

DUBLIN CITY CENTRE TRANSPORT PLAN 2023

Technical Notes | Part 1: Policy and Background Review



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Dublin City Centre Transport Plan 2023 Technical Note Part 1: Policy and Background Review

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POLICY AND BACKGROUND REVIEW

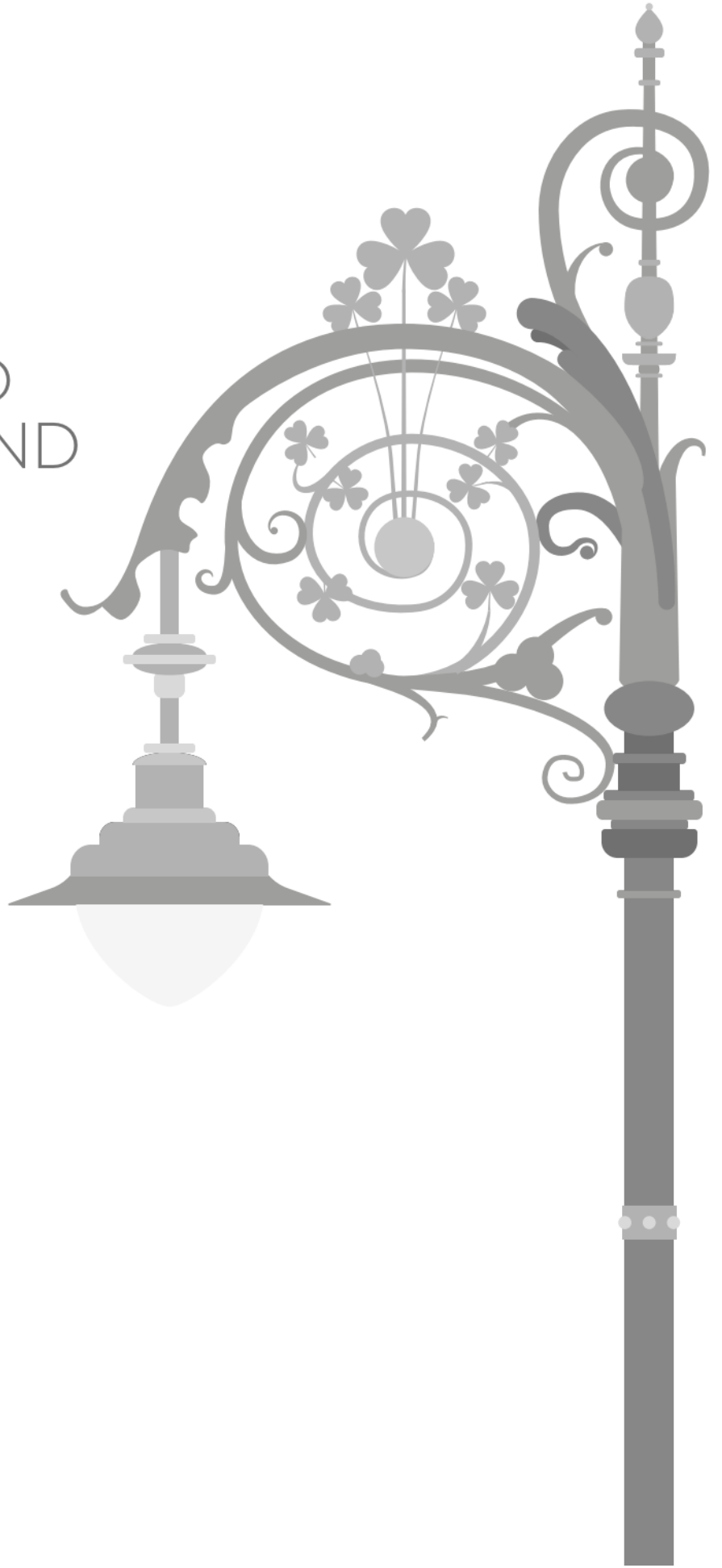


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1 INTRODUCTION

1.1 Context

The Dublin City Centre Transport Plan 2023 (the Plan) is an update of the 2016 City Centre Transport Study, as provided for in the Dublin City Development Plan (DCDP) 2022-2028¹. It is intended to frame the implementation of the DCDP and the 2022-2042 National Transport Authority (NTA) Transport Strategy for the Greater Dublin Area (the Transport Strategy) in Dublin City Centre.

The Plan considers ways to optimise and enhance the transport network to meet the transport needs, challenges, and opportunities for the city centre. This is based on prevailing national, regional and local transport policy, most notably the Hierarchy of Road Users model set out in the National Sustainable Mobility Policy (NSMP), which places sustainable modes at the top. The emerging proposals have been developed with the sustainable growth of the city and its economy as a key aim, as well as its social, cultural and environmental wellbeing.

A suite of technical notes has been produced which informed the development of the Plan. This note should be read in conjunction with the other technical notes.

1.2 Purpose of This Technical Note

This technical note provides a review of relevant policy and strategy documentation which is likely to affect proposals laid out within the Plan.

This technical note also outlines the likely receiving environment for Dublin City Centre in 2030, in terms of land use and transport.

1.3 Technical Note Structure

Following this introductory section, the next sections of this technical note are organised as follows:

Section 2 outlines the planning context, where relevant extracts from national, regional and local policies are presented.

Section 3 outlines the receiving environment in 2030, and transport infrastructure that is expected to be in place by 2030.

¹ Published by Dublin City Council (DCC) in 2022

2 PLANNING CONTEXT

2.1.1 National Level Policies

2.1.2 Project Ireland 2040 – National Planning Framework

Project Ireland 2040 National Planning Framework (NPF) is the Government’s strategic framework to guide at a high-level strategic planning and development to accommodate population growth that is sustainable in economic, social, and environmental terms. The NPF’s ambition is to create a single vision and a shared set of goals for each community to shape the growth and development of Ireland up to 2040. These goals are expressed as National Strategic Outcomes (NSOs), which are set out in Figure 2-1.



Figure 2-1: National Strategic Outcomes in the NPF

Specifically, regarding the Dublin City and Metropolitan Area, the NPF states that:

- ‘Dublin needs to accommodate a greater proportion of the growth it generates within its metropolitan boundaries and to offer improved housing choice, transport mobility and quality of life.’ It further outlines that ‘Dublin’s continued performance is critical to Ireland’s competitiveness. Improving the strategic infrastructure required to sustain growth will be a key priority as part of the Metropolitan Area Strategic Plan (MASP), and will include enhanced airport and port access and capacity, expansion and improvement of the bus, DART and Luas/Metro networks...’; and
- ‘At a metropolitan scale, this will require focus on a number of large regeneration and redevelopment projects, particularly with regard to underutilised land within the canals and the M50 ring and a more compact urban form, facilitated through well designed higher density development.’

Under the heading ‘Key future growth enablers for Dublin include’ it highlights:

- ‘Determining a limited number of accessible locations for significant people-intensive employment to complement the city-centre and docklands areas;’
- ‘Public realm and urban amenity projects, focused on streets and public spaces, especially in the area between the canals and where linked to social regeneration projects’;

- ‘Measures to enhance and better link the existing network of green spaces, including the Phoenix Park and other parks, Dublin Bay and the canals, subject to carrying out a routing study and any necessary environmental assessments’;
- ‘Delivery of the metropolitan cycle network set out in the Greater Dublin Area Cycle Network Plan inclusive of key commuter routes and urban greenways on the canal, river and coastal corridors’; and
- ‘Facilitating the growth of Dublin Port through greater efficiency, limited expansion into Dublin Harbour and improved road access, particularly to/from the southern port area’.

2.1.3 Project Ireland 2040 – National Development Plan

National Development Plan (NDP) is the national capital investment strategy plan and describes the funding mechanisms for delivery of Project Ireland. It sets out the framework of expenditure commitments to secure the Strategic Investment Priorities to the year 2030 and support the delivery of the 10 NSOs identified in the NPF.



Figure 2-2: Strategic Investment Priorities for Transport in the National Development Plan

The NDP identifies investment priorities in transport, as in Figure 2-2 and focuses on areas of particular importance which align with the NPF. In Section 3.9 “Catalysing the shift towards accessibility-based mobility systems” the NDP states:

- ‘These measures include significant expansions to public transport options, including capacity enhancements on current assets and the creation of new public transport links through programmes such as MetroLink.’; and
- ‘Encouraging people to adopt more sustainable mobility options, particularly cycling and walking, also forms a major element of the NDP Review. Significant new investments in this area are outlined in NSO 4 which give effect to the Programme for Government commitment to focus investment in this area.’

The improvement of civic spaces in the NDP is built around the €2 Billion Urban Regeneration and Development Fund which supports initiatives and projects that ‘regenerate and rejuvenate cities with a focus on compact growth’.

2.1.4 Climate Action Plan 2023

CAP23 is the second iteration of Ireland’s first Climate Action Plan in 2019 and serves to set a roadmap for climate action in Ireland, which aims to halve emissions by 2030 (based on a 2018 baseline) and become net zero before 2050. This includes a national objective for a 50% reduction in transport sector emissions by 2030, relative to the baseline forecast 2030 emissions. The plan recognises this as a transformational change and defines key performance indicators as targets for delivery of this change, including a reduction in vehicle kilometres, a reduction in fuel usage and an increase in sustainable mode usage. CAP23 sets out a hierarchical framework (‘Avoid-Shift-Improve’) to achieve this change as shown in Figure 2-3.



Figure 2-3: 'Avoid-Shift-Improve' framework (CAP23)

'Avoid' measures are first in the CAP23 framework; this will involve reducing the need to travel, which may be achieved through a combination of land use planning and demand management. For trips that still need to be made, 'Shift' measures involve a shift towards using more environmentally friendly modes such as public transport, walking and cycling wherever possible. This will be supported by improving the advantage these modes offer over private cars. Finally, 'Improve' measures will entail utilising green technology to improve energy efficiency of vehicles, especially private vehicles, being used in Ireland. This will minimise the environmental impact of trips that do occur.

CAP23 is influenced by the Organisation for Economic Co-operation and Development (OECD) report '*Redesigning Ireland's Transport for Net Zero: towards systems that work for people and the planet*' which identifies Ireland's car dependent transport system as a risk to Ireland's ability to meet greenhouse gas reduction goals, and recommends to:

"Redefine the goal of the transport system as sustainable accessibility in order to challenge ingrained mindsets and shift away from identifying high mobility, in terms of reduced travel time, with well-being".

The Transport Decarbonisation Pathway comprises four packages of measures which aim to 'close the gap' to delivering 50% emissions abatement by 2030:

- *"Promoting Behavioural Change by incentivising more sustainable forms of travel, including through interventions such as road-space reallocation, and expanding car-free urban core centres; improvements to school transport options and modes; and complementary measures that help to reduce the need to travel.*
- *Improvements to Public Transport Availability and Competitiveness by increasing the availability of rural transport and inter-urban connections; ramping-up the frequency and reliability of public transport through priority infrastructure and better integration of services; and reducing public transport fares (the modelled scenario considered a 50% reduction relative to 2018 prices).*
- *Disincentivising Private Vehicle Use through such measures as the removal of free workplace parking; minimum parking charges introduced in all urban areas and application of congestion charges for journeys across marked cordons. Consideration will also be given to implementing an increase in fuel costs (modelled as an increase of 65% by 2030 relative to 2018 prices, incorporating already planned carbon tax increases) if other measures are not deemed successful.*
- *Harnessing the Potential of New Technology to support the decarbonisation of transport, including through electrification, increased biofuel blending, vehicle technology improvements, and the use of open data for mobility services."*

Key specific metrics outlined within CAP23 for the reduction of transport emissions up to 2030 include (but are not limited to):

- A 20% reduction in total vehicle kilometres,
- 50% increase in daily active travel journeys,
- 130% increase in daily public transport journeys,
- 30% EV share of the private car fleet (with 100% of new registrations being EV's),

- Expansion of electrified trains and buses.

In total, it is expected that measures outlined in CAP23 will provide a 6.08 Mt reduction of CO₂eq. emissions (based on a 12.2 Mt baseline).

2.1.5 National Sustainable Mobility Policy 2022

The NSMP sets a framework for active travel and public transport to support the 50% reduction in greenhouse gas emissions by 2030. The vision for the NSMP is: *‘To connect people and places with sustainable mobility that is safe, green, accessible and efficient’*. It aims to reduce car kilometres driven by 10%, and to increase the number of active travel and public transport trips by 500,000 daily journeys by 2030. These targets will be tracked under a newly developed National Household Travel Survey (NHTS). The NSMP includes three key principles, each of which are accompanied by a series of goals, as is shown in **Error! Reference source not found.**

PRINCIPLES	GOALS
Safe and Green Mobility	<ol style="list-style-type: none"> 1. Improve mobility safety. 2. Decarbonise public transport. 3. Expand availability of sustainable mobility in metropolitan areas. 4. Expand availability of sustainable mobility in regional and rural areas. 5. Encourage people to choose sustainable mobility over the private car.
People Focused Mobility	<ol style="list-style-type: none"> 6. Take a whole of journey approach to mobility, promoting inclusive access for all. 7. Design infrastructure according to Universal Design Principles and the Hierarchy of Road Users model. 8. Promote sustainable mobility through research and citizen engagement.
Better Integrated Mobility	<ol style="list-style-type: none"> 9. Better integrate land use and transport planning at all levels. 10. Promote smart and integrated mobility through innovative technologies and development of appropriate regulation.

Figure 2-4: Sustainable Mobility Policy Principles and Goals

With regard to walking and cycling infrastructure the Introduction section of Chapter 4 in the Policy states:

‘The design of walking and cycling infrastructure, as well as areas in the vicinity of public transport services, are important safety factors. Well-designed, well-maintained, appropriately-lit, continuous and better integrated infrastructure can help people feel safe and encourage them to choose these options over the private car... Expanding walking and cycling options to promote greater use of active travel can support our climate targets to reduce emissions as well as improving fitness levels and public health, and reducing congestion and private car use. Diverting short car trips to active modes will have a particular benefit in reducing air pollution’

On the allocation of road space, the NSMP advocates for a rebalancing that focuses on active travel and public transport as it states that *‘the overarching objective in urban centres should be to focus more on the movement of people rather than the movement of the private car’*. Among the sustainable modes of travel, it recognises the importance of the bus system, which is the most used across the public transport systems. Thus, it concludes that *‘improved and expanded bus services and infrastructure are a key priority’*. These principles are reflected in the Hierarchy of Road Users presented in the NSMP and shown in **Error! Reference source not found.**

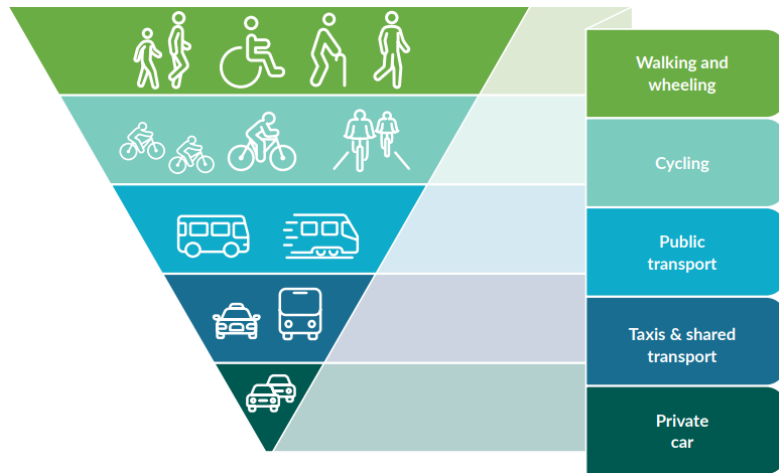


Figure 2-5: Hierarchy of Road Users (NTA NSMP)

2.1.6 National Investment Framework for Transport in Ireland

The National Investment Framework for Transport in Ireland (NIFTI) ensures transport investments are aligned with the policies of the NPF sets out the Department of Transport’s strategy for the development and management of Ireland’s land transport network (roads, public transport, walking and cycling) over the next two decades. The purpose of NIFTI is to enable the delivery of Project Ireland 2040 and the ten NSOs. The NPF and its projections around population and settlement patterns are central to the development of NIFTI.

NIFTI sets out the types of positive outcomes transport investment can deliver, including:

- Delivering clean, low carbon and environmentally sustainable mobility;
 - Supporting Successful Places and Vibrant Communities;
 - Facilitating Safe, Accessible, Reliable and Efficient Travel on the Network; and
 - Promoting a Strong and Balanced Economy.
- The investment priorities in Figure 2-3 are aligned with the NPF and are intended to each receive the same level of importance so that no priority receives precedence over others. Projects must align with these principles to be allocated funding in the years ahead.



Figure 2-6: NIFTI Investment Priorities

The modal and intervention hierarchies supplement the investment priorities to enable identifying the most appropriate, environmentally friendly and cost-effective option to meet a given set of objectives. The modal hierarchy, in Figure 2-4, reflects NIFTI’s alignment with the NSMP’s Hierarchy of Road Users. Transport projects should accommodate the highest ranked mode if this is possible, but NIFTI recognises that some transport solutions will still require the use of private vehicles.



Figure 2-7: NIFTI Modal Hierarchy

The intervention hierarchy, in Figure 2-8, prioritises the utilisation of existing infrastructure to meet the given set of transport objectives. As with the modal hierarchy, NIFTI recognises that lower ranked options may be required, but these should only be applied if preferred intervention types are not suitable to meet the project’s goals. This is underlined by financial and environmental sustainability.



Figure 2-8: NIFTI Intervention Hierarchy

2.2 Regional Level Policies

2.2.1 Eastern and Midlands Regional Spatial Economic Strategy

Each of the four regional assemblies in Ireland must produce a Regional Spatial Economic Strategy (RSES) to shape growth and manage regional planning and economic development throughout the region. The RSES is both a strategic plan and an investment framework which identifies regional assets, opportunities, and pressures. Regional Strategic Outcomes (RSOs) are the RSES’ equivalent of the NPF’s NSOs and provide the appropriate policy responses to the issues identified.

The Eastern & Midlands Regional Assembly has twelve constituent local authorities, including Dublin City Council. The Eastern & Midlands RSES aims to deliver on the wider national policy set by Project Ireland 2040 and as such, among others, aims to deliver on accommodating the NPF’s population growth target for Dublin of up to 1,590,000 residents by 2030.

The underlying vision of the Eastern & Midlands RSES is ‘To create a sustainable and competitive Region that supports the health and wellbeing of our people and places, from urban to rural, with access to quality housing, travel and employment opportunities for all’ and the following three principles set the theme for the RSOs in Figure 2-9.

- **Principle 1 - Healthy Placemaking:** To promote people’s quality of life through the creation of healthy and attractive places to live, work, visit, invest and study in.
- **Principle 2 - Climate Action:** The need to enhance climate resilience and to accelerate a transition to a low carbon society recognising the role of natural capital and ecosystem services in achieving this.
- **Principle 3 - Economic Opportunity:** To create the right conditions and opportunities for the Region to realise sustainable economic growth and quality jobs that ensure a good living standard for all.

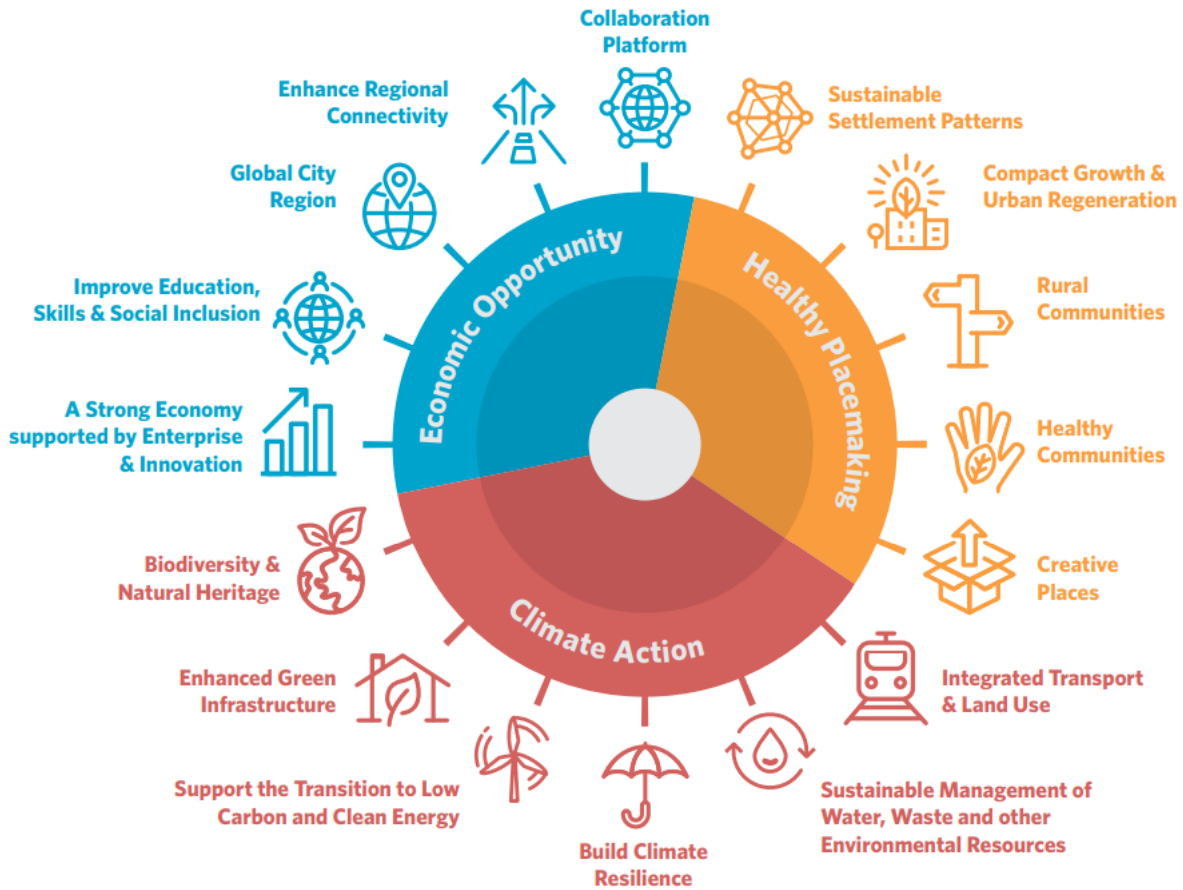


Figure 2-9: Eastern and Midlands Regional Strategic Outcomes (RSOs)

In relation to Dublin specifically, the Eastern & Midlands RSES supports the continued growth of Dublin as a national economic engine, promotes using in-fill and brownfield sites to densify the city, support clustering and accommodate population growth.

2.2.2 Dublin Metropolitan Area Strategic Plan

As required by the NPF, the Eastern & Midlands RSES includes a MASP for Dublin. The MASP sets out a vision for growth of the metropolitan area and identifies key growth enablers and strategic public transport corridors (Figure 2-10) based on their capacity to achieve compact sustainable and sequential growth.

The MASP vision states:

‘Over the years to 2031 and with a 2040 horizon, the Dublin metropolitan area will build on our strengths to become a smart, climate resilient and global city region, expanding access to social and economic opportunities and improved housing choice, travel options and quality of life for people who live, work, study in or visit the metropolitan area’

The MASP is organised around a series of Guiding Principles, the following of which are relevant to this Plan:

- Compact sustainable growth and accelerated housing delivery.

- Integrated transport and land use.
- Alignment of growth with enabling infrastructure.
- Social regeneration (especially in areas which have been identified as having high relative deprivation).
- Metropolitan Scale Amenities: parks and strategic Green Infrastructure to develop and integrated network of amenities, to develop blueways/greenways along the canals, rivers and coast as part of the Greater Dublin Area Cycle Network Plan.



Figure 2-10: Metropolitan Area Strategic Plan Strategic Corridors

Additionally, the following Regional Policy Objectives feature in the MASP, which are relevant to this Plan:

- Regional Policy Objective 5.3: Future development in the Dublin Metropolitan Area shall be planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creating a safe attractive street environment for pedestrians and cyclists.
- Regional Policy Objective 5.8: Support the promotion and development of greenway infrastructure and facilities in the Dublin metropolitan area and to support the expansion and connections between key strategic cycle routes and greenways as set out in the NTA Greater Dublin Area Cycle Network Plan.

2.2.3 Greater Dublin Area Transport Strategy 2022 - 2042

The Transport Strategy, the six-year update of its predecessor Transport Strategy for the Greater Dublin Area 2016-2035, sets out a 20-year framework for the delivery of transport infrastructure and services in the Greater Dublin Area (GDA). The Transport Strategy emphasises the need to align with wider national and regional policies, as well as spatial planning policy

and strategy as Ireland undertakes a climate transition towards a low carbon and climate resilient society. Transport Strategy objectives are listed as:

- Enhanced natural and build environment,
- Connected communities and better quality of life,
- Strong sustainable economy,
- Inclusive transport system.

The Transport Strategy constitutes a variety of chapters relevant to this Plan: Chapter 8 (Planning for Sustainable Transport); Chapter 10 (Walking, Accessibility and Public Realm); Chapter 11 (Cycling and Personal Mobility Vehicles); Chapter 12 (Public Transport); Chapter 13 (Roads); Chapter 14 (Traffic Management and Travel Options); and Chapter 15 (Freight Delivery and Servicing) – all of which will be summarised in this section.

Chapter 8 - Planning for Sustainable Transport

Underpinning the wider Transport Strategy is the overarching objective of fostering sustainable development and integrated land use and transport planning to minimise travel demand in terms of both volume of trips made and the length of trips. This objective is to be achieved through the employment of transit-oriented development, mixed use development, filtered permeability, and consolidation of development. This raft of measures will limit urban sprawl and ensure that both everyday needs, and sustainable transport options for short and long-distance trips will be easily accessible for all residents of the GDA and by extension, Dublin City Centre.

The transport element of this chapter is defined by the Decide and Provide principle whereby decisions surrounding transport policy will be based on the most desirable future, and the transport options that will provide this. The transition to sustainable transport options which this principle enables is the Hierarchy of Road Users model (see Figure 2-11) whereby more sustainable modes are given higher preference in the planning and funding of transport schemes.

Underpinning many of these principles is the CAP23 approach of Avoid-Shift-Improve whereby trip frequencies and distances are reduced through the smart employment of land use planning, necessary trips still undertaken are made utilising sustainable forms of transport such as cycling or public transport, while all modes of transport would see an increased emphasis on efficient fuel and technologies to minimise impact on climate and surroundings by trips being made. Relevant measures are outlined below in Table 2-1.

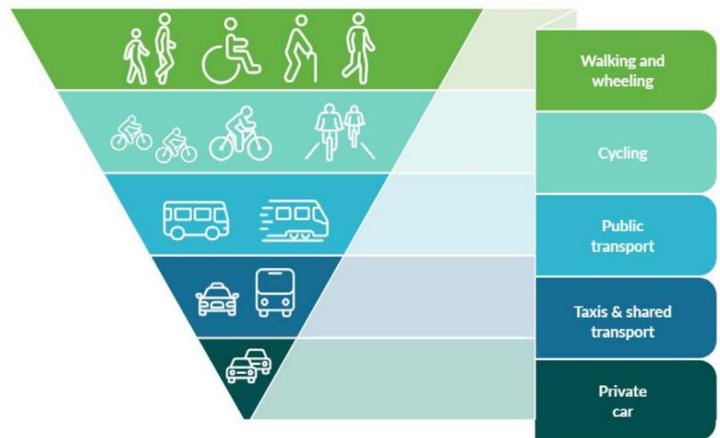


Figure 2-11: Hierarchy of Road Users (NTA NSMP)

Table 2-1: GDA Transport Strategy 2022 - 2042 Chapter 8 Relevant Measures

Transport Strategy Measures:	
PLAN1	<p>Policy Concepts in Transport and Land Use Planning</p> <p>The NTA, in the implementation of the Transport Strategy and in the development of other plans and programmes, will be guided by emerging concepts in land use and transport planning as they become integrated into the national policy framework.</p>
PLAN2	<p>The Road User Hierarchy</p> <p>The NTA, in the decision-making process around the design, planning and funding of transport schemes in the GDA, will be guided by the priority afforded to each mode in the Road User Hierarchy as set out in the Transport Strategy.</p>

Chapter 10 – Walking, Accessibility and Public Realm

Walking and wheeling, being the starting and end point of all trips is a vital element of transport systems and should be enabled through a pedestrian network where “A high quality network of footpaths and crossings should be safe, coherent, direct, attractive and comfortable”.

The Transport Strategy outlines plans for improving conditions for pedestrians through measures relating to the upkeep, improving and decluttering of footpaths and junctions which will make walking a safer and more attractive mode for short distance trips. These measures will also act to make footpaths a more welcoming place for vulnerable pedestrians. The Transport Strategy also outlines “hard” measures for improvement of pedestrian facilities alongside public realm. These are relating to pedestrian wayfinding and the further expansion of traffic free streets at varying levels – such as removal of private traffic, motorised traffic, or full pedestrianisation. Relevant measures listed within the Transport Strategy are outlined below in Table 2-2.

Table 2-2: GDA Transport Strategy 2022 - 2042 Chapter 10 Relevant Measures

Transport Strategy Measures:	
	Decluttering Footpaths
WALK3	Local authorities in the GDA will rationalise street furniture, poles and signs, and remove redundant poles, signs or other clutter in Dublin city centre and other town centres and their approaches, to allow for easier people movement.
	Crossing Points
WALK6	The NTA, with the cooperation of the local authorities, will install additional pedestrian crossing points where requirements are identified.
	Traffic-Free Streets and Pedestrianisation
WALK8	The NTA will support local authorities in the provision of traffic-free streets and pedestrianised streets in town centres where there are benefits to transport and/or the local environment and/or the local economy.

Chapter 11 – Cycling and Personal Mobility Vehicles

Cycling levels in the GDA are currently at their highest levels in 30 years, and to enable continued growth, the Transport Strategy identifies the continued need for investment in high quality cycling infrastructure which will enable the goal of tripling cycle mode share in the GDA from 4% to 12%. As part of the Transport Strategy, the Greater Dublin Area Cycle Network Plan (2013) has been reviewed with a comprehensive GDA cycle network designed for delivery throughout the lifetime of the Transport Strategy.

Along with the provision of high-quality cycling infrastructure, the provision of cycle parking is also outlined as a key necessity for an increasingly cycle-friendly city. It is envisaged that parking will be enabled through a mix of private and public parking at trip origins and destinations. Increased cycling mode share will also be enabled through the expansion of bike sharing schemes which are envisaged to cater for short distance urban trips. The Transport Strategy addresses the difficulties currently faced by long distance commuters who are restricted at peak hours from bringing bicycles onto trains in the GDA, with provision in all new carriages for bicycle storage.

Of emerging relevance is the use of E-Bikes, Electric Scooters and other emerging personal mobility modes. While E-Bikes have established themselves in legislation and plans for future cycling measures, other modes are still un-legislated and provide a wide variety of opportunities and challenges – leading to their continued monitoring by the NTA. Relevant measures outlined within the Transport Strategy are outlined below in Table 2-3.

Table 2-3: GDA Transport Strategy 2022 - 2042 Chapter 11 Relevant Measures

Transport Strategy Measures:	
	GDA Cycle Network
CYC1	It is the intention of the NTA and the local authorities to deliver a safe, comprehensive, attractive and legible cycle network in accordance with the updated GDA Cycle Network.

Transport Strategy Measures:

CYC2	<p>Cycle Infrastructure Design</p> <p>It is the intention of the NTA to ensure that cycle infrastructure in the GDA provides an appropriate quality of service to all users, through the implementation of the design guidance contained in the latest version of the National Cycle Manual.</p>
CYC5	<p>Cycle Parking</p> <p>It is the intention of the NTA to deliver, through the statutory planning process and liaison with relevant stakeholders, high quality cycle parking at origins and destinations, serving the full spectrum of cyclists including users of non-standard cycles.</p>
CYC7	<p>Bike Share Scheme Expansion</p> <p>The NTA, in collaboration with the local authorities, will seek the development of a structured network of coordinated bike share schemes, appropriately serving key urban areas and operating on an integrated basis.</p>
CYC8	<p>Bike Share Scheme Electrification</p> <p>The NTA will support the provision of electric bike share schemes, appropriately integrated in the overall bike share scheme structure for the region.</p>
CYC10	<p>Bikes on Public Transport</p> <p>The NTA will facilitate the carriage of standard bicycles on all newly acquired (during this strategy period) DART, Commuter and Intercity rail carriages operating in the GDA at all times.</p>
CYC11	<p>Pedal Assisted E-Bikes</p> <p>The NTA and local authorities will take into account the growing use of pedal-assisted E-bikes, and the benefits they may bring, in planning and designing the transport network in the GDA.</p>

Chapter 12 – Public Transport

This chapter sets out the strategy for the implementation of an overall public transport system for the region. Central to this overall provision is the delivery of a comprehensive bus network in the short-term based on significantly enhanced levels of service supported by much greater on-street priority. In the short-term there are also a number of rail lines that will be pursued such as Metrolink and the DART+ programme.

Towards the medium and long term, a number of Luas lines which have been planned for many years, together with other rail projects, will be progressed according to forecast demand. During this period, those bus corridors where demand for travel exceeds that which can be served by high frequency bus services, will have their passenger carrying capabilities increased by transitioning to higher capacity bus systems which will be implemented on an incremental basis.

Chapter 12.2 – Bus

The key intervention for bus services as part of the Transport Strategy is the construction of core bus corridors (CBCs) which will facilitate faster and more reliable journeys due to increased levels of bus priority. CBC’s will serve the core BusConnects spines and will be supplemented by orbital and local bus routes enabling fast and efficient interchange. As part of BusConnects, the New Dublin Area Bus Network is expected to complete delivery by 2025 which will see all BusConnects spines implemented. Supporting the plans set out under BusConnects will be a transition towards higher capacity and lower/zero emissions buses.

Table 2-4: GDA Transport Strategy 2022 - 2042 Chapter 12 - Bus Relevant Measures

Transport Strategy Measures:

BUS1	Core Bus Corridor Programme
-------------	------------------------------------

Transport Strategy Measures:

Subject to receipt of statutory consents, it is the intention of the NTA to implement the 12 Core Bus Corridors as set out in the BusConnects Dublin programme.

Orbital and Local Bus Routes

It is the intention of the NTA to provide significant improvements to orbital and local bus services in the following ways:

BUS3

1. Increased frequencies on the BusConnects orbital and local services; and
2. Providing bus priority measures at locations on the routes where delays to services are identified.

New Dublin Area Bus Service Network

BUS4

It is the intention of the NTA to complete the delivery of the new Dublin Area Bus Service Network in 2024.

Higher Capacity Bus Fleet

BUS6

In the later phases of the Transport Strategy period, it is the intention of the NTA to introduce higher capacity bus vehicles onto select appropriate BusConnects corridors in order to increase passenger carrying capabilities in line with forecast demand.

Zero Emission Bus Fleet for Dublin

BUS7

It is the intention of the NTA to deliver a fully low emission vehicle Bus Fleet for the Dublin Area by 2030 and a Zero Emission fleet by 2035.

Chapter 12.3 – Light Rail

The Transport Strategy outlines the 2022-2042 Light Rail network comprising of the existing red and green lines, along with Luas Lucan, Metrolink, and extensions of existing lines to Bray, Poolbeg and Finglas. Routes for future Light Rail opportunities are outlined as areas where travel demand is likely to exceed that which can be served by bus, it is identified that *“a network of multiple high-capacity lines incorporating bus and light rail is a more viable option in serving a city of the scale and density of Dublin in that a much wider population can be served directly with a high quality system than could feasibly be served with a more limited Metro network”*. As such the measures outlined below, see Table 2-5, are predominantly related to the expansion of the Luas network.

Table 2-5: GDA Transport Strategy 2022 - 2042 Chapter 12 – Light Rail Relevant Measures

Transport Strategy Measures:

MetroLink

LRT1

A Railway Order application for the MetroLink was made to An Bord Pleanála in 2022. Subject to receipt of approval, it is intended to proceed with the construction of the project.

Further Metro Development

LRT2

In reviewing and updating the Transport Strategy, which takes place every 6 years, the NTA will assess the requirement to provide additional Metro lines in the GDA based on updated forecast demand for travel and on emerging significant changes in land use and spatial policy, including previously considered options to extend Metrolink southwards towards UCD, or along the existing Luas Green Line, or towards South West Dublin.

Luas Finglas

LRT3

It is intended to extend the Luas Green Line northwards to Finglas, inclusive of a potential park and ride facility at or close to its terminal stop.

Transport Strategy Measures:

	Luas Lucan
LRT4	It is intended to develop a light rail line from Lucan to the City Centre, supplementing and complementing the planned bus system, to serve the overall public transport needs in this area.
	Luas Bray
LRT5	It is intended to extend the Luas Green Line southwards in order to serve the Bray and Environs area.
	Luas Poolbeg
LRT6	Subject to the assessment of forecast travel demand arising out of development patterns in the SDZ and its environs, it is intended to extend the Red line to Poolbeg.
	Post-2042 Luas Lines
	The NTA will undertake detailed appraisal, planning and design work for the following Luas lines, with a view to their delivery in the period after 2042:
	1. City Centre to Clongriffin;
	2. City Centre to Beaumont and Balgriffin;
	3. Green Line Extension to Tyrrelstown;
	4. City Centre to Blanchardstown;
LRT7	5. Red Line Reconfiguration to provide the following lines*:
	a. Clondalkin-City Centre; and
	b. Tallaght-Kimmage-City Centre.
	6. Tallaght to City Centre via Knocklyon*;
	7. Green Line Reconfiguration to provide the following lines*:
	a. City Centre to Bray via UCD and Sandyford; and
	b. Sandyford to City Centre
	* Subject to Measure LRT2
	Enhance Priority for Trams
	The NTA, in conjunction with TII and the local authorities, will explore how best to manage the road and street network to:
LRT11	<ul style="list-style-type: none"> • ensure reliable and competitive journey times for Luas; • maximise service efficiency; and • enable capacity to expand in line with increase future demand.

Chapter 12.4 Dart+ and Rail

Due to the potential that the rail network, and in particular the DART service, has to enable a low carbon transition – one of the key measures within the Transport Strategy is outlined as the DART+ project whereby all passenger lines radiating from Dublin will be electrified and modernised. This project will see over 100km of newly electrified railway lines and will enable sustainable development in more areas of Dublin with more passengers being delivered to city centre stations by DART from existing and new stations. Alongside plans for DART+, will be the reopening of the Navan Rail Line which will see a further travel demand via rail from County Meath into Dublin City Centre.

Table 2-6: GDA Transport Strategy 2022 - 2042 Chapter 12 – Dart+/Rail Relevant Measures

Transport Strategy Measures:	
	<p>DART+</p> <p>The DART+ Programme will be implemented, providing electrified services to Drogheda in the north and Maynooth plus Celbridge in the west, in addition to an enhanced level of service to Greystones. The programme will include additional fleet, aligned with higher passenger demand, and a higher frequency of service on all lines.</p>
RAIL1	
	<p>Navan Rail Line</p> <p>The existing rail network in the GDA will be extended by the provision of a new rail line from the M3 Parkway terminus station (just west of Dunboyne) to Navan town, serving Dunshaughlin and Kilmessan along its route. The precise alignment of this line will be determined as the project proceeds through the scheme design, appraisal and planning processes.</p>
RAIL4	
	<p>New Rail Stations</p> <p>The NTA, in conjunction with Irish Rail, will develop new rail stations at Cabra, Glasnevin, Heuston West, Kylemore, Woodbrook, west of Sallins, west of Louisa Bridge and west of Maynooth. Kishoge station will also open in the short term as development of the Clonburris SDZ is realised. Other stations will be considered where development patterns support such provision.</p>
RAIL6	

Chapter 13 – Roads

The overarching aim of this chapter is the prioritisation of sustainable travel. This sees measures recommended for the continued protection of strategic function of existing roads but limits the ability for further roads to be built – unless for safety, economy, sustainable travel or development needs. Within the Transport Strategy, the Southern Port Access Road is recommended which will enable enhanced connection to the south lands of Dublin Port – enabling more efficient economic activity in this area and enabling development.

Table 2-7: GDA Transport Strategy 2022 - 2042 Chapter 13 Relevant Measures

Transport Strategy Measures:	
	<p>Southern Port Access Route</p> <p>A new public road which links from the national road network at the Dublin Tunnel to serve the south port lands and adjoining areas will be delivered. A reservation for such development should be included in the Dublin City Development Plan.</p>
ROAD5	
	<p>Urban Roads and Streets</p> <p>The implementation of the Transport Strategy will support and facilitate a place based approach to urban roads and streets, based on the measures in Chapter 14.</p>
ROAD10	
	<p>Roadspace Reallocation</p> <p>The local authorities and the NTA will implement a programme of roadspace reallocation from use by general traffic or as parking to exclusive use by sustainable modes as appropriate, as a means of achieving the following:</p>
ROAD13	<ul style="list-style-type: none"> • Providing sufficient capacity for sustainable modes; • Improving safety for pedestrians and cyclists; and • Encouraging mode shift from the private car and reducing emissions.

Chapter 14 – Traffic Management and Travel Options

Chapter 14 of the Transport Strategy places emphasis on the need to continue the reduction of private car usage in the city centre with increasing uptake in sustainable modes. This transition will be realised through measures such as reduced speed limits, low traffic neighbourhoods, car free zones, and low car parking/car free developments where possible. Where car trips are unavoidable, it is the objective of the Transport Strategy to encourage electric vehicle uptake where possible through provision of charging infrastructure, and car sharing.

Table 2-8: GDA Transport Strategy 2022 - 2042 Chapter 14 Relevant Measures

Transport Strategy Measures:	
	<p>Management of Dublin City Centre</p> <p>The NTA and Dublin City Council, in collaboration, will deliver the public transport, cycling and walking networks, and public realm that are required to serve an expanding City Centre and to facilitate a post-Covid recovery based on sustainable transport.</p>
TM1	<p>The NTA and Dublin City Council will also ensure that the delivery of goods to city centre businesses and the operation of taxis are managed to the benefit of all users of the city centre.</p>
	<p>Low-Traffic Neighbourhoods</p> <p>The NTA will support local authorities seeking to implement Low-Traffic Neighbourhoods in urban areas across the region.</p>
TM6	
	<p>Car Free Zones</p> <p>The NTA will support local authorities seeking to provide car free zones in urban areas where there are benefits to transport, traffic and/or the local economy.</p>
TM7	
	<p>Car Sharing</p> <p>The NTA will support the local authorities, workplaces and other relevant agencies and companies in the implementation of car sharing initiatives, in particular as part of new housing developments.</p>
TM11	
	<p>Car Free Residential Developments</p> <p>The NTA will support local authorities in assessing the potential for, and delivery of car-free residential developments in locations close to Dublin City Centre and at major rail-based interchanges / Mobility Hubs.</p>
TM13	
	<p>Existing Workplace Parking in Dublin City Centre</p> <p>It is the intention of the NTA to discourage the use of existing car parking spaces at all workplaces in Dublin City Centre, Key Towns and large metropolitan centres, through such measures as:</p>
TM15	<ul style="list-style-type: none"> • Recommendation of a Workplace Parking Levy; • Development of a policy of parking reduction at public sector workplaces; • As opportunities for redevelopment arise, the use of the planning process to reduce parking at centres over time; and • Incentives for the re-development of parking spaces for more productive uses.
	<p>Car-Free Commercial Development in Dublin City Centre</p> <p>It is recommended that the Dublin City Development Plan incorporate a policy which states that proposals for commercial development in Dublin City Centre will seek to provide zero parking, other than those spaces that may be required for disabled people.</p>
TM16	

Transport Strategy Measures:

On-Street-Parking

TM19

The NTA will support local authorities in seeking to reduce the level of free or cheaply available on-street parking with a view to the reallocation of the roadspace to sustainable modes, and/or the implementation of charging regimes which facilitates motorists contributing to the local economy.

Electric Cars

The NTA, TII and local authorities will facilitate the conversion of the private car fleet to electric in the following ways:

TM20

- Providing public charging points at key destinations such as public car parks, Park and Ride facilities, onstreet in town centres, and public parks;
- Ensuring that where car parking is proposed as part of new residential developments, provision is made for all spaces to be dedicated over time to electric cars with provision for charging infrastructure built-in from the outset;
- Exploring potential approaches for the provision of charging points in existing residential areas where houses do not have dedicated off-street parking;
- Providing significantly expanded electric car charging facilities at service stations on the road network, particularly the national road network; and
- Ensuring that charging infrastructure does not encroach on footpaths, impair the public realm or otherwise compromise the free movement of pedestrians, cyclists and public transport.

Chapter 15 – Freight, Delivery and Servicing

Due to the intensive transport requirements of the freight industry, challenges exist in relation to safety, congestion, air and noise pollution. With national and Dublin growth levels predicted in the NPF, there is likely to be an increased demand for delivery and freight activity in Dublin City Centre and the wider GDA. To combat the challenges associated with this, a low carbon transition must take place in the freight industry with low/no emission modes utilised such as EVs, trains, or bicycles etc. As with land use planning and the transport of people outlined in previous sections, it is also necessary to plan appropriate locations for freight intensive development in line with transport needs and provision. This is supported further by the outlining of measures for consolidation centres, and Heavy Goods Vehicles (HGV) management to minimise HGV impact.

Table 2-9: GDA Transport Strategy 2022 - 2042 Chapter 15 Relevant Measures

Transport Strategy Measures:

Environmental Measures for Freight

It is the intention of the NTA, in collaboration with other authorities, to:

FREIGHT1

- Seek the reduction of the amount of ‘last mile trips’ being made by non-zero emission vehicles;
- Facilitate the transition to zero-emission delivery vehicles including emerging technologies for HGV, Electric Light Goods Vehicles and cargo bikes; and
- Support local ‘Click and Collect’ facilities where appropriate to minimise trips to individual homes and workplaces.

Planning Policy and Freight

FREIGHT3

It is recommended that local authorities in the GDA, with the input of the NTA and TII, identify appropriate locations for freight-intensive developments in their Development Plans.

HGV Management

FREIGHT4

Consideration will be given to identifying specific HGV routes and / or time restrictions for deliveries to improve the efficiency of HGV movements while minimising their impact.

Transport Strategy Measures:

	Rail Freight
FREIGHT5	The NTA will support Irish Rail in the implementation of the outcomes of the Rail Freight 2040 Strategy.
	Consolidation Centres
FREIGHT7	It is the intention of the NTA, in collaboration with local authorities, to support and secure the delivery of consolidation centres and break bulk facilities, which will facilitate smaller vehicles delivering to Dublin City Centre and other major town centres.

2.3 Local Level Policies

2.3.1 Dublin City Development Plan 2022-2028

The DCDP will govern spatial policy in the city; its main strategic approach is to develop a city that is low carbon, sustainable and climate resilient. The DCDP’s vision is for a city where people will choose to live; work; experience city living; invest; and socialise – the plan to create a socially inclusive city of urban neighbourhood’s hinges on the principle of 15-minute cities whereby people’s daily requirements will be accessible within a 15-minute walk, cycle or public transport journey.

As the DCDP inherits policy directives from the NPF and the East and Midlands RSES, it aims to promote compact growth and sustainable development patterns. In particular, the DCDP promotes transit-oriented development by encouraging intensified density in proximity to DART and Luas lines.

Of the 16 chapters that constitute the DCDP, Chapter 7 (The City Centre, Urban Villages and Retail); Chapter 8 (Sustainable Movement and Transport); Chapter 10 (Green Infrastructure and Recreation); and Chapter 13 (Strategic Development Regeneration Areas) are of particular relevance to this Plan. Each Chapter has a series of policies and objectives associated with it and the relevant ones are presented in turn.

Chapter 7 – The City Centre, Urban Villages and Retail

With a focus on the challenges posed by the pandemic’s effect on urban activity, the changing nature of retail and increased competition of sprawling retail developments further outside the city centre, Chapter 7 of the DCDP recognises that the *“city centre and the city’s other urban centres will need to offer wide ranging appeal to draw and attract visitors. This includes leisure uses, residential uses, office and community uses as well as retail uses.”* The centre of Dublin is the premier location for retail activity in the State and it is the policy of the council to affirm and maintain this primacy. The chapter’s strategic approach includes the following key points:

- *“Place sustainability and climate resilience as the over-arching consideration in the development of the city centre and urban villages with a particular emphasis on healthy streets, active travel and public transport accessibility, building on the 15 minute city concept, the primacy of the city centre and the vitality and viability of existing and emerging centres.”*
- *“Provide a vibrant mix of shopping, leisure, office and residential uses, third spaces and family friendly attractions in the city centre thereby, offering shoppers an experience and a depth of offer that attracts suburban shoppers / workers / tourist / students / residents to shop, socialise and spend time in the city centre.”*
- *“Recognise the importance of placemaking and an attractive public realm and its contribution to supporting city centre retail, enhanced pedestrian amenities and developing the city centre and urban villages as key destinations.”*
- *“Place an emphasis on healthy place making in the city centre and in all urban centres with initiatives tailored towards making these centres better places to live and to visit.”*

The specific areas targeted include the core retail area detailed in Figure 2-12 and the Urban Village Centres, shown in Figure 2-13. The DCDP identifies a need for these to offer a vibrant mix of activities and space uses to make them attractive to visitors. In this sense, the categorisation of streets in Figure 2-12 identifies streets where the primary retail function is to be protected, with an emphasis on higher order comparison retail as Category 1. Category 2 streets in the figure are designated to provide for a more varied use including retail but also other complementary uses with the potential to increase shopper dwell time in the city.

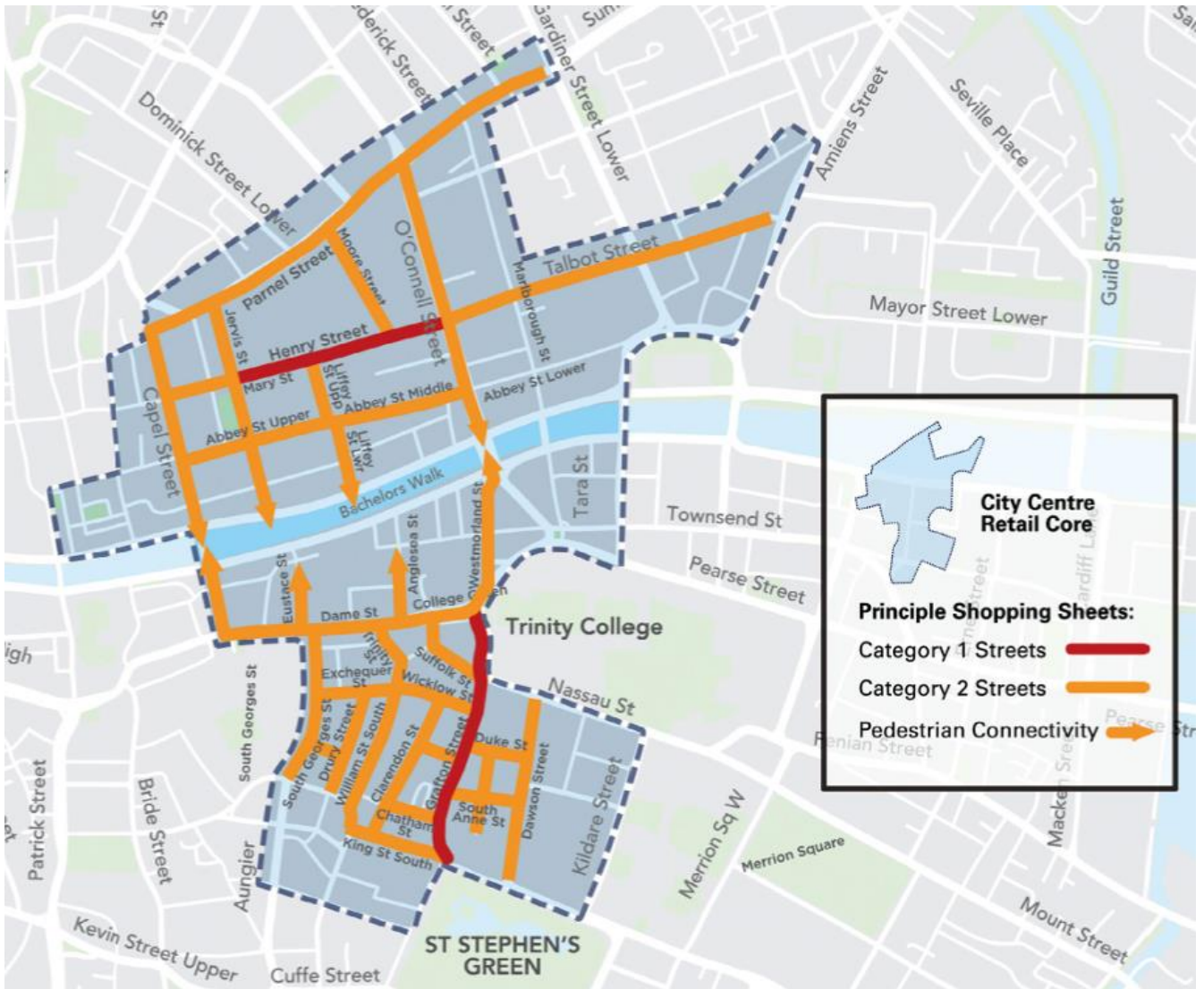


Figure 2-12: Retail Core from Dublin City Development Plan

The role for Key Urban Villages is to serve as top urban centres and commercial activity locations to complement the city centre. They should be based around high quality transport and can play an important role in inviting regeneration in their vicinity. Support for high density mixed used developments and residential led intensification in urban villages will enable them to strengthen the positive impact they have on their respective local areas' placemaking functions as social gathering places. They should also attain a viable and varied range of functions to serve their communities.

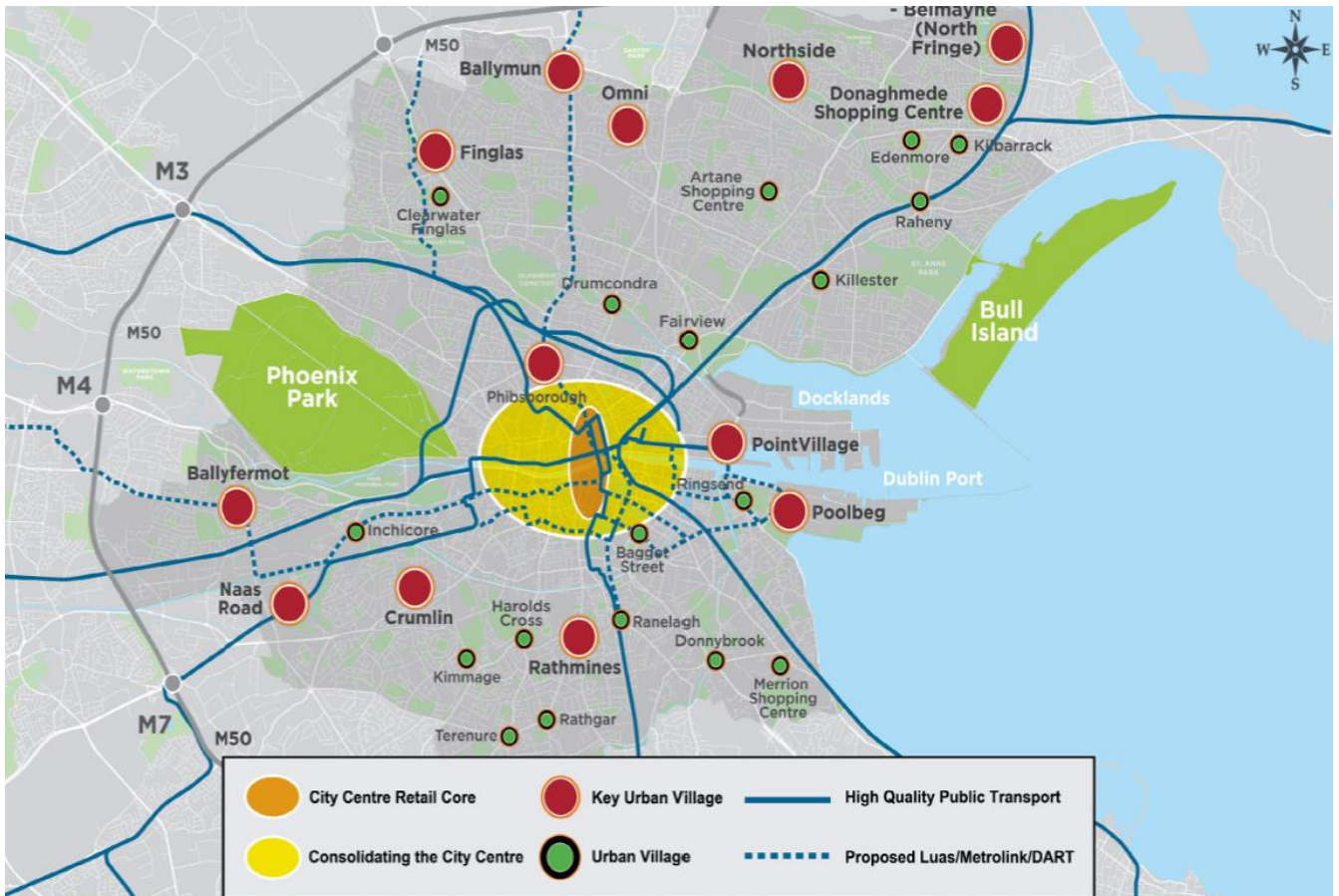


Figure 2-13: Urban Villages and Retail Locations from Dublin City Development Plan

A high-quality public realm should be promoted throughout the city and enabled by the development of Urban Villages and the City Centre Retail core. Public realm quality affects the city experience, its attractiveness as a place to live work and visit, and influences a range of health, well-being, and social factors. Public Realm quality is vital to the liveability and health of the city and to its economic success. A high-quality public realm will provide:

- Quality urban design (Sustainable Residential Development in Urban Areas (2009) and Design Manual for Urban Roads and Streets (2012))
- A Sense of Place
- Connections
- Comfort
- Sociable Spaces
- Safety
- High Quality Materials
- Green Infrastructure
- Civic Amenities

The policies of the City Council (Table 2-10) and its objectives (Table 2-11) relevant to this Plan are reproduced in the tables below:

Table 2-10: City Centre, Urban Villages and Retail Policies from the DCDP

<i>It is the Policy of Dublin City Council:</i>	
CCUV16	Category 1 and Category 2 Streets

It is the Policy of Dublin City Council:

To protect the primary retail function of Category 1 Streets in the city and to provide for a mix of retail and other complementary on Category 2 streets. To promote active uses at street level on the principal shopping streets in the city centre retail core having regard to the criteria for Category 1 and Category 2 streets.

Diversifying the City Centre

CCUV17 To ensure the resilience of Dublin City Centre to changing trends in retail demand, appropriate opportunities to further diversify the city centre as a place to live, work and socialise will be encouraged.

Parking and the Retail Core

CCUV19 To support the re-use and replacement of car parks in the centre of the retail core and to safeguard short term car parking provision for shoppers and visitors at the periphery of the retail core. The redevelopment of central car parks will support public realm improvements and pedestrian priority in the retail core.

Mixed Use Key Urban Villages/Urban Villages

CCUV20 To support the development, regeneration and or consolidation of Key Urban Villages/urban villages as appropriate, to ensure these centres continue to develop their mixed used role and function adding vitality to these centres including through the provision of residential development

Intensification

CCUV22 To support and promote the redevelopment and intensification of underutilised sites within Key Urban Villages and urban villages including surface car parks.

Active Uses

CCUV23 To promote active uses at street level in Key Urban Villages and urban villages and neighbourhood centres.

Neighbourhood Centres / Local Shopping

CCUV24 To support, promote and protect Neighbourhood and Local Centres which play an important role in the local shopping role for residents and provide a range of essential day to day services and facilities.

Plan Active and Healthy Streets

CCUV37 To promote the development of a network of active, healthy, attractive, high quality, green, and safe streets and public spaces which are inviting, pedestrian friendly and easily navigable. The aspiration is to encourage walking as the preferred means of movement between buildings and activities in the city. In the case of pedestrian movement within major developments, the creation of a public street is preferable to an enclosed arcade or other passageway.

High Quality Streets and Spaces

CCUV38 To promote the development of high-quality streets and public spaces which are accessible and inclusive in accordance with the principles of universal design, and which deliver vibrant, attractive, accessible and safe places and meet the needs of the city’s diverse communities regardless of age, ability, disability or gender.

Permeable, Legible and Connected Public Realm

CCUV39 To deliver a permeable, legible and connected public realm that contributes to the delivery of other key objectives of this development plan namely active travel and sustainable movement, quality urban design, healthy placemaking and green infrastructure.

Public Safety

CCUV40 To promote the development of a built environment and public spaces which are designed to deter crime and antisocial behaviour and which promote safety, as set out in the ‘Your City Your Space’ Public Realm Strategy 2012.

New Infrastructure Development

CCUV41 Infrastructure projects in Dublin City should ensure placemaking outcomes through a design-led approach. Dublin City Council will work the relevant agencies / infrastructure providers to achieve public realm enhancements in the design, implementation and delivery of infrastructure projects

It is the Policy of Dublin City Council:

Public Realm - Key Urban Villages/Urban Villages

To provide environmental and public realm improvements in Key Urban Villages and urban villages around the city through the implementation of Local Environment Improvement Plans / Village Improvement Plans and Placemaking Strategies in order to support the regeneration and revitalisation of the city’s urban villages. Such plans:

- CCUV42**
- (i) will identify opportunities for micro spaces (small spaces to facilitate lingering and social, community and cultural interaction and events); and
 - (ii) will be informed by walkability exercises led by older people, parents, visually impaired and people with disabilities, to make city outdoor spaces more accessible and safe for all, creating walkable communities and age friendly spaces.

Pedestrian Wayfinding Signage System

To maintain, consolidate and expand the Pedestrian Wayfinding System; to ensure a coherent design approach in the area between the canals and Docklands; and to actively remove redundant brown tourist signage as the opportunity arises. The provision of new brown tourist signage will not be supported in the area between the canals and Docklands.

CCUV46

Table 2-11: City Centre, Urban Villages and Retail Objectives from the DCDP

It is an Objective of Dublin City Council:

CCUV05

Underutilised and Inactive City Centre Streets

To reactivate the underutilised and inactive city centre streets and lanes in the city centre through the inclusion of art, landscaping, street furniture, outdoor dining, activity spaces and residential uses.

CCUV06

Car Parks and Last Mile Delivery

To investigate the potential of the use of car parks in the city centre for micro hubs and distribution centres for ‘last-mile’ delivery as part of the preparation of a Servicing / Logistics Strategy for the city

CCUV013

Civic Spine / College Green

To implement a programme of environmental and public realm improvements along the Grand Civic Spine from Parnell Square to Christchurch Place and along the city quays, and to prioritise the redevelopment of College Green as a pedestrian friendly civic space including the pedestrianisation of Foster Place.

CCUV016

Improve Links North / South

To improve North / South links between Grafton Street and Henry Street Shopping areas through the implementation of the ‘The Heart of the City’ Public Realm Masterplan for the City Core 2016.

CCUV018

Linking Office and Culture Clusters to the Retail Core

To devise a programme to enhance pedestrian amenities, encourage more street based activities and provide micro spaces along key routes from office and culture clusters to the retail core to enhance the vibrancy of the streetscape and to draw office workers and tourists into the retail core.

CCUV021

Manage Pedestrian Wayfinding System

To manage the Pedestrian Wayfinding System in consultation with relevant Governments Departments, state agencies (e.g. Fáilte Ireland, Transport Infrastructure Ireland), national cultural institutions and other civic interests in order to ensure the provision of appropriate signage for the principal places of interest in the city.

Chapter 8 – Sustainable Movement and Transport

Recognising the ‘Need to move away from private car and fossil-fuel-based mobility to reduce the negative impacts of transport and climate change’, and that the ‘city centre has to cater for a wide range of competing demands with public transport, pedestrians, cyclists, the private car, and functional and servicing needs’, Chapter 8 of the DCDP sets a number of policies and objectives reproduced in Table 2-12 and Table 2-13.

Through these, the DCDP aims to:

- Better integrate land use and transport to minimise the need to travel and ensure that development takes place where active travel can be successfully promoted;
- Improve public transport and active travel infrastructure;
- Implement healthy placemaking which involves shaping the built environment so that healthy activities and experiences are integral to people’s everyday lives;
- Tackle congestion; and
- Embrace emerging mobility options.

Table 2-12: Sustainable Transport and Mobility Policies from the DCDP

<i>It is the Policy of Dublin City Council:</i>	
	Modal Shift and Compact Growth
SMT1	To continue to promote modal shift from private car use towards increased use of more sustainable forms of transport such as active mobility and public transport, and to work with the National Transport Authority (NTA), Transport Infrastructure Ireland (TII) and other transport agencies in progressing an integrated set of transport objectives to achieve compact growth.
	Decarbonising Transport
SMT2	To support the decarbonising of motorised transport and facilitate the rollout of alternative low emission fuel infrastructure, prioritising electric vehicle (EV) infrastructure.
	Integrated Transport Network
SMT3	To support and promote the sustainability principles set out in National and Regional documents to ensure the creation of an integrated transport network that services the needs of communities and businesses of Dublin City and the region.
	Integration of Public Transport Services and Development
SMT4	To support and encourage intensification and mixed-use development along public transport corridors and to ensure the integration of high-quality permeability links and public realm in tandem with the delivery of public transport services, to create attractive, liveable and high quality urban places.
	Mobility Hubs
SMT5	To support the development of mobility hubs at key public transport locations and local mobility hubs in tandem with new developments to include shared car and micro mobility initiatives, creating a vibrant, accessible and liveable place to support the transportation experience.
	Public Realm Enhancements
SMT8	To support public realm enhancements that contribute to place making and liveability and which prioritise pedestrians in accordance with Dublin City Council’s Public Realm Strategy (‘Your City – Your Space’), the Public Realm Masterplan for the City Core (The Heart of the City), the Grafton Street Quarter Public Realm Plan and forthcoming public realm plans such as those for the Parnell Square Cultural Quarter Development and the City Markets Area.
	Pedestrian Network
SMT10	To protect, improve and expand on the pedestrian network inclusive of facilities for people with mobility impairment and/or disabilities, including the elderly and people with children, linking key public buildings, shopping streets, public transport points and tourist and recreational attractions.
	Urban Villages and the 15-Minute City
SMT12	To support the role of the urban villages in contributing to the 15-minute city through improvement of connectivity in particular for active travel and public realm enhancement.
	City Centre Road Space
SMT13	To manage city centre road-space to best address the needs of pedestrians and cyclists, public transport, shared modes and the private car, in particular, where there are intersections between DART, Luas and Metrolink and with the existing and proposed bus network.
SMT14	‘Last-Mile’ Delivery

It is the Policy of Dublin City Council:

To seek to achieve a significant reduction in the number of motorised delivery vehicles in the city through supporting and promoting the use of the ‘last-mile’ delivery through the development of micro hubs and distribution centres.

SMT15 Walking, Cycling and Active Travel

To prioritise the development of walking and cycling facilities and encourage a shift to active travel for people of all ages and abilities, in line with the city’s mode share targets.

SMT17 The Pedestrian Environment

To continue to maintain and improve the pedestrian environment and promote the development of a network of pedestrian routes which link residential areas with recreational, educational and employment destinations to create a pedestrian environment that is safe, accessible to all in accordance with best accessibility practice.

SMT19 Walking and Cycling for School Trips

To promote walking and cycling for school trips through the promotion of initiatives such as “Safe Routes to School”, the ‘Green Schools’ and ‘Schools Streets’ projects, and to prioritise school routes for permeability projects and provision and enhancements of pedestrian and cycle ways.

SMT20 Key Sustainable Transport Projects

To support the expeditious delivery of key sustainable transport projects including Metrolink, Bus Connects, DART+ and Luas expansion programme so as to provide an integrated public transport network with efficient interchange between transport modes, serving the existing and future needs of the city and region.

The Rail Network and Freight Transport

- (i) To work with Iarnród Éireann/Irish Rail, the NTA, TII and other operators to progress a coordinated approach to improving the rail network, integrated with other public transport modes to ensure maximum public benefit and promoting sustainable transport and improved connectivity.
- (ii) To facilitate the needs of freight transport in accordance with the NTA’s Transport Strategy for the Greater Dublin Area 2016 – 2035 and forthcoming review.

SMT22 Shared Mobility and Adaptive Infrastructure

To promote the use and expansion of shared mobility to all areas of the city and facilitate adaptive infrastructure for the changing modal transport environment, including other micro-mobility and shared mobility, as part of an integrated transport network in the city.

SMT23 On-Street Parking

To manage on-street car parking to serve the needs of the city alongside the needs of residents, visitors, businesses, kerbside activity and accessible parking requirements, and to facilitate the re-organisation and loss of spaces to serve sustainable development targets such as in relation to, sustainable transport provision, greening initiatives, sustainable urban drainage, access to new developments, or public realm improvements

SMT24 Commuter, Shopping, Business and Leisure Parking

To discourage commuter parking and to ensure adequate but not excessive parking provision for short-term shopping, business and leisure uses.

SMT26 Repurposing of Multi-Storey Car Parks

To support the repurposing of multi-storey car parks for alternative uses such as central mobility hubs providing high density bike parking, shared mobility services, ‘last mile’ delivery hubs and recreational or cultural uses.

SMT27 Expansion of the EV Charging Network

To support the expansion of the EV charging network by increasing the provision of designated charging facilities for Electric Vehicles on public land and private developments in partnership with the ESB and other relevant stakeholders; and to support the Dublin Regional EV Parking Strategy.

SMT28 National Road Projects

To protect national road projects as per the NTA Strategy for the Greater Dublin Area 2016 – 2035 and its review including the provision of a Southern Port Access Route to Poolbeg.

It is the Policy of Dublin City Council:

SMT29	<p>Transport Tunnels</p> <p>(i) To require the submission of appropriate development assessments for all development proposals located in the vicinity of Dublin Tunnel, the requirements of which are set out in Appendix 5.</p> <p>(ii) To require consultation with Iarnród Éireann/Irish Rail in relation to heavy rail for any proposed public transport tunnel.</p>
SMT32	<p>Traffic Calming and Self-Regulation Street Environments</p> <p>To ensure that all streets and street networks are designed to passively calm traffic through the creation of a self-regulating street environment that are suited to all users, including pedestrians and cyclists.</p>

Table 2-13: Sustainable Transport and Mobility Objectives from the Draft Dublin City Development Plan 2022-2028

It is an Objective of Dublin City Council:

SMT01	<p>Transition to More Sustainable Travel Modes</p> <p>To achieve and monitor a transition to more sustainable travel modes including walking, cycling and public transport over the lifetime of the development plan, in line with the city mode share targets of 26% walking/cycling/micro mobility; 57% public transport (bus/rail/Luas); and 17% private (car/ van/HGV/motorcycle).</p>
SMT02	<p>Improving the Pedestrian Network</p> <p>To improve the pedestrian network and prioritise the introduction of tactile paving, ramps and kerb dishing at appropriate locations, including pedestrian crossings, taxi ranks, bus stops and rail platforms in order to optimise accessibility for all users.</p>
SMT08	<p>Cycling Infrastructure and Routes</p> <p>To improve existing cycleways and bicycle priority measures and cycle parking infrastructure throughout the city and villages, and to create protected cycle lanes, where feasible. Routes within the network will be planned in conjunction with green infrastructure objectives and the NTA’s Cycle Network Plan for the Greater Dublin Area, and the National Cycle Manual, having regard to policies GI2, GI6 and GI8 and objectives GIO2 and GIO16.</p>
SMT010	<p>Cycle Parking Spaces</p> <p>To provide publicly accessible cycle parking spaces, both standard bicycle spaces and non-standard for adapted and cargo bikes, in the city centre and the urban villages, and near the entrance to all publicly accessible buildings such as schools, hotels, libraries, theatres, churches etc. as required.</p>
SMT013	<p>River Liffey Boardwalk</p> <p>Subject to a feasibility assessment, to seek to extend the River Liffey Boardwalk as a key leisure walking and seating space in the city</p>
SMT017	<p>Cross Guns Bridge</p> <p>To seek improvements to Cross Guns Bridge for pedestrian and cycle users, taking into consideration the BusConnects and Metrolink projects.</p>
SMT027	<p>Summerhill Pedestrian/Cycle Connection</p> <p>To provide a pedestrian/cycle connection linking Summerhill to Mountjoy Place.</p>
SMT028	<p>Dominick Street Lower Pedestrian/Cycle Connection</p> <p>To provide a pedestrian/cycle connection linking Dominick Street Lower to Dominick Place.</p>

Chapter 10: Green Infrastructure and Recreation

Chapter 10 details the DCDP’s approach to Green Infrastructure and Recreation; here the policies and objectives relating to active travel infrastructure would be of importance to the Plan.

The DCDP envisages a proactive green infrastructure strategy and states that ‘Landscape and park features contribute to the city’s high quality environment and they are essential resources for conserving biodiversity and creating a healthy, low-carbon resilient and connected city’.

The key relevant policies and objectives are given below in Table 2-14 and Table 2-15.

Table 2-14: Green Infrastructure Policies from the DCDP

<i>It is the Policy of the Dublin City Council:</i>	
	Connectivity
GI2	To develop an interconnected green infrastructure network of strategic natural and semi-natural areas with other environmental features including green spaces, rivers, canals, the coastal and marine area and other physical features including streets and civic spaces that supports ecological, wildlife, and social connectivity.
	Greening of Public Realm / Streets
GI5	To integrate urban greening features including nature based solutions into the existing public realm where feasible and into the design of public realm projects for civic spaces and streets. The installation of living green walls will be encouraged to the fullest possible extent throughout the city of Dublin.
	Minimise Impact – Light and Noise
GI18	To minimise the environmental impact of external lighting and noise at sensitive locations to achieve a sustainable balance between the needs of an area, the safety of walking and cycling routes and the protection of sensitive species such as bats (see also Section 9.5.9 Public & External Lighting).
	Open Space Provision (sq. m.) per 1,000 Persons Benchmark
GI25	To ensure equality of access for all citizens to the public parks and open spaces in Dublin City and to promote more open space with increased accessibility and passive surveillance where feasible. In this regard, a city wide range of 2.5ha to 3.6ha of parks per 1,000 population benchmark for green/ recreational space as set out in the 2019 Parks Strategy (or as updated) shall be a policy goal and quality standard.
	Linear Parks and Recreational Use of Waterways Aspects
GI32	To develop linear parks, sustainable riverine access, walkways, cycleways and water focused recreational, sporting and tourism amenities which enhance appreciation of rivers in a manner that ensures that any adverse environmental effects are avoided and ecological enhancements, where appropriate, are employed to ensure a net biodiversity gain. Where lands along the waterways are in private ownership, it shall be policy in any development proposal to secure public access along the waterway.

Table 2-15: Green Infrastructure Policies from the DCDP

<i>It is an Objective of the Dublin City Council:</i>	
	Metropolitan and Local Greenways
GIO6	To support the development of the following metropolitan greenways and local cycleways / walkways: Royal Canal and the Grand Canal (including the inner Grand/Royal canal loop linking the two canals via the Phoenix Park). Rivers Liffey (Dublin Galway Euro route) and Dodder (to Dublin Mountains). Coastal corridor. Local routes and extension of existing routes including along the Rivers Tolka, Santry, Poddle, Camac and Mayne

Chapter 13: Strategic Development Regeneration Areas

There are 17 Strategic Development Regeneration Areas (SDRAs) identified in the DCDP and these are a key element in delivering compact growth for Dublin; of these, the following 11, also shown on Figure 2-14, are inside the Canal Cordon or bordering it:

- SDRA 6: Docklands
- SDRA 7: Heuston and Environs
- SDRA 8: Grangegorman/Broadstone
- SDRA 10: North East Inner City
- SDRA 11: St. Teresa’s Garden and Environs
- SDRA 12: Dolphin House
- SDRA 13: Markets Area & Environs
- SDRA 14: St. James Medical Campus & Environs
- SDRA 15: Liberties and Newmarket Square
- SDRA 16: Oscar Traynor Road
- SDRA 17: Werburgh Street

Each SDRA is governed by individual principles and objectives which relate to architectural and urban design, phasing, access and permeability, height, urban greening and biodiversity, surface water management, river restoration, sustainable energy, climate change, and cultural infrastructure.

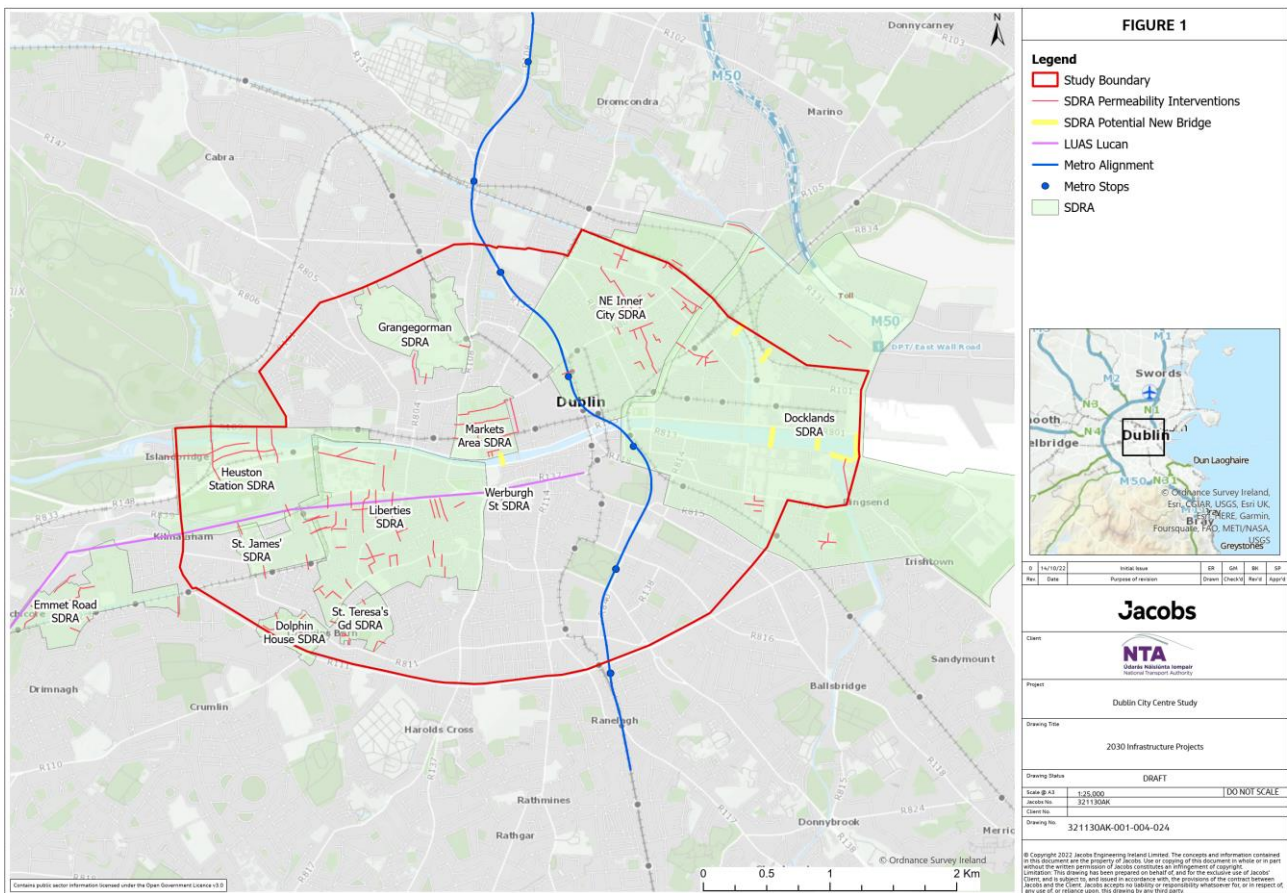


Figure 2-14 Strategic Development Regeneration Area (SDRA) locations

2.3.2 Public Realm Strategy (Your City, Your Space 2012)

The Public Realm Strategy for Dublin (the Public Realm Strategy) was developed as an objective of the 2011-2017 Dublin City Development Plan and as such falls within the legislative context of the latter. The 2022-2028 DCDP continues to make reference to the Public Realm Strategy, which retains its relevance for planning and spatial policy in the city. It covers the area between the canals (shown in Figure 2-15) and envisions the city to be sustainable, dynamic, and resourceful with an international reputation for its unique character, vibrant culture, and a diverse, smart, green, innovative economy. From

this Vision, the Public Realm Strategy exposes the city's current challenges, sets up a series of principles to address the issues, identifies actions to be taken and finally proposes a set of projects to overcome the identified challenges. The Public Realm Strategy's principles are the following:

- Put people first;
- Recognise the varied roles of streets;
- Protect and enhance Dublin's character and history;
- Make streets welcoming and safe;
- Improve quality through high quality contemporary design;
- Improve quality through management and maintenance;
- Achieve more through collaboration and pilots;
- Improve sustainability;
- Continue to develop research on users' needs, history context and best practice; and
- Stay on track.



Figure 2-15: Public Realm Strategy Area (DCC)

Some of the projects resulting from the Public Realm Strategy that have improved the Public Realm in the recent past are listed below:

- Grafton Street Quarter Public Realm: Regeneration of the street and integration with the historic quarter of the city.
- Trinity to IMMA East-West Route: Ties together several projects at different stages of completion to improve this key route.
- Mountjoy Square Park and Environs Regeneration: Develop a plan to guide long-term regeneration of the Square.
- North East Inner City Quadrant: Design and management to improve quality of life and identify design opportunities that may reduce crime and anti-social behaviour.
- Aungier Street Historic Street Regeneration Project: Conservation led approach to regenerate this historic street.
- Dereliction Project: Reduce dereliction around the Luas Red Line from O'Connell Street to Collins Barracks.
- Street Charter Pilot Initiative: improve Thomas Street.

Under the scope of the Public Realm Strategy there are four Local Masterplans which focus on improving specific sections of the city. Reviewed below is the Heart of Dublin Masterplan which covers the Quays, the area around O'Connell Street

and south-eastern sections of the city centre. Figure 2-16 shows all masterplan areas including the Grafton Street Quarter, Temple Bar, Docklands and City Centre Masterplans.

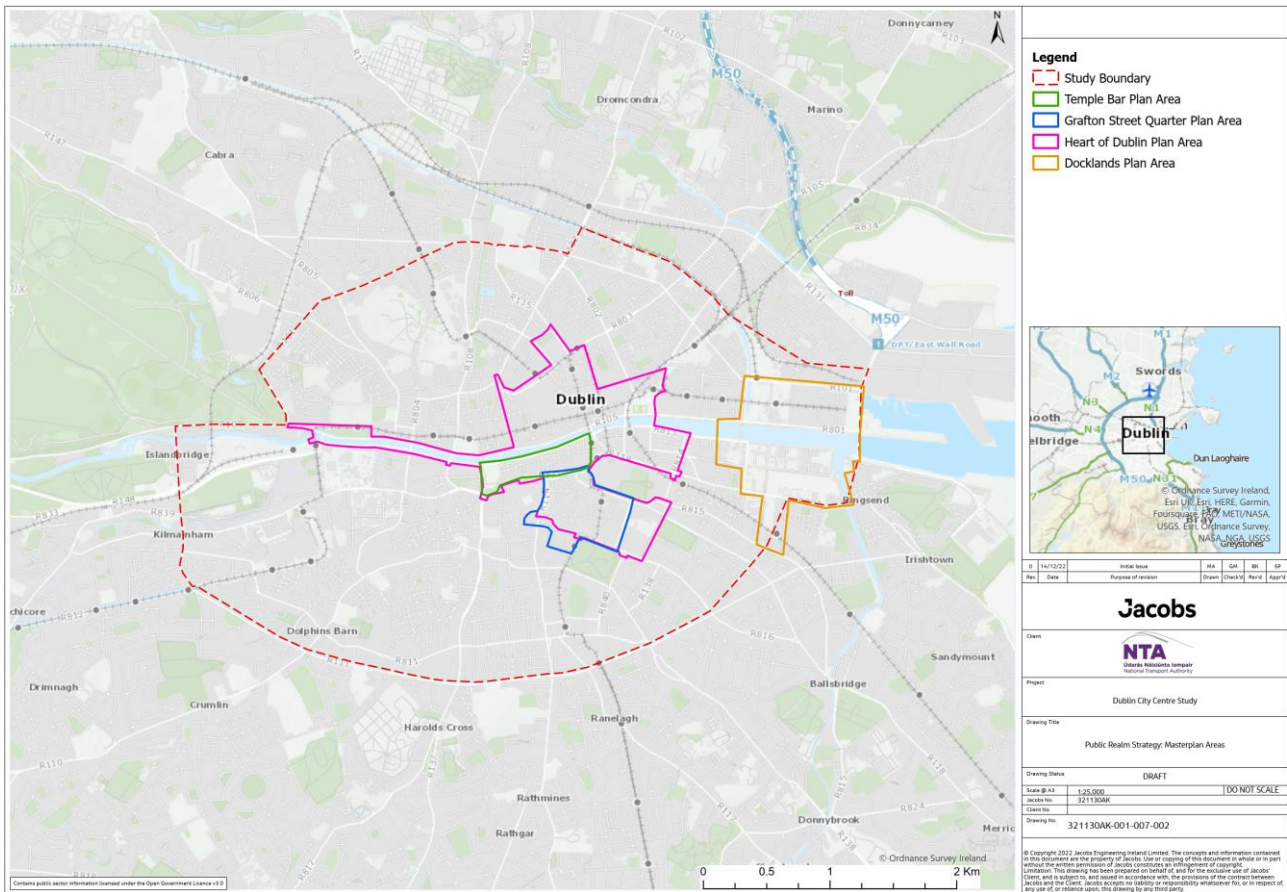


Figure 2-16: Dublin Public Realm Strategy Masterplan Areas

2.3.3 The Heart of Dublin: City Centre Public Realm Masterplan, 2016

The Heart of Dublin: City Centre Public Realm Masterplan (the Public Realm Masterplan) presents a vision for the core of Dublin City Centre. Published under the scope of the 2012 Public Realm Strategy *Your City, Your Space*, which established a series of principles to enhance the public realm within the canal cordon, the Public Realm Masterplan builds on this to explore location-specific challenges within the core of the city. It focuses on an area identified as the historic, cultural, and commercial core of Dublin City. Figure 2-16 outlines the area covered by the Public Realm Masterplan.

Underlying the Public Realm Masterplan are a series of Design Tools and Guidance which include the following themes and subthemes:

- Universal Design,
 - Application of Universal Design Principles;
 - Developing and expanding the legible pedestrian network;
 - Providing increased space for rest and seating; and
 - Space for all regardless of mobility.
- Living Streets,
 - Providing opportunities for lingering;
 - Provide opportunities for play;
 - Increase greening and biodiversity; and
 - Provide unique points of interest and animation.

- Standards,
 - Improve and enforce standards and visual quality;
 - Quality materials, fixture and fittings palette;
 - Improve maintenance and service delivery; and
 - De-clutter the streetscapes.
- Mobility,
 - Modal Hierarchy – Priority to pedestrian and cycle movement.

Based on these principles, and through engagements with stakeholders, the Public Realm Masterplan develops a vision which is built around the creation of a pedestrian friendly core, with vehicular traffic being reallocated to flow around the core of the city. The measures recommended are encapsulated in a series of projects, which were to be realised in the three phases shown in Figure 2-17. Phase I was planned for implementation between 2016 and 2022, Phase II for 2023-2028 and Phase III was expected to be carried out from 2029 onwards.

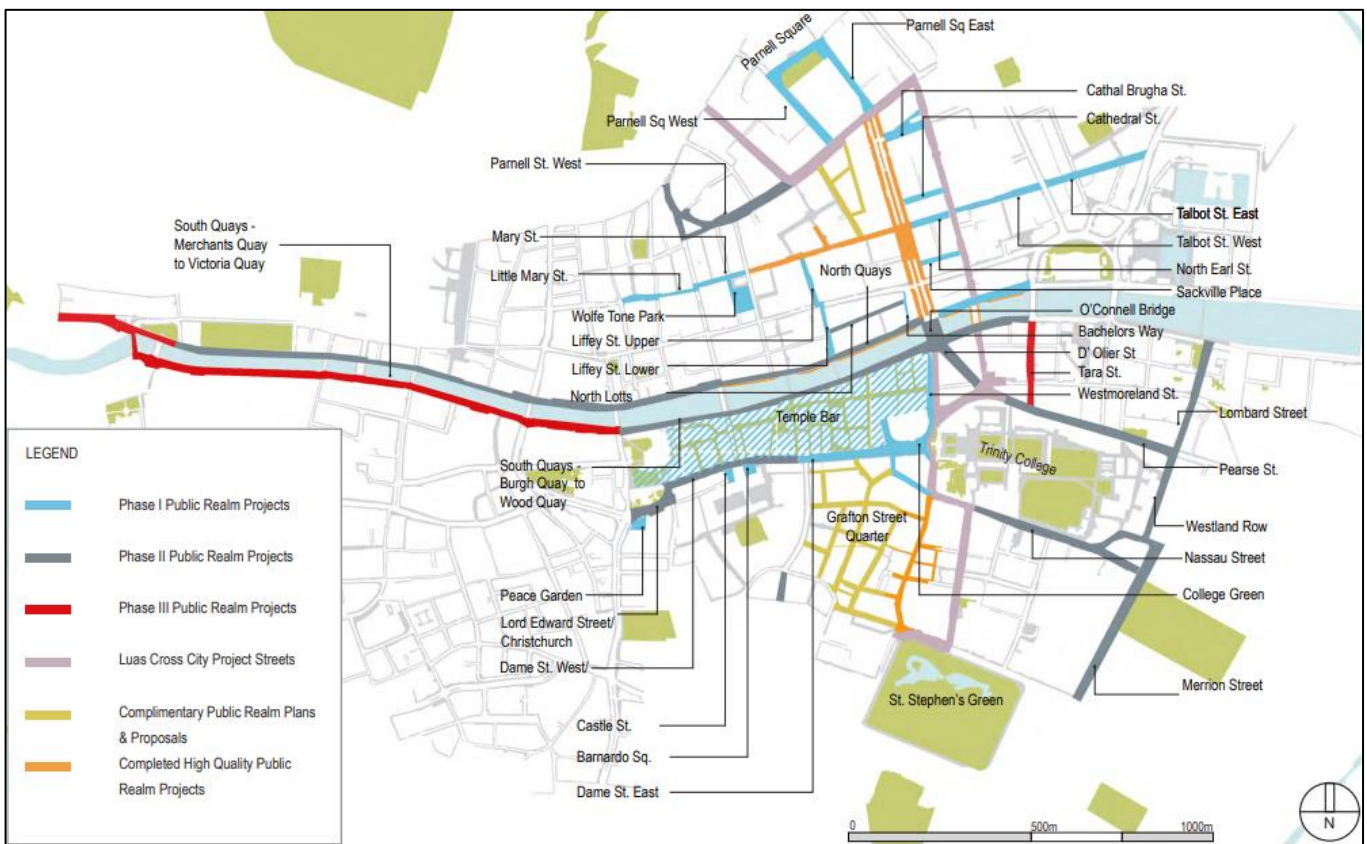


Figure 2-17 Public Realm Masterplan Public Realm Projects

To facilitate the design principles relating to walking and the use of space, the Public Realm Masterplan develops a methodology to calculate pedestrian space requirements. This is based on Transport for London’s Pedestrian Comfort Guidance but includes Dublin-specific elements such as kerbside bus stops and taxi ranks, closely spaced street furniture, and heritage public lighting stands among others. Figure 2-18 depicts the basic width requirements for different parts of the footpath.

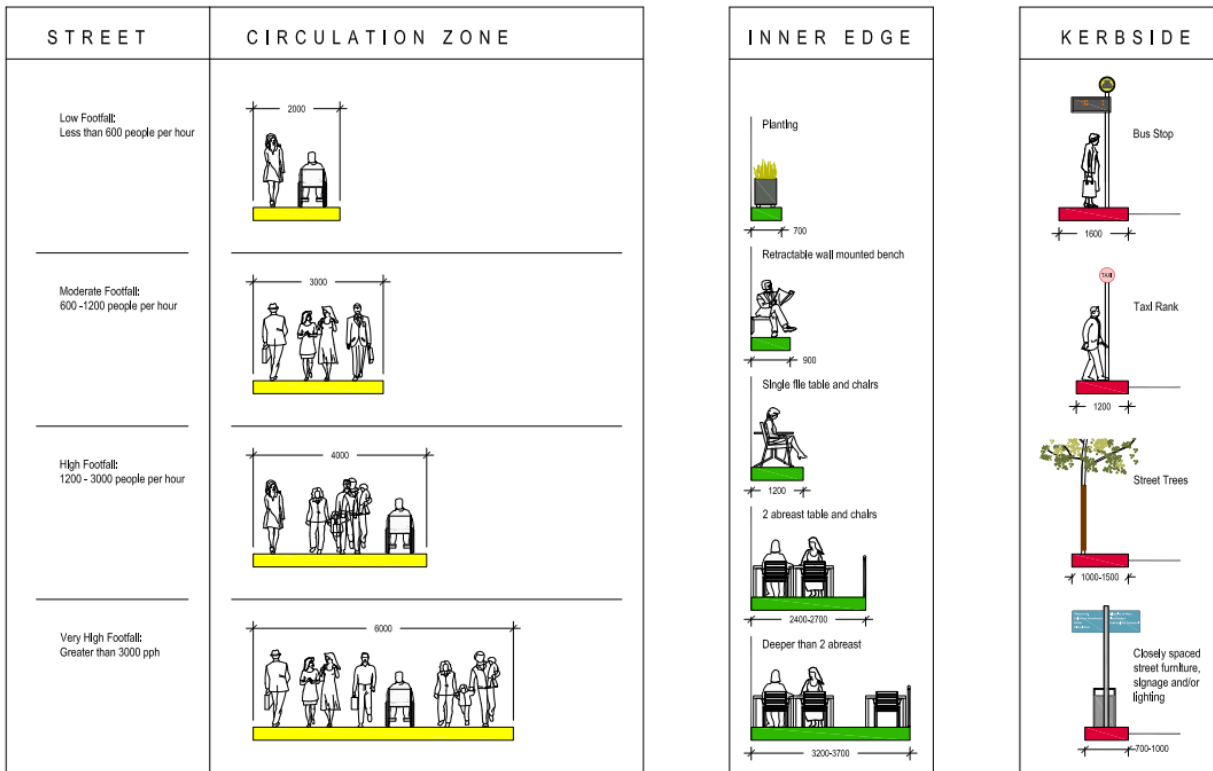


Figure 2-18: Public Realm Masterplan - Circulation zone guidance for streets.

3 RECEIVING ENVIRONMENT

The ongoing response to climate change, anticipated economic and demographic growth, as well as land-use changes will impact on why, when, how, and how often people travel in the future. Many of the policies outlined in Section 2 aim to improve the desirability of sustainable transport and planning in Dublin City, and so by 2030 it is expected that the city will see:

- A changed urban form with more activity and a higher proportion of compact, mixed use developments;
- A higher capacity high-quality public transport network reinforced by the rollout of BusConnects and DART+, with a focus on multi-modal interchanges;
- Better availability of active travel and shared mobility options;
- Well-connected hubs to serve the economy as an efficient interface for people, firms and goods; and
- A lower private-car traffic environment where the outdoors would be more receptive to civic activity.

3.1 Compact Developments and Transit-Oriented Development

The NPF sets directives and targets steering the urban environments of the country towards more compact growth, which is complemented by directives in the DCDP to focus this compact development in the proximity of public transport hubs. Mixed use, dense developments enable a higher uptake of active travel options since they reduce the average trip lengths of its dwellers. Placing such development in areas which are well served by public transport also caters to the requirements of longer trips, thus reducing the need for citizens to own and use a car. In this respect, the SDRAs presented in Figure 3-1 are of relevance, because - through their combination of land use and transport planning - they will enable the urban form to facilitate a greener, more sustainable way of living.

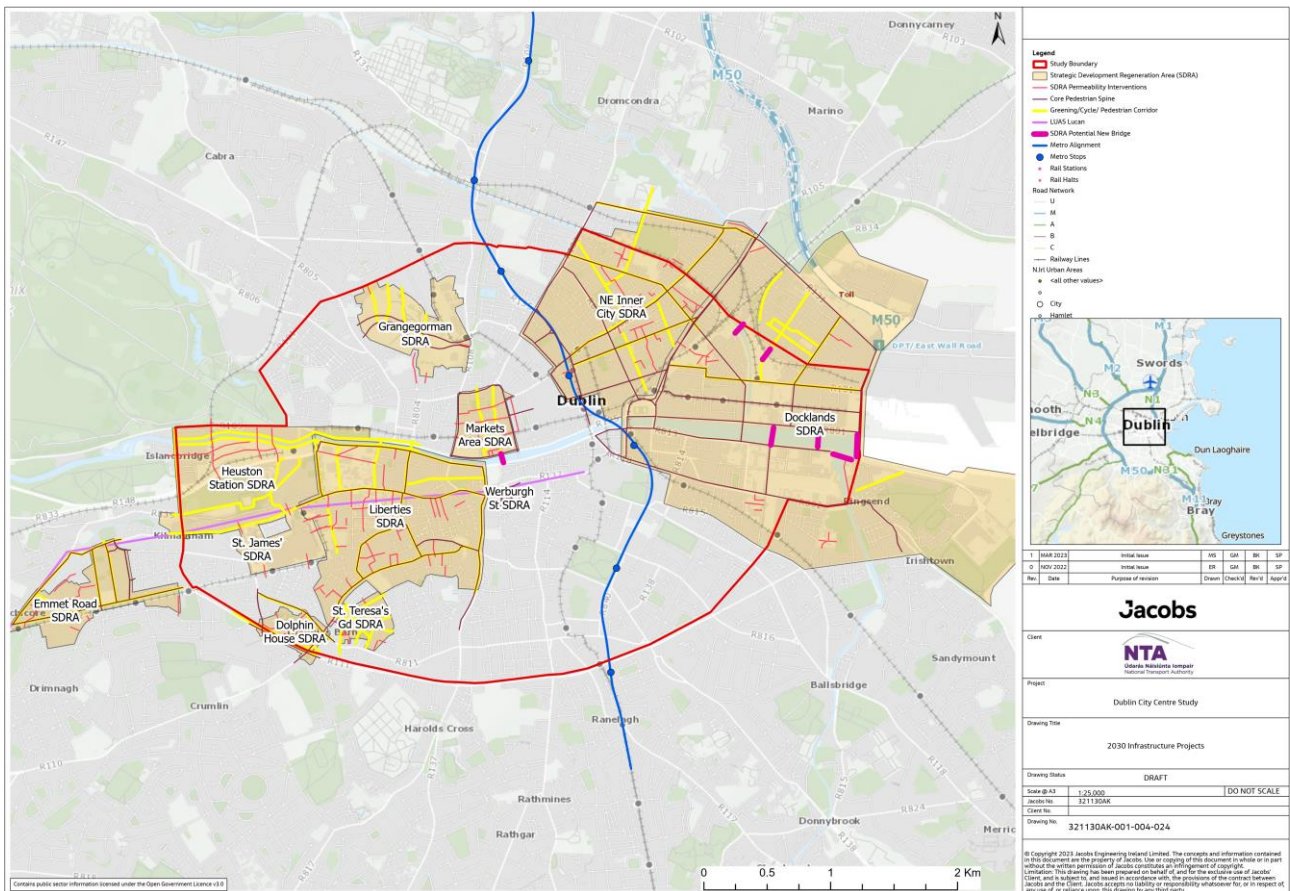


Figure 3-1: Strategic Development Regeneration Area (SDRA) locations

3.2 Network and Infrastructure in Place in 2030

3.2.1 Walking

The Public Realm Masterplan presents a vision for the core of Dublin City Centre and proposes a variety of interventions to certain city centre streets. As outlined in section 2.3.1, the DCDP also notes key pedestrian routes and potential improvements, in:

- Chapter 8: Sustainable movement and transport; and
- Chapter 13: SDRAs.

The Public Realm Masterplan highlights the importance of walking and cycling. It proposes the creation of a pedestrian-friendly core city centre which will require a rebalancing of space in favour of pedestrians. It also proposes interventions to promote “lingering” in the city, including providing adequate seating, micro-spaces, play spaces and green spaces.

The Public Realm Masterplan sets out three phases of public realm projects in the core city centre; these are shown here in Figure 3-2. One of the key proposals is the removal of vehicular traffic from College Green.

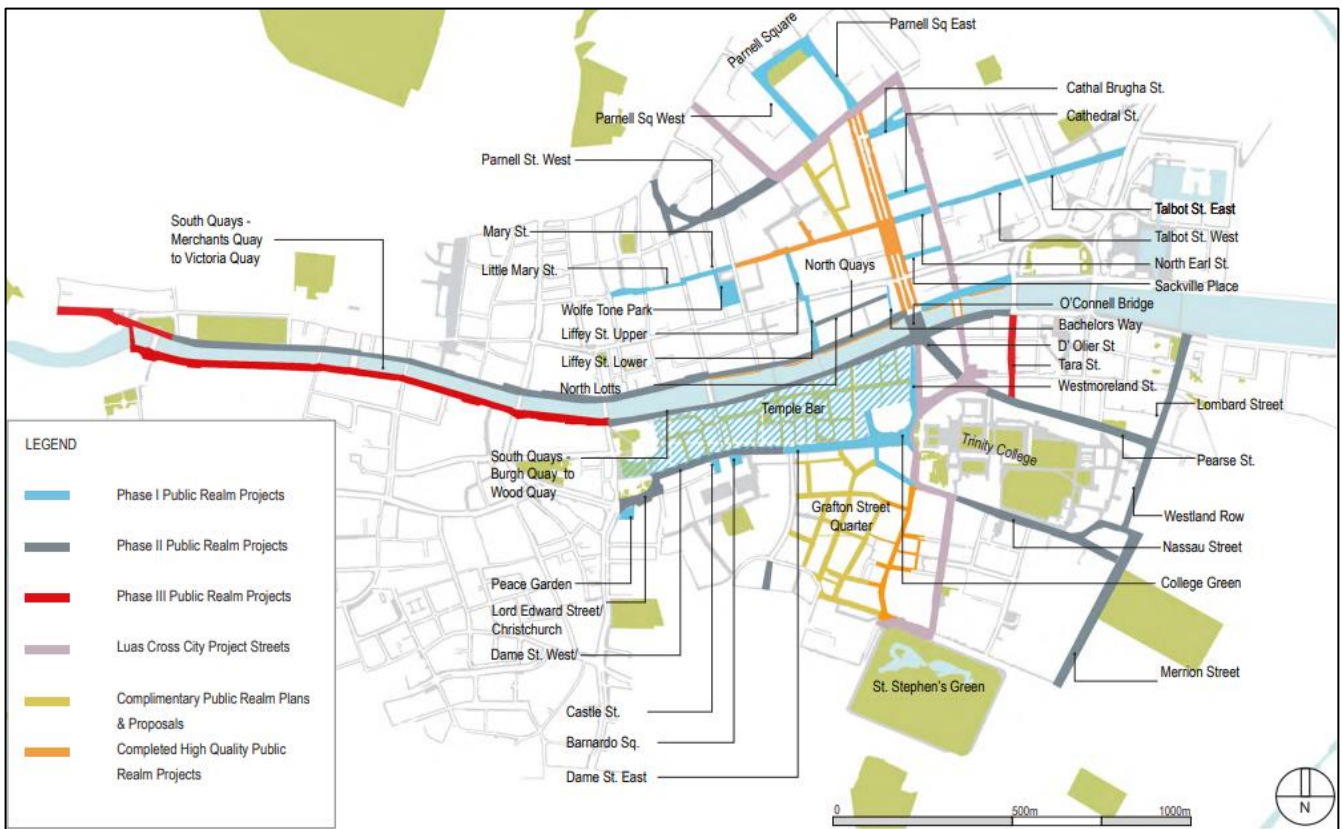


Figure 3-2 Public Realm Masterplan (2016) - Public Realm Projects

Chapter 8 of the DCDP includes a map titled “Strategic Pedestrian and Related Connections” which is shown in Figure 3-3.

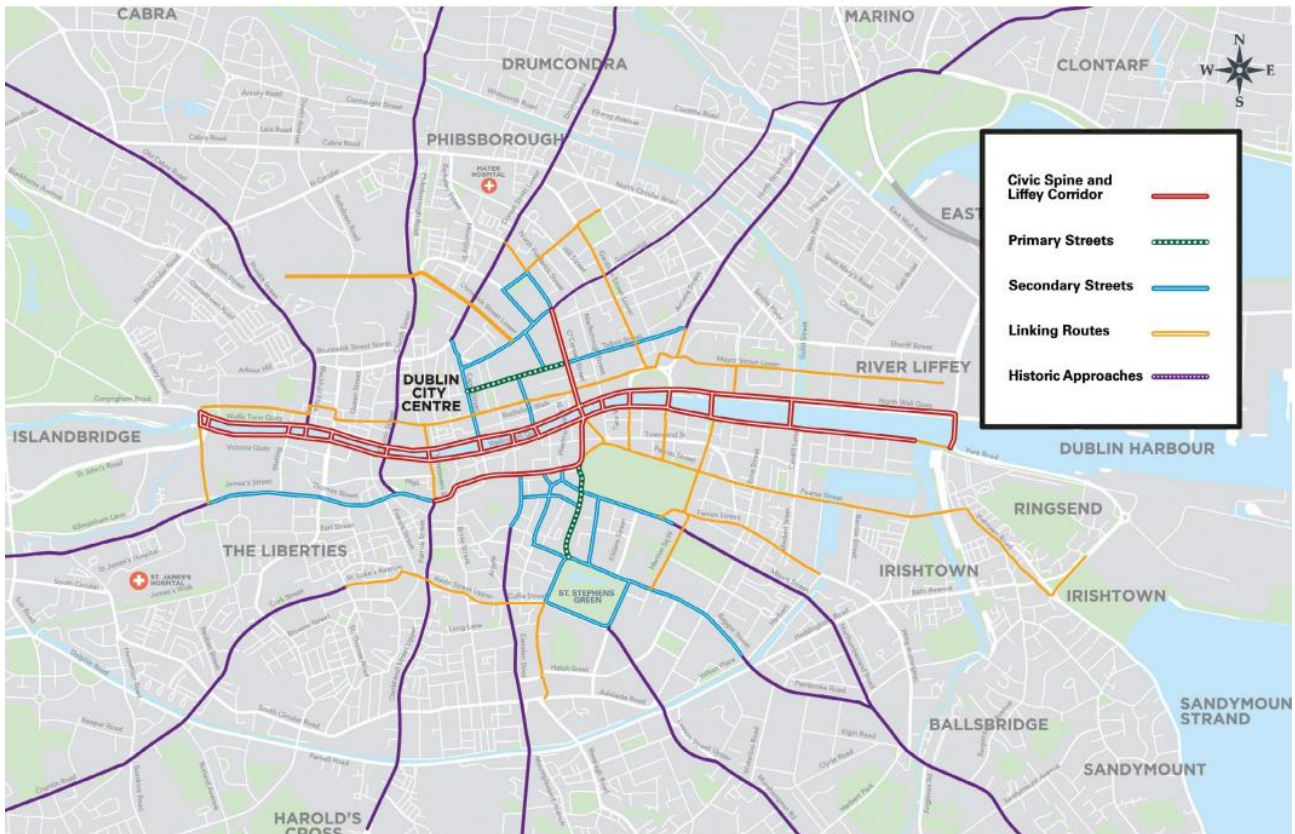


Figure 3-3 Strategic Pedestrian and Related Connections

In Chapter 13 of the Development Plan, guiding principles for each of the SDRAs are presented in a map. As well as notes on buildings and public spaces, these include routes identified as core pedestrian spines, and several types of potential movement interventions:

- Permeability interventions;
- Greening, Cycle & Pedestrian corridors; and
- Potential new bridges.

These spines and interventions are shown in Figure 3-1.

3.2.2 Cycling

The plans that govern the development of the primary cycle network by 2030 are the GDA Cycle Network Plan (the Cycle Plan) which develops the intended network, and the DCC Active Travel Network Delivery Program (the Active Travel Program) which outlines plans for the implementation of specific routes.

In 2022, the 2013 Cycle Network Plan was updated to reflect the ever-increasing desire to grow cycle modal share. This updated plan sees higher cycle densities and improved local area permeability. The Cycle Plan splits cycle networks into several corridor types shown in Figure 3-4: primary orbital, primary radial, secondary, greenway and feeder. Primary routes are earmarked to carry the most cycle traffic in the city. Secondary and Feeder routes complement the Primary routes by serving as local links for cyclists to reach the primary routes.

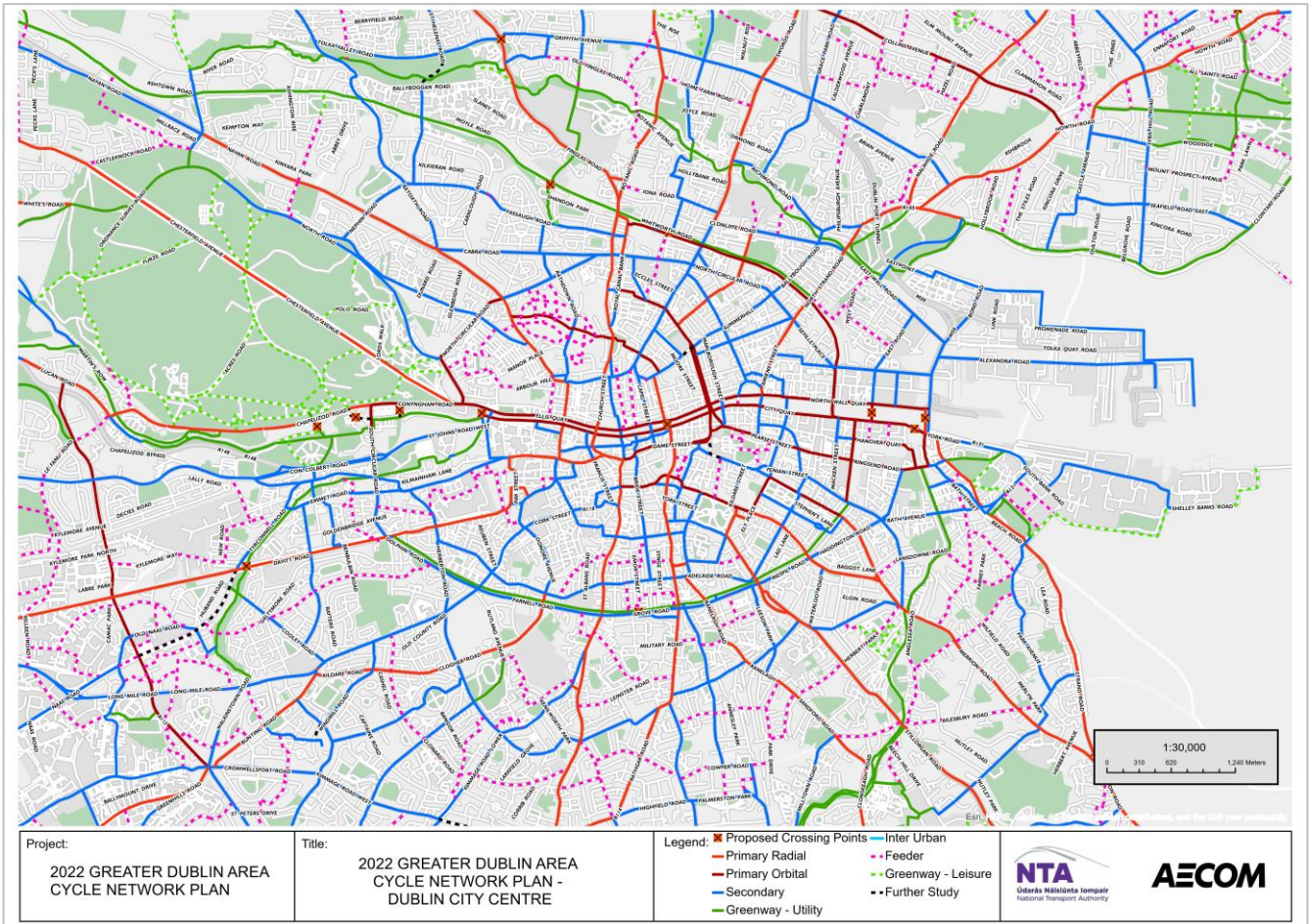


Figure 3-4: 2022 GDA Cycle Network Plan, NTA

Figure 3-5 shows the network envisaged in the Active Travel Program. To get a sense of the expected primary cycle network in Dublin in 2030, the Active Travel Program and Cycle Plan can be compared to see overlapping routes and likely corridors for cycle infrastructure implementation before 2030, see Figure 3-6.

Also included are the BusConnects Core Bus Corridors (CBCs) which are expected to be completed by 2030 and will provide high quality cycle infrastructure on many of the arterial roads leading to/from the city centre.

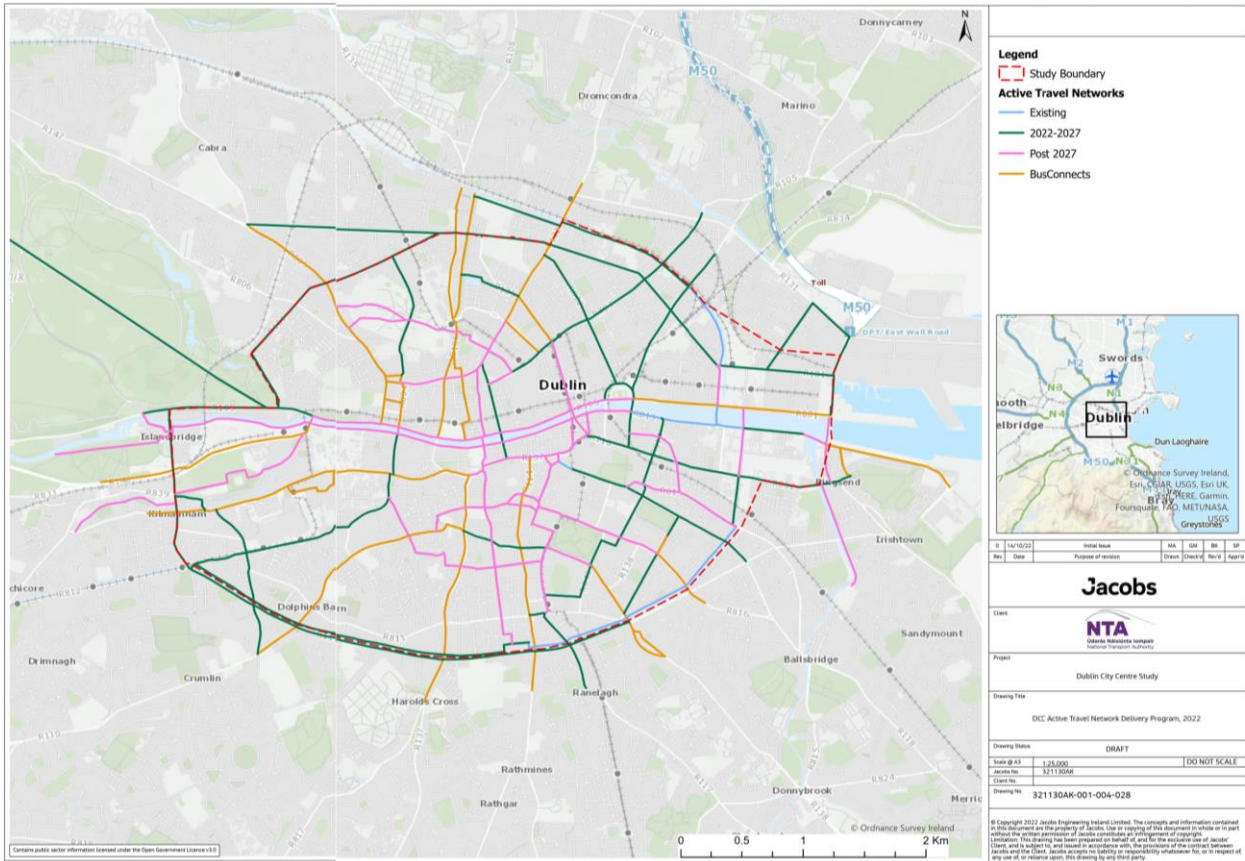


Figure 3-5: DCC Active Travel Network Delivery Program, 2022

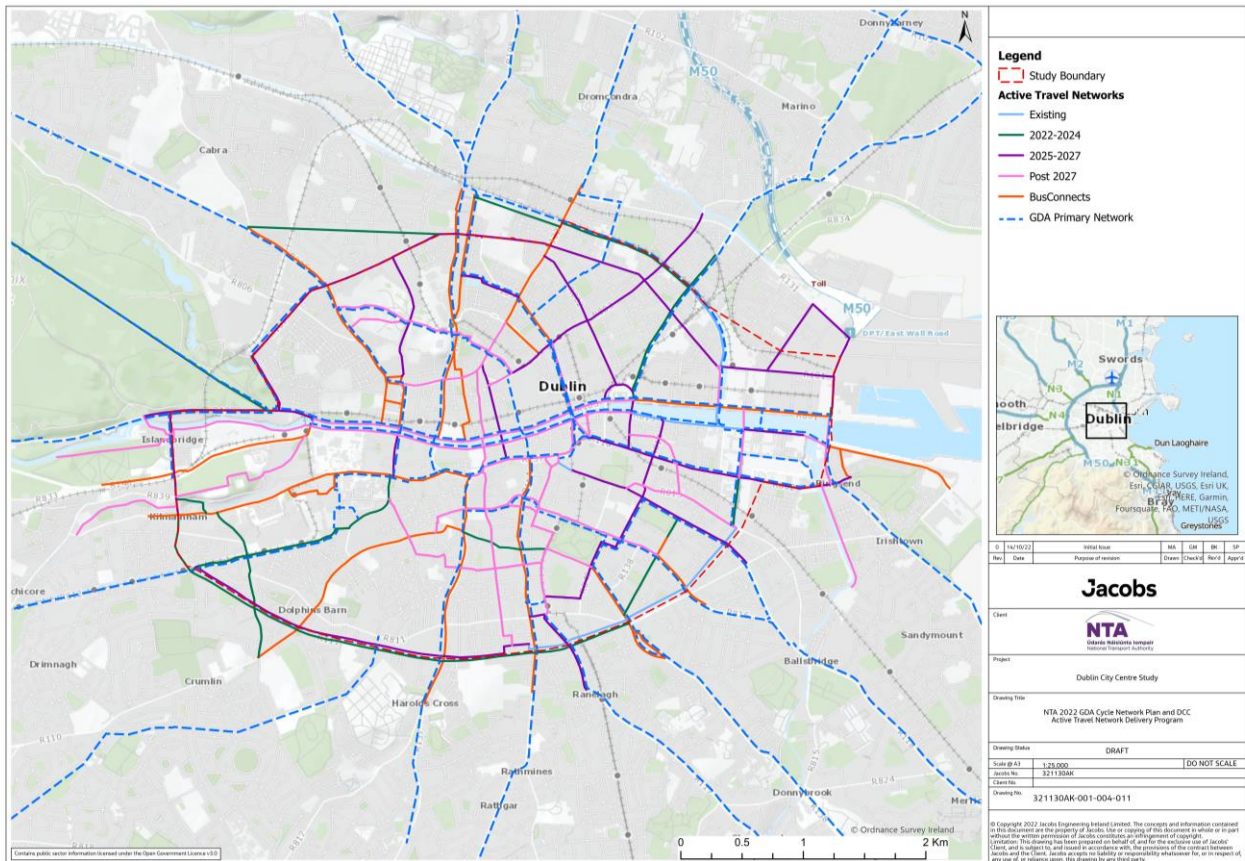


Figure 3-6: Overlay of 2022 GDA Cycle Network Plan, NTA and DCC Active Travel Network Delivery Program, 2022

3.2.3 Public Transport

The ongoing response to climate change, anticipated economic and demographic growth, as well as land-use changes will impact on why, when, how, and how often people travel in the future. Many of the policies outlined in Section 2 aim to improve the desirability of sustainable transport and planning in Dublin City, and so by 2030 it is expected that the city will see:

- A changed urban form with more activity and a higher proportion of compact, mixed-use developments;
- A higher capacity high-quality public transport network reinforced by the rollout of BusConnects and DART+;
- Better availability of active travel and shared mobility options;
- Well-connected hubs to serve the economy as an efficient interface for people, firms and goods; and
- An outdoor environment that is receptive to civic activity as well as a reduction in private car traffic.

Public Transport Development to 2030

By 2030, there will be a number of changes to the public transport network in line with the DCDP and Transport Strategy. This section presents the 2030 baseline public transport network for buses, Luas and heavy rail.

While MetroLink won't be operational by 2030, construction is expected to have started so it has been included in the receiving environment.

Active travel and shared mobility will increasingly supplement the public transport offering as solutions for the first and last-mile legs of a journey. Current policies addressing multi-modal interchanges will promote the further integration of different transport options into a coherent, seamless system of mobility options.

Buses

BusConnects is one of the three bus programmes outlined in the Transport Strategy, and the one that is relevant to this technical note. The programme is made up of different elements, with the CBCs, Network Redesign and New Bus Stops being used to inform this technical note.

BusConnects Network Redesign

The BusConnects Network Redesign involves a new bus network based on high-frequency spines radiating from the city centre, supported by other services. It will also see an overall increase in bus services and capacity. BusConnects is currently being implemented in a phased approach, which will create a more reliable and more efficient bus service for all. It is anticipated that the full network redesign and associated infrastructure will be in place to form the baseline receiving environment for this Plan.

Figure 3-7 presents the BusConnects network within the Dublin canal cordon. There are 8 spines (A to H; shown in red), each composed of separate routes (e.g. A1, A2, A3 and A4) which have different termini outside of the city centre, orbital routes (O, N, S and W; shown in blue), as well as additional radial routes (shown in purple).

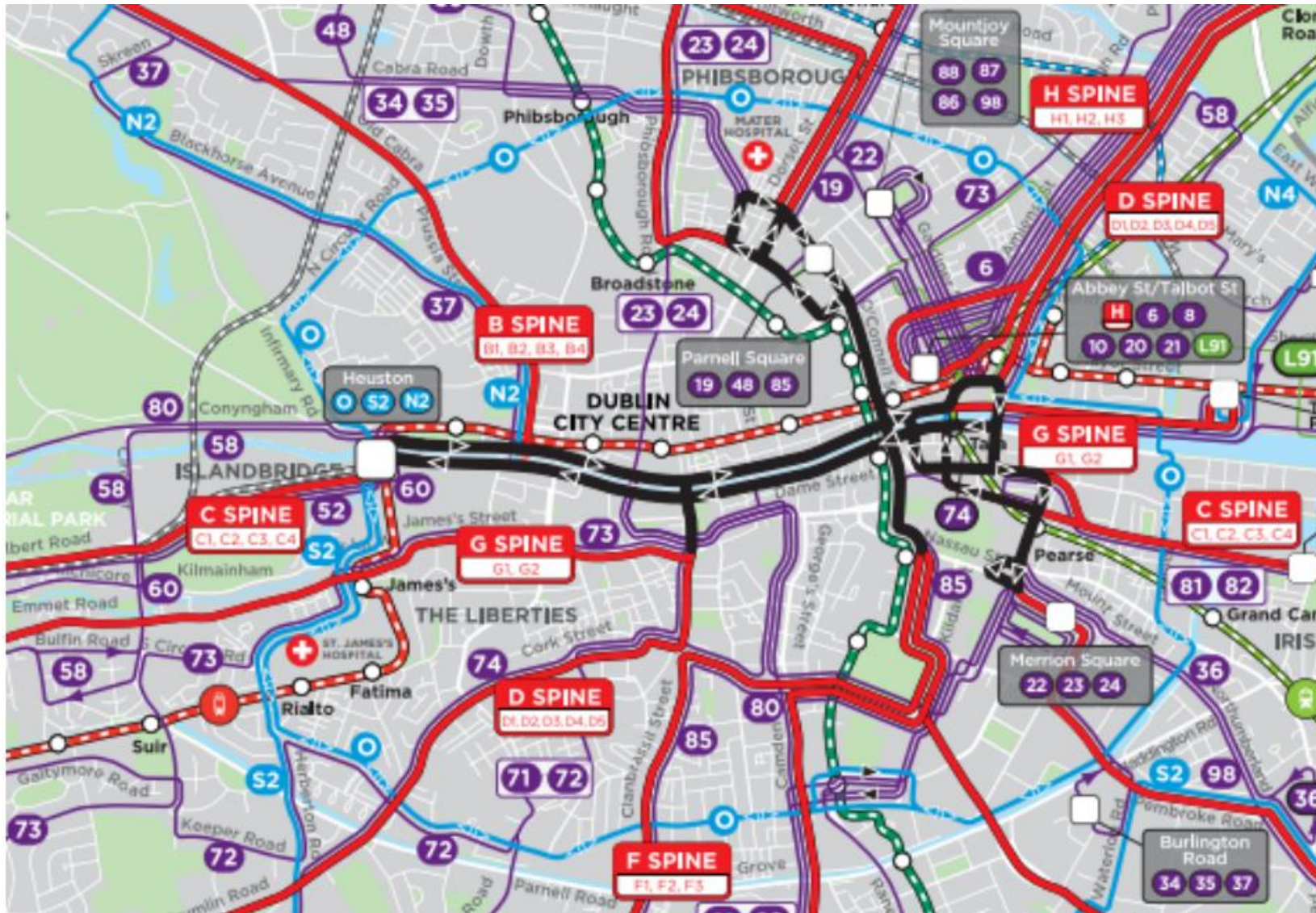


Figure 3-7 BusConnects Network Map (busconnects.ie)

BusConnects Service Frequencies

Most BusConnects services will run seven days a week, with some services operating at higher frequencies during peak times. Some additional services will operate during selected peak times on weekdays. Overall, the highest total frequencies are scheduled to occur during these hours:

- 7am to 8am (AM Peak Hour); and
- 5pm to 6pm (PM Peak Hour).

The approximate number of scheduled BusConnects services in the AM and PM peak hours throughout the city are shown in Figure 3-8 and Figure 3-9 respectively. Data in this section has been extracted and analysed from service frequency information from the September 2022 version of the service frequency tables. It is important to note that the frequencies represent a snapshot of the plan as it was in September 2022, and both in-service routes and future are subject to change.

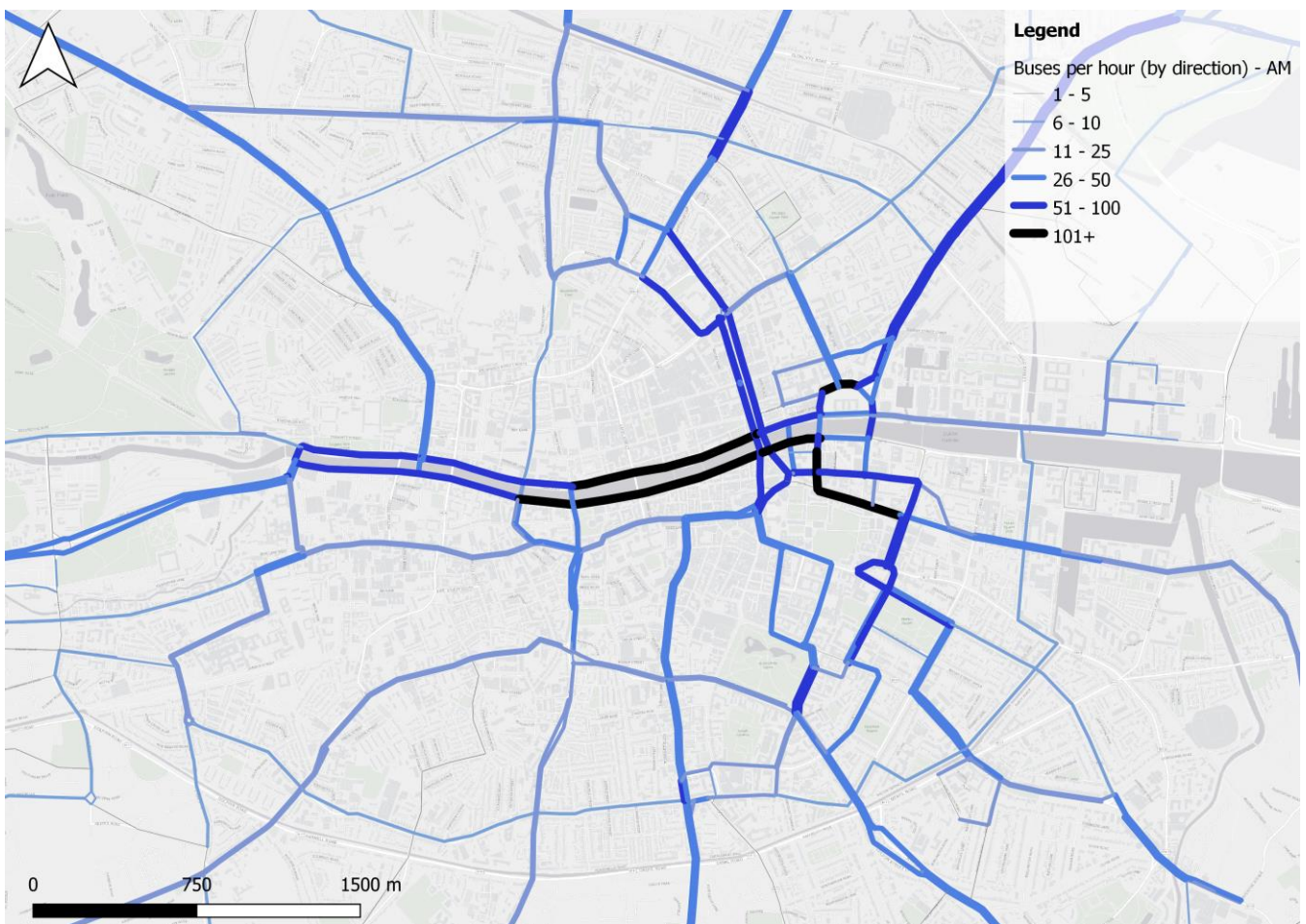


Figure 3-8 Scheduled BusConnects services (AM peak hour)

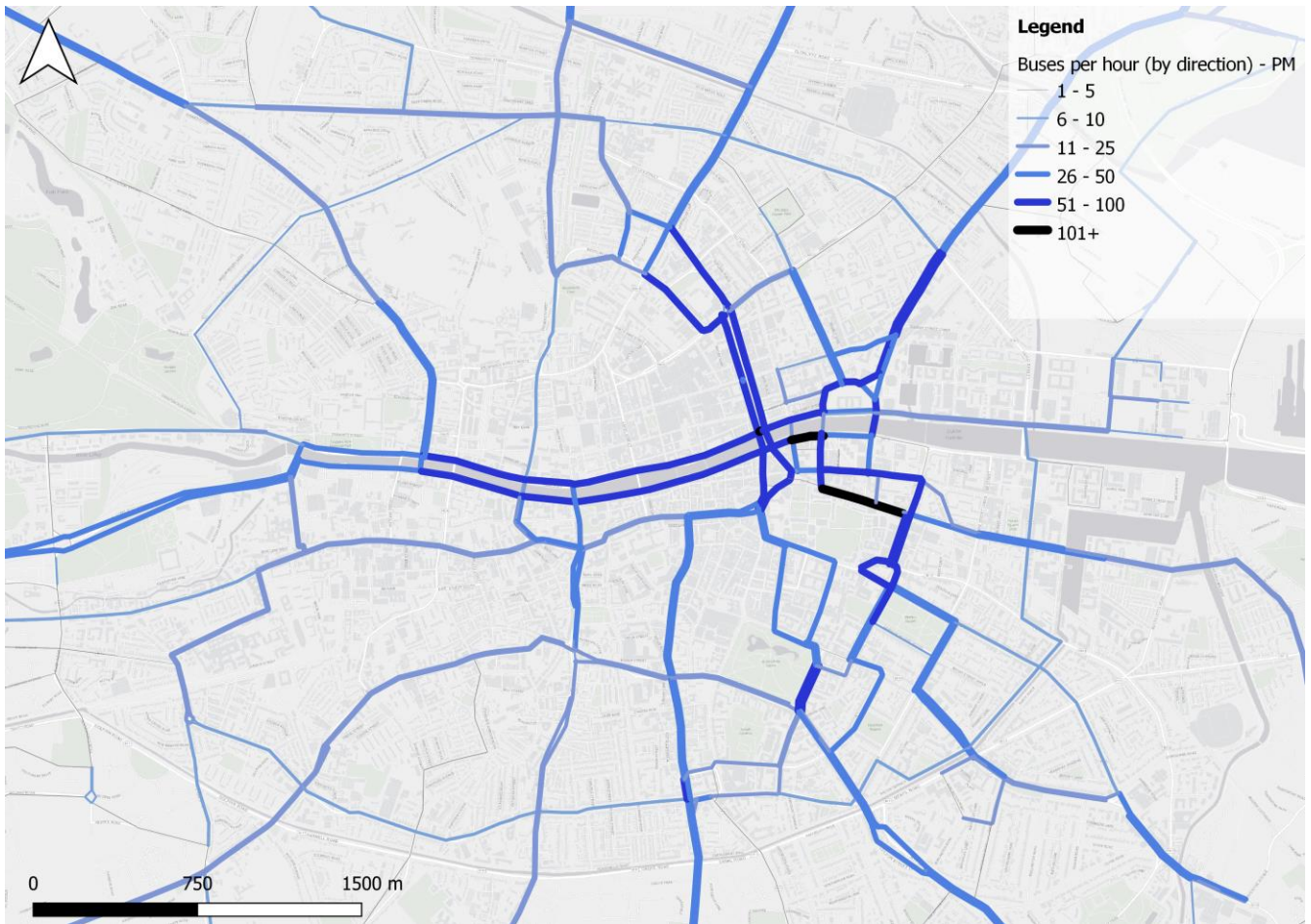


Figure 3-9 Scheduled BusConnects services (PM peak hour)

The highest scheduled frequencies in each of these peak hours are where spine routes converge, in particular along the Quays, O’Connell Street and the eastern side of the city centre.

Table 3-1 presents the number of scheduled BusConnects buses per hour at selected locations within Dublin City Centre during the AM peak hour (7am to 8am). The highest number of buses can be seen on the Quays, with up to 108 buses in the peak hour per direction, followed by Beresford Place (with 105 buses in the AM peak hour). Similarly, Parnell Square sees 87 buses in each direction in the AM peak hour, many of which also serve the O’Connell Street area.

Table 3-1: Number of Scheduled AM Peak Hour Services at Select Locations

Key Locations	Number of Services
Heuston Station	45
Wolfe Tone Quay	54
Smithfield (Arran Quay)	86
Bachelors Walk	108
Custom House Quay	45
Beresford Place	105
Parnell Square	87

Figure 3-10 shows the number of buses per hour serving the Quays at Bachelors Walk as presented in the service frequency charts for September 2022, which has been identified as a key destination within the study area. As shown, branches of the

B, C, D and G Spines will serve the Quays, as well as radial routes (the routes with only numbers) and express and peak services (the routes beginning with X or P, respectively). In Figure 3-10, the number in the second row represents the hour for which the data applies. The number in each column represents the number of buses in that hour for the respective route, which is shown in the first column. As can be seen the hour with the most services (the peak hour) is 07:00 to 08:00, with a total of 108 buses scheduled. During the peak hour, 8 buses will serve the Quays via each of the C1 and C2 branch routes, equating to a frequency of one approximately every 8 minutes, with other branch services being less frequent at 2 (every 30 mins), 4 (every 15 mins) and 5 (every 12 mins) buses per hour. The 37 will be the radial route with the highest frequency, offering 4 services per hour, whilst express and peak services will operate during peak hours only.

Route	Time of Day (Weekday)																
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
B2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
B3	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
B4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
C1	8	6	2	2	2	2	2	2	3	3	8	2	2	2	2	2	1
C2	8	6	2	2	2	2	2	2	3	3	8	2	2	2	2	2	1
C3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
C4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
D1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
D2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
D3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
D4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
D5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
G1	5	5	4	4	4	4	4	4	5	5	5	4	4	4	4	4	2
G2	5	5	4	4	4	4	4	4	5	5	5	4	4	4	4	4	2
37	4	4	3	3	3	3	3	3	4	4	4	3	3	3	3	3	2
52	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
58	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
74	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
P29	2	1							1	1							
X30	4								1	2							
X31	3								1	2							
X32	1									1							
X25	2								1	3							
X26	1																
X27	3								1	3							
X28	2								1	2							
X55	3									2							
X56	1									1							
X58	2									1							
X62	4								1	3							
P64	3									2							
P65	3									2							
Sum	108	70	58	58	58	58	58	58	63	70	97	57	57	58	58	58	31

Figure 3-10 BusConnects Sample Frequencies of Services along Bachelors Walk

BusConnects Bus Stops

The bus stops associated with the network redesign will align with the locations of existing bus stop clusters, for example on O’Connell Street or Saint Stephen’s Green. However, the total number of bus stops may vary. Figure 3-11 and Figure 3-12 present the stop locations for BusConnects spine routes and radial routes, respectively, highlighting the cluster locations of bus stops along O’Connell Street and the Quays, where several routes converge.

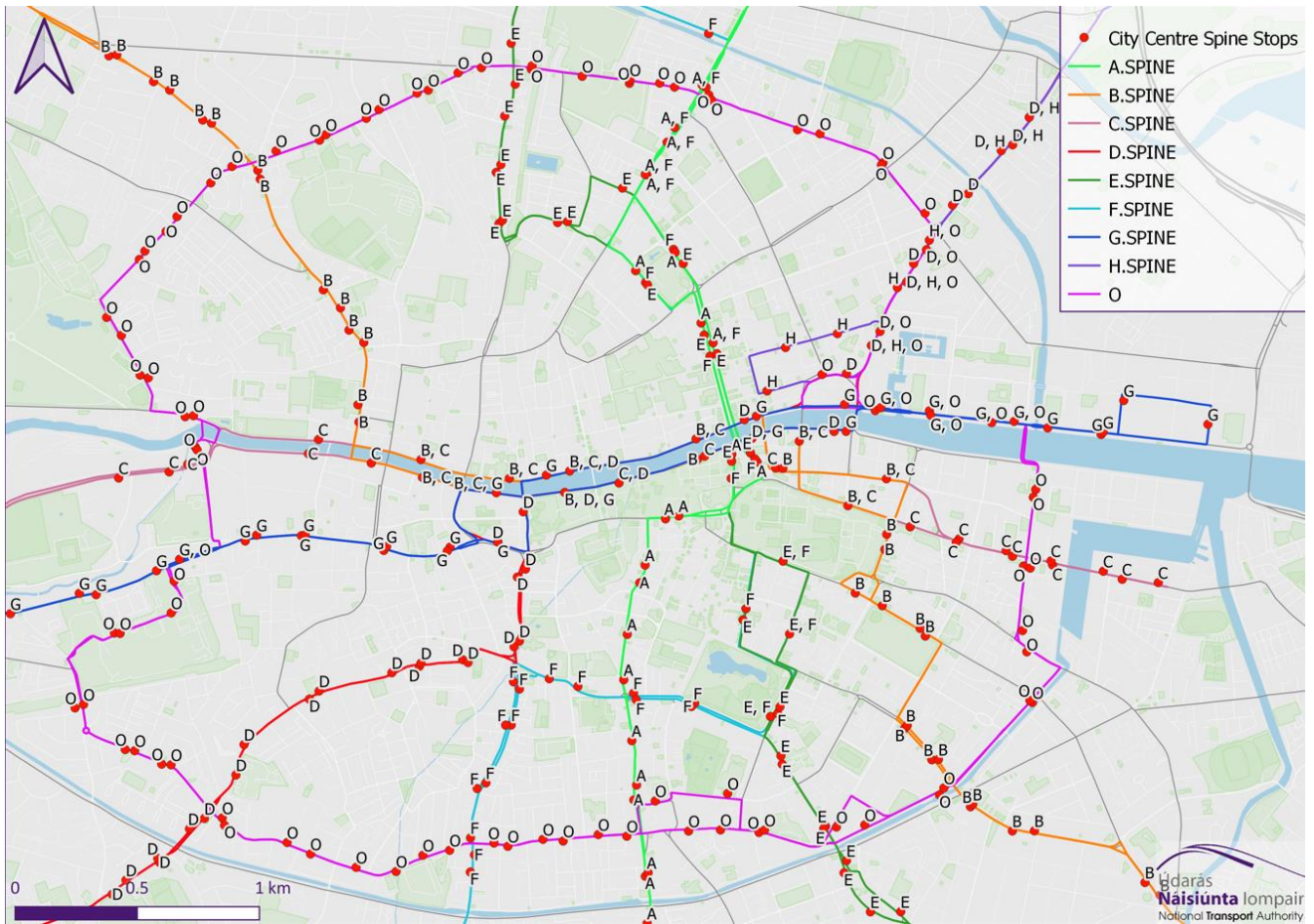


Figure 3-11: BusConnects Spine Stop Locations within Study Area (NTA)

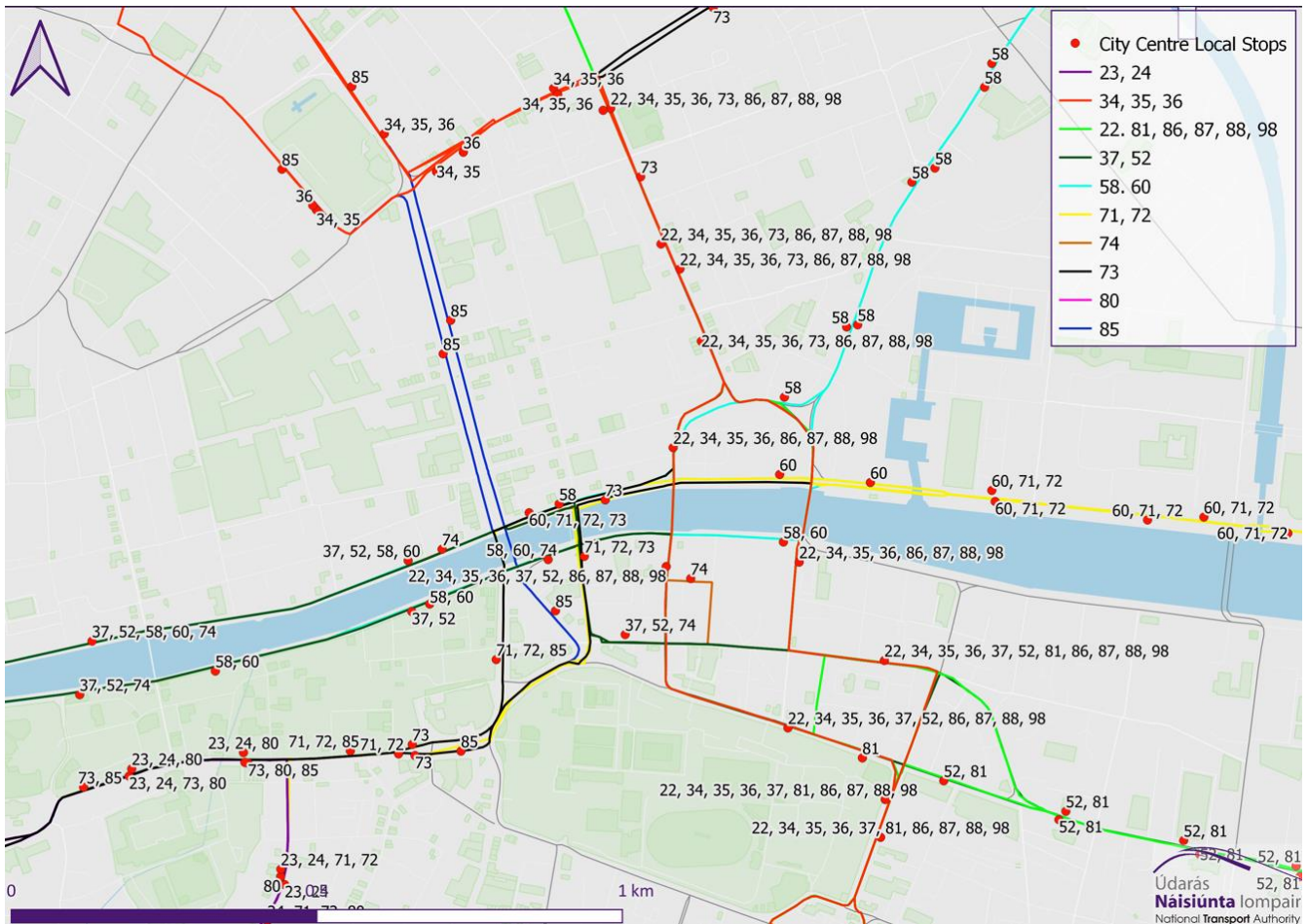


Figure 3-12: BusConnects Local Route Stops in Central Liffey Area (NTA)

Regional Bus Services

In addition to intra-urban bus services, Dublin City Centre is connected to locations throughout Ireland via a number of inter-urban bus, regional bus and coach services. Busáras Coach Station serves as a hub for many of these connections, though a significant number of them connect into other locations throughout the city. These services are operated by Bus Éireann and a number of private companies. The routing and stopping patterns of these services would need to be carefully considered to ensure that they don't conflict with proposals to other modes.

Interchange

Opportunities for bus-to-bus interchange will be possible at many locations throughout the city due to the high density of the planned redesign, as can be seen in Figure 3-7, Figure 3-11 and Figure 3-12. Additionally, most Luas stops will be served by buses, as will all rail stations within the city. Once Metrolink is operational, interchange opportunities between this mode and bus will also be very high, again due the proximity of bus services to planned stations.

Luas Network

The existing Luas network consists of the Green and Red Lines. The Green Line runs between Broombridge and Brides Glen via O'Connell Street. The Red Line runs between Saggart/Tallaght and The Point, serving both Heuston and Connolly Stations. Figure 3-13 presents the existing Luas network within the study area

Extensions of the Luas network to Finglas and Lucan are identified for consideration in the DCDP and Transport Strategy. The extension to Finglas will connect to the Green Line and the extension to Lucan will connect to the Red Line and both will reduce the need for car travel into the city centre. However, given that it is not a guarantee that these will be in operation by 2030, they are not considered as part of the receiving environment.

Interchange opportunities between Luas and bus will be very due to the high density of the bus network. Direct interchange between the Luas Red Line and rail will be possible at Heuston and Connolly Stations. While the Green Luas Line does not stop at any rail stations, the proximity of Tara Street Station to Abbey Street and Westmoreland Luas Stops (5-minute walk) means that interchange with a short walk will be possible. Interchange with MetroLink will be possible at the planned stations at O’Connell Street (with the Luas Green Line at O’Connell Street and the Luas Red Line at Abbey Street) and at Charlemont (with the Luas Green Line).

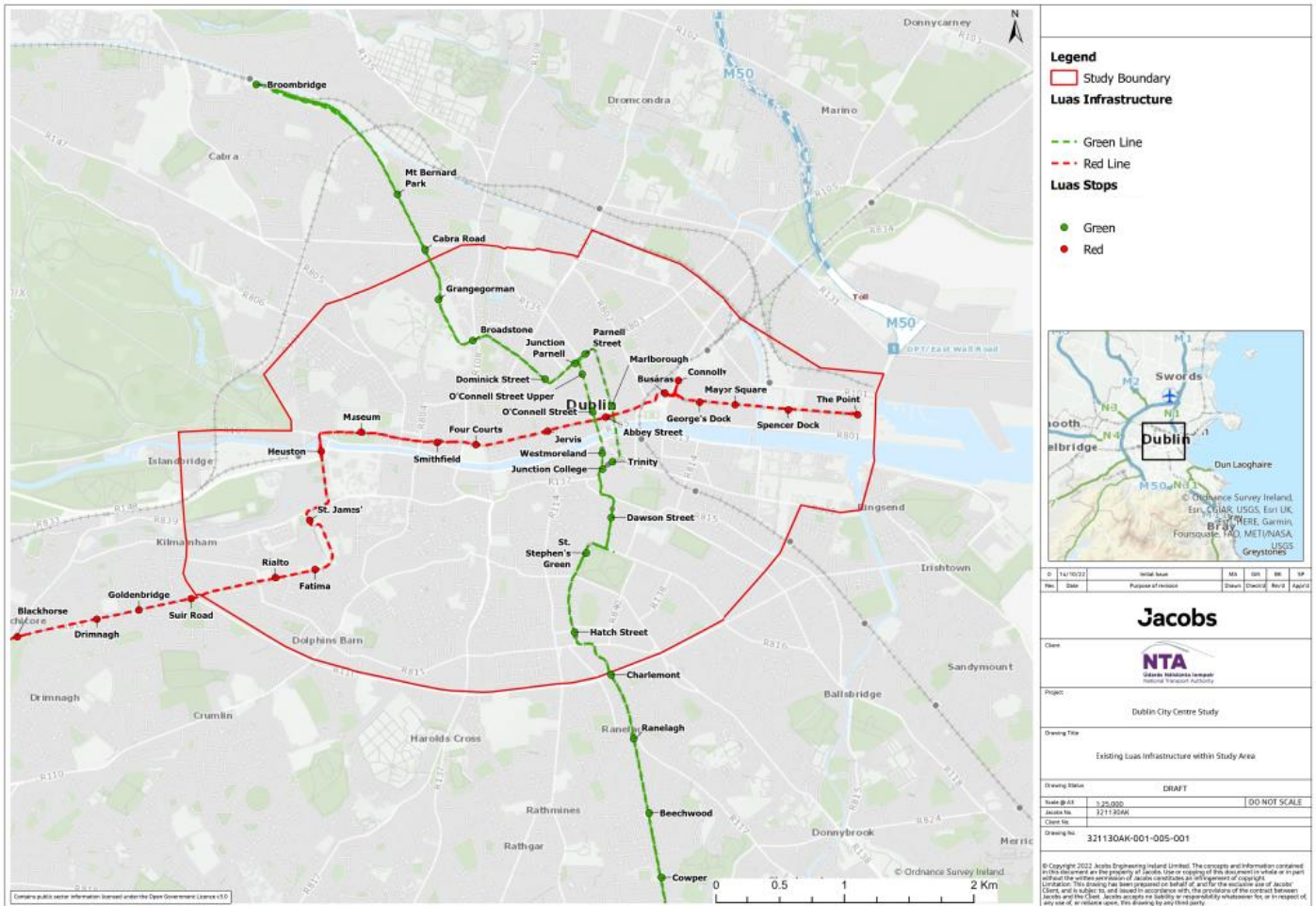


Figure 3-13: Existing Luas Infrastructure within Study Area

Heavy Rail

The heavy rail infrastructure in the study area is shown in Figure 3-14. Currently, the heavy rail network carries intercity services, the DART and commuter services, in addition to freight rail services which are covered in the Technical Note 7: Goods Movement. It is expected that by 2030 the DART+ programme will be completed, which will electrify the remaining sections of rail network in the study area, introduce higher frequency services, and new rolling stock.

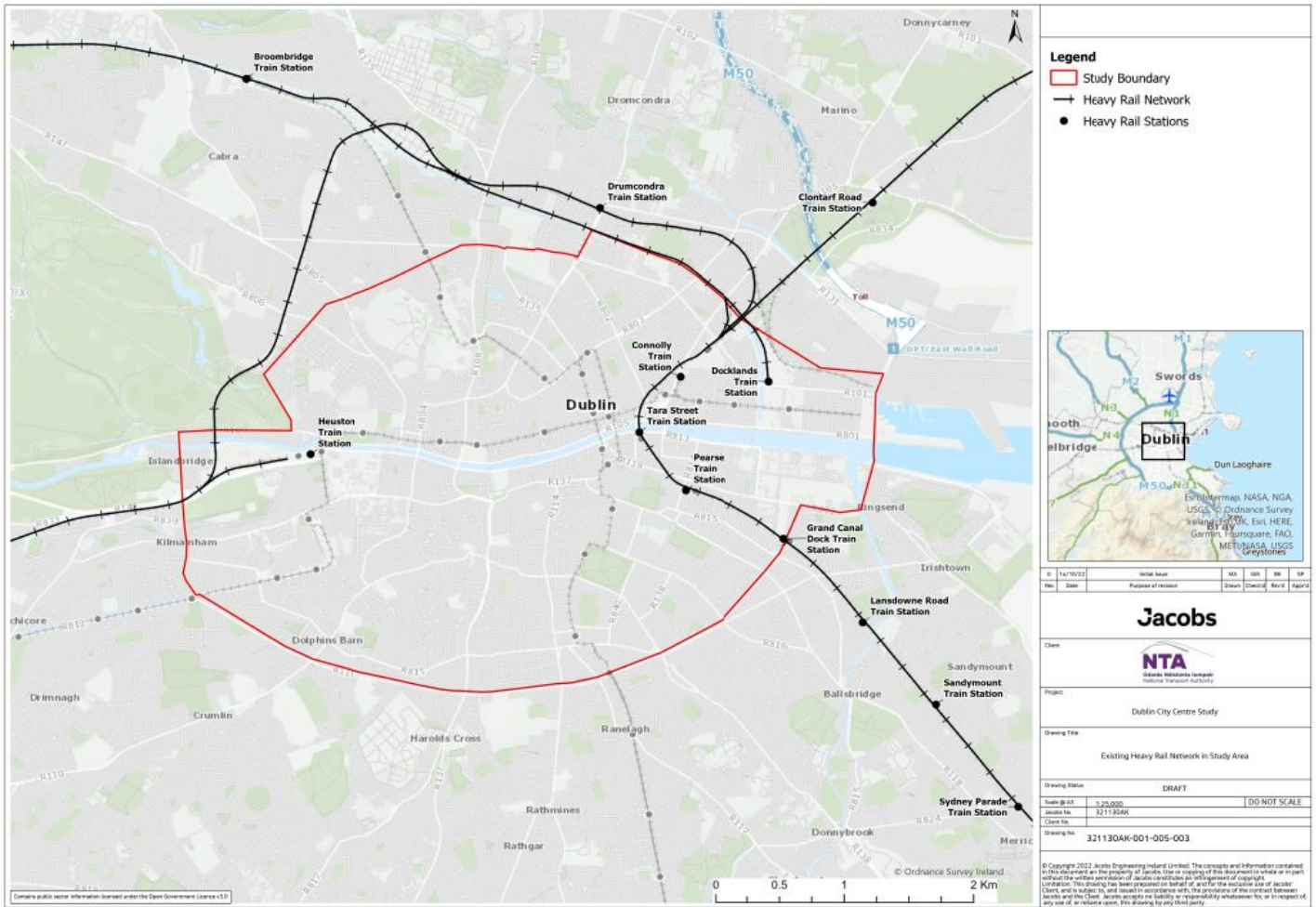


Figure 3-14: Existing Heavy Rail Network in Study Area

Intercity Services

Intercity services connect the capital to Ireland’s major cities and towns from Dublin Heuston and Dublin Connolly stations. Trains run to Belfast, Cork, Galway, Limerick, Rosslare, Tralee, Sligo, Waterford and Westport.

DART and Commuter Services

The study area is also served by the electric rail system, DART and the regular commuter rail services listed below:

- Dublin Northern Commuter service extends from Pearse Station in the city centre via Dublin Connolly Station to Dundalk.
- Dublin Portlaoise Commuter service extends South-West from Dublin’s Heuston Station.
- Dublin Longford Commuter service extends from Pearse Station via Dublin Connolly Station to Longford.
- Dublin Dunboyne/M3 Parkway service extends from Dublin’s Docklands/Connolly Station via Clonsilla to Dunboyne/M3 Parkway.
- Dublin Southern Commuter service operates from Dublin Connolly Station to Gorey Station.
- Phoenix Park Commuter services operate from Portlaoise through the Phoenix Park Tunnel to terminate in Grand Canal Dock.

DART+

DART+ is a programme to extend and electrify the DART network. It is split into the following four projects, in the order that they are to be operational: DART+ West, DART+ South West, DART+ Coastal North and DART+ Coastal South. Below, the enhancements relevant to this Plan within each project are listed:

- DART+ West:
 - Electrification from the City Centre to Maynooth;
 - City Centre enhancements at Connolly Station;
 - Combined Rail/Metro Station at Glasnevin;
 - Relocation of Docklands Station to integrate with the Luas; and
 - New grade-separated pedestrian, cycle and vehicle crossings as required.
- DART+ South West:
 - Electrification from Dublin Heuston to Hazelhatch-Celbridge;
 - Widening the railway corridor to four tracks between Park West Station and Dublin Heuston; and
 - Increasing the frequency of trains within Phoenix Park Tunnel by addressing constraints.
- DART+ Coastal North:
 - Re-configuration and upgrading existing rail depots at Fairview.
- DART+ Coastal South:
 - Elimination of level crossing to reduce rail/road conflict that limits train capacity; and
 - Provision of new grade separated pedestrian, cycle and vehicle crossings as required.

The current electrified DART network extends along the Coastal North and South routes from Malahide and Howth to Greystones, comprising about 50km. The DART+ programme will involve electrifying an additional 100km of rail lines, including the remainder of the Dublin heavy rail network, shown in Figure 3-14. This electrification will facilitate increased train capacity on the heavy rail network.

Some parts of the DART+ programme are expected to be completed by 2030, with other elements extending for the lifetime of the Transport Strategy (up to 2042) and potentially beyond. The implementation of DART+ will allow for increased passenger numbers. In terms of the receiving environment for 2030, while the heavy rail network's alignment or stations will not change within the study area, the DART+ programme will serve a higher travel demand and result in more passengers accessing (and interchanging at) rail stations in Dublin.

Interchange

Interchange opportunities with bus will be very high since all rail stations within the study area will be served by BusConnects services. Connolly and Heuston Stations will have interchange available with the Luas Red Line. Tara Street Station's proximity to Abbey Street and Westmoreland Stops on the Luas Green Line (5-minute walk to each) means that interchange will be possible with both Luas Lines. A new Iarnród Éireann (IÉ) station will be constructed at Glasnevin on the existing rail line, providing interchange with the Glasnevin MetroLink Station, and the existing station at Tara Street will offer the opportunity to interchange with the underground MetroLink Station planned for this location.

MetroLink

Whilst MetroLink is not anticipated to be operational by 2030, it is planned to be in construction by that time, with an expected opening year of approximately 2035. As the alignment and proposed stop locations have been planned, and the project's Business Case has been approved by Government, MetroLink has been considered part of the receiving public transport environment for this Plan.

Opportunities for interchange with other public transport modes will be present along the central and southern sections of the alignment. At Glasnevin MetroLink station, a new IÉ station will be constructed on the existing railway line to provide

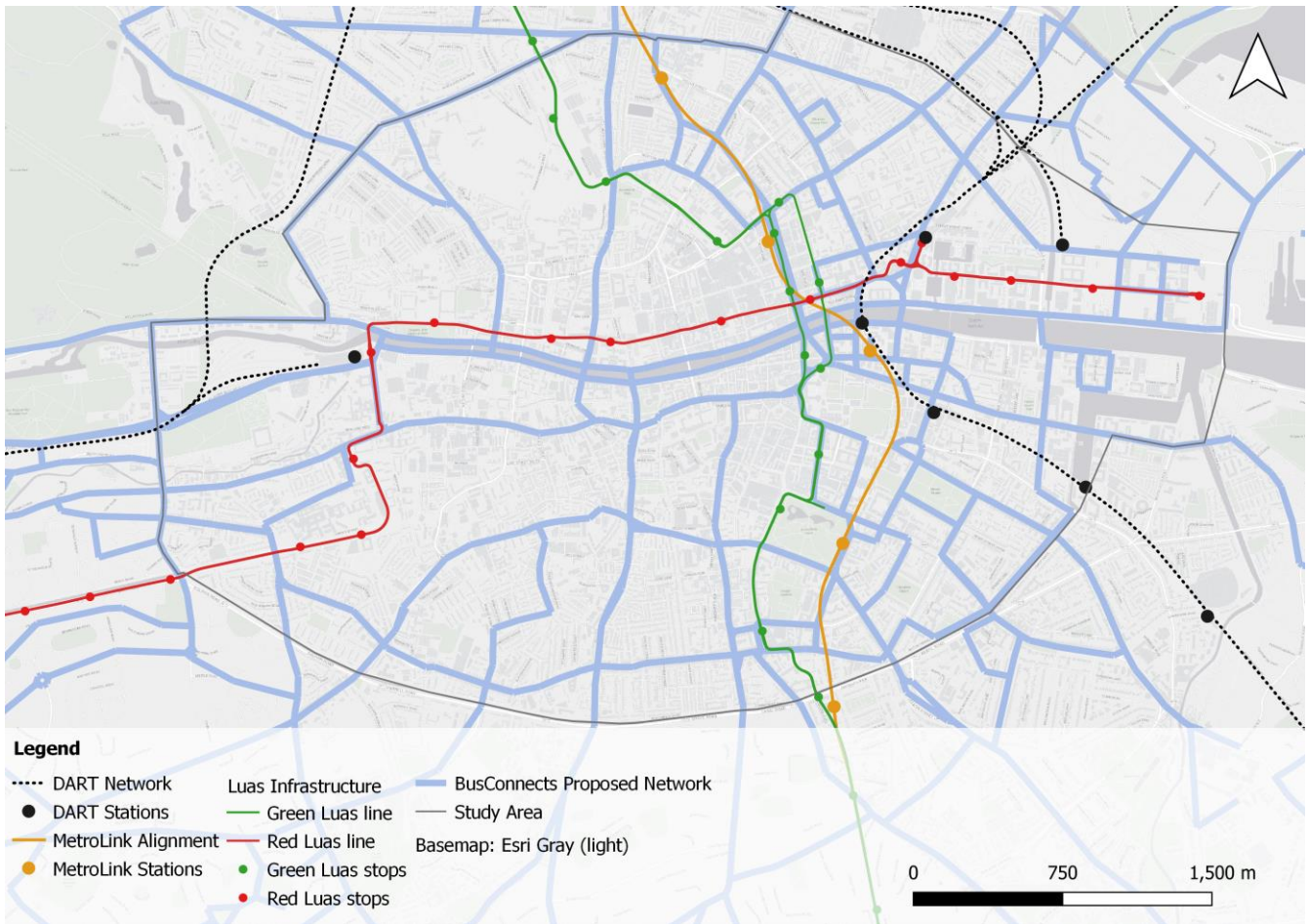


Figure 3-16 Future public transport network for study area

Key Public Transport Nodes

Within the study area, there are a number of key existing and future public transport nodes, shown in Figure 3-17 which offer interchange between the various public transport modes.

- Heuston: Heavy Rail Station offering direct interchange with Luas Red Line and bus network;
- Connolly: Heavy Rail Station offering direct interchange with Luas Red Line and bus network;
- Busáras: Bus Depot in close proximity to Luas Red Line and Connolly Rail Station;
- Docklands: Heavy Rail Station in close proximity to Luas Red Line;
- O’Connell Street: two Luas Green Line stops, in close proximity to the Luas Red Line at Abbey Street and bus network;
- Tara Street: Existing heavy rail station, with future direct interchange with MetroLink;
- Charlemont: Existing Luas Green Line stop offering future direct interchange with MetroLink.

The implementation of DART+ will further increase the interchange passenger volumes at heavy rail stations, by enabling higher frequency services.

The implementation of BusConnects will enable a high degree of opportunities for bus-to-bus, bus-to-rail and bus-to-Luas interchange at many locations. All major rail stations will be on the alignment of a number of bus services and many Luas stops will have a direct interchange with BusConnects services. Additionally, many BusConnects services will allow for important nodes to be ideal for bus-to-bus interchange, such as Christchurch and O’Connell Bridge.

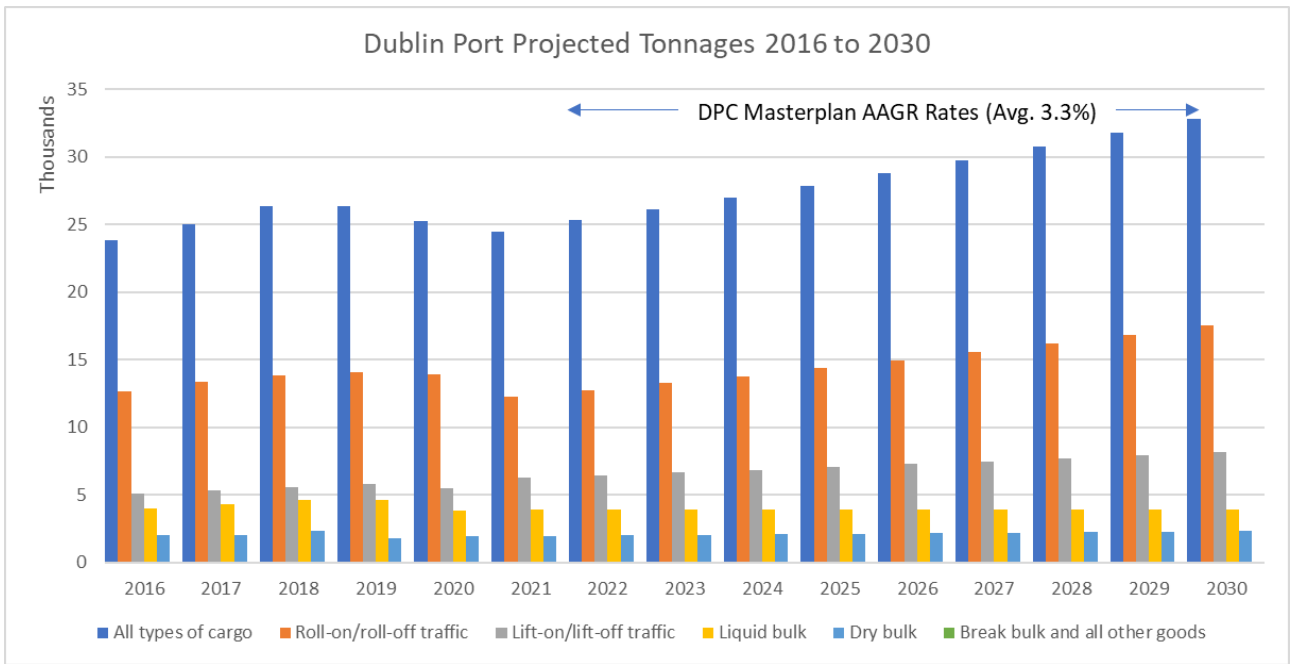


Figure 3-18: Forecast Freight Movements at Dublin Port 2016 to 2030 (CSO & DPC)

In addition to the freight traffic generated by the city itself, the Marine Port and the Airport are significant generators of roll-on roll-off (RoRo), load-on load-off (LoLo) and bulk freight traffic, as shown in Figure 3-18. Since this freight is all delivered to the same destination, the last mile delivery problem arising from the dispersed delivery destinations of consumer-bound goods needs not be considered here. Of particular importance for this Plan is the level of RoRo traffic at the port, since this can only be met by HGVs which, due to the Port’s location must traverse the city through the Dublin Tunnel or through the city centre for local deliveries – increasing congestion and emissions along their routes. The proportion of RoRo traffic is only expected to increase in the coming years, with the Dublin Port Masterplan predicting a 4.1% average annual growth rate for RoRo in Dublin Port between 2010 and 2040 compared with 3.3% for total freight through the port.

Heavy Freight Network in 2030

The current freight network in Dublin is defined by designated HGV routes for heavy freight deliveries, and the Dublin Tunnel and the freight rail link for heavy freight deliveries to Dublin Port. The current designated HGV routes and the HGV restricted zones are shown in Figure 3-19. Of particular importance among these routes is the Dublin Tunnel, which is recognised as important for freight movement in the DCDP, the Transport Strategy and the SFDF.

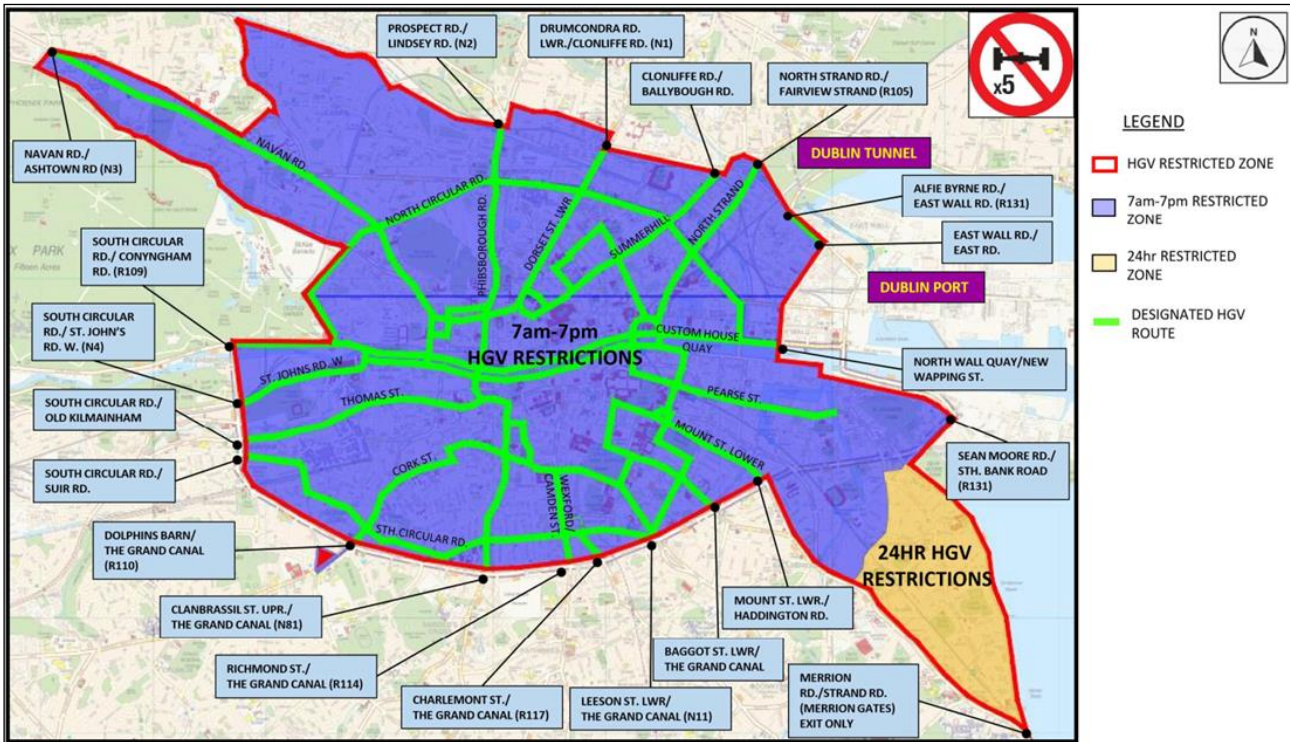


Figure 3-19: HGV Restrictions in Dublin City Centre (Dublin City Council)

The HGV traffic flows into and around the city in the years 2018 to 2022 is shown in Figure 3-20 and illustrates the regional imbalance of HGV movements; the largest number of HGVs enters Dublin through the N7, while the South sees lower volumes, as does the N3. It is expected, as outlined in the Irish Rail Freight Strategy and the Framework, that the Dublin Eastern Gateway will be located along the N7 or M50 and enable freight interchange and smarter movement of goods within the M50.

The overall trend in freight movements across the Transport Infrastructure Ireland (TII) traffic counter data in Figure 3-20 reveals that HGV traffic has recovered beyond pre-covid levels in some areas, particularly for traffic originating from the South-West on the N81 and N7. In general, it is consistent with the data² to assume that pre-covid HGV traffic is resuming and will continue to grow alongside the economy, requiring an approach that not only optimises for current demand levels but accommodates increased freight movements in the future.

² With the exception of HGV traffic on the N3, which has not recovered

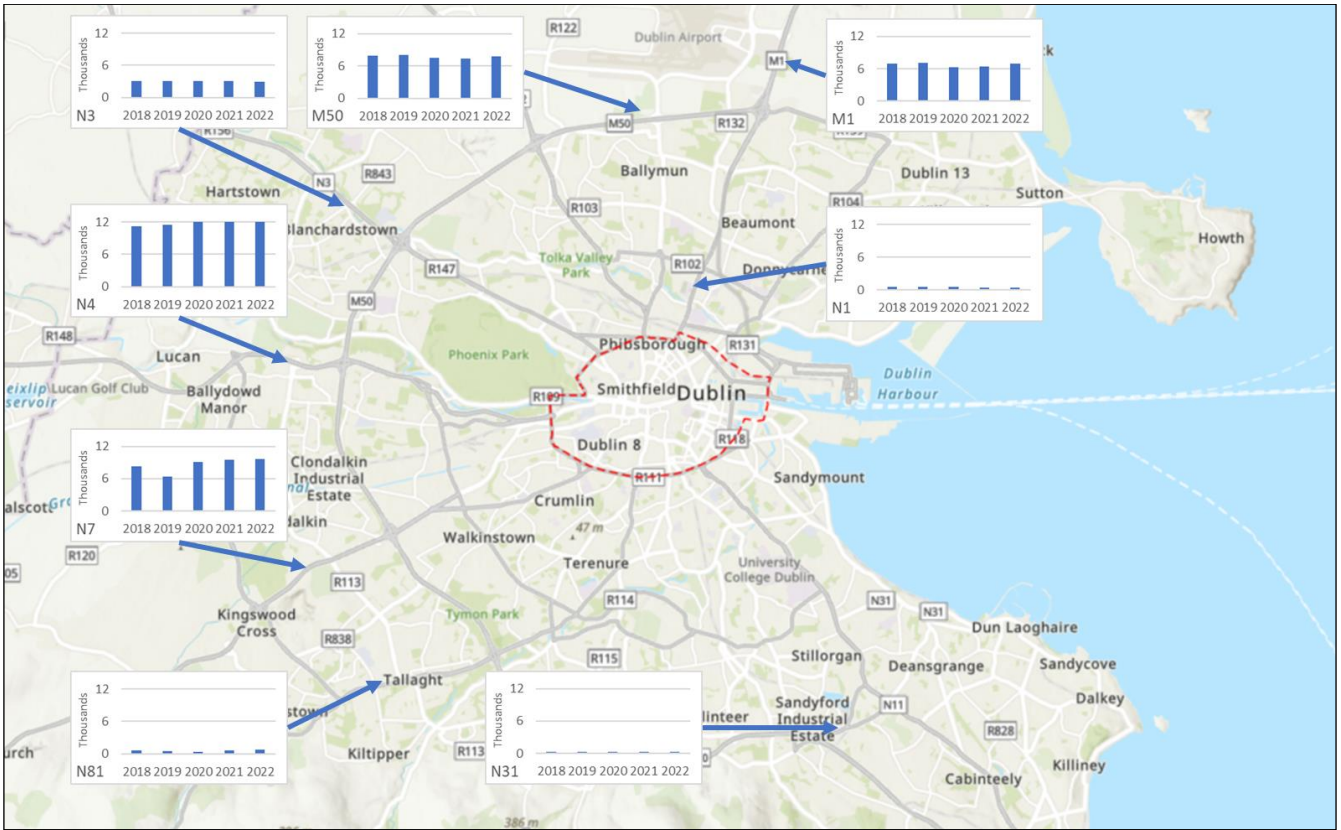


Figure 3-20: HGV AADT around and into Dublin (in thousands)

As part of the Dublin Port 2040 Masterplan and the Transport Strategy, the Southern Port Access Road (SPAR) has been proposed to improve connectivity between the south port lands and the port tunnel. This project has the potential to reduce the impacts of heavy port traffic on the local road network by keeping north-south movements within the port lands and away from the East Link bridge, which is the busiest Liffey crossing for HGVs, see Figure 3-21. The SPAR will be available for port traffic only, minimising impact on local communities while enabling better use of the port capacity on the Poolbeg Peninsula.

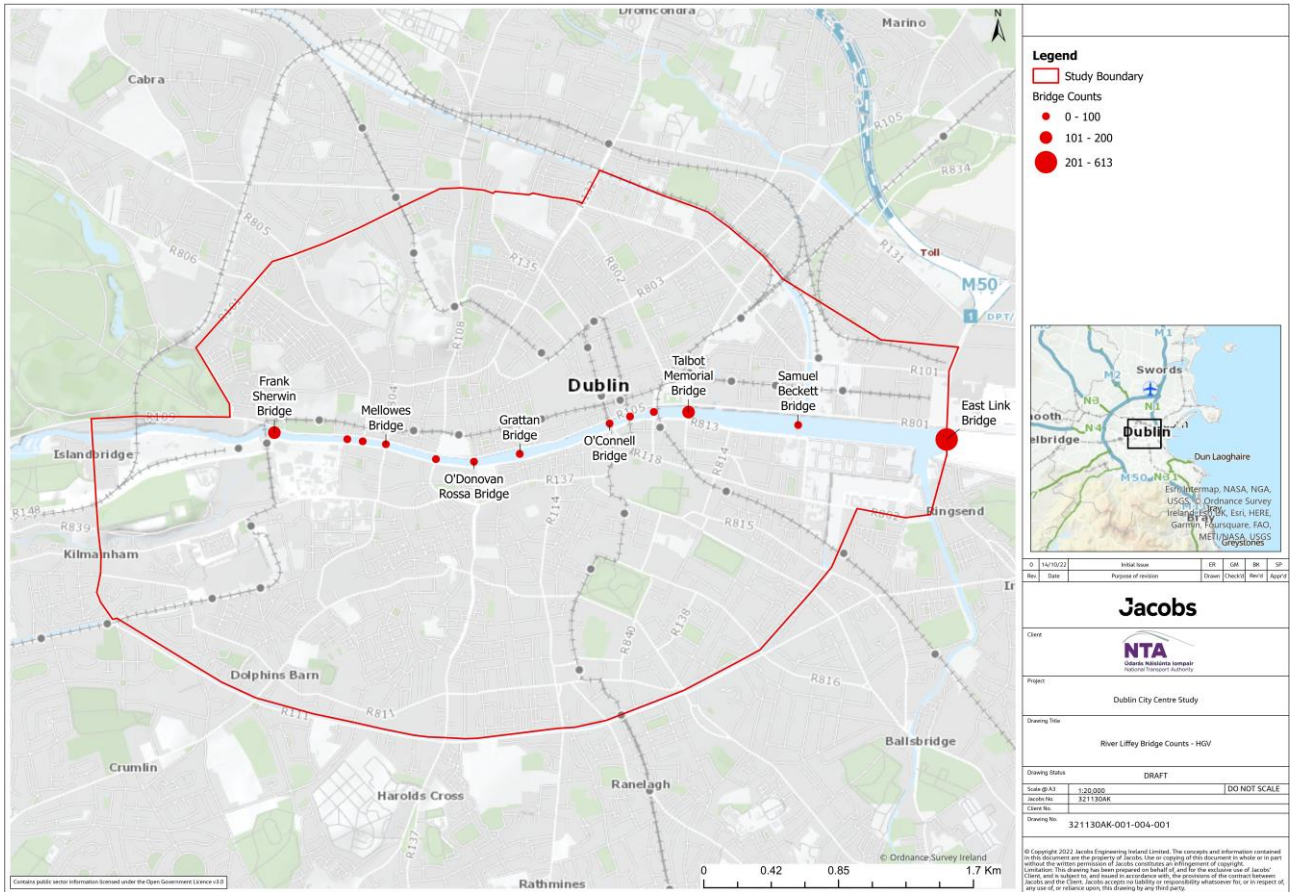


Figure 3-21: River Liffey Bridge Counts - HGV

The rail freight network is an instance where infrastructure that reaches far beyond the study area significantly affects the transport circumstances in the city centre – improved rail freight terminals outside the city (Dublin Eastern Gateway) and improved rail freight linkage throughout the country have potential to reduce the number of HGVs that traverse Dublin through the interchange of goods, or direct transport of goods to the port from their origin via rail freight.

Rail freight is currently limited to two lines which run from the Port north to Tara Mines and West to Ballina, as shown in Figure 3-22. Based on proposals in the Rail Freight Strategy 2040 and the Irish Rail Strategy:

- Sections leading into the city centre from lines to Tara Mines and Ballina are to be upgraded to 3 or 4 tracks;
- Marino Point in Cork, and the Port of Foynes are due to be connected to the rail network;
- The rail connections into the Dublin Port are to be upgraded; and
- The Dublin Eastern Gateway will add intermodal capacity for rail freight entering Dublin from the west and south-west.

It is unlikely that all proposals in the Rail Freight Strategy are completed by 2030, but it is reasonable to expect a noticeable expansion in rail freight volumes into the Dublin Port due to the planned €500 million investment into rail freight (as per the SFDF) which will alleviate HGV demand for road space in the wider GDA and Dublin City.

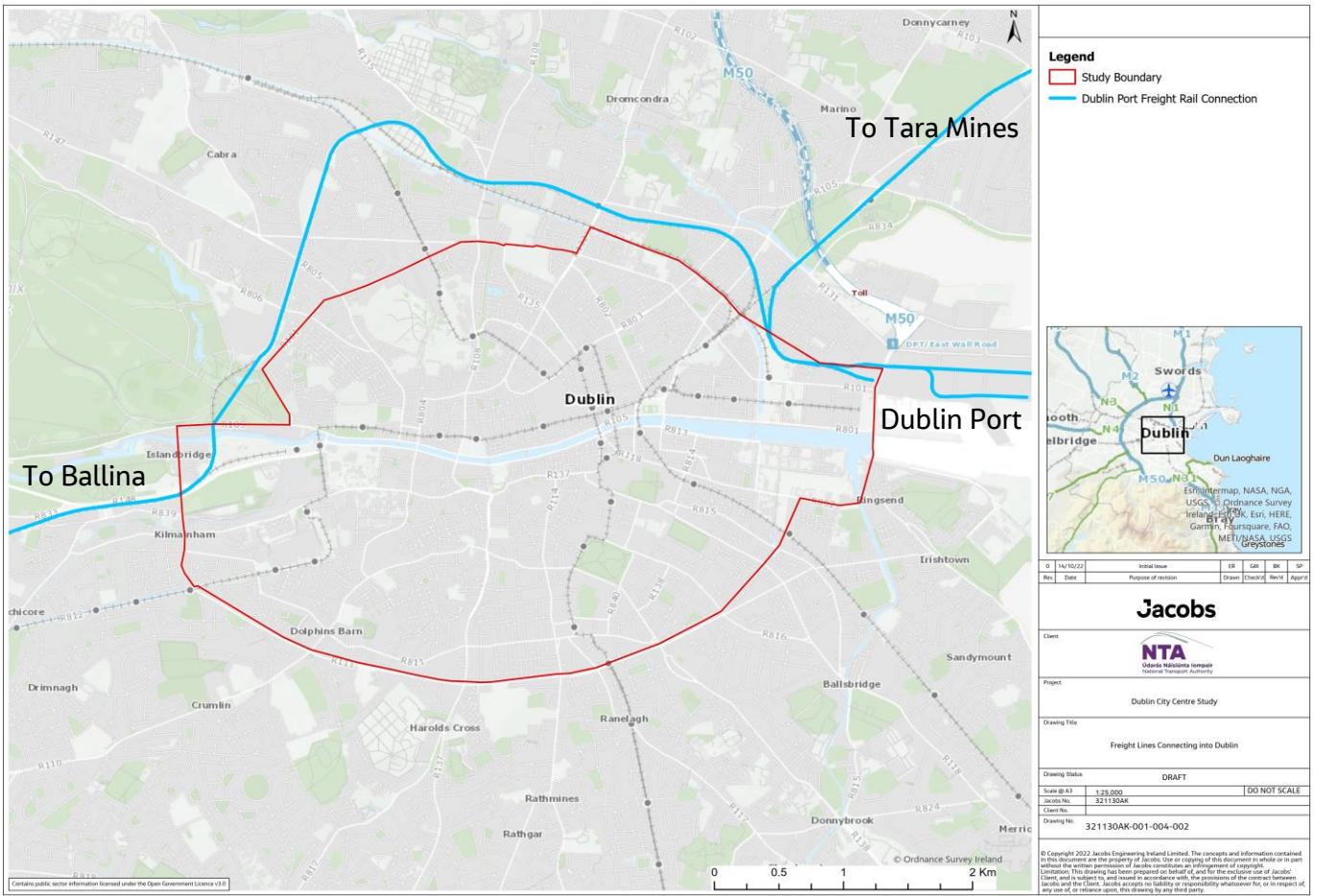


Figure 3-22: Rail Freight Routes Connecting into Dublin Port

Light Freight Network in 2030

In accordance with the DCDP and the SFDF, freight distribution to consumers will focus on a delivery hub-based system where heavier vehicles deliver goods to strategically placed distribution centres. From these, goods are distributed to their final destination using smaller, lower impact vehicles. In line with the policy directives, this Plan’s recommendations in relation to the public realm – i.e. to rebalance the streetscape towards people-focussed uses – requires limiting the dispersion of heavy vehicles around the city centre and instead focussing their movements around strategically located delivery hub locations.

The location of these hubs is not yet clear, but the SFDF suggests using multi story car parks for this purpose, among others. A map of existing multi story car parks is shown in Figure 3-23.

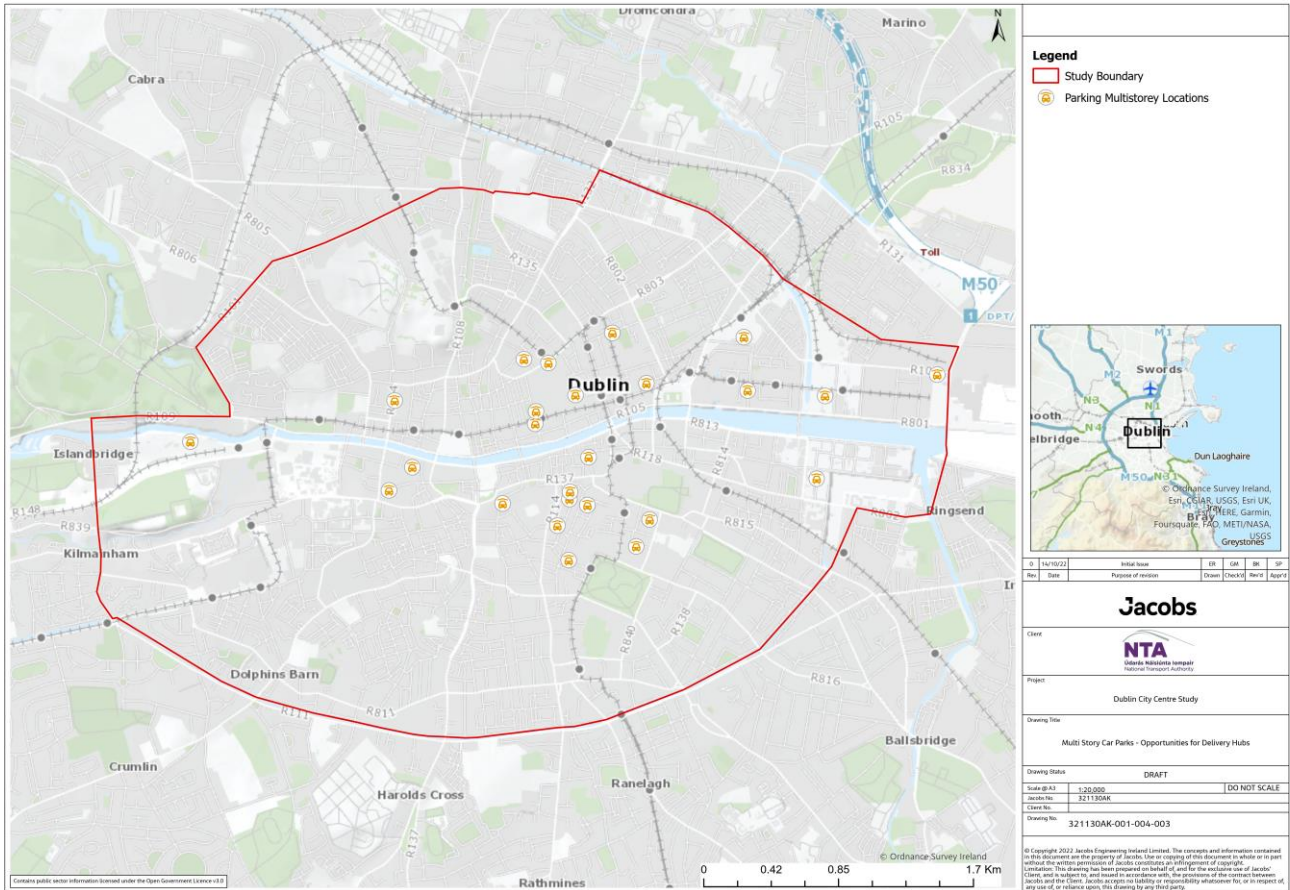


Figure 3-23: Multi Story Car Parks - Opportunities for Delivery Hubs

To distribute goods to the final customer from the delivery hubs, lighter vehicles will be needed which may include (cargo) bikes, motorcycles, Light Goods Vehicles (LGVs) and light autonomous vehicles. Last mile delivery on cycles, as is already common for food delivery will increase demand for safe and efficient cycling infrastructure as delivery companies will need an efficient and safe way for their employees to deliver goods.

These delivery hubs, particularly on the cities edge or close to arterial roads part of the HGV Management Strategy offer opportunity for interchange to vehicles with lower footprint and less negative externalities on the inhabitants of the city for last mile deliveries. For locations in the city centre, or in areas of high population, they offer the opportunity for micro-consolidation centres for click and collect, parcel lockers, last mile delivery services etc. These opportunities would satisfy the DCDP and the SFDF objectives through use of hub-based freight distribution within the city centre.

Autonomous vehicles could take the form of autonomously driven road vehicles, but some existing prototypes are as small as a shoebox. The uncertainty surrounding the technology and regulatory future of autonomous vehicles makes it difficult to predict how the city centre needs to adapt to these changes. As a result, there are no specific transport network changes currently proposed to accommodate them.

Opportunities for the creation of delivery hubs can be facilitated by active travel mobility hubs that would facilitate interchanging goods from heavier vehicles onto sustainable last-mile options such as cargo bikes, as per the SFDF and DCDP. These hubs will present good opportunities for last mile freight options such as click and collect centres, parcel lockers and e-cargo bike stations.

3.2.6 Private Cars

The car mode share in Dublin has seen reductions in the past years, and further decrease in private vehicle use is targeted by both the DCDP and the Transport Strategy. Success in achieving a reduction in congestion, reduced pollutant and greenhouse gas emissions, improved placemaking, equitable mobility access and a more efficient urban transportation sector hinges on the extent to which sustainable modes can absorb the demand of private vehicles.

While cars are free to drive on most roads within the city centre, DCC devised an Inner and Outer Orbital to control flow and reduce congestion within the city centre core. The aim was for cars to use these as cross city routes and to keep traffic as far from the city centre core as possible, using signposting to guide the way. Since their introduction in the early 2000s, the Orbital Routes have had minor alterations as a result of projects such as Luas Cross City, but the core of the Orbitals remains as shown in Figure 3-24, and are the receiving environment for traffic for this Plan.

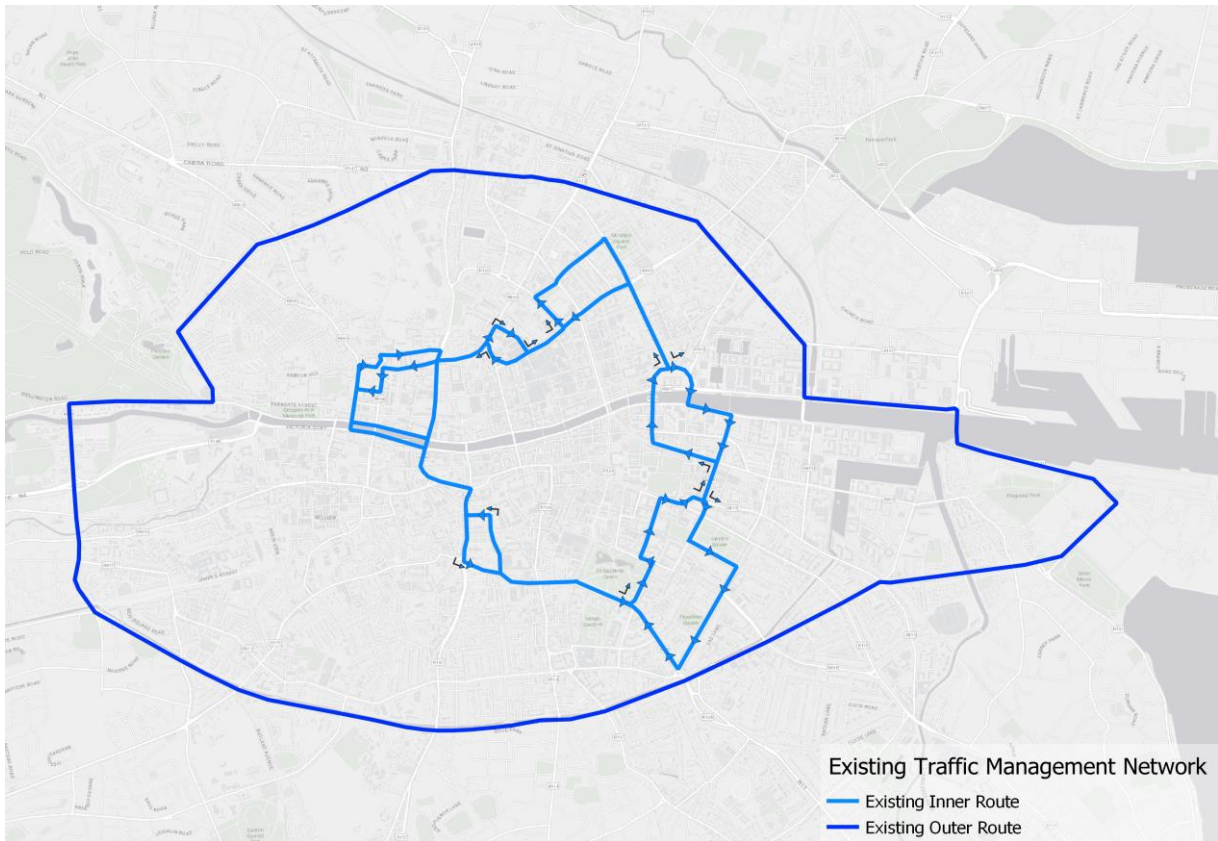


Figure 3-24 Existing Inner and Outer Orbital

The policy mode share targets available in the DCDP and the Transport Strategy give different values and cover different geographical areas; nevertheless, they allow establishing that a significant reduction in car use will occur and should be promoted by measures in the coming years. The Transport Strategy targets for the Dublin Metropolitan Area are shown in Figure 3-25; those from the DCDP are shown in Figure 3-26.

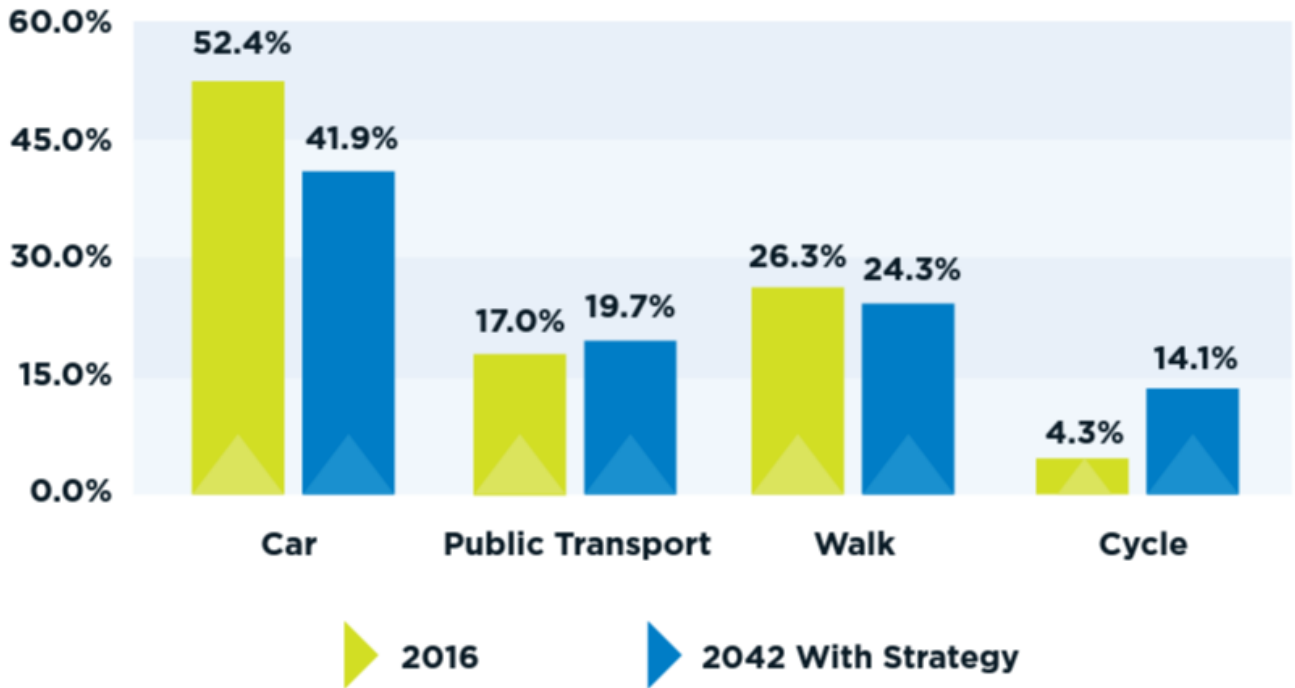


Figure 3-25: Mode Share Targets for Metropolitan Dublin from GDA Strategy 2022-2042

In the DCDP, the category “Private Vehicles” consists of cars, taxis, goods vehicles, and motorcycles; and the “Current Mode Share (2019)” was extracted from NTA/DCC Canal Cordon Counts of November 2019. The number of cars, taxis, goods vehicles, and motorcycles recorded during the Canal Cordon Counts of November 2019 are as follows:

- Cars: 46,388
- Taxis: 4,292
- Goods Vehicles: 983
- Motorcycles: 1,485

Current Mode Share (2019)	Target Mode Share 2028
Walking 11%	Walking 13%
Cycling 6%	Cycling/Micro Mobility 13%
Public Transport (bus, rail, LUAS) 54%	Public Transport (bus, rail, LUAS) 57%*
Private Vehicles (car, taxi, goods, motorcycles) 29%	Private Vehicles (car, taxi, goods, motorcycles) 17%

Figure 3-26: Mode Share Targets from DCDP

If the targeted mode share for taxis, good vehicles, and motorcycles in 2028 remains the same as the current mode share recorded in 2019, the mode share reduction of nearly 29,000 daily car trips must be accommodated entirely by reduction in private car use. This implies that the DCDP would see private car traffic in 2028 reduced by 62% compared to 2019 levels. Figure 3-27 shows the change based on ERM 2028 Reference Case AM Peak trip numbers across the cordon that are required of each mode, assuming that taxis goods vehicles and motorcycle traffic remains unchanged.

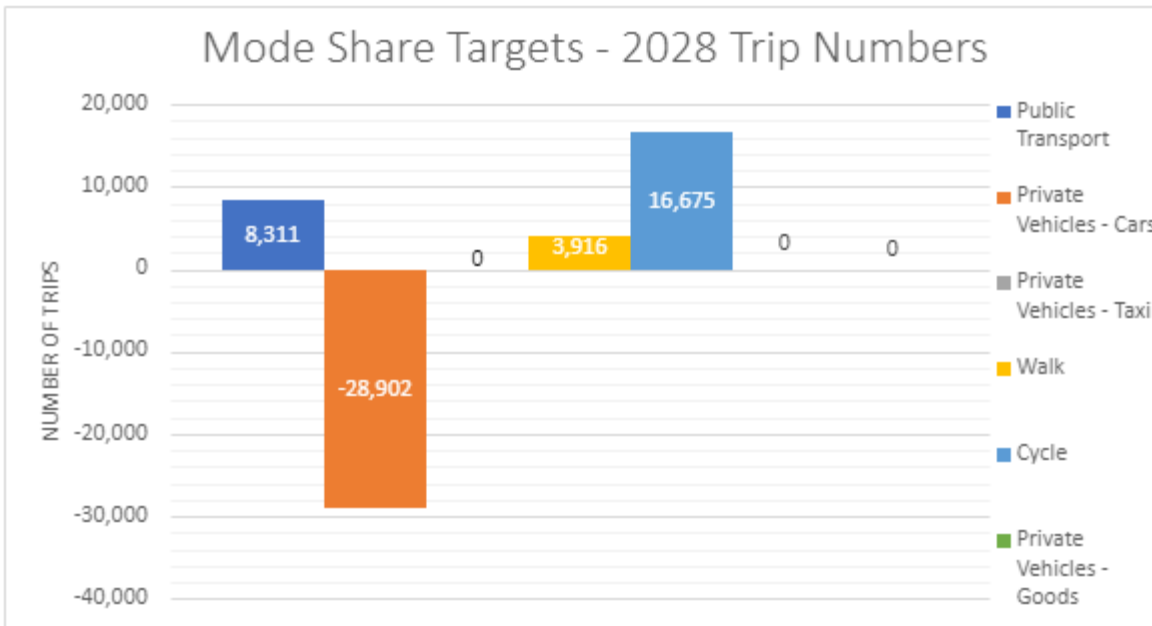


Figure 3-27: Mode Shares, with Disaggregation of “Private Vehicles” Mode

In contrast to all modes except goods movement, the changes in infrastructure that serves cars until 2030 will be reductive; there are no existing capital project plans for road expansion in the study area and simultaneously road space for cars will be reduced by the implementation of infrastructure focussing on more sustainable modes. This includes Bus Gates implemented as part of BusConnects Infrastructure and various streets that are earmarked for pedestrianisation. These changes are illustrated in Figure 3-28.

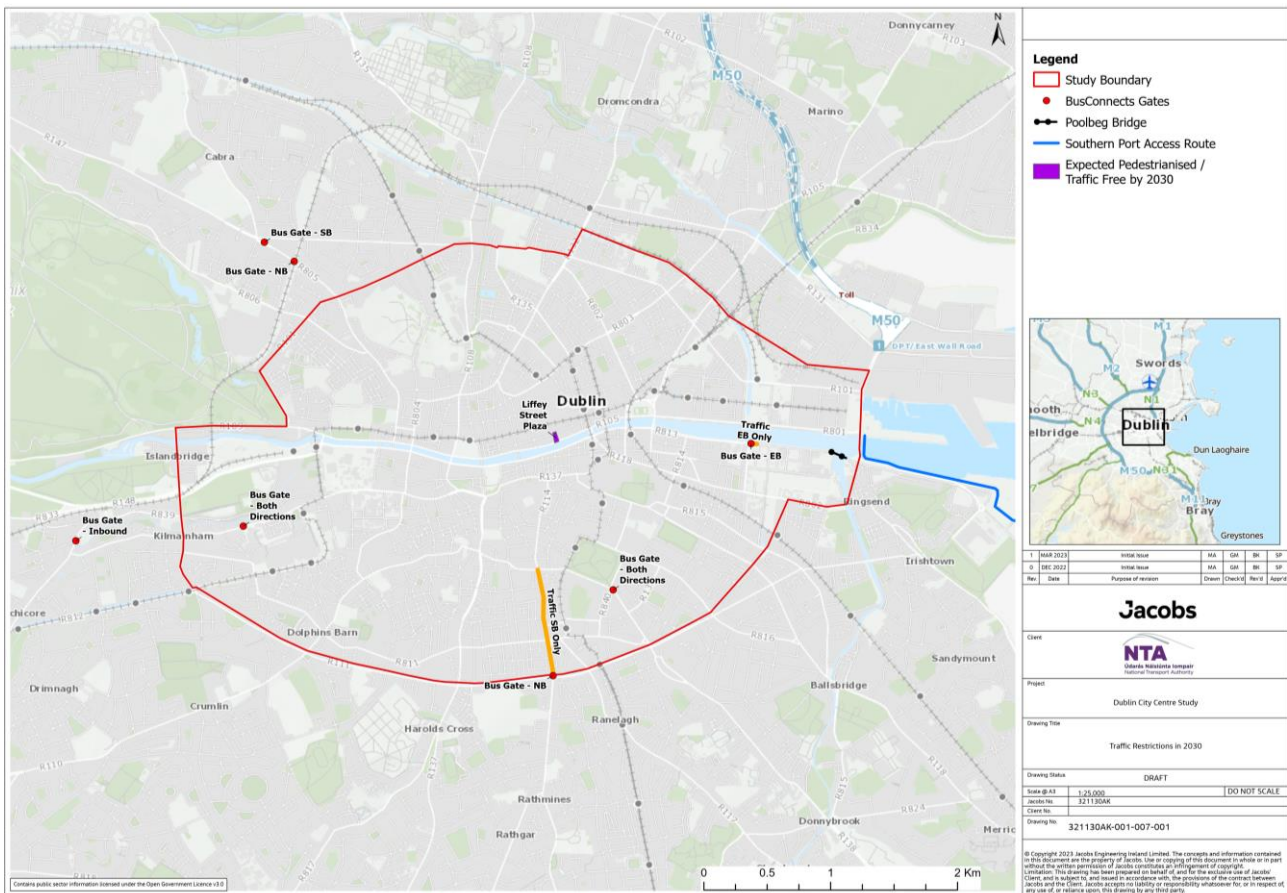


Figure 3-28: Changes to the Traffic Network Expected by 2030

The Poolbeg Bridge, and the SPAR, shown in Figure 3-28, will expand the traffic network without carrying private car trips: the former will serve active travel and public transport only and the latter will serve Port-bound freight vehicles. Nevertheless, these two initiatives are likely to improve the availability of car space on existing roads by removing some traffic (public transport vehicles and goods vehicles respectively) from roads.

3.2.7 Shared Mobility

Shared mobility includes all forms of transport where the vehicle can be temporarily acquired by different users. This includes novel mobility concepts like bike- and car-sharing, but also more well-established options like taxis and ride-hailing. Shared mobility plays an important role in complementing public transport and supporting active travel uptake.

Shared mobility supports active travel uptake; the expansion of bike-sharing schemes is already underway and embraced by the DCDP. Shared mobility will be an increasingly important element in the supply of active travel as it increases the availability of bicycles throughout the city. As the barrier to making a bicycle trip is lowered by the availability and accessibility of sharing options, this travel option becomes more attractive to a wider arrange of users. Novel business models and innovations, such as longer-range electric bikes, dock-less bikes, bike-sharing for children that may cater for trips to schools and family travel, and new payment or subscription options have the potential of further improving the quality of bike-sharing provision and attracting a wider range of users to this sustainable and healthy mode of travel.

With a policy focus on developing the interchange capacity of public transport, shared mobility will also play a role in supporting public transport use by facilitating the trips to and from public transport stops. In this way the efficiency of moving people in buses or trains can be combined with the convenience of door-to-door travel to make for a high quality, sustainable transport offer. In this aspect, developing a diverse mix of shared mobility options will create a transport offer for Dublin that suits a wider variety of mobility needs that serves everyone in the city.

The Impact of Digital Technologies on Bike-sharing

Given the expanding importance of digital technologies in everyday life, it is important to recognise and understand how they will impact cyclists now and in 2030. With the implementation of digital technologies, aspects such as trip planning, shared usage schemes, electric vehicles and active incentivisation are becoming more prevalent.

Affecting cycling trends in Dublin for 2030, the following examples may play a role in shaping the future of cycling:

- **Digital Wayfinding:** The utilisation of real time trip planning will enable efficient and effective use of space to minimise trip time and lengths. It could also allow users to choose routes pre- or mid-journey based on speed, length, congestion, pollution, or shopping opportunities etc.
- **Environmental Monitoring:** Data collected relating to air quality, noise, footfall, and traffic could be released to the public to allow for more informed trip routing decisions.
- **Flexible Space:** Based on real time traffic demand, road space could be reallocated to benefit the highest demand mode and maximise efficiency along corridors. For example, on cold and wet days people are likely to favour private and public transport modes, while on warm and dry days people will be more likely to utilise walking and cycling for their trips, thus causing fluctuating intensity of modal demand for space.
- **A shared fleet of bikes or e-bikes,** complemented by relevant digital and physical infrastructure will help enable modal shift to cycle for last-mile trips. This has relevance at mobility hubs especially and could help reduce reliance on public transport and private vehicles for last mile trips – reducing greenhouse gas emissions in the process.
- **E-Cargo Bikes:** A key potential technology for freight delivery is the use of E-Cargo Bikes. E-Cargo bikes provide a sustainable and space efficient form of last-mile delivery and would reduce the number of LGVs and private vehicles entering the city. The use of these bikes would be especially prevalent around mobility/freight hubs and require additional space on cycle tracks and cycle parking infrastructure.

