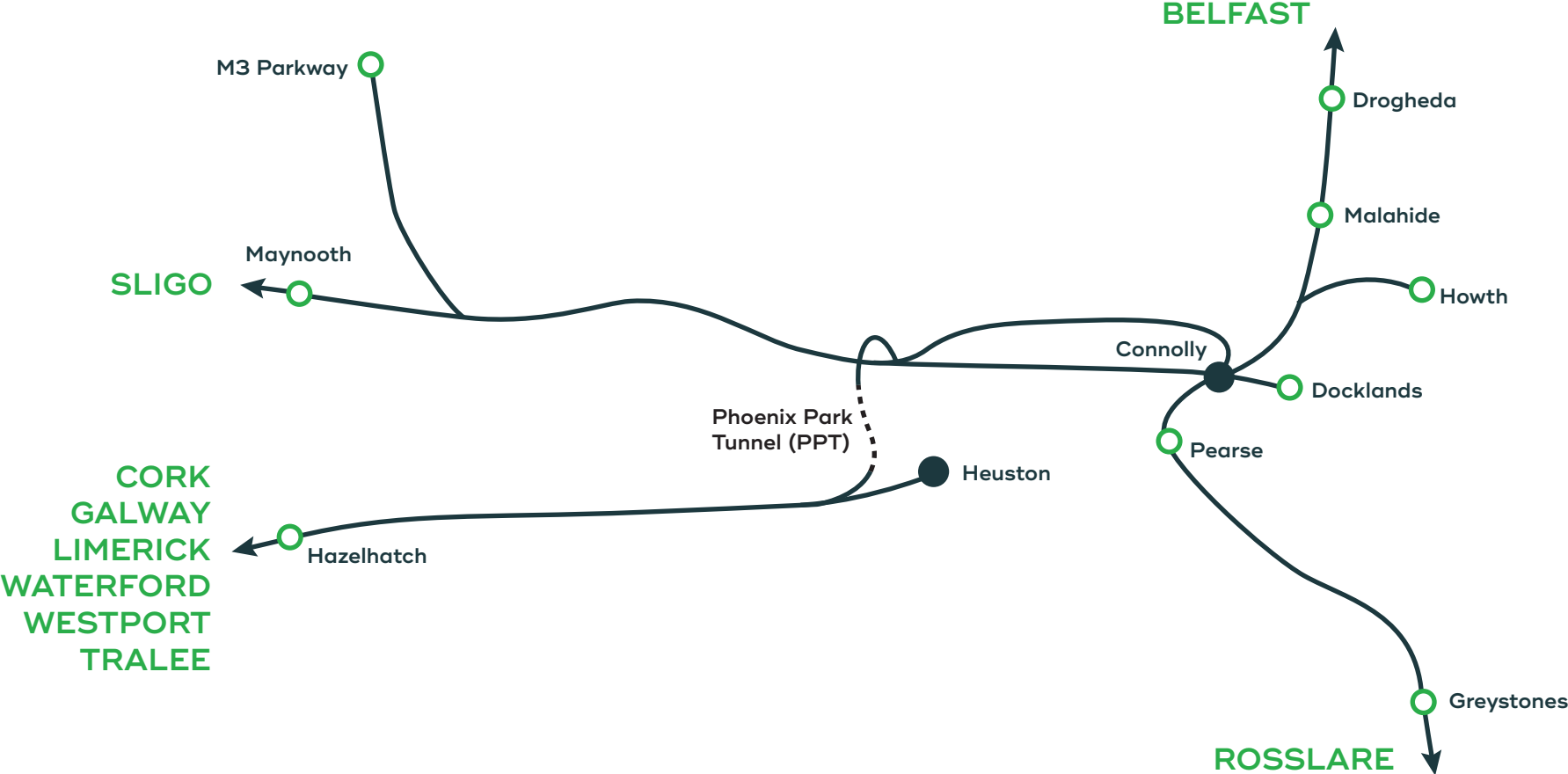
The cumulative network effect of DART Expansion, subject to Government authorisation and funding, will increase customer capacity from circa 26,000 customers per hour per direction (2019) to circa 50,000-60,000 (peak) passengers per hour per direction under the National Development Plan investment and future growth capacity potential to 70,000-80,000 (peak) passengers per hour per direction thereafter, subject to further fleet procurement.

## Surge in Demand for Iarnród Éireann Services



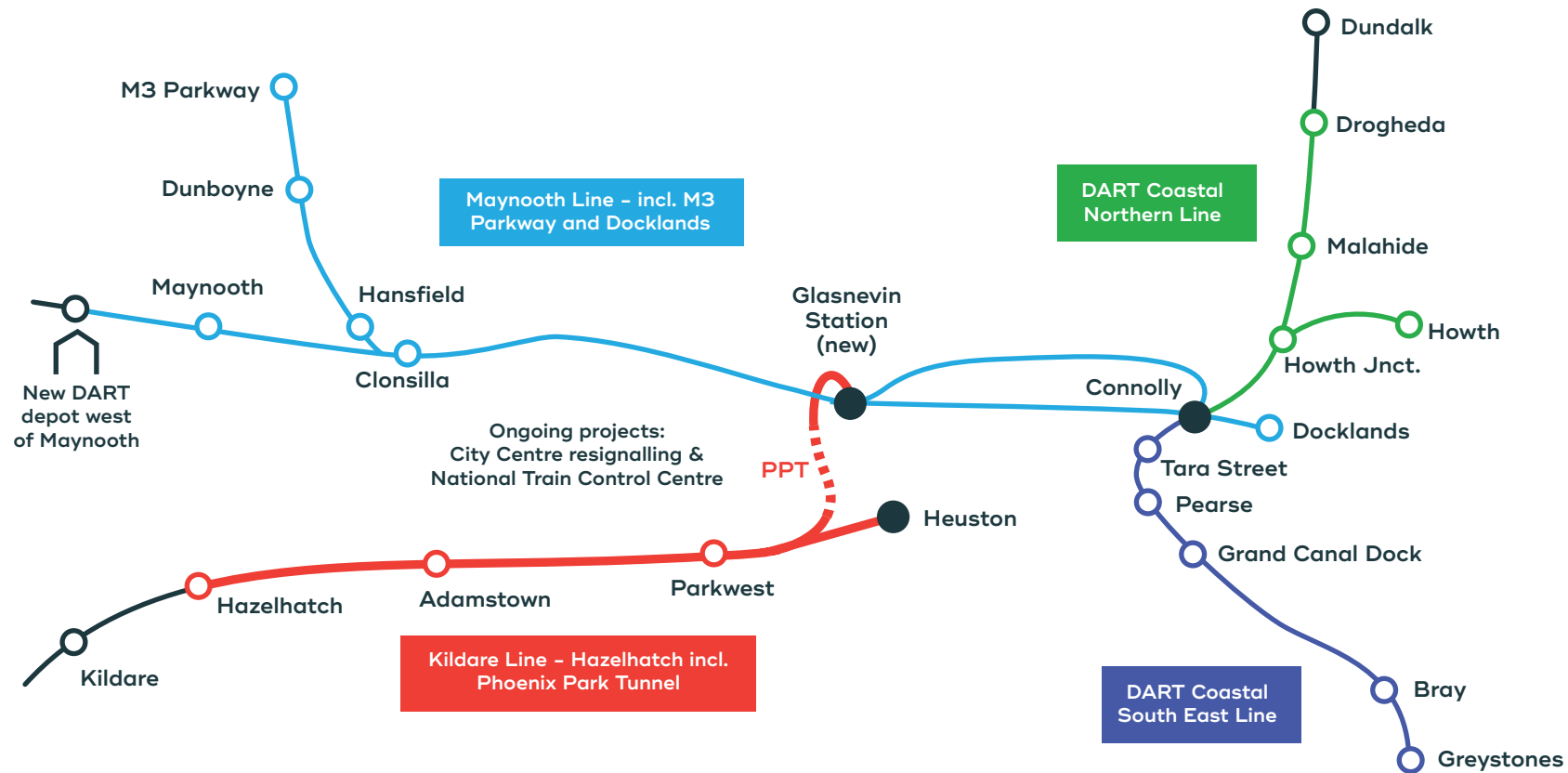
# PHASED DELIVERY OF DART EXPANSION

Existing



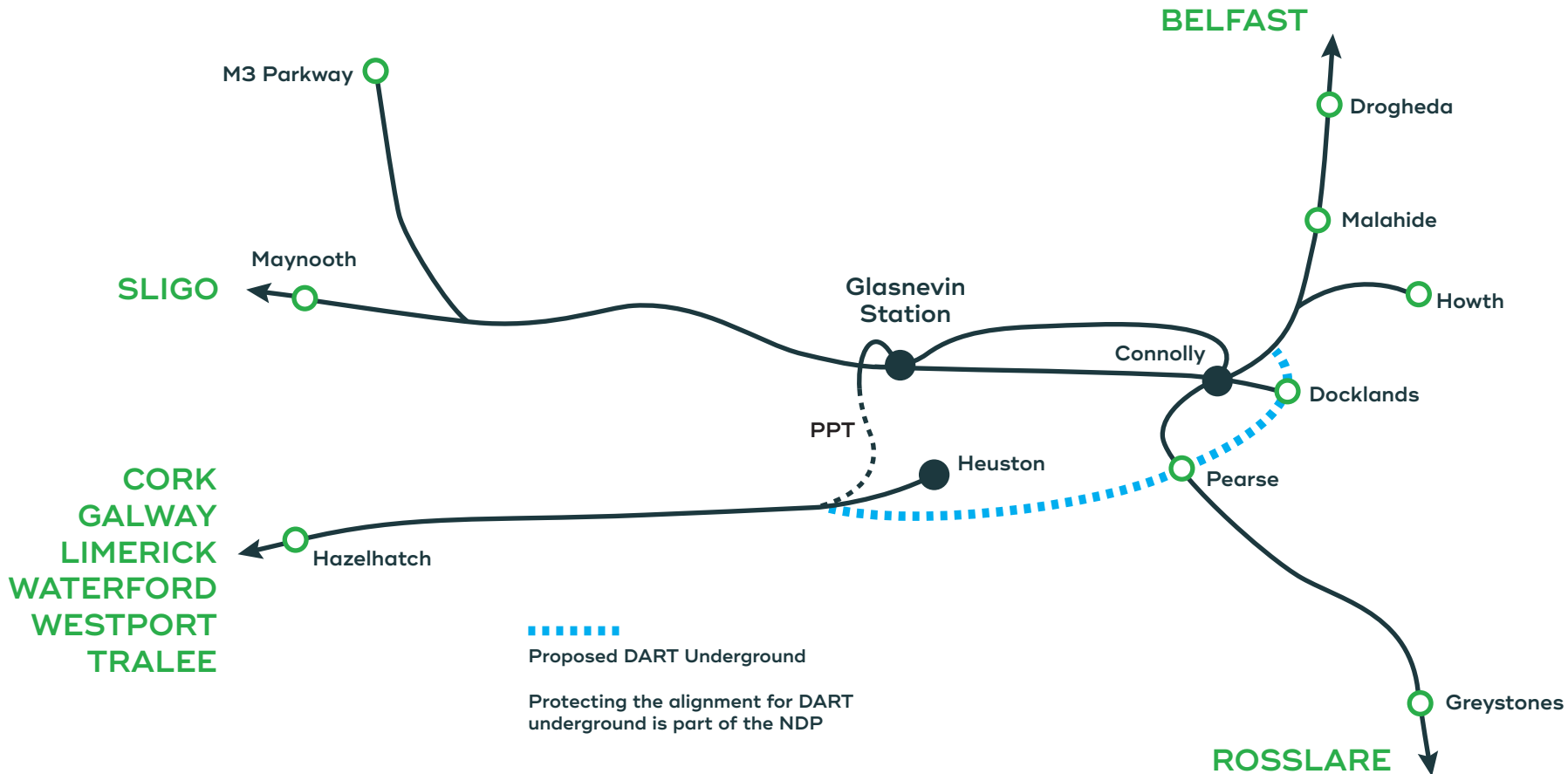
# PHASED DELIVERY OF DART EXPANSION

## National Development Plan Infrastructural Investment



# PHASED DELIVERY OF DART EXPANSION

## Long Term



# DART EXPANSION CORE ELEMENTS

## Maynooth - M3 Parkway Line and City Centre Capacity Enhancements

The overall scope for the Maynooth Line and City Centre, to facilitate the necessary increase in capacity, will require:

- Track, platform and station modifications and improvements at Dublin Connolly Station and Docklands Station to increase through-running and terminating capacity
- Track and infrastructure modifications at key junction approaching Dublin Connolly and Docklands Station from north and west
- Bridge reconstructions arising from corridor widening and electrical clearances, as necessary
- Elimination of level crossings on the Maynooth Line and provision of appropriate road relief infrastructure
- Signalling and telecommunications infrastructure to support the projected capacity increases
- Electrification of Maynooth and M3 Parkway lines, and power supply to support the projected capacity increases
- Provision of a new DART Expansion rolling stock maintenance and stabling depot
- Integration of DART Expansion with the new MetroLink station at Glasnevin



# DART EXPANSION CORE ELEMENTS

## Kildare Line

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The overall scope for the Kildare Line, to facilitate the necessary increase in capacity, will require:

- Widening of the railway corridor and completing four tracking between Park West Station and Dublin Heuston
- Improvements to the Phoenix Park Tunnel Line to support the projected capacity increases
- Bridge reconstructions arising from corridor widening and electrical clearances, as necessary
- Signalling and telecommunications infrastructure to support the projected capacity increases
- Electrification and power supply from Hazelhatch to Dublin Heuston to support the projected capacity increases
- Provision of rolling stock stabling, as necessary







# DART COASTAL

## Northern Line

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The overall scope for the Northern Line, to facilitate the necessary increase in capacity, will require:

- Signalling and telecommunications infrastructure to support the projected capacity increases
- Electrification and power supply from Malahide to Drogheda to support the projected capacity increases
- Bridge reconstructions arising from corridor widening and electrical clearances, as necessary
- Upgrade and modification of Drogheda and Fairview maintenance depots
- Provision of higher capacity turnback at Drogheda and Clongriffin
- Provision of rolling stock stabling, as necessary

## Southside DART Line Improvement Works

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The overall scope for the Southside Line, to facilitate the necessary increase in capacity, will require:

- Agreeing with the National Transport Authority and Local Authority the level crossing closure plan to support the projected capacity increases
- Provide an appropriate level of road relief infrastructure in-lieu of increased level crossing closure frequency
- Provision of a high capacity turnback at Dun Laoghaire or Bray
- Provision of rolling stock stabling, as necessary
- Integration of DART Expansion with MetroLink at Tara Street

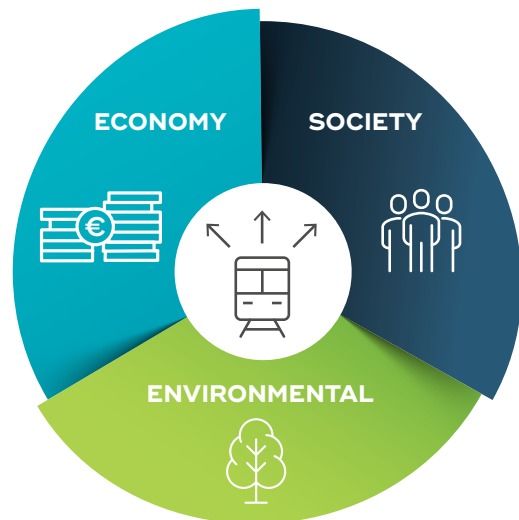
# DART EXPANSION STATUS

Project Ireland 2040 and the National Development Plan 2017 to 2028 prioritise the sequencing of investment in DART Expansion.

Provide additional capacity as early as possible by utilising existing infrastructure with targeted improvement works

- This greatly improved integrated transport system will encourage a move away from private cars to public transport
- It will assist in achieving targets for the reduction in greenhouse gas emissions
- Enable transition to a low carbon and climate resilient society.

**DART Expansion delivers on each of the three pillars of sustainable development.**





**Economy** – Permits good linkage between high density land use development and public transport corridors, permitting access for people to housing, jobs and services. DART Expansion is estimated to generate €4.8 billion of user benefits from reductions in journey time, greater transport efficiency and increase economic development



**Society** – DART Expansion is consistent with government strategy and regional planning objectives. It will improve the quality of life for people and allows long term forecast lifestyle choices by providing a long term integrated public transport system. Efficient public transport will also positively contribute to the national objective of transitioning away from fossil fuels



**Environment** – Public transport will assist in change of transport mode, especially for work and educational commuters. Higher use of public transport, especially during AM & PM peak hours will reduce greenhouse gas emissions, alleviate road congestion and free up city centre space currently used for all-day car parking

Iarnród Éireann is now progressing with the preliminary design for DART Expansion. An Environmental Impact Assessment will be conducted and environmental information will be integrated into the design process. The culmination of the preliminary design and the environmental impact assessment studies will be the submission of a Railway Order Application to An Bord Pleanála for the railway works along each line. A Railway Order Application is a planning application for railway development works and must be accompanied by plans and particulars for the works and an Environmental Impact Assessment Report.

During the preliminary design and the Environmental Impact Assessment Report preparation Iarnród Éireann will conduct consultations with Statutory Bodies, interest groups and the general public to gather comments and suggestions for consideration in development of an optimised design.

Once a Railway Order Application is made to An Bord Pleanála, the public will also have further opportunity to make submissions. The submission of Railway Order Applications will be advertised in the press and all information will be available for review.

# DART EXPANSION BENEFITS

## Passenger Benefits

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The objective of DART Expansion is to offer customers a real quality alternative to private car transport, as part of wider plans to build sustainable transport across a range of modes. DART Expansion will offer increased train capacity and increased train frequencies. DART Expansion will offer a rail system which can operate at a frequency that meets projected customer demands. This will allow passengers to access the rail network at suitable locations along the network and be transported into the heart of the city centre for all trip purposes.

Rail transport, which is segregated from road conflicts, offers journey time reliability unrivalled by road transport. Passenger transport by rail offers many societal benefits, including:

- Provides the core spine of an integrated and sustainable public transport network
- High capacity customer transport
- Improve reliability on time of departure and time of arrival (especially in the morning and evening peaks)
- Improved safety performance compared to road transport
- No conflict with road traffic
- Alleviates road congestions
- Benefits to passengers in terms of time-use during transport
- Reduces greenhouse gas emissions
- Reduces requirement for city centre parking
- Facilitates more efficient and sustainable land-use planning and development
- Provides long term infrastructure to future generations
- Introduction of new fleet

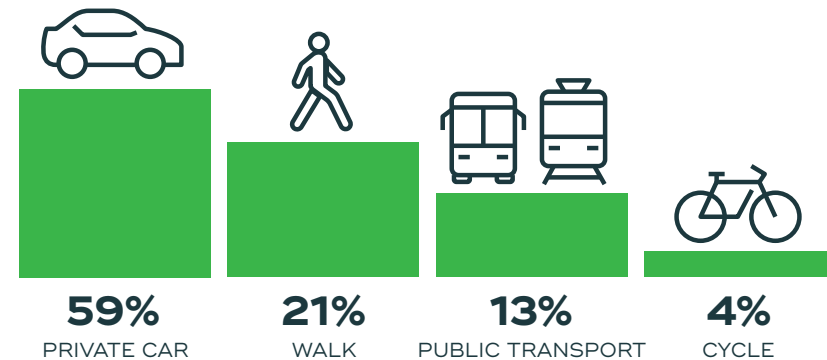


## Societal Benefits

Expanding the choice of public transport options is supported at national, regional and local level, through various Frameworks, Policies and Guidelines. The delivery of DART Expansion is a central element to achieving a sustainable alignment between transport planning and proper long term land-use development. Project Ireland 2040, and the associated National Development Plan 2018-2027, commits to investment in key sustainable transport projects, including DART Expansion, with the aim of reducing road congestion & greenhouse gas emissions, transitioning to a low carbon economy and concentrating land-use development along public transport corridors.

Improved integrated transport will also provide better housing and employment opportunities within the Greater Dublin Area. Strategic Development zones at locations such as Clonburris & Adamstown on the Kildare line and Kellystown and Barnhill on the Maynooth/M3 Parkway line, will grow new communities, that greatly benefit from improved public transport links and also employment opportunities will broaden through ease of movement on public transport.

How Dublin city travels by mode



Without a step-change improvement in the national transport sector performance, Ireland is at risk of missing the Paris Climate Agreement (COP21) targets of 80% reduction in national emissions by 2050. The government's Climate Action Plan (2019) seeks to ensure that the transport sector makes a significant contribution towards the national targets for the overall reduction in carbon emissions.

Therefore, DART Expansion, powered by electrical traction, and providing a significant increase in passenger capacity, will positively assist in the decarbonisation of the transport sector and enable a transition away from the use of fossil fuels. It promotes integration of public transport and will take private cars off the road. Over 80% of journeys on the Iarnród Éireann network could potentially be powered by electricity upon completion of DART Expansion investment under the NDP.



## Environmental Benefits

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- A growing economy will require a greater emphasis on green modes in order to meet national climate change targets.
- Rail is the most environmentally sustainable form of motorised surface travel and has a key role to play. The delivery of rail services alongside transport orientated development will be key to achieving improved sustainability.
- While Iain Éireann has achieved a 35% improvement in emissions since 2005, there is significant potential to contribute further to the decarbonisation of Ireland's rail transport.
- A lack of timely, co-ordinated development of rail services and land use will limit Ireland's ability to meet growing demand sustainably, leading to more commuting by car and consequential congestion with and around the main cities and towns. The negative impact on environmental change on the network such as coastal erosion and flood also poses risk.





**Iarnród Éireann**  
**Irish Rail**