WATERFORD
METROPOLITAN AREA
Draft Transport Strategy

JUNE 2022

NTA Údarás Náisiúnta Iompair National Transport Authority
TII Bonneagar Iompair Eireann Transport Infrastructure Ireland
Waterford City & County Council Comhairle Cathrach & Contae Phort Láirge
Kilkenny County Council Comhairle Chontae Chill Chainnigh
Tionól Réigiúnach an Deiscirt Southern Regional Assembly
Project Ireland 2040 Building Ireland's Future
SYSTRA
Jacobs

This Strategy sets the framework for an **accessible, high-quality and integrated transport network that provides for the travel demand and supports the sustainable growth of the Waterford Metropolitan Area as the major growth engine of the South-East Region, and an internationally competitive European city region** as envisaged by the National Planning Framework 2040.

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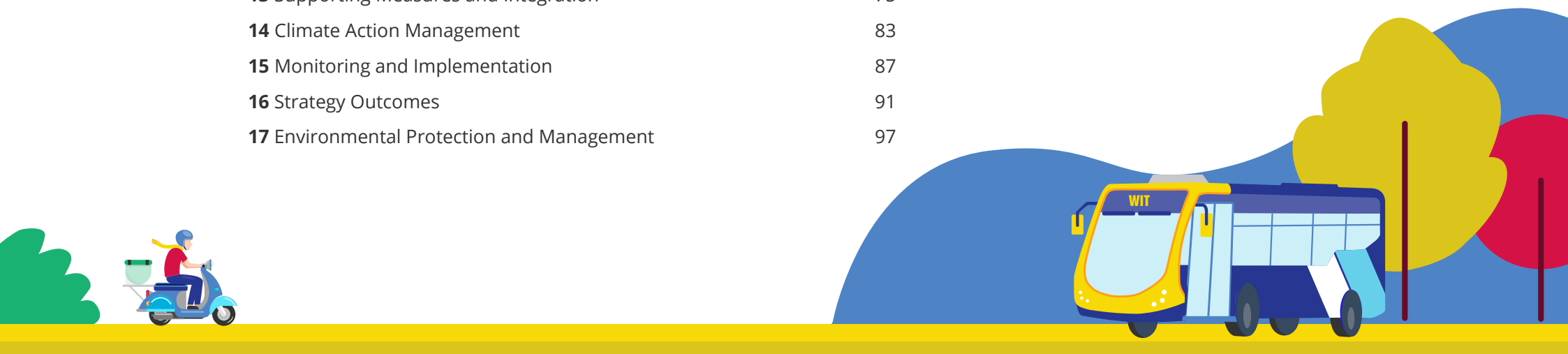


01 Introduction

The Waterford Metropolitan Area Transport Strategy will be instrumental in the regeneration and transformation of Waterford. The development of a concentric city including north of the River Suir - the North Quays and other key locations will be supported by integrated transport investment to create an attractive, liveable city, connecting city and suburbs and building north-south linkages.

Regional Spatial and Economic Strategy for the Southern Region

The National Planning Framework 2040 (NPF) envisages that the Waterford Metropolitan Area (WMA) will become the growth engine of the South-East Region with projected growth of at least 50% during the period up to 2040. This projected population, employment and education growth brings opportunities for the development of the WMA.

This projected population and associated economic growth will result in a significant increase in the demand for travel. This demand needs to be managed and planned for carefully to safeguard and enhance the WMA's attractiveness to live, work, visit and invest in.

Current congestion and poor journey time reliability for users during core times of the day in the WMA already highlights the limited capacity within the existing transport network to cater for additional motor traffic.

In common with the other regional metropolitan areas of Cork, Limerick and Galway, there is a legacy of car dependency in the WMA. This has contributed to a wide range of economic, environmental, and social issues including longer commutes, declining urban centres, poor public health, reduced air quality and noise pollution.

To mitigate this, land use planning and transport planning needs to be far more closely aligned. This will discourage the use of the private car, particularly for short trips, to fundamentally change how people move around the WMA. This requires a more efficient use of valuable street and road space and a prioritisation of walking, cycling and public transport.

The Waterford Metropolitan Area Transport Strategy 2040 (WMATS or the 'Strategy') has been developed by the National Transport Authority in collaboration with Waterford City & County Council, Kilkenny County Council, Southern Regional Assembly (SRA) and Transport Infrastructure Ireland (TII). It has also been informed by pre-consultation submissions from several stakeholders. The Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) have been undertaken in parallel and they have informed the Strategy process.

WMATS represents:

- The transport sector's response to the WMA's decarbonisation targets of cutting carbon emissions in response to the Climate Action Plan 2021;
- Promoting Waterford's new investment brand identity *Waterford – Find Your Future*, creating a decarbonising zone around the entire city of Waterford;
- A framework for the planning, investment and delivery of transport infrastructure and services to guide the WMA's development up to 2040 in line with the National Planning Framework 2040, National Development Plan 2021-2030, National Investment Framework for Transport in Ireland and the Regional Spatial and Economic Strategy for the Southern Region;
- A framework plan with which other agencies involved in land-use planning, environmental protection and the delivery of other infrastructure and services such as water, housing and community facilities can align their plans and investment priorities;
- An integrated transport strategy for walking, cycling, bus, rail and road to support growth and the realisation of the 'Concentric City' concept, as set out in the Waterford MASP; and
- A flexible strategy with the ability to scale up public transport capacity and frequencies as necessary in response to changing circumstances.

Current Challenges

There are several challenges across the WMA that were considered in preparing this Strategy. These are set out in the following sections:

Land Use and Physical Constraints

- Limited strategic north-south connectivity over the River Suir, resulting in strategic traffic movement routing through the city centre;
- Availability of attractive long-stay parking across the city;
- The general unsuitability of the road network, particularly within the medieval city core and arterial routes, to accommodate relatively high volumes of peak time vehicular traffic; and
- Many competing demands for scarce road and kerbside space for different road users.

Travel Behaviour

- An over-reliance on the private car for relatively short trips;
- Relatively low mode share of cycling and limited (though improving) dedicated cycle infrastructure;
- Low walking mode share outside of the city centre;
- A high level of car use for the school run, suppressing the use of public transport, walking and cycling and contributing to car-based congestion during the morning and afternoon inter-peak periods.

Public Transport Provision

- A limited number of high frequency bus routes (i.e. a frequency of 15 minutes or better) in the overall bus network;
- Limited bus priority infrastructure across the WMA, causing long journey times and delays on the current bus network, negatively impacting passengers and operating costs;
- Split inbound and outbound bus routes, and longer journey distances created by one-way systems;
- Overprovision of car parking, undermining the viability and attractiveness of public transport; and
- No Park and Ride sites present along the key radial routes towards the city centre.

Congestion and Economy

- Concerns that congestion will inhibit the ability of the WMA to attract further inward investment;
- Balancing employment-led growth and enhancing Waterford's small-city attractiveness and quality of life;
- Concern from major employers that public transport provision is insufficient to cater for an increasingly car-free workforce; and
- Traffic congestion and delays at key locations on the local and city centre road network during peak periods, such as the Newtown Road and Dunmore Road.

Public Health and Deprivation

- Concerns over rising levels of physical inactivity and childhood obesity;
- Rising concerns over the impact of transport on local air quality and consequently people's health;
- A recognition of the need to incorporate more active travel and incidental exercise into our transport system through the re-shaping of our public realm and transport choices; and
- A need to provide equitable transport accessibility to essential services, education and employment to help reduce deprivation.

Strategy Objectives

01 To meet the demand generated by the future growth of the WMA through the provision of an efficient sustainable transport network

02 To prioritise sustainable transport and active travel to reduce car dependency

03 The provision of a high frequency and attractive, citywide public transport system connecting to key destinations within high demand corridors

04 To increase transport capacity where needed to achieve the Strategy outcomes

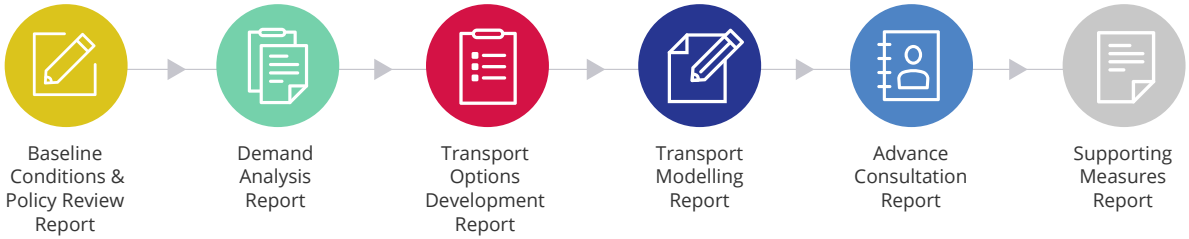
05 To deliver a fully accessible and inclusive transport system

06 To enhance the public realm of the WMA through demand management measures and transport interventions

07 To minimise the impact of motorised traffic in urban centres

08 To identify and protect key strategic routes for the movement of freight traffic

WMATS Supporting documents



Vision and Strategy Objectives

The proposed Vision for WMATS is aligned with that outlined in the RSES / Metropolitan Area Strategic Plan (MASP): To set the framework for an accessible, high-quality and integrated transport network that enables the sustainable growth of the Waterford Metropolitan Area as a key regional driver of growth in the South-East Region, and an international competitive European city region as envisaged by the National Planning Framework 2040.

Strategy Development

Technical analysis has been undertaken to inform the development of WMATS. Several supporting technical documents have been prepared which present the work undertaken and the evidence base for its proposed networks and measures.

The strategy is also subject to the provisions of the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) Directives, and associated national legislation. As such, it is accompanied by an Environmental Report and a Natura Impact Statement.

Further information on the development process is outlined in the 'Strategy Development' chapter. WMATS is intended to be subject to periodic review at approximately six year intervals.

Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA)

The preparation of WMATS will provide a framework for future projects which are likely to have a significant effect on the environment, and therefore is subject to a Strategic Environmental Assessment (SEA). Article 1 of the SEA Directive (2001/42/EC) states that the "objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment".

Appropriate Assessment (AA) is a requirement of the European Union (EU) Habitats Directive (92/43/EEC), on the conservation of natural habitats and wild flora and fauna, as transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011, which consolidates the European Communities (Natural Habitats) regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010. Both the SEA and AA reports have been developed in parallel with WMATS and should be read and considered in parallel with this Strategy.

Strategic Environmental Assessment (SEA)

An SEA is required to be undertaken on the transport plan as it contributes towards the framework for future development consent of projects listed in Annexes I and II of Directive 2011/92/EU, as amended by 2014/52/EC. The provisions of the Strategy have been evaluated for potential significant effects, and measures have been integrated into the Strategy on foot of SEA recommendations to ensure that potential adverse effects are mitigated.

The environmental topics (including interrelationships) which are considered by the SEA are as follows:

- Air and Climate Factors;
- Population and Human Health;
- Biodiversity, Flora and Fauna;
- Material Assets;
- Soil;
- Water;
- Cultural Heritage; and
- Landscape.

The SEA Report, which should be read and considered in parallel with the Strategy, sets out the findings of the assessment under headings including the following:

- Relevant aspects of the current state of the environment;
- Evaluation of Alternatives;
- Evaluations of Strategy Provisions;
- Mitigation Measures; and
- Monitoring Programme.

The overall findings of the SEA are that:

- All the recommendations arising from the SEA process have been incorporated into the Strategy;
- The Strategy facilitates a mode shift away from the private car to public transport, walking and cycling,

with associated positive effects, including those relating to:

- » Contributions towards reductions in greenhouse gas emissions and associated achievement of legally binding targets
- » Contributions towards reductions in emissions to air and associated achievement of air quality objectives, thereby contributing towards improvement in air quality and protection of human health
- » Contributions towards reductions in consumption of non-renewable energy sources and achievement of legally binding renewable energy targets
- » Energy security
- » Enhancing the public realm

- Certain Strategy provisions would be likely to result in significant positive effects upon environmental management and protection; and
- Certain Strategy provisions would have the potential to result in significant negative environmental effects upon the environment. The integration of detailed mitigation into the Strategy has ensured that these effects are mitigated.

The SEA identifies that implementation of the Strategy will contribute towards efforts to achieve a number of the 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development, which were adopted by world leaders in 2015 at a United Nations Summit and came into force in 2016.

Appropriate Assessment (AA)

The AA concludes that it is considered that the Strategy will not have a significant adverse effect on the integrity of the Natura 2000 network of sites[1].

The details of the approach to the AA and the findings are set out in the AA Natura Impact Report that accompanies the Strategy. In a similar manner to the Environmental Report of the SEA, this separate document should be read and considered in parallel with the Strategy.

Sustainable Development Goals

GOAL 3
Ensure Healthy lives and promote well-being for all at all ages

GOAL 8
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

GOAL 9
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

GOAL 11
Make cities and human settlements inclusive, safe, resilient and sustainable

GOAL 12
Ensure sustainable consumption and production patterns

GOAL 13
Take urgent action to combat climate change and its impacts

GOAL 14
Conserve and sustainably use the oceans, seas and marine resources for sustainable development

GOAL 15
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

[1]. Except as provided for in Article 6 (4) of the Habitats Directive, viz. There must be: a) No alternative solution available; b) Imperative reasons of overriding public interest for the plan / programme / strategy / project etc. to process; and c) Adequate compensatory measures in place.

02 Policy Context

Transport investment by the Governmental Departments, the National Transport Authority and other agencies, will be identified and prioritised through the Waterford Metropolitan Area Transport Strategy.

Regional Spatial and Economic Strategy for the Southern Region

This chapter sets out the prevailing European, National, Regional and Local policies which inform and interact with WMATS. They include those directly related to transport, climate change and land use planning. WMATS is currently a non-statutory plan. However National Policy Objective 69 of the National Planning Framework (NPF) states that statutory arrangements between spatial and transport planning in the Greater Dublin Area will be extended to other cities.

This objective suggests that the WMATS would assume a statutory footing at some point in the future, as the NPF is rolled out. The preparation of WMATS has been undertaken concurrent with the review of the Waterford and Kilkenny Development Plans, and will inform future reviews of both plans.

Planning and Policy

WMATS is a sub-regional plan and is directly informed by National Level policies. The key national policy documents are the National Planning Framework 2040 (NPF), the National Development Plan 2021-2030 (NDP) and the National Investment Framework for Transport in Ireland (NIFTI) and the recently published National Sustainable Mobility Policy.

The NPF sets out Ireland's planning policy direction for the next 20 years; the NDP sets out the investment priorities that will underpin the successful implementation of the NPF up to 2030; and NIFTI sets out the strategy for the development and management of Ireland's land transport network (walking, cycling, public transport and roads) over the next two decades.

A detailed analysis of all policy documents relevant to WMATS is outlined within the supporting WMATS Baseline Conditions and Policy Review Report. These include, but are not limited to:

- National Planning Framework 2040;
- National Development Plan 2021-2030;
- National Investment Framework for Transport in Ireland;
- Climate Action Plan 2021;
- National Cycle Policy Framework 2009-2020;
- Smarter Travel - A Sustainable Transport Future;
- Regional Spatial and Economic Strategy for the Southern Region;
- National Sustainable Mobility Policy; and
- The relevant City and County Development Plans and Local Plans.

The National Cycle Policy Framework 2009-2020 and Smarter Travel - A Sustainable Transport Future have been superseded by the National Sustainable Mobility Policy. The following sections contain a synopsis of the key documents.

European Level Policy

TEN-T Network

The TEN-T (Trans European Network – Transport) Network comprises a planned network of roads, railways, airports and water infrastructure across the European Union.

There are four TEN-T (Core and Comprehensive network) designated routes within the WMA including the N25 Cork-Waterford-Rosslare and N29 Belview Port-Slieverue National Primary Roads.

TEN-T policy remains key in promoting the free circulation of goods, services and citizens throughout the EU. It is instrumental in boosting economic, social and territorial cohesion between all Member States and their regions, as well as beyond the EU.

National Level Policy

Project Ireland 2040

Project Ireland 2040 is the government's long-term overarching strategy to make Ireland a better country for all and to build a more resilient and sustainable future. The strategy ensures the alignment of investment plans with the stated NSOs for 2030. The NPF and the NDP combine to form Project Ireland 2040.

National Planning Framework 2040 (NPF)

The National Planning Framework (NPF) is a strategic development framework that sets out the long-term context for Ireland's physical development and associated progress in economic, social and environmental terms until 2040.

The WMA is projected to grow with at least an additional 35,000 people by 2040 to support a minimum population of 85,000.

Key transport growth drivers include:

- Delivering the North Quay SDZ regeneration project for integrated, sustainable development together with supporting infrastructure, including a new pedestrian bridge or a pedestrian / public transport bridge over the River Suir;
- Identifying infill and regeneration opportunities to intensify housing and employment development throughout the city centre and inner suburban areas;
- Progressing development of new greenfield areas for housing and the development of supporting public transport and infrastructure;
- Provision of a Citywide public transport network, with enhanced accessibility from the City Centre to Waterford Institute of Technology (WIT); and
- Development of a strategic cycleway network with high-capacity flagship routes, including the extension of the Deise greenway to link WIT to the City Centre.

National Development Plan 2021-2030 (NDP)

The National Development Plan 2021-2030 (NDP)sets out the investment priorities that will underpin the successful implementation of the NPF up to 2030, at which point it will be reviewed and updated.

National Strategic Outcomes (NSO) defined by the NPF, have been incorporated into the NDP with further investment details. Projects relevant to the Strategy are summarised as follows:

NSO 1 - Compact Growth

- Implementation of the North Quays.

NSO 2 - Enhanced Regional Accessibility

- N24 Waterford to Cahir to Limerick Junction; and
- N25 Waterford to Glenmore.

NSO 4 - Sustainable Mobility

- A commitment to implement BusConnects for all of Ireland's cities;
- Transition urban bus fleet to low emission, including electric buses;
- Complete construction of the National Train Control Centre;
- Delivery of comprehensive cycling and walking network in metropolitan areas;
- Provision of Park & Rides in association with BusConnects; and
- Provide additional charging infrastructure for targeted growth in electric vehicles.

NSO 6 - High-Quality International Connectivity

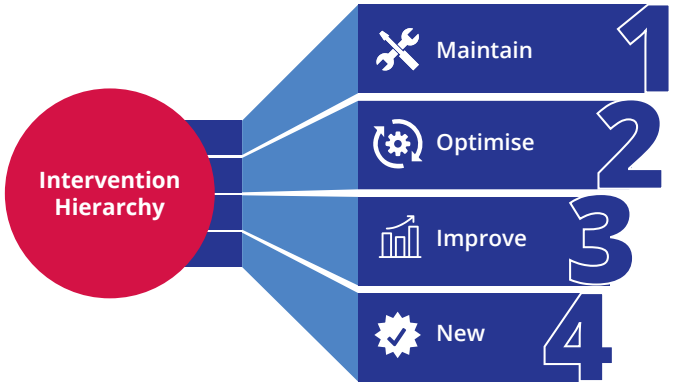
- Continued Exchequer support for smaller regional airports is planned under the Regional Airports Programme (Waterford Airport); and
- Strengthening access routes to Ireland's ports through investment to upgrade and enhance the road transport network to improve journey times between Rosslare and the Port of Waterford, given their role in maintaining transportation linkages with crucial EU markets.

NSO 8 - Transition to a Low-Carbon and Climate-Resilient Society

- Sustainable travel measures, including delivery of a comprehensive walking and cycling network for Ireland's cities;
- Transition bus fleet to low emission, including electric buses, with a commitment to no diesel-only buses purchased from July 2019;
- BusConnects Programme; and
- Expansion of Electric Vehicle Charge Points.

National Investment Framework for Transport in Ireland (NIFTI)

The NIFTI was published in March 2021 and is the Department of Transport's contribution to Project Ireland 2040, Government's long-term strategy for accommodating population growth in a sustainable manner. NIFTI has been developed to ensure that our transport sectoral strategy is underpinned by and supports the achievement of the National Strategic Objectives set out in the National Planning Framework.



NIFTI Intervention Hierarchy

NIFTI sets out the strategy for the development and management of Ireland's land transport network (walking, cycling, public transport and roads) over the next two decades. NIFTI sets out a hierarchy of investment for travel modes. Active Travel and public transport will be promoted over less sustainable modes such as the private car. A hierarchy of intervention types has been developed to ensure that investment is proportionate to the problem identified. The four high-level categories for intervention are highlighted as below.

The NIFTI Investment Priorities are reflected in the Intervention Hierarchy. Intervention Hierarchy is a principle-based tool, rather than a strict rule. Investment planning will continue to be needs-based and objectives-led, and the hierarchy will assist, at both the project and budgetary levels, to identify the most appropriate solution to a given problem.

Climate Action Plan 2021
The Government published the Climate Action Plan 2021 in November 2021 as a roadmap for taking decisive action to halve Ireland's emissions by 2030 and reach net zero no later than 2050. The plan states that climate change is here and is already impacting our world, as Ireland is now at a higher risk of frequent storms and flooding. To overcome this, we must act to help build a cleaner, greener economy and society.

Tackling emissions from the Transport sector (accounting for almost 20% of Ireland's greenhouse gases in 2018) is a significant part of the Climate Action Plan.

To meet the required level of emissions reduction by 2030, key objectives include:

- Provide for an additional 500,000 daily public transport and active travel journeys;
- Develop the required infrastructure, regulatory, engagement, planning, innovation and financial supports for improved system, travel, vehicle and demand efficiencies; and
- Increase the fleet of Electric Vehicles (EVs) and Low Emitting Vehicles (LEVs) on the road to 945,000.

Key actions that are relevant to WMATS include:

- Continue the improvement and expansion of the Active Travel and Greenway Network;
- Construct and additional 1,000km of cycling and walking infrastructure;
- Commence delivery of BusConnects Network Redesign in Cork, Galway, Limerick and Waterford;
- Commence delivery of BusConnects Core Bus Corridor Infrastructure Works;
- Examine the role of demand management measures in Irish cities, including low emission zones and parking pricing policies;
- Require all cities with a population exceeding 75,000 to produce a sustainable transport plan by no later than June 2021 for review by the National Transport Authority and Department;
- Balance better movement priorities within urban areas to transition the built environment and public domain from one that is "vehicle centred" to being "people centred";
- Advance demand management measures;
- Increase provision of Park & Ride at transport interchanges;
- Deliver sustainable bus priority measures on the National Road Network; and
- Transition Cork, Galway, Limerick and Waterford metropolitan area Public Service Obligation (PSO) bus services to low/zero emission bus fleet.

Other key policy documents in relation to Climate Action include:

- National Mitigation Plan;
- Developing Resilience to Climate Change in the Irish Transport Sector;
- Waterford City & County Council's Climate Change Adaptation Strategy 2019-2024; and
- Kilkenny County Council Climate Change Adaptation Strategy 2019-2024.

National Cycle Policy Framework 2009-2020
The overarching mission of Ireland's first National Cycle Policy Framework 2009-2020 is to create a strong national cycling culture where cycling is considered the norm. Its vision is that all cities, towns, villages and rural areas will be bicycle friendly to achieve the objective that 10% all trips will be by bike by 2020.

The key objectives of this Framework are to:

- Support the planning, development and design of towns and cities in a cycling and pedestrian friendly way;
- Ensure that the urban road infrastructure (except for motorways) is designed / retrofitted to be cyclist-friendly;
- Provide cycling-friendly routes to all schools, adequate cycling parking facilities within schools, and cycling training to all school pupils;
- Ensure proper integration between cycling and public transport;
- Provide secure parking for bikes; and
- Improve the image of cycling and promote cycling using "soft interventions" such as promotional campaigns and events.

Smarter Travel - A Sustainable Transport Future 2009-2020
Smarter Travel acknowledges that continued growth in demand for road transport is not sustainable due to the impact on congestion, local air pollution, contribution to climate change and promotion of increasingly sedentary lifestyles. Its main objective is to promote a significant modal shift from private transport to public transport and active modes over the period up to 2020 and to reduce the share of travel demand growth that is car dependent.

This policy sets out clear targets which have informed the preparation of WMATS including a key target to reduce work-related commuting by car from a current modal share of 65% to 45%, with commuting by alternative sustainable modes rising to 55%.

The National Sustainable Mobility Policy
The National Sustainable Mobility Policy was published by the government in April 2022 and supersedes the National Cycle Policy and Smarter Travel. The National Sustainable Mobility Policy sets out a strategic framework to 2030 for walking, cycling and public transport to help Ireland meet its climate obligations. The policy aims to deliver at least 500,000 additional daily active travel and public transport journeys by 2030 and a 10% reduction in the number of kilometres driven by fossil fuelled cars. It will make it easier for people to choose walking, cycling and use public transport daily instead of having to use a petrol or diesel car.

Key actions that are relevant to WMATS include:

- Expanding bus capacity and services through the BusConnects programme in Waterford;
- Use of zero emission bus fleet for Waterford by 2030;
- Reallocation of Plunkett Train Station to a new location on the North Quays as part of a wider urban regeneration project; and
- Development of a "10-minute Cities" initiative, promoting the ability for individuals to access all essential services within a 10-minute walk / cycle or public transport connection from people's homes.

Five Cities Demand Management Study: Recommendations Report 2021
This study was undertaken for the Department in November 2021. The development of the Five Cities Demand Management Study is a result of the urgent requirement to reduce transport-related greenhouse gas emissions and address rising concerns in relation to urban air quality. Five Cities Demand Management Study provides a focused and evidence-based approach to addressing the carbon, congestion and air quality challenges facing the cities of Ireland.

Some of the Descriptive Measures presented in this report that relate to Waterford include:

Congestion Charging FM11:
Congestion charging within urban areas.

Workplace Parking Levy PTM01:
A Workplace Parking Levy (WPL) which enforces charges on parking provided by employers.

On-Street Parking Controls & Pricing PTM04:
Public Parking Controls on the availability and cost of parking.

Integrated Planning Policy PP01:
Develop and embed the concept of Healthy Streets Assessments; and

PP08: Develop and embed the concept of the 15-minute neighbourhoods.

Regional Level Policy

Regional Spatial and Economic Strategy for the Southern Region (RSES)
RSES was completed and published in January 2020 by the Southern Regional Assembly.

The RSES is a regional-level framework to ensure improved coordination in planning and development policy across Local Authority boundaries, underpinned by the NPF and NDP.

As part of each RSES, Metropolitan Area Strategic Plans (MASPs) for the key cities are required to focus on specific city and metropolitan-wide issues.

Section 6.3.6.5 of the RSES sets out the key priorities for WMATS as follows:

- Preparation of WMATS;
- The improvement of accessibility to the City Centre through effective traffic management, reduced congestion and the improvement of modal choices;
- Support the delivery of the North Quays SDZ regeneration project for integrated sustainable development through the provision of supporting transport infrastructure and services;
- The provision of a citywide public transport system, with:
  - » Enhanced accessibility to the City Centre and key destinations such as WIT & Waterford University Hospital, from within the City / Environs areas, and nearby towns, including Tramore.
  - » Improved cross-city connectivity between the City / Environs (south of the River Suir) and the North Quays SDZ / Ferrybank Area.
- The maintenance and enhancement of the national roads network, catering for transport demand within the Waterford Metropolitan Area, for improved inter-

urban / inter-regional connectivity / reduced journey times and for improved access to international gateways, including Port of Waterford, Rosslare-Europort and Waterford Airport;

- The optimal use of the rail network, connecting Waterford at a regional and national level, to cater for the movement of people and goods; and
- The development of a metropolitan-wide cycle network, focused on the City / Environs, catering for a range of journey purposes, including the development of strategic cycle routes and the extension of the Waterford Greenway to link WIT to the City Centre.

The following MASP policy objectives are also relevant:

Waterford MASP Policy Objective 1:

Waterford Metropolitan Area

- **1 A:** Strengthen the role of the WMA as an international location of scale, a complement to Dublin and a primary driver of economic and population growth in the Southern Region; and
- **1 B:** Promote the WMA as a cohesive Metropolitan Area with: (i) the City Centre as the primary location at the heart; (ii) compact growth and regeneration of the Metropolitan Area across the city centre and suburbs; and (iii) active land management initiatives to deliver housing and employment locations in a sustainable, infrastructure-led manner.

Waterford MASP Policy Objective 2:

Driving Regional Growth for the South-East

- **2:** Strengthen inter-regional and intra-regional connectivity (public transport) to Key Towns in the SRA: Carlow, Clonmel, Dungarvan, Kilkenny and Wexford.

Waterford MASP Policy Objective 3:

Investment to Deliver Vision

- **3 B:** Develop WMA as a Concentric City, with balanced and compact growth north and south of the River Suir, supported by integrated land-use and transportation; and
- **3 C:** Ensure quality infrastructure and quality of place is prioritised as an incentive to attract people to live and work in sustainable settlement patterns in the WMA.

Waterford MASP Policy Objective 5:

Investment in Infrastructure & Digital Connectivity

- **5 A:** Seek investment and stakeholder co-ordination on the sustainable development of infrastructure capacity (multi-modal transport networks) to enable the WMA to fulfil its role as a primary economic driver in the region.

Waterford MASP Policy Objective 6(a):

Integration of Land Use and Transport

- **6 (a) A:** Prepare WMATS during the lifetime of this MASP and ensure investment and implementation of WMATS;
- **6 (a) B:** Core Strategies of Local Authority Development Plans will identify the public transport corridors and nodal points on corridors in the WMA arising from WMATS which have potential to support high density development/regeneration;
- **6 (a) C:** Achieve the NSOs of the NPF through the sustainable, infrastructure-led regeneration, consolidation and growth; and
- **6 (a) D:** Seek sustainable higher densities where practicable at public transport nodes.

Waterford MASP Policy Objective 6(b):

Sustainable Transport

- **6 (b):** Support the following sustainable transport priorities in the WMA:
  - » Relocation of the Railway Station to the North Quays Innovation District with more direct access to the City Centre.
  - » Improved connectivity between the City Centre and the North Quays Innovation District and wider Ferrybank Area including the provision of a pedestrian / public transport bridge from The Mall to Ferrybank.
  - » Provision of an additional downstream crossing to provide a link to the south bank of the River Suir in the vicinity of Maypark or Ardkeen.
  - » Development of a Metropolitan Area Public Transport system including routes from the City Centre to WIT, Waterford University Hospital, Port of Waterford at Belview and consideration. of routes from strategic settlements outside the metropolitan area including Tramore, New Ross and Carrick-on-Suir.
  - » Measure to encourage modal shift to bus and rail for commuters into the city.
  - » Development of a more Walkable City.
  - » Support traffic calming measures such as shared streets.
  - » Develop the 10-minute city concept for Waterford.

The RSES also identifies several National Enablers which are relevant to WMATS including:

- Identifying infill and regeneration opportunities to intensify housing and employment development throughout inner suburban areas;

- Creating a vibrant urban centre focused on Waterford City Centre through improved access to the City Centre for City Bus Services;
- Enhanced road connectivity to Port of Waterford, Rosslare-Europort and Waterford Airport;
- Support the development of the Multi-Campus Technological University of the South-East (TUSE);
- Support the development of the Port of Waterford Belview; and
- Support the further development of Waterford Airport, including
  - » An extension of the existing runway to accommodate larger aircrafts
  - » Measure to encourage additional operators offering services from this location

Local Level Policy

The third tier in the policy hierarchy is local planning, which transposes National and Regional objectives into a local context. The Strategy's proposals will also inform the development of future Development Plans and Local Area Plans under Waterford City & County Council and Kilkenny County Council.

Draft Waterford City & County Development Plan 2022-2028

The Draft Waterford City & County Development Plan 2022-2028 was issued for public consultation in 2021. This Plan represents the first Development Plan for the consolidated areas of Waterford City and County. On its completion and adoption, it will supersede the Waterford City Development Plan 2013-2019 and Waterford County Development Plan 2011-2017, which currently remain in place.

The Waterford City & County Development Plan 2022-2028 aims to create "a city and county of significance, driving regional growth and prosperity, realising its full potential on behalf of the local, regional and national population. A sustainable, dynamic and resourceful place where people choose to visit, live, work, invest, experience and socialise in, as a matter of choice".

This vision is underpinned by the following relevant core strategic planning policies:

- Creating an efficient strategic transport system for the future economic, social and physical development of Waterford;
- Transitioning to a low carbon and climate resilient society;
- The relocation of Plunkett Station within the development of the North Quays;
- Creating a sustainable transport bridge linking the North and South Quays; and
- Sustainable development of Waterford Port and Waterford Airport.

The Waterford City & County Development Plan 2022-2028 is expected to be adopted in 2022.

Waterford City Development Plan 2013-2019

The Waterford City Development Plan 2013-2019 seeks to "achieve a balance of travel supply and demand in Waterford" and acknowledges that greater integration of land use planning and transportation planning is key to achieving this. This vision for Waterford City will be achieved through the realisation of the following actions:

- Align land use development around well-serviced public transport corridors including bus lanes, rail lines and high-quality cycle and pedestrian infrastructure;
- Public transport network improvements including increased service frequency on some routes, simplification of the network, provision of more direct routes to the city and the co-ordination of timetables;
- Extension of bus services to the Rail Station and Kilbarry;
- Provide for a small-scale park and ride site adjacent to the Outer Ring Road in the general Farronshonee/ Williamstown Road area, as well as an additional two park and ride sites on the Northern and Southern approaches to the City;
- Provide a citywide cycling network via main routes, along with providing cycle and walking networks between neighbourhood areas; and
- Control the provision of on-street and off-street car parking in the City Centre.

Waterford County Development Plan 2011-2017

The Waterford County Development Plan 2011-2017 seeks to 'develop and improve, in a sustainable manner the social, economic, cultural and environmental assets of the County'.

There is emphasis on land-use within the County.

- Promote and improve the attractiveness of using public transport, cycling, walking, journey-sharing, flexible working or a combination of these as alternatives to one person per car-based journeys to work;
- Promote and facilitate the improvement and further development of the public transport system in the County;
- To support and co-operate with public and private transport operators in the provision of an effective, attractive and sustainable transport service;
- Liaise with Waterford City Council and the National Roads Authority on the provision of park and ride facilities, quality bus corridors and other appropriate traffic management measures in the City Environs;
- Assess the potential of a commuter rail service for Tramore and Kilmeaden; and
- Promote the sustainable development of safe and convenient pedestrian and cycling facilities in the towns and villages to encourage an active and healthy lifestyle.

Draft Kilkenny City and County Development Plan 2021-2027
The Draft Kilkenny City and County Development Plan 2021-2027 was issued for public consultation in 2021.

The Draft Plan 2021-2027 aims to 'maximise the strengths of our citizens, communities, built and natural heritage, infrastructure and tourism to their full potential' and to 'create a more sustainable, inclusive, attractive, competitive and safe city and county'. It contains a number of proposals and objectives of relevance to the Strategy, including:

- Ferrybank has been included as part of Waterford's Gateway settlement hierarchy;
- Ferrybank has the potential capacity for population growth in the region of 12,600;
- The Belview Port area has significant existing capacity for expansion; 190 hectares are zoned for development as a strategic employment location;
- Consider the provision of integrated scheduling of connections between all transport – rail, bus, and shipping services;
- Rail connectivity between Waterford and Dublin through County Kilkenny needs to be improved to provide for commuter services;
- An examination of the Rosslare to Limerick rail line;
- Create good physical connections within surrounding areas to encourage walking, cycling and public transport; and
- Achieve the highest standards possible in urban and architectural design.

The Kilkenny City and County Development Plan 2021-2027 was completed and published in October 2021. Following its adoption, it will supersede the Kilkenny County Development Plan 2014-2020 and the Kilkenny City and Environs Development Plan 2014-2020.

Kilkenny County Development Plan 2014-2020
The Kilkenny County Development Plan 2014-2020 aims to "provide a strategic policy focus to ensure adaptation measures are taken across different sectors and levels of government to reduce Ireland's vulnerability to the negative impacts of climate change".

The Kilkenny County Development Plan contains several objectives relevant to the Strategy such as:

- To investigate the establishment of a Transport Forum to oversee transport policy of the county;
- Deliver cycling and walking as efficient, fast and relatively inexpensive forms of transport;
- Co-operate with the various public and private agencies responsible for transport services within the county in the provision of new bus services and supporting infrastructure;
- Increased frequency of services and reduced journey times between Waterford, Kilkenny, Carlow and Dublin; and
- Co-operate in the development of a high-quality bus-based public transport system in the Waterford City & Environs and in the identification of an optimum site for a Park and Ride facility.

Waterford City Centre Urban Renewal Scheme 2015
The Waterford City Centre Urban Renewal Scheme plans to create changes to "traffic circulation, restriction of vehicular access, widening of carriageways, conversion to two-way or one-way traffic flows, ancillary civil works and realignment" of some streets.

Some objectives of this scheme include:

- Retention of Waterford's Healthy City status;
- To protect and enhance the vibrancy and vitality of Waterford City Centre;
- To facilitate and promote the balanced and sustainable economic development of the City;
- To facilitate the development of an accessible city centre, with reference to persons with disabilities, pedestrians and cyclists;
- To provide a citywide cycle network to link all areas of the city to each other via main routes;
- To provide cycle and walking networks between neighbourhood areas; and
- To ensure that the growth of the city takes place in an orderly manner that is sustainable in terms of integrated land use, transportation, and provision of infrastructure.

Waterford North Quays Strategic Development Zone Planning Scheme 2018
The vision for the Waterford North Quays Strategic Development Zone (SDZ) is to "promote the expansion of the City Centre to the north of the River Suir in a manner that enhances and supports balanced and sustainable growth in Waterford City and encourages its vitality and viability."

Some of the key objectives which are relevant to the strategy include:

- To link the north and south side of the City by providing a new sustainable transport bridge crossing and improve accessibility and connectivity by creating an environment that facilitates internal pedestrian and cycle movements;
- To provide a sustainable transport hub on the North Quays;
- To provide for sustainable patterns of movement and access with priority for pedestrians, cyclists and public transport; and
- To provide sustainable infrastructure and services for future populations.

Transforming Waterford: Integrated Transport Proposal 2017
Transforming Waterford: Integrated Transport Proposal seeks to 'deliver an urban centre that can be a real driver for regional development and a centre of consequence'. It contains some proposals and objectives of relevance to the Strategy, including:

- A redevelopment of the North Quays, the iconic Ard Rí and Michael Street sites;
- A unique pedestrian friendly City Centre;
- A city with the only truly integrated transport hub; and
- A dedicated walking and cycling route traversing throughout the whole city.

Planning, Land Use and Transportation Study 2004
The Planning, Land Use and Transportation Study (PLUTS) was adopted by Waterford and Kilkenny Councils in 2004 and seeks to "provide a vision and strategy for the development of Waterford City & Environs up to the year 2020". A key element of the document is to achieve the 'critical mass to allow the city to reinforce and develop its role as the economic driver of the South-East region of Ireland'.

Some of the core provisions which are relevant to the strategy include:

- A population increase of almost 30,000 people (or 57% population growth) in Waterford City & Environs;
- Investment needs for almost 12,800 new jobs;
- Requirement for approximately 11,500 new dwellings, predominantly to the north of the River Suir;
- Retail expansion of the city centre;
- The creation of a city centre bridge for pedestrians and cyclists to link the redeveloped North Quays with the city centre;
- Provision of a rail-passenger platform on the North Quays as part of a new public transport interchange; and
- Development of a high-quality bus-based public transport system in the city, supported by park and ride facilities.

Draft Cycle Network Plan for Waterford City and Environs 2014
The Draft Cycle Network Plan for Waterford City and Environs 2014 set out the envisaged cycling network for the Waterford Metropolitan Area (WMA). The study was an important component in Waterford City and County Council's vision of developing a cycling culture within the WMA.

Preparation of the Cycle Network was informed by the National Cycle Policy Framework 2009-2020, which aimed for 10% of all journeys being made by bicycle by the year 2020.

The Network Study identified many existing barriers to cycling through the Metropolitan Area, including watercourses such as the River Suir, St. John's River and Kilbarry Bog, lack of permeability in residential areas, railways lines and a motorway.

The main trip generators which were predicted to experience the largest level of two-way cycling activity in 2023 include:

- Kilbarry Road / Cork Road – Ashe Road / Cork (Future demand 161);
- Kilbarry Road / Cork Road – Paddy Browne's Road – Cork Road (146);
- Rice Bridge / Bridge Street – Mall / Lombard Street (144);
- Abbey Road / Fountain Street – Rockshire Road / Fountain Street (137);
- Rockshire Road / Fountain Street – Dock Road / Rice Bridge (133);
- Lower Grange Road / Inner Ring Road – Ballytruckle Road / Inner Ring Road (125);
- Ballytruckle Road / Inner Ring Road – Tramore Road / Inner Ring Road (117);
- Abbey Road / Fountain Street – Abbey Road / Newtown (116);
- Passage Road / Dunmore Road – Dunmore Road / Outer Ring Road (108); and
- Ashe Road / Cork Road – Cork Road / Inner Ring Road (108).

The analysis indicated that cyclists travelling to WIT and the key employment centres to the west of Waterford City influence the network flows. There was also a notable volume of potential cycling activity in Ferrybank, even with a lack of any initiatives to address the barrier to cycling imposed by the River Suir.

Ferrybank Belview Local Area Plan 2017
The Ferrybank Belview Local Area Plan 2017 has a vision to "ensure that the people of the Waterford City Environs in County Kilkenny enjoy a good quality of life with a high standard of education, excellent employment prospects and easy access to a full range of social, economic and cultural services".

The Local Area Plan provides objectives relevant to transport, including:

- Zoning of lands closest to core public transport routes should be given preference;
- Provision of a rail-passenger platform on the North Quays as part of a new Public Transport interchange;
- Development of a high-quality bus-based public transport system in the City supported by Park and Ride facilities located north and south of the River linking with the Belview Port area;

- Prioritisation of pedestrians, cyclists and public transport due to the downgrading of the Belmont Road to a Regional Road; and
- To facilitate greater flexibility for public transport by bus routes in the future.

Tramore Local Area Plan 2014-2020

Although Tramore is located outside of the WMA, it is of importance to the WMA, based on its population and proximity to Waterford City. The Tramore Local Area Plan 2014-2020 aims to ensure that "Tramore is easily accessible to all groups of society and is adequately serviced in terms of public transport and alternative private transport modes."

Strategic goals which are relevant to the Strategy are summarised as follows:

- Encourage the creation of cycle and pedestrian friendly communities;
- Ensure cycle lanes are provided throughout the town;
- The provision of an IMP type bus service in Tramore Town from the promenade to Church Street;
- Enhance the facilitation of new bus stop, taxi and shelter infrastructure;
- Co-locating of transport service provision to ensure interchange between services; and
- Support the Rural Transport Initiative.

Summary

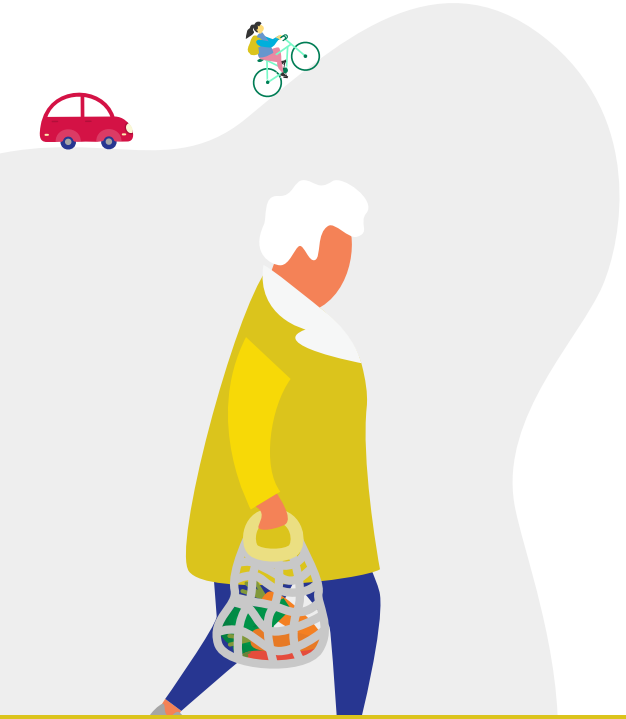
This Chapter outlined a summary of key National, Regional and Local level plans and policies relevant to the preparation of the Strategy. A more detailed analysis of a wider range of policy is presented in the supporting Baseline Conditions and Policy Context Report.

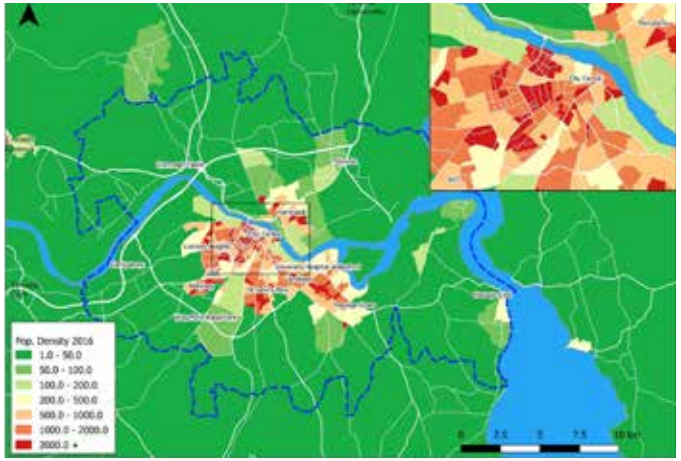
Following this review of existing policies it is evident that there are long-standing objectives across many sectors which aim to reduce car-dependency, promote active travel modes, tackle climate change and increase accessibility, connectivity and social inclusion. These policies have informed and guided the development of the Waterford Metropolitan Area Transport Strategy.

03 Study Area and Transport Context

The Council will support and enhance the choice of walking, cycling and public transport through the implementation of objectives and key infrastructural requirements.

Draft Waterford City & County Development Plan 2022-2028





Waterford Metropolitan Area 2016 Population Density (per sq. km)

Waterford Metropolitan Area 2016 Jobs per CSO Small Area

This chapter provides an overview of the existing transport conditions in the WMA in the context of land use, transport supply and movement patterns. More detailed analysis can be found in supporting reports.

Overview

The WMA includes:

- Waterford City and Suburbs;
- Ferrybank;
- Passage East; and
- Slieverue.

The WMA covers 143km2, and has a population of over 59,854 (CSO, 2016). The CSO-defined Waterford City and Suburbs area (including the northern part of the City located within County Kilkenny) has a population of approximately 53,000.

Waterford City is the largest urban centre in Ireland's South-East region and the country's fifth largest city. Waterford City and Suburbs is also the fifth largest centre of employment in the country with significant employment levels associated with Waterford City Centre, Waterford University Hospital, Waterford Institute of Technology, the pharmaceuticals sector and retail. Waterford City is home to Waterford Institute of Technology (WIT) which is located to the south-west of the City Centre. WIT has over 10,000 students enrolled with approximately 1,000 people employed across the different campuses in the city. WIT also has an additional campus called 'WIT West Campus', which is located to the west of Waterford City, along the Outer Ring Road.

The WMA is served by:

- InterCity rail services;
- City, Regional and Expressway bus / coach and Local Link services; and
- Waterford Airport (located approximately 10km to the south east of the City Centre).

Existing Development Patterns

The residential population within the WMA is concentrated mainly within Waterford City Centre and suburbs with less than 10% distributed throughout Passage East, Cheekpoint, Slieverue and the other remaining rural areas.

The distribution of the population within Waterford City is heavily weighted to the City Centre, the southern inner suburb, the south-east and the northern side of the city. Employment centres such as West Pharmaceuticals, IDA Business Park, Waterford University Hospital and WIT are locations of high employment intensity in Waterford. There are also several light industrial parks and out-of-town retail outlets such as Waterford Retail Park, Kingsmeadow Retail Park and Knockhouse Business Centre.

Existing WMA Movement Context

There are approximately 197,000 trips originating within the WMA on average each weekday (over 24 hours). The category 'all other trip purposes' makes up the highest percentage of trips in the morning peak period (07:00-10:00), representing 55% of the total. This is followed by commute trips (23%) and trips to places of education (22%).

'All other trip purposes' refers to shopping, leisure, business and visiting friends or family and represent 67% of all trips over the course of the whole day.

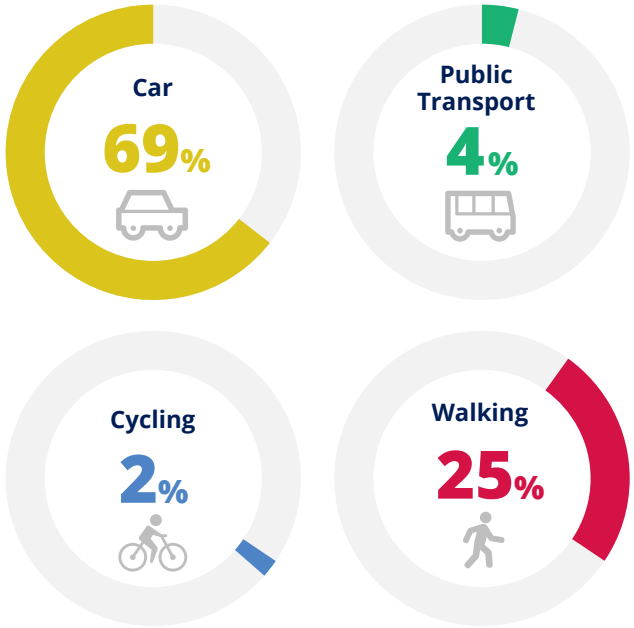
Most of the travel demand is internal for Waterford City and suburbs, with 70% of morning peak trips having both their origins and destinations in this area. Almost 12,000 of the trips originating from other parts of the Metropolitan Area have their destination in Waterford City and suburbs. Waterford City is the destination for 71% of trips originating in the South-East as a whole.

Outside the Study Area, settlements such as Tramore, Carrick-On-Suir, Kilkenny and New Ross have a functional relationship with urban centres in the WMA, which is the key economic driver of the South-East region. The Strategy includes several proposals to improve connectivity with the wider region beyond the WMA including bus, rail, cycle and road infrastructure and services to cater for these travel patterns.

Existing 'high-frequency' routes

WMA Mode Share

The current limitations of public transport provision in the WMA are reflected in the low mode share for sustainable travel modes. The overall WMA mode share for the 24-hour demand is as follows:



Current Transport Provision

Local and Regional Bus Services

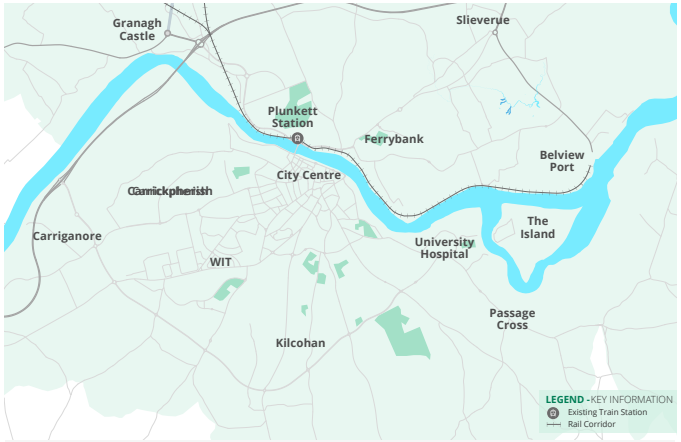
The principal bus service providers in the WMA are Bus Éireann and JJ Kavanagh. Most of these services terminate in the City Centre, whilst two of the services are cross-city radial routes.

The frequency of services in Waterford City and suburbs varies across the network and there are only three 'high-frequency' routes (every 15 to 20 minutes). These are Route W1 from Merchant's Quay to The Clock Tower via WIT, Route W2 from Meagher's Quay to The Clock Tower via WIT and Route W3 from Meagher's Quay to The Clock Tower via St John's Park. The remainder low-frequency bus services have a higher concentration in the south of the city, reflecting the distribution of population.

Waterford City Centre has numerous one-way traffic systems that have a negative impact on public transport operations, as bus routes are separated on inward and outward legs. This can be confusing for infrequent bus passengers and visitors to the City unfamiliar with the bus network. Certain bus routes are also separated due to restricted road widths.

In addition to the city services, there are several regional Bus Éireann services providing links from different settlements in the wider Waterford and Kilkenny counties to the WMA as well as from counties Carlow, Cork, Dublin, Tipperary and Wexford.

Further regional bus services are provided by the private operators Dublin Coach, Expressway, Kenneally's, Suirway and Wexford Bus to Limerick, Cork and Dublin. These regional services operate from Waterford Bus Station on Merchants Quay and Waterford Institute of Technology.



Existing Rail Network

Rail Network

Waterford City has several InterCity services providing direct rail connections from Plunkett Train Station to Kilkenny, Dublin, Carrick-On-Suir and Clonmel and connections via Limerick Junction to Cork, Tralee and Limerick.

There is a proposal in the Waterford Development Plan for Plunkett Station to be relocated to within the North Quays Innovation District to better connect the station to Waterford City Centre, via the new sustainable transport bridge.

A new freight rail service between Ballina, Co. Mayo and Waterford was launched in 2021, while a freight rail service between Waterford and Rosslare Europort has been inactive since 2010.

Cycle Network

The WMA cycle network has been developed incrementally over many years and currently has numerous dedicated cycle facilities, such as on-road mandatory cycle lanes, shared cycle / bus lanes and paved off-road multi-use paths. However, this existing cycle network could be described as fragmented and does not provide an entirely seamless cycle journey from origin to destination. The WMA also boasts the presence of the Deise Greenway, John's River Greenway and the River Suir Greenway. Advanced Stop Lines (ASLs) are provided throughout the City Centre at key junctions which are marked to promote cycle priority on approaches to junctions.

The existing network contains many barriers to cycling, both natural and manufactured. The primary natural barriers to cycling are the watercourses including the River Suir and John's River. There is currently one vehicular bridge crossing the River Suir between Waterford City and Ferrybank, Rice Bridge. Rice Bridge currently does not provide dedicated cycle facilities. An additional natural barrier would be the Kilbarry Bog, making it difficult to create connectivity between Kilbarry and Kilcohan across John's River.

The WMA also contains several manufactured infrastructural barriers to cycle movement. These include planning-induced barriers, such as segregated developments. These segregated developments result in an absence of connectivity, leading to one-way and circuitous routes. Transport infrastructure is an additional manufactured infrastructural barrier present in the WMA. The presence of the Waterford to Dublin rail line and the Outer Ring Road can lead to barriers with little or no provision for cyclists (e.g. large diameter, multi-lane roundabouts, high traffic volumes and speeds).

A Draft Cycle Network Plan for Waterford and Environs was prepared in 2014 to examine the cycling network in Waterford City & County Council and Kilkenny County Council. The Draft Cycling Plan also aimed to identify and determine the:

- Urban Cycle Network;
- Inter-Urban Cycle Network; and
- Green Route Network.

The Plan highlighted the methodology for planning the future cycle network for Waterford City and Environs, including aspirations to better connect the City with the Deise Greenway and Tramore.

Recently, as part of the quayside transformation, Waterford City and County Council have secured funding for a River Suir Sustainable Transport Bridge. This new bridge will accommodate pedestrians, cyclists and an electric shuttle bus service over the River Suir providing an attractive sustainable transport connection and promoting further development of Waterford City and facilitating the development of the North Quays SDZ lands.

In September 2021, the National Transport Authority undertook public consultation on proposals to introduce a bike sharing scheme to Waterford City, comprising up to 14 docking stations and 150 bikes. These docking stations will be located towards Waterford City Centre, Waterford University Hospital, Waterford Institute of Technology and numerous Industrial Estates. Implementation of the Bike Share Scheme commenced in 2022.

The Ferrybank Belview LAP 2017 identified several walking and cycling routes linking the Ferrybank area, Waterford City, employment centres and schools, nature corridors and residential areas. The LAP has highlighted the importance of the Waterford to New Ross Greenway and the Suir Riverside Walk, as well as the ability to create short links / short cuts to provide permeability for pedestrians and cyclists.

Pedestrian Network

Walking levels and the quality of the pedestrian environment vary considerably across the WMA. This reflects the land use types, changing movement and place priorities and community severance caused by physical barriers such as waterways and heavily trafficked vehicular routes.

The proposed sustainable bridge mentioned earlier will help to improve this connectivity and reduce severance for pedestrians in Waterford.

The quality of the pedestrian environment in the City Centre has significantly improved in recent times following the partial implementation of a public realm strategy and the pedestrianisation of some streets as part of the Waterford City Centre Urban Renewal Scheme.

The overall pedestrian network is often interrupted or limited by main roads, on-street and off-street parking, and inadequate provision on pedestrian desire lines. In some cases, pedestrian paths are provided only on one side of the street. There is also a lack of active frontage with many buildings set back from the footpath which can make an area feel unsafe and uninviting.

With the exception of the city centre, many areas of the WMA are characterised by development patterns that do not encourage walking. This is most clearly seen in the lack of connectivity and permeability between adjacent residential estates in suburban areas, which can impose significant detours over relatively short distances. This reduces the attractiveness of walking and cycling for local trips.

Across the WMA, cars parked illegally on the footpaths and at dropped kerbs is a recurring issue, reducing sightlines and forcing pedestrians including those with mobility impairments onto the carriageway. Other barriers to walking and access to public transport for people with disabilities and push chairs, include insufficient crossing times at signalised junctions, street clutter and a lack of public seating and toilets.

Pedestrian movement and connectivity is vital for the transport requirement of the WMA.

A key objective of the Strategy will be to improve the quality of the pedestrian network and environment, which would support higher levels of walking, improve pedestrian safety, enhance accessibility to services and other forms of transport, and improve the quality of life for local residents.

Strategic Road Network

The WMA is served by an existing well-developed road network. The movement of goods and services to and from the WMA is supported by the strategic road network comprising:

- M9 Waterford – Dublin (Ten-T Core);
- N24 Waterford – Limerick;
- N25 Cork – Waterford – Rosslare; and
- N29 Belview Port – Slieverue.

The N25 is tolled between the N9/N25 Junction and the R710/N25 Junction on the outskirts of Waterford City.

HGV traffic in Waterford shows strong demand between the areas of the M9 north, the N25 west and north, N24 to the west. The central area of Waterford City has HGV restrictions in place, restricting access to Waterford City Centre to vehicles of a suitable size with an origin or destination in the City Centre. The highest levels of HGV activity take place during the inter-peak period. Maintaining the capacity of the strategic roads with appropriate levels of service is of critical importance for growing the economy of WMA.

Whilst there is significant capacity in parts of the strategic road network, there are also high volumes of traffic in certain areas resulting in congestion at pinch-point locations including exit 2 off the N25 connecting to the Western Link Road, all roundabouts along the Outer Ring Road, Newrath Link Road, Dock Road and Luffany Roundabout linking the N25 with the Slieverue Link Road.

The WMA lacks a strategic orbital corridor to the north of the city which often results in strategic traffic routing through the City Centre including the Rice Bridge. The management and targeted enhancement of the road network for the movement of strategic traffic will be an important aspect of the WMA's future transport system.

Local Road Network

The local road network provides access to local services and links communities.

Congestion is experienced during peak periods within the City Centre and on radial routes. Traffic congestion and delays will inevitably rise with future growth if the current dependence within the WMA on the private car is not addressed. The objective of the strategy will be to manage congestion to achieve an effective, sustainable and efficient transport system.

Recent Improvements

There have been several recent improvements to the transport supply within the WMA in recent years including:

- Improvements to the transport infrastructure and bus routes in Waterford, such as Dunmore Road;
- Shared-space provision to facilitate walking and cycling within the Viking Triangle;
- Improvements to the cycle network;
- Restrictions to HGV traffic throughout certain parts of the WMA; and
- Improvement on the Deise Greenway.

Study Area and Existing Transport Network

04 Land Use

It is a priority to enable infill development, with up to 50% of future housing in our cities and major urban centres and 30% elsewhere to be provided within existing built-up areas services by existing facilities and along high-capacity public transport corridors.

National Planning Framework 2040

To ensure projected population and employment growth happens in a sustainable manner, it is critical that land use and transport planning are closely aligned. Integrated transport and land use planning can reduce the need to travel by car and support the functioning of a connected, sustainable transport system.

The NPF 2040 provides a major new policy emphasis on renewing and developing existing settlements, rather than continual expansion and sprawl of cities and towns into the countryside, at the expense of town centres and smaller villages. It sets a target of at least 40% of future housing development to be within and close to the existing 'footprint' of built-up areas.

The 2040 WMATS land use scenario was developed by the National Transport Authority, in collaboration with Waterford City and County Council and Kilkenny County Council.

National Growth

The NPF estimates that the population of Ireland will increase by approximately 1 million people by 2040, as well as a requirement of an additional 600,000 jobs and a minimum of 500,000 additional homes. The NPF recognises the role that Waterford and the other regional cities of Cork, Limerick and Galway have to play in providing a counter-weight to Dublin, with an assigned minimum population growth forecast of 50-60% to each regional city.

NPF National Policy Objectives

The various policies within the NPF are structured under National Policy Objectives (NPOs). The NPOs were developed as a result of extensive analysis and consultation, and set a new way forward for regional and local planning and sustainable development policy in Ireland. The NPOs have been created as the basis to develop the land use growth targets and distribution of growth for WMATS, along with the core strategies within Waterford's City and County Development Plan, Kilkenny County Development Plan and relevant Local Area Plans. The key NPOs that are relevant to the development of WMATS include:

- **NPO 1b:** Southern Region population growth of between 340,000-380,000 to 2040 (target population of almost 2 million);
- **NPO 1c:** 225,000 additional people in employment in the Southern Region (880,000 in total);
- **NPO 2a:** A target of 50% of future population and employment growth will be focused in the existing five cities and their suburbs;
- **NPO 3a:** The NPF sets a target for at least 40% of all new housing to be delivered nationally within the existing built-up areas of cities, towns and villages on infill and/or brownfield sites;
- **NPO 3b:** Deliver at least half (50%) of all new homes that are targeted in the five Cities and suburbs of Dublin, Cork, Limerick, Galway and Waterford, within their existing built-up footprints;
- **NPO 4:** Ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being;
- **NPO 5:** Develop cities and towns of sufficient scale and quality to compete internationally and to be drivers of national and regional growth, investment and prosperity;
- **NPO 7:** Apply a tailored approach to urban development that will be linked to the Rural and Urban Regeneration and Development Fund, with a particular focus on the four cities of Cork, Limerick, Galway and Waterford;
- **NPO 27:** Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments, and integrating physical activity facilities for all ages;

- **NPO 68:** A Metropolitan Area Strategic Plan may enable up to 20% of the phased population growth targeted in the principal City and Suburban area, to be accommodated in the wider Metropolitan Area i.e. outside the city and suburbs, in addition to growth identified for the Metropolitan area. The NPF states that this should be subject to any relocated growth being in the form of compact development, such as infill or a sustainable urban extension and/or being served by high capacity public transport and/or related to significant employment provision; and
- **NPO 69:** Statutory arrangements between spatial planning and transport planning in the Greater Dublin Area will be extended to other cities.

Regional Growth

The NPF is translated at a regional, metropolitan and local level through the production of the RSES, MASP, the Development Plans and Local Area Plans of both Waterford City and County Council and Kilkenny County Council.

Regional Spatial & Economic Strategy Regional Policy Objectives

Regional Spatial & Economic Strategy (RSES) objectives are underpinned by the NDP and provide a strong framework for WMATS to shape the distribution of growth targets that integrate land use and transport planning.

Goal 2 for RSES is for Excellent Connectivity and Sustainable Mobility, which aims to achieve successful integration between land use and transport planning, achieving sustainable higher densities and appropriate uses at nodes serviced by public transport networks. Goal 2 of RSES also aims to achieve efficient mobility with close alignment between home and work locations, ease of travel on sustainable transport modes, efficient and sustainable movement of freight and logistics and guaranteed journey times for inter-city and inter-regional travel.

RSES Policy Objective 10 outlines the objectives that are related to Compact Growth within Metropolitan Areas:

- Prioritisation of housing and employment in locations within and contiguous to existing city footprints where it can be served by high-quality public transport, walking and cycling networks;
- Partnership with the Land Development Agency to progress housing and employment delivery in urban centres, focusing on co-ordinating and developing large, strategically located publicly owned land banks, reducing vacancy and increasing regeneration of key sites; and
- Creation of continually updated data bases identifying brownfield, infill sites, regeneration areas and masterplanning and infrastructure packages to enable progress towards achieving compact growth targets. Through active land management initiatives, identify strategic locations for residential growth.

The Waterford MASP Policy Objective 10 supports the actions to extend the city centre into the North Quays including the delivery of new bridge connections between the North Quays and the city centre on the south bank of the River Suir. This proposal is subject to the provision of the Planning Act and all environmental considerations. The RSES describes this as a project that provides an opportunity for transformational regeneration for Waterford and the region.

WMATS Land Use Outcomes

WMATS aims to service the needs of the existing population and support the delivery of the 2040 growth targets for the WMA, as well as supporting growth in jobs and education for the WMA.

The WMA will be a national driver of population growth and economic activity over the lifetime of WMATS, particularly for the South-East region.

To support the compact growth aspirations of the NPF, Waterford City Centre will become the focus for significant regeneration opportunities at brownfield locations that include:

- The North Quays Innovation District;
- Bilberry (former Waterford Stanley Site); and
- The former Waterford Crystal Site.

In relation to employment and education, WMATS supports developments along its identified high capacity public transport corridors, to serve Waterford Institute of Technology, University Hospital Waterford, Waterford IDA, Waterford Airport and Belview Port.

WMATS Land Use Priorities

This Strategy is confronting an historical legacy in WMA, where low density land uses have moved to the suburban peri-urban fringe locations and are poorly connected to existing and planned public transport services.

To ensure the effectiveness of WMATS, the planning policy frameworks and implementation measures of Waterford City and County Council and Kilkenny County Council must look to target higher densities and mixed-use developments, in areas where opportunities exist for sustainable transport provision, and in a manner that better aligns the provision of transport with demand.

This will entail the implementation of Transit-Orientated Development (TOD) principles. TOD is a form of urban development that seeks to maximise the provision of housing, employment, public services and leisure space in close proximity to transport nodes (rail and/or bus) that are serviced by high frequency, high quality services. TOD is associated with increased public transport usage, reduced congestion and pollution, desirable housing provision, and healthier, more walkable communities.

TOD and the consolidation of activity within these catchment areas promotes:

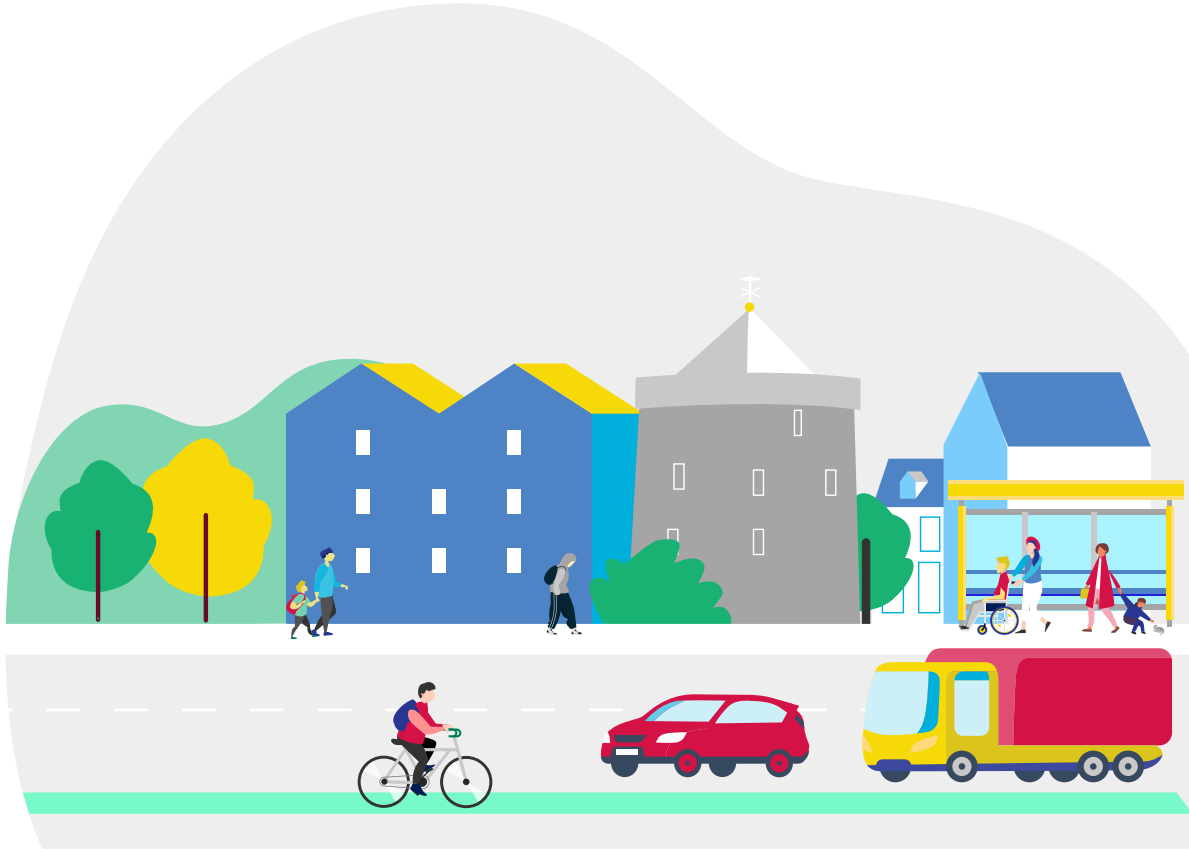
- Local, regional and national connectivity;
- A modal shift towards sustainable travel;
- Critical mass to support the viability of public transport corridors; and
- Safeguarding of the strategic function of the National Road Network.

WMATS will provide the opportunity to integrate new mixed-use developments at appropriate densities with high capacity and high frequency public transport infrastructure. This public transport infrastructure will be created in conjunction with more attractive walking and cycling networks, as well as public realm improvements.

TOD has the potential double benefit of extending the catchment of sustainable modes to more people and places, improving the viability of future investment in public transport by attracting higher demand.

Guided by the principles of the NPF, land use planning in the WMA will be guided by the following objectives:

- To deliver consolidated development in an interdependent manner that can avail of existing transport infrastructure and services, as well as nearby amenities and facilities, in line with the principles of Transit-Oriented Development. The objective of this approach is to deliver a critical mass of growth in population and employment which can support the transition to the investment in higher capacity public transport infrastructure and services in the WMA;
- To increase densities in future residential and employment developments. This measure can contribute to a more compact urban footprint that brings more people closer to their destinations and to public transport services;
- Prioritise mixed-use development which reduces the need to travel. This includes ensuring areas are developed in tandem with the delivery of schools, shops and other community services to enable people to choose more sustainable modes of transport such as walking and cycling;
- All new development areas will be fully permeable for pedestrians and cyclists, and opportunities to improve permeability for these modes in existing developed areas will be sought. The principle of filtered permeability, whereby through private car traffic is precluded, while allowing pedestrians and cyclists to pass, will apply; and
- The layout of new developments will prioritise walking and cycling and enable the efficient provision of public transport services.



05 Strategy Development

Key Growth Enabler for WMA: Provision of metropolitan area wide public transport and strategic cycleway networks.

Regional Spatial and Economic Strategy for the Southern Region

WMATS has been prepared by the NTA in collaboration with Waterford City & County Council, Kilkenny County Council, the Southern Regional Assembly (SRA) and Transport Infrastructure Ireland (TII).

Developing the Strategy

WMATS has been developed to provide a transport network to underpin the population and employment growth envisaged for the Waterford Metropolitan Area under the NPF to 2040 and beyond.

The approach applied in developing and assessing the proposed WMATS 2040 transport measures was as follows:

- Review and establish relevant policy and guidance;
- Establish the baseline transport conditions;
- Identify key challenges to be addressed, in consultation with key stakeholders;
- Develop network options based on guiding principles;
- Test the transport network options with future land use scenarios prepared by the NTA with input from the Local Authorities;
- Identify the preferred transport strategy; and
- Publish the draft Strategy for public consultation. Feedback during the consultation will inform the subsequent finalisation of WMATS.

Public Transport Network

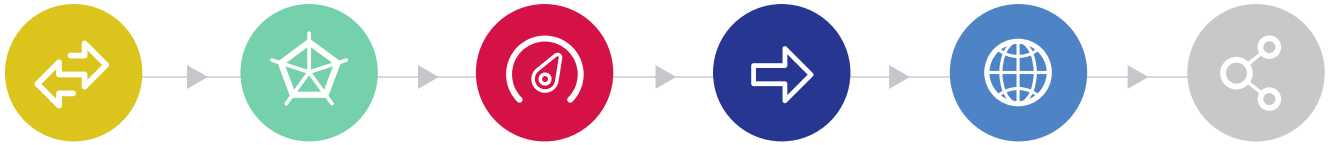
The provision of an enhanced public transport network within the WMA was a key priority for the Strategy. Six guiding principles for successful public transport networks were set out to help in the early development and assessment of options. See image below.

The adoption of these principles will result in an attractive public transport service that provides a realistic alternative to the private car.

Key strategic public transport corridors and supporting public transport services for the wider WMA were identified, underpinned by these principles.

Once a high-level indicative public transport network was identified, more detailed analysis and specific considerations for the public transport network were addressed at a corridor level.

Public Transport - Six Guiding Principles



Capacity
Services to cater for screenline demand

Frequency
Reduce wait times/cater for demand

Speed
High level priority: bus @20+ kph

Directness
Minimise journey time/improve network legibility

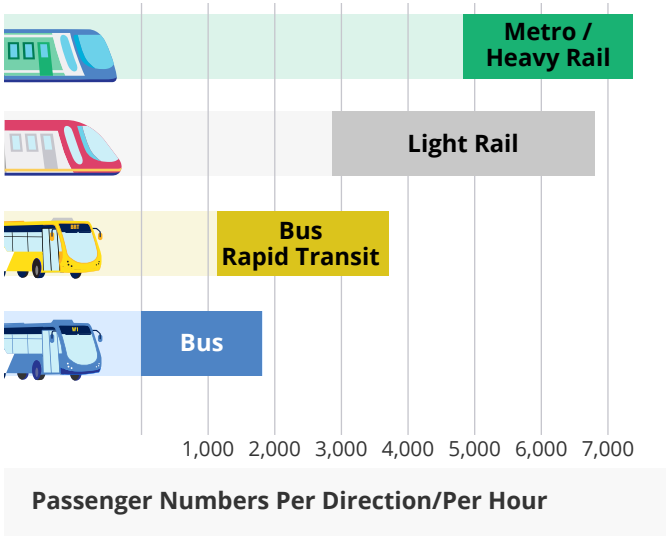
Coverage
Capture demand

Interchange
Provide interchange/-seamless/P&R

Corridor Specific Public Transport Network Options

Within each specific corridor of the WMA, the public transport proposals were developed based on the identified public transport demand from the 'idealised' network analysis. Further details on the methodology employed can be found in the supporting Demand Analysis Report and Transport Options and Network Development Report.

The identification of the appropriate infrastructure to service the demand levels for each corridor was based on a typical range of public transport capacities, in passengers/ per hour/ per direction (pax/hr/dir), that can be achieved by Bus, Bus Rapid Transit (BRT), Light Rail Transit (LRT) and Heavy Rail. The capacity values in the 'mobility choice' figure provide a good reference for the likely public transport requirements for each corridor.



Source: UITP Conference 2009. Public Transport Making the Right Mobility Choices

This approach gives an appropriately scaled public transport network that has the flexibility to adapt to future changes in travel demand levels and distribution across the WMA.

Based on the demand from the radial and orbital routes, the proposed routes, service types, service frequencies and level of priority were developed for each corridor.

The WMA future public transport network structure will have several components that will best provide for future demand.

- **Core Bus Network:** A comprehensive, accessible network of high frequency bus services to the city core and key trip attractors along the radial and orbital routes;
- **Public Transport Integration:** Provision for interchange opportunities between different sustainable modes of transport; and
- **Supporting Measures:** Supporting measures for the delivery of an effective public transport system include demand management measures (e.g. restricted long-stay parking), Park and Ride facilities, mobility management plans and behavioural change programmes.

Walking Network

The Walking Network focused on the existing and proposed Development Plans and Local Area Plans from both Local Authorities. These plans were reviewed to enhance integration and connectivity with the measures for the cycle, public transport and road network.

Cycle Network

The development of the Cycle Network will be fundamentally based on the proposals contained within the Draft Cycle Network Plan for Waterford City and Environs 2014. This Cycle Plan was reviewed to ensure integration with the proposals for public transport, walking and roads within this strategy.

Road Network

A review of the Road Network demand was undertaken to determine the requirement for road network improvements and interventions. National, Regional and City road networks were considered.

A review of committed and proposed road schemes was undertaken and aligned to policy within the WMA. The road network was also reviewed with the aim of supporting new public transport, walking and cycling provision.

The Strategy Outcomes

- Support the actions of the Climate Action Plan 2021 in reducing transport-related emissions through the reduction in private car travel and promoting a shift to walking, cycling and public transport modes
- Prioritise walking, cycling and public transport in urban areas across the WMA
- Enhanced social inclusion through the provision of a more accessible transport system across the WMA
- A flexible transport network to better manage the increased demand for travel resulting from the forecasted NPF population growth
- Improved public health and wellbeing by promoting more physical activity, either as walking and cycling trips or as part of linked trips with public transport
- Support for growth of the WMA as the main focus of economic development in the south-east, as envisaged in the RSES
- A robust economic case for transport investment in the WMA

Strategy Outcomes

The network approach as outlined in this section will serve the existing and anticipated development patterns in the WMA. It represents an integrated public transport network, offering residents and visitors in the WMA end-to-end access to high-quality services, while enhancing connectivity to more destinations than the current WMA network would allow.


EAT
EXPLORE
Coca-Cola
Coca-Cola
CHOCOLATE CAFÉ

06 Walking, Accessibility and the Public Realm

Walking and cycling not only supports active health initiatives and healthy communities, but also encourages that transition to sustainable modes of travel.

Draft Waterford City and County Development Plan 2022-2028

Most journeys begin and end by walking and everyone is a pedestrian at some point in their day. In this regard, it should be noted that references to pedestrians throughout the WMATS encompass all footpath users, including wheelchair users and those with mobility impairments, rather than just people who can walk unaided. Waterford is a relatively compact city which has significant potential to enhance the pedestrian experience. For this to be the case, the pedestrian environment must be safe, accessible, coherent, attractive and inclusive.

Existing Network and Opportunities

Walking has been proven to bring significant social, economic, environmental, and health and well-being benefits to society.

A range of high quality, public realm improvements have been implemented in recent years, most noticeably in The Viking Triangle area. However, a range of barriers to walking are evident throughout the WMA. These include, but are not limited to:

- Obstacles to movement such as street clutter and parked vehicles on footpaths;
- Inconsistent provision and quality of footpaths, particularly in metropolitan town and village centres;
- Lack of safe crossing opportunities on desire lines;
- Lack of pedestrian priority provision at junctions;
- Ribbon-based development; and
- Cul-de-sacs which prevent or provide poor permeability.

There is significant opportunity to capitalise on recent momentum and recent proposals. These include:

- The 'Viking Triangle' transformation of Bailey's New Street, Henrietta Street and Cathedral Square;
- The development of the Deise Greenway between Dungarvan and Waterford;
- Proposed North Quays SDZ Project including the new Sustainable Transport Bridge, providing designated pedestrian and cycle connectivity across the River Suir; and
- National and regional compact growth objectives to increase density, mobility and activity within existing built-up areas.

Key Outcomes for Walking

The key outcomes for walking are as follows:

- An increase in walking for all trips, particularly for short journeys;
- A fully accessible, inclusive, safe, and attractive pedestrian environment suitable for all ages and abilities;
- An increase in linked trips with cycling and public transport; and
- All new and retrofitted schemes will be designed in accordance with the overarching principles set out in the Design Manual for Urban Roads and Streets.

Walking Network Improvements

Walkability improvements envisaged for the City Centre over the lifetime of the Strategy include:

- Creation of the committed Sustainable Transport Bridge for pedestrians, cyclists and an electric shuttle bus over the River Suir;
- Improvement of key radial pedestrian routes to the City Centre;
- Re-allocation of road space to prioritise pedestrian movement and connections;
- Key junction improvements to prioritise pedestrian connectivity and permeability, including reduced wait times at crossings;
- Aligning crossing facilities with pedestrian desire lines;
- De-clutter streets;

- Improvements to the city-wide wayfinding network;
- Undertake regular Walkability Audits with key stakeholder groups; and
- Enforcement of illegal parking on footpaths.

MEASURE WALK1

Steady State Maintenance of Footpaths

The Strategy supports the inclusion in local authority development plans of objectives to maintain footpaths to a high standard across the WMA.

MEASURE WALK2

Improved Footpaths

The NTA, in conjunction with local authorities, will implement footpath improvement schemes across the WMA where required throughout the period of the Transport Strategy in order to ensure that they are of sufficient width, adequately lit, serve both sides of the road in urban areas (in most cases), are of good surface quality, and are free of unnecessary clutter while providing appropriate street furniture and landscaping.

MEASURE WALK3

Improved Junctions

The NTA, in conjunction with local authorities, will implement junction improvements across the WMA as follows:

- To enhance safety at junctions, a programme of 'narrowing' junctions by reducing kerb-line radii will be undertaken as a means of managing vehicular speeds;
- To enhance movement by pedestrians and cyclists, a programme of removal of slip lanes will be undertaken at appropriate locations, together with consideration of junction signalling changes to better balance the use of the junction between motorised and vulnerable modes; and
- To confer priority on pedestrians (and cyclists), footpaths (and cycle tracks) across side road junctions will be carried through the junction at grade.

MEASURE WALK4

Crossing Times

The NTA, with the cooperation of the local authorities, will address identified deficiencies in pedestrian crossing times at signalised junctions, in particular at locations where demand for pedestrian movements is likely to be high.

MEASURE WALK5

Crossing Points

The NTA, with the cooperation of the local authorities, will install additional pedestrian crossing points where requirements are identified.

Strategic Walking Routes

The following routes connect residential areas to key areas of employment and third-level education in Waterford City Centre and suburbs. It is envisaged that these will be upgraded in tandem with BusConnects and enhance the pedestrian (and cycle) network to enable greater levels of walking commuter trips or as part of linked trips with public transport.

The routes include, but are not limited to:

- Ashe Road-Cannon Street-Barrack Street: Former Waterford Crystal Site, Presentation Secondary School and Mount Sion Primary School;
- Carrickphierish Road-Gracedieu Road: Waterford IDA and ESB Networks;
- Cleaboy Road-Upper Yellow Road-Morgan Street-Patrick Street: Waterford IDA, Lismore Heights and Ballybricken through to City Centre;
- Cork Road: WIT, Waterford IDA, Boland's Retail Park and Ballybeg;
- Dock Road: Connecting Ferrybank through to the City Centre;
- Dunmore Road: University Hospital Waterford and King's Channel;
- Old Tramore Road-Ballytruckle Road: Kilcohan through to City Centre;
- Orbital Walking Route: Morrisson's Road, Military Road and Bridge Street through to City Centre;
- Passage Road-The Folly-Inner Ring Road: Newtown, Kingsmeadow Retail Park, Waterford Regional Sports Centre and Cork Road;
- Upper Grange Road-John's Hill-John Street: Outer Ring Road through to City Centre;
- Viking Triangle;
- Waterford City Centre: John Street, Michael Street, Broad Street and Barronstrand Street through to Active Travel Bridge;
- WIT Area: Paddy Browne's Road and Sunrise Crescent;
- Deise Greenway;
- New Ross Greenway;
- Suir Greenway;
- Rice Bridge; and
- Committed Sustainable Transport Bridge at Clock Tower.

Metropolitan Town Centres

Given the high level of out-commuting experienced in the Metropolitan towns, walking should be promoted as part of linked trips with public transport. The pedestrian environment around bus stops should be improved in Ferrybank, Passage East/ Crooke and other metropolitan town and village centres across the WMA. These improvements to the pedestrian environment will be undertaken in tandem with land use proposals that consolidate village centres, strengthen their place function and reduce ribbon-development pattern. LAP objectives for the pedestrian environment for Ferrybank are supported by WMATS.

Supporting Measures

The following sections outline supporting measures to create these environments.

Accessibility and Universal Design

The accessibility of the public realm for all individuals is essential. The principles of Universal Design will be followed in the implementation of public realm and streetscape improvements.

Universal Design is the design of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability; including physical, cognitive and sensory.

MEASURE WALK6

Accessibility for all

Local authorities and the NTA will take full account of people with disabilities and pedestrians with mobility impairments when delivering transport schemes which affect the pedestrian environment, will implement improvements to existing facilities where appropriate, and will support the enforcement of the Road Traffic Laws in this regard.

Local Amenity Routes

Amenity routes provide a linkage between and improve access to areas of public open space and recreational amenities.

Local amenity routes normally cater for both pedestrians and cyclists. Minimising conflict between pedestrians from cyclists will become a more pressing concern as the popularity of these areas increase, and full segregation of pedestrians and cyclists will be a key objective on such routes.

Where full segregation between pedestrian and cyclist movement is not possible, site-specific interventions including traffic calming of adjacent residential streets, and considerate walking and cycling campaigns to reduce conflict may be appropriate. Shared pavements for pedestrians and cyclists are often not an appropriate response and can lead to conflict between users, particularly in a constrained environment.

Waterford's waterfront location combined with its greenways and many green spaces offers considerable opportunities to create green-blue corridors throughout the city and suburbs connecting these areas. The benefits of green-blue corridors are multi-faceted including:

- Promote positive health and wellbeing;
- Improve air quality;
- Protect and increase urban biodiversity;
- Enhance access to nature; and
- Contribute to flood management.

MEASURE WALK7

Local Amenity Routes

The NTA will support local authorities in the provision of pedestrianised/traffic-free streets and areas in town centres, where there are benefits to transport and/or the local environment and/or the local economy.

However, care is required in the planning and design of such routes to ensure that they provide a safe environment for all users throughout the day and at all times of the year. While they can be an important component of a comprehensive pedestrian network, provision of these routes does not obviate the need for a high-quality pedestrian environment associated with the road and street network.

School Streets

There are high levels of car usage for relatively short trips to places of education, particularly among primary school students.

School Streets are becoming an attractive solution to reducing high levels of car usage and providing active travel to schools. A School Street is a road outside of a school that implements temporary restrictions on motorised traffic at school drop-off and pick-up times. These restrictions apply to school traffic and through traffic, in order to create a safer, calmer space for children, parents, teachers, staff members and residents to walk or cycle to school. Walking will become a safer and more attractive choice through the creation of safe, legible and pleasant walking routes within the immediate vicinity of schools. School Streets also result in a reduction of air pollution, poor health and road dangers. Residents would still have access to their homes during these times.

Age-Friendly Towns

Both Waterford City & County Council and Kilkenny County Council are members of Age-Friendly Ireland and have adopted their own Age-Friendly Strategies.

This includes the adaptation of the built environment and transport network to respond to the needs of our ageing population. Anticipated changes to the age-profiles across the WMA will require the adaptation of public realm and transport networks to consider the varied needs of older people, including those with reduced mobility impairments, and/or reduced cognitive, visual or hearing abilities. Measures include the adequate provision of public seating, wayfinding infrastructure and tactile paving.

Wayfinding
Lack of awareness of routes and distances to destinations can be a barrier to walking, not only for tourists and visitors, but also for the full spectrum of local pedestrians.

A Walkable Neighbourhood Map of Waterford City could be created to help with Wayfinding. A Walkable Neighbourhood Map can present key locations and points of interests within the City Centre. The map can also display walking times between each stop.

MEASURE WALK8
Wayfinding
The NTA, with the cooperation of the local authorities, will support the delivery of expanded and new wayfinding systems in Waterford City Centre and settlements in the WMA, and their integration into journey planning apps.

Permeability
A permeable street network is a key component of supporting more walkable environments. Much of the residential development layout across the WMA in recent decades has favoured impermeable, cul-de-sac layouts has resulted in circuitous routes to local services, schools and public transport stops.

Measures to improve permeability for pedestrians include:

- Opening walled boundaries / cul-de-sacs;
- Traffic filters to restrict rat-running by vehicles whilst facilitating street play and maintaining access for local residents and businesses;
- DIY Streets, which encourages communities to generate ideas for the improvement of their streets and make streets less car dominated, and more community-focused;
- Requiring quality design and pedestrian accessibility audits in planning applications for new residential areas;
- Provision of pedestrian and cycle crossings to link areas that are separated by roads or other physical barriers; and
- Planning and design that ensures accessibility for persons with mobility challenges.

The NTA's Permeability Best Practice Guide is available to assist Local Authorities and other organisations in tackling the issues that impact on permeability, providing a basis for addressing the legacy of severance.

MEASURE WALK9
Permeability
Development Plans, SDZ Planning Schemes and Local Area Plans should ensure that the road and street networks in new development areas incorporate filtered permeability and should include measures which deliver filtered permeability in existing neighbourhoods.

06 Walking, Accessibility and the Public Realm

67,914
2040 Daily Walking Trips

55%
Increase
in walking trips between 2016 and 2040

19,158
walking trips made in the AM peak period

A new
Sustainable
Transport Bridge

> 43 km
New and upgraded footpaths

54 km
of Greenways

20 min
of activity a day reduces the risk of heart disease, type 2 diabetes and depression **by at least 20%**

Estimated
€50 M
investment including elements of BusConnects

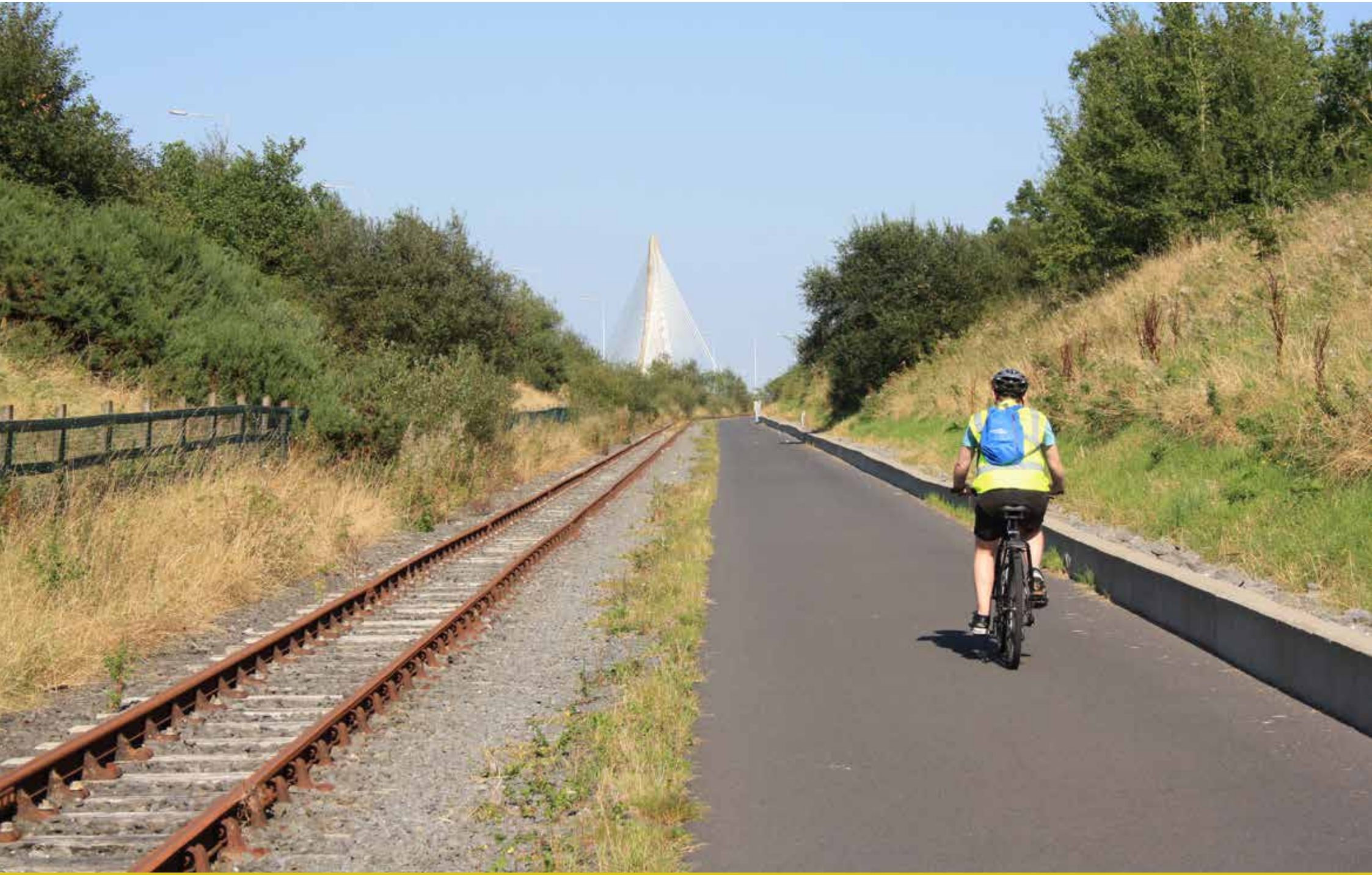
Age-Friendly
Town centres

Safer
Routes to school

Pedestrian Enhancement
of all Metropolitan Centres

Enhanced Wayfinding
System

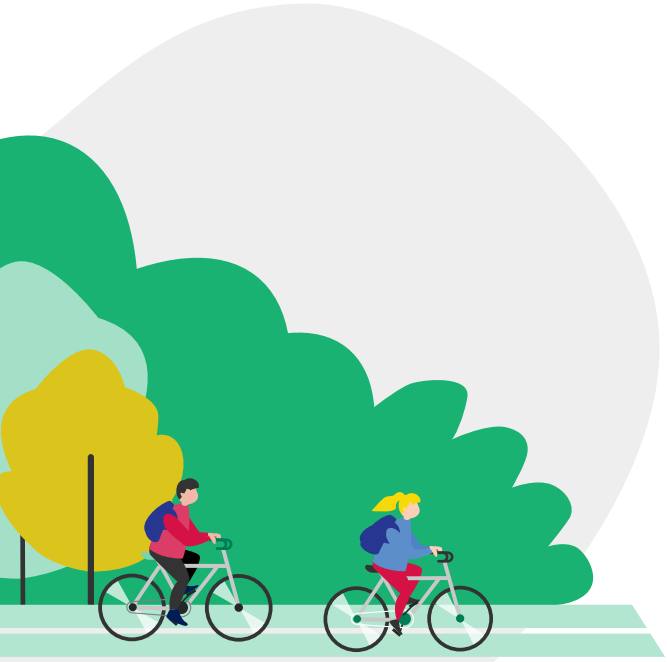
Improved
Accessibility
to public Transport



07 Cycling

Through the implementation of the Cycle Network Plan recommendations in parallel with supplementary 'soft' initiatives there is a realistic and viable opportunity to reinstate a strong cycle culture in Waterford City and Environs to the benefit of all its resident's and the local economy.

Draft Cycle Network Plan for Waterford City and Environs 2014



Cycling is a low cost, sustainable and growing mode of transport. Waterford City has a lot of untapped potential to significantly enhance its cycling offer and culture with its compact urban form and the fact that a journey from the City Centre to the urban edge can be undertaken in less than 20 minutes by bike.

The NDP commits to the delivery of cycle networks for all of Ireland's cities. Translating this at a regional level, the Draft Cycle Network Plan for Waterford City and Environs has formed the basis of WMA cycle network. Additional proposals will align with BusConnects schemes, the Deise Greenway, and key trip attractors such as Park & Ride facilities.

High-quality infrastructure and supporting measures are required to cultivate a cycling culture in the WMA, and to give all individuals the choice to cycle, including:

- Identification of Primary, Secondary, Inter-Urban, Feeder and Greenway Routes;
- Facilities designed to National Cycle Manual standards including cycle parking;
- Full or light segregation from other modes to ensure safety and comfort for all road users;
- Local traffic calming, lower speed limits and junction treatments, particularly at complex junctions in an urban context; and
- Careful provision within pedestrian environments in central areas.

WMATS Cycle Network

Draft Cycle Network Plan for Waterford City and Environs 2014

The Draft Cycle Network Plan for Waterford City and Environs 2014 sets out the envisaged cycling network for the WMA and forms the basis of the delivery of the Cycle Network. The Study is an important component of Waterford City and County Council's vision of developing a cycling culture within the WMA.

The Study has been developed in keeping with the Smarter Travel objectives of 10% of all trips to be undertaken by bike, including linked trips with public transport.

MEASURE CYCLING1

WMA Cycle Network

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 WMA Cycle Network.

Key Aims of the Study

- To improve cycling priority throughout the WMA;
- To connect key zones of origin and destination within an urban area and to provide for effective through-movement for cyclists; and
- To maintain a high Quality of Service throughout the network, using the Pavement Condition Index (PCI) to review the physical integrity of the cycle surface, as highlighted in the Draft Cycle Network Plan for Waterford City and Environs
  - » Achieve a Quality of Service Level B or greater in each primary corridor;
  - » Achieve a Quality of Service Level B and no less than a Level C of service in secondary routes; and
  - » Provide a Quality of Service Level B and no less than a Level C of service in feeder routes.

MEASURE CYCLING2

Cycle Infrastructure Design

Cycle infrastructure in the WMA shall provide 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.

Corridor Links
The Draft Cycle Network Plan for Waterford City and Environs 2014 identified the Top 5 corridors which are predicted to experience the largest level of two-way cycling activity by 2023:

1. Kilbarry Road/ Cork Road-Ashe Road/ Cork Road;
2. Kilbarry Road/ Cork Road-Paddy Browne's Road-Cork Road;
3. Rice Bridge/ Bridge Street-The Mall/ Lombard Street;
4. Abbey Road/ Fountain Street-Rockshire Road/ Fountain Street; and
5. Rockshire Road/ Fountain Street-Dock Road/ Rice Bridge.

Primary Cycle Network
Primary Routes have been designated as such because they are intended to cater for the highest level of demand. Primary Routes are typically direct and provide medium-long radial connections to key destinations. These routes are supplemented by secondary and feeder routes which provide access to residential catchments and local facilities/ services.

Primary Radial Routes

- Abbey Road;
- Ashe Road to New Street through Barrack Street and Newgate Street;
- Carrickphierish Road to Morgan Street via Knockhouse Road and Gracedieu Road;
- Cleaboy Road to Lower Yellow Road through Upper Yellow Road;
- Cork Road to The Mall via Manor Street and Parnell Street;
- Dunmore Road to Lombard Street along Newtown Road;
- Kilbarry Road;
- Merchant's Quay to The Mall along Meagher's Quay and Parade Quay;
- Old Tramore Road to Ballytruckle Road via Ballytruckle Green;
- Paddy Browne's Road to Slievekeale Road along Tycor Road;
- Rice Bridge;
- Ross Road to Dock Road through Fountain Street;
- Sustainable Transport Bridge; and
- Williamstown Road to John's Hill along Upper Grange Road.

Primary Orbital Routes

- Morrisson's Road to Bridge Street via Military Road and Summerhill;
- Passage Road to Inner Ring Road along Saint Patrick's Way and Richardson's Folly; and
- Outer Ring Road.

Where Primary cycle routes run along main traffic routes, segregated cycle facilities will generally be required.

Secondary Cycle Network
Secondary Routes connect residential, commercial and employment areas to the Primary Network. They often run in parallel to Primary Routes, providing an alternative link. While they are important components of the urban cycle network, in general they will carry lower volumes of cyclists than the Primary routes.

Secondary Radial Routes

- Ballyvalla;
- Cork Road;
- Kilbarry Road;
- Killure to Lower Grange along Killure Road;
- Knockhouse Road;
- Newrath Road;
- Rockshire Road;
- Ross Road;
- St. Mary's National School, Ballygunner to Dunmore Road via St. Mary's Place;
- Tramore Road; and
- Williamstown Road.

Secondary Orbital Routes

- Ballybricken Green;
- Patrick Street to The Glen;
- Poleberry to Newport's Square along College Street and Manor Hill;
- Quarry Road;
- Skibbereen Road to Knockhouse Road through Lismore Park and Northern Extension Industrial Estate;
- Slieverue Roundabout to Belview Port;
- Sunrise Crescent to Waterford IDA;
- Vincent White Road to Carrickphierish Road along Keane's Road and Crescent Drive;
- Waterford Nature Park to Cleaboy Road via Glencarra, Clonard Park and Cork Road; and
- Williamstown Road to Knockhouse Road along Shannon Drive, Kilbarry, Waterford IDA and Carrickphierish Road.

Secondary Routes can comprise of off-road cycle routes, cycle lanes, shared bus and cycle lanes and traffic-calmed roads.

Feeder Cycle Network
Feeder Routes connect local zones with Primary and Secondary Routes, as well as Greenways. Where traffic volumes are low, or with adequate traffic calming and management measures, Feeder Routes allow cyclists and motorists to mix safely.

Feeder Routes

- Cork Road to Patrick Street along Hennessy's Road, Brown's Lane and Stephen's Street;
- Outer Ring Road to Passage Road along Esker Drive, Summerhill Avenue and Grange Park Crescent;
- Passage Road to John's Hill;
- Lower Newtown Road; and
- Sunrise Crescent to Vincent White Road along Church Road and Manor Saint John.

Greenway Cycle Network

Greenway Networks usually run on traffic free or low-trafficked routes and typically follow repurposed derelict railway lines, routes through parks or alongside rivers. As many of these routes are not associated with vehicular roads and often run through green spaces, they can serve both an amenity and commuter function. The Greenway Network for the WMA has been developed based on an existing network of Greenway routes and the upgrade of existing paths to provide a comprehensive cycling network.

Care is required in the planning and design of Greenways to ensure that they provide a safe environment for all users throughout the day and at all times of the year. While they can serve commuters in parallel with their leisure function, provision of such routes does not obviate the need for a high-quality cycling environment associated with the road and street network.

Greenway Routes

- Belmont Greenway connecting ABP Waterford to Deise Greenway along Belmont House, Newrath Road and the disused Old Red Iron Bridge;
- Cross City Greenway connecting Williamstown Road to Deise Greenway along Shannon Drive, Kilbarry, Waterford IDA and Carrickphierish Road;
- John's River Greenway connecting Outer Ring Road to Waterford City Centre along or adjacent to John's River;
- Knockhouse Greenway connecting WIT West Campus to Deise Greenway along or adjacent to Knockhouse Road;
- New Ross Greenway connecting New Ross to Waterford City Centre along or adjacent to the disused New Ross to Waterford Railway;
- Rosslare Greenway connecting Rosslare to Waterford City Centre along or adjacent to the north of the River Suir; and
- Suir Greenway connecting from the Passage Road to Waterford City Centre along or adjacent to the south of the River Suir.

Inter-Urban Network

The Inter-Urban Cycle Network connects Metropolitan towns to Waterford City.

Inter-Urban Routes

- Waterford City Centre to Tramore; and
- Waterford City Centre to Passage East / Wexford.

Additional Feeder, Greenway and Inter-Urban Routes to those outlined above may be investigated subject to changes in the proposed population and employment distribution as part of the proposed periodical 6-year WMATS review.

Quietways

Quietways are largely continuous and convenient cycle routes on lower trafficked routes such as backstreets, and are usually not dependent on the provision of dedicated cycle infrastructure. Ideally, they are direct and easy to follow for those who would prefer to cycle on quieter, calmer routes. A network of Quietways should be identified in the short to medium-term of the Plan.

Signposting of these routes will help integrate them into the wider cycle network for general use.

Supporting Measures

WMATS recommends several supporting measures to complement the proposed Cycle Network.

Bicycle Sharing Schemes

Public Bicycle Sharing Schemes (BSS) can contribute positively to widening the public transport catchment area and addressing the 'last-mile' of a trip, while also facilitating a wide range of trips within the city.
In September 2021, the National Transport Authority undertook public consultation on proposals to introduce a bike scheme for Waterford City, comprising up to 14 docking stations and 150 bikes. Implementation of the scheme commenced in 2022. Ensuring that the scheme is in good working order, and expanding the scheme where feasible, is an objective of this Strategy.

In areas outside the City Centre and inner suburban areas where the Waterford BSS is unlikely to be feasible in the short to medium term, other models including dockless bikes should be considered. These schemes should be supported by a significant increase in cycle parking provision in district centres, places of education and neighbourhood centres.

Waterford City Public Bikes Docking Stations

MEASURE CYCLING3

Bike Share Scheme Expansion

The NTA, in collaboration with the local authorities, will monitor the operation of the bike share scheme in Waterford city and will consider expansion of the scheme and/or the addition of other schemes to provide a structured bike share network appropriately serving key origins and destinations.

MEASURE CYCLING4

Bike Share Scheme Electrification

The NTA will support the provision of electric bike share schemes, appropriately integrated in the overall bike share scheme structure for the WMA.

Short-Stay Cycle Parking

To support existing and future demand for cycling, a significant uplift in provision of high quality, secure, short-stay cycle parking in the City Centre, Metropolitan town centres, schools, rail and bus stations, public buildings, shopping areas and workplaces is required.

MEASURE CYCLING5

Cycle Parking Strategies

Local authorities will, as part of Development Plans and Local Area Plans, prepare public cycle parking strategies in order to ensure that there is sufficient short-stay cycle parking available on-street in city, town and village centres.

Long-Stay Cycle Parking

Lack of secure cycle parking can reduce the attractiveness of cycling as an everyday travel option. Individual bike lockers, cycle hubs and shared on-street hangars offer security to cyclists and provide an innovative solutions to cycle parking requirements for longer periods of time, particularly where internal storage space is limited.

Secure, long-stay cycle parking should be provided at the train and bus stations and other key transport nodes across the WMA. Development management requirements for higher levels of residential and workplace cycle parking will also be revised upwards. Provision of cycle parking hubs in these strategic locations is a key component in promoting cycling culture and facilitating linked trips across WMA.

MEASURE CYCLING6

Cycle Parking

It is the intention of the NTA to support the delivery, through the statutory planning process and liaison with relevant stakeholders, of high-quality cycle parking at origins and destinations, serving the full spectrum of cyclists including users of non-standard cycles (cargo bikes, adapted cycles, hand cycles and family cycles).

End-of-Trip Facilities

Providing end-of-trip facilities at workplaces such as showers, changing rooms and lockers can significantly increase the attractiveness of cycling particularly for longer distances or in inclement weather.

A significant uplift in the quality and quantity of end-of-trip facilities is a target that must be considered by Local Authorities when revising statutory Development Plans. Workplaces should also be encouraged to avail of government grants to retrofit premises or consider contributing to shared facilities. This also applies to residential developments.

MEASURE CYCLING7

End-of-Trip Facilities

The Strategy supports the implementation of end-of-trip facilities at large trip attractors including employment and educational destinations, in tandem with the preparation of Mobility Management Plans.

Behavioural Change and Promotion

Promotional events and marketing campaigns can be an effective behavioural change tool, including:

- Smarter Travel Workplaces and Campuses;
- School Cycle Bus;
- Green Schools Travel Module;
- Regular 'Dr Bike' maintenance;
- One-off events such as Car-Free Day, EU Mobility Week, Cyclovia and other conferences such as POLIS and Velo-city; and
- Cycle training provided in schools, workplaces and community centres.

07 Cycling

22,603
2040 Daily Cycling Trips

541%
Increase
in cycling trips between 2016 and 2040

8,082
cycling trips made in the AM peak period easing congestion

49 km
Primary Network

41 km
Secondary Network

27 km
Feeder Cycle Network

54 km
Greenway Network

Creation
of Bicycle Sharing Systems

Enhanced End-of -Trip
Facilities

Positive impact
on mental health

Proposed Waterford Cycling Network

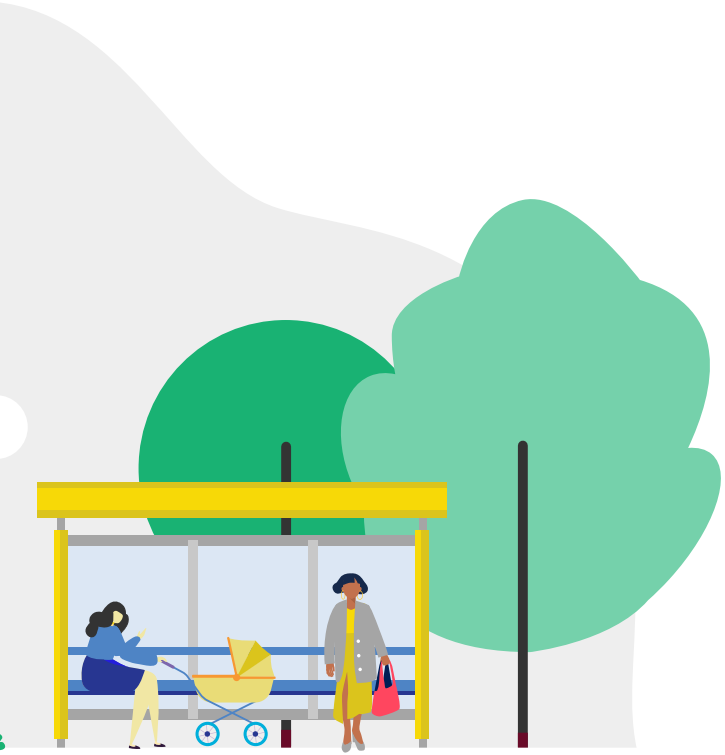

WIT WEST CAMPUS
Campas Thiar WIT


Plunkett Street

08 BusConnects

BusConnects will overhaul the current bus system in all five cities by implementing a network of 'next generation' bus corridors (including segregated cycling facilities) on the busiest routes to make journeys faster, predictable and reliable.

National Development Plan 2018-2027



Buses are an extremely efficient mode of transport and will be the basis of the public transport system serving WMA. The WMA can only grow in a sustainable way if the role of public transport is strengthened. The flexibility of buses means that routes and frequencies can be quickly adapted to support phases of new development or as circumstances dictate. Buses will also perform an increasingly important role as Park & Ride facilities are developed.

The NPF identifies the provision of a citywide public transport network, with enhanced accessibility from the City Centre to the University Hospital Waterford and WIT, as a key enabler for Waterford. It is also consistent with the Climate Action Plan, NDP and RSES which envisage a significantly enhanced bus service in Waterford by 2030.

For the purposes of assessing the Strategy, an indicative future bus network for 2040 has been developed and refined in an iterative manner, considering corridor travel demand analysis work. The final bus network that will be implemented in the short-medium term will require more detailed service planning and will represent a refinement of the indicative network presented in this Strategy due to, inter alia, detailed operational requirements and changing local traffic considerations.

BusConnects Waterford

The BusConnects Waterford programme will provide a more reliable, high-frequency public transport service for Waterford City and suburbs. The enhanced service will represent a significant upgrade on the existing system and will comprise of a more comprehensive network, bus priority and new fleet. It will serve all key destinations and provide interchange with train and bus stations and support Park & Ride services.

There are two main elements to BusConnects, namely:

1. Bus priority in the form of bus lanes, bus gates, bus-only links, and other measures; and
2. Changes to the bus service network to deliver greater frequency and more efficient operation.

In terms of bus priority, indicative alignments for corridors where it is intended buses can travel without delay are set out in the Proposed 2040 Bus Priority Measures map, while the full WMA service network is shown on the Proposed 2040 Bus Network map. The corridor alignments are subject to further development as the design and planning processes for individual projects progress.

Main Spine Routes

Main Spine Routes connect outer neighbourhoods and suburban areas to the City Centre and will be developed to pair Cross-City travel demand to maximise the utilisation of the bus services. The proposed frequency for these routes is 10-15 minutes all day, with increased frequencies at peak hours and the potential for higher all-day frequencies as demand increases over the Strategy period.

Supporting Radial Routes

Supporting Radial Routes will provide additional coverage to the Spine Routes at a lower-frequency to areas where demand for travel does not support high-frequency services.

Orbital Routes

The indicative Orbital Bus Network comprises an initial single high frequency orbital service to the south of Waterford City. The indicative Orbital Route is proposed to serve several key destinations outside of the City Centre, including the University Hospital Waterford, WIT, Waterford IDA and Carrickphierish. The indicative Orbital Network will provide additional connectivity and interchange with radial bus services.

MEASURE BUS1

BusConnects Service Network

It is the intention of the NTA to deliver the BusConnects Service Network proposed in the Strategy in collaboration with the local authorities, and to monitor the network to identify potential enhancements in the medium and longer term.

Bus Priority: Waterford Core Bus Corridors

Prioritising bus services above general traffic is critical to the delivery of an efficient, frequent and reliable bus system and will be an integral part of the overall BusConnects programme.

The proposed increase in bus capacity and services will benefit a significant proportion of Waterford's population. However, the maximum benefit of the investment in increased bus capacity and services will only be achieved if it is accompanied by the necessary level of bus priority. A failure to do so will result in a less than optimum level of service for customers in terms of speed and reliability and will require more buses to deliver a given level of service as they will be delayed in general traffic. It will also result in poorer value for money and potentially undermine the economic case for continuing investment in the bus service in the Waterford Metropolitan Area.

The extent of the proposed bus priority measures aligns with the emerging transport demand patterns, ensuring efficient, reliable and frequent services can be accommodated. The objective for identified Main Spine Routes, in principle, is to provide end-to-end bus priority in each direction. On some parts of the National road network, further investigation, analysis and agreement with TII will be required to determine the optimal bus priority outcomes. In some areas of the network, the existing carriageway is constrained by pinch-points and on-street parking.

To provide bus priority, measures will need to be taken including:

- The removal of on-street car parking, general traffic lanes and one-way traffic systems;
- Provision of bus lanes on approaches to junctions, by-passing queueing traffic;
- Intelligent Transportation System (ITS), such as bus gates and Advanced Bus Signalisation; and
- The acquisition of land.

MEASURE BUS2

Core Bus Corridors

It is the intention of the NTA to identify and deliver Core Bus Corridors on key radial routes serving the WMA.

MEASURE BUS3

Bus Priority

The NTA and local authorities will implement bus priority measures in the city centre and in settlements in the WMA in order to reduce delays to bus services. These may include such measures as junction improvements, bus lanes and traffic signal changes.

Regional Bus Network / Connecting Ireland

Regional bus services provide an important element of the Strategy to promote regional connectivity, which is a key strategic objective of the NPF and RSES.

It is proposed to continually improve the existing network of regional services, with a view to expanding on service frequency to meet the growing demand as required. The improvement of the regional bus network is proposed through the Connecting Ireland programme. Connecting Ireland is a plan that aims to improve mobility in rural areas by providing better connections between villages, towns and cities by linking these areas with an enhanced regional bus network.

Traffic management plans for the towns will have to accommodate and support through movement of regional buses, although such measures are beyond the scope of a Transport Strategy for the Metropolitan Area.

MEASURE BUS4

Connecting Ireland

It is the intention of the NTA to complete and implement the Connecting Ireland programme in the short term as a means of ensuring that the towns and villages of the WMA are well served by public transport.

Metropolitan Bus Network

Bus priority should be provided at identified pinch points in Metropolitan Towns to ensure the efficient operation of bus services and reliable journey times.

Local Link

To complement the proposed bus network and local Metropolitan Town services, the National Transport Authority runs a service known as Local Link. The aim of Local Link is to address rural social exclusion and integrate bus services where possible with existing routes. Door-to-door routes are a feature of Local Link services which offer an important service to those with reduced mobility and/ or have no access to public transport in rural areas. There are Local Link services operating throughout Waterford and Kilkenny counties.

MEASURE BUS5

Local Link

It is the intention of the NTA to complete and implement the Connecting Ireland programme in the short term as a means of ensuring that the towns and villages of the WMA are well served by public transport.

Coaches

Coaches bring many visitors to Waterford City and surrounding metropolitan areas including Tramore, Dunmore East and along the coast. To ensure that the WMA can facilitate a growing number of visitors, the following is proposed:

- Assessment of the existing operations of coach services' alighting and boarding arrangements to improve existing conditions; and
- Formulation of an integrated Coach Management Strategy to support traffic management measures, parking and set-down areas at key destinations.

MEASURE BUS6

Coach Management Strategy

The Strategy proposes the development of an integrated Coach Management Strategy to ensure that private coach fleet activity aligns with wider proposals for traffic management and public realm enhancements in the WMA.

Supporting Measures

The new Bus Network in Waterford will be significantly upgraded to BusConnects standards. The regional bus network will similarly be upgraded to include measures such as:

- Expanded Real Time Passenger Information (RTPI);
- Real time integration of on-board Automatic Vehicle Location (AVL) with Intelligent Transport Systems (ITS) to prioritise public transport movements at signalised junctions;
- Walking network upgrades to and around bus stops to ensure pedestrian comfort, safety and accessibility;
- Consideration will be given to the creation of 24-hour services;
- Smart ticketing to enable integration with other modes of transport and reduce delays;
- Transition to a fully accessible bus fleet;
- Transition of WMA's bus fleet to zero-carbon fuel sources and other low emissions technologies including electric buses; and
- A standardised style of bus stop sign, pole and information panel, with a consistent branding and livery.

MEASURE BUS7

Zero Emissions Fleet

It is the intention of the NTA to deliver a fully Zero Emission bus fleet by 2030 in accordance with the National Sustainable Mobility Policy.

MEASURE BUS8

Fully Accessible Fleet

It is the intention of the NTA to ensure that all new buses serving the WMA will be fully accessible, with a view to full transition to an accessible fleet over the Strategy lifetime.

MEASURE BUS9

New Stops and Shelters

It is the intention of the NTA to continue to implement a programme of bus stop and shelter provision to serve the WMA bus network, and to monitor potential for further expansion and upgrade during the lifetime of the Strategy.

MEASURE BUS10

RTPI

The NTA will support the roll out of the BusConnects network and Core Bus Corridors with Real Time Passenger Information at bus stops, Mobility Hubs and Interchanges.

MEASURE BUS11

Branding and Livery

The NTA will seek to deliver a consistent branding and livery of all buses and supporting infrastructure including shelters and stops.

MEASURE BUS12

24 Hour Services

The NTA will monitor demand for late night and 24-hour services on the bus network and will examine potential to provide services to meet any identified need.

08 BusConnects

Bus Passengers

31,632
2040 Daily Passengers

Carrying
7,116
passengers in the AM peak hour

Bus Corridor Performance

Merchant's Quay Corridor AM Peak Bus Frequency
1 min

Manor Street Corridor AM Peak Bus Frequency
3 min

Bus Network & Vehicles

84 km
of cross city routes

9 km
of orbital routes

7 km
of radial routes

63 km
of bus lanes & bus priority measures

75
New buses required

1
Strategic Park & Ride site

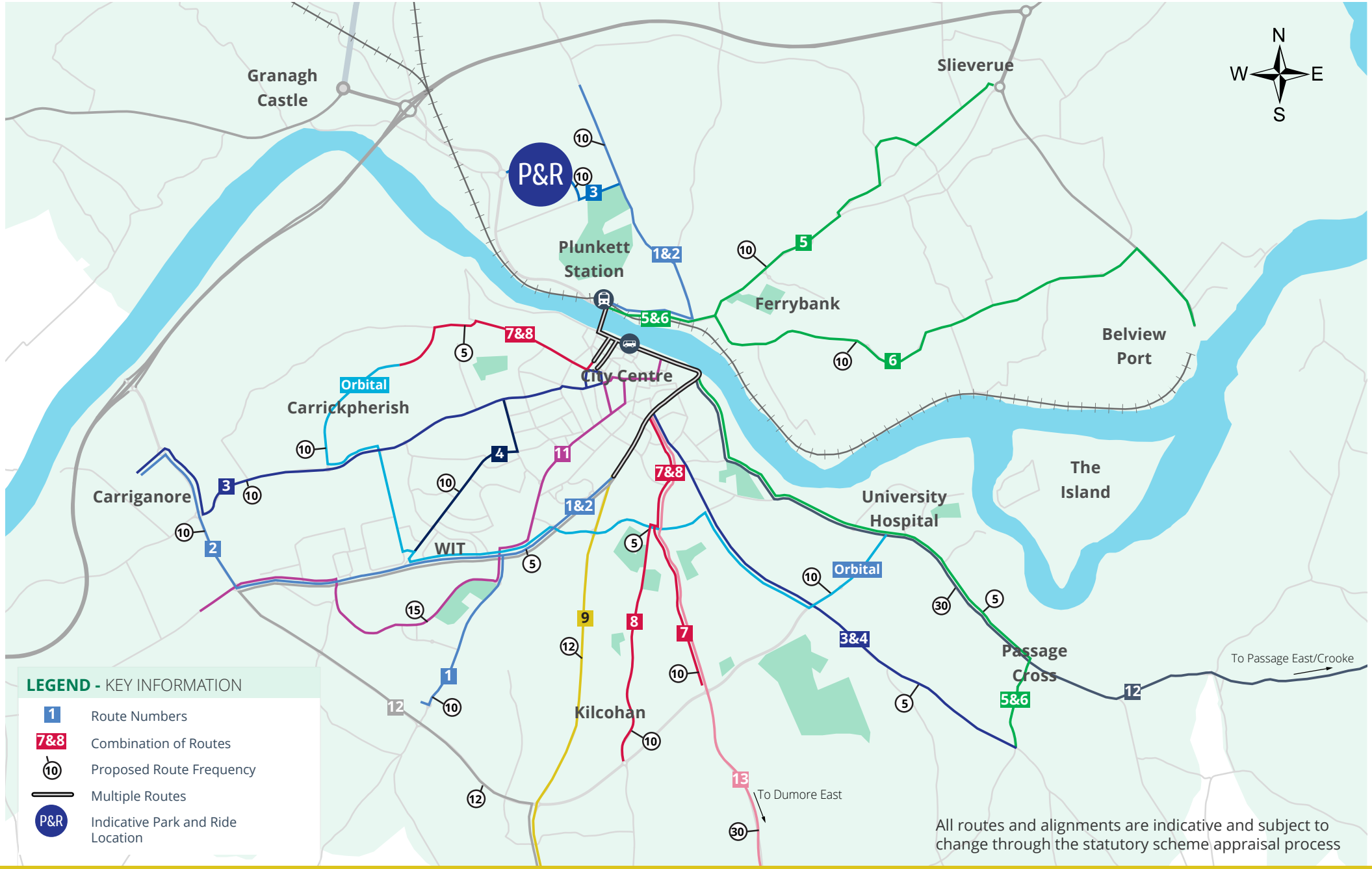
Connecting City & Suburb

Connecting

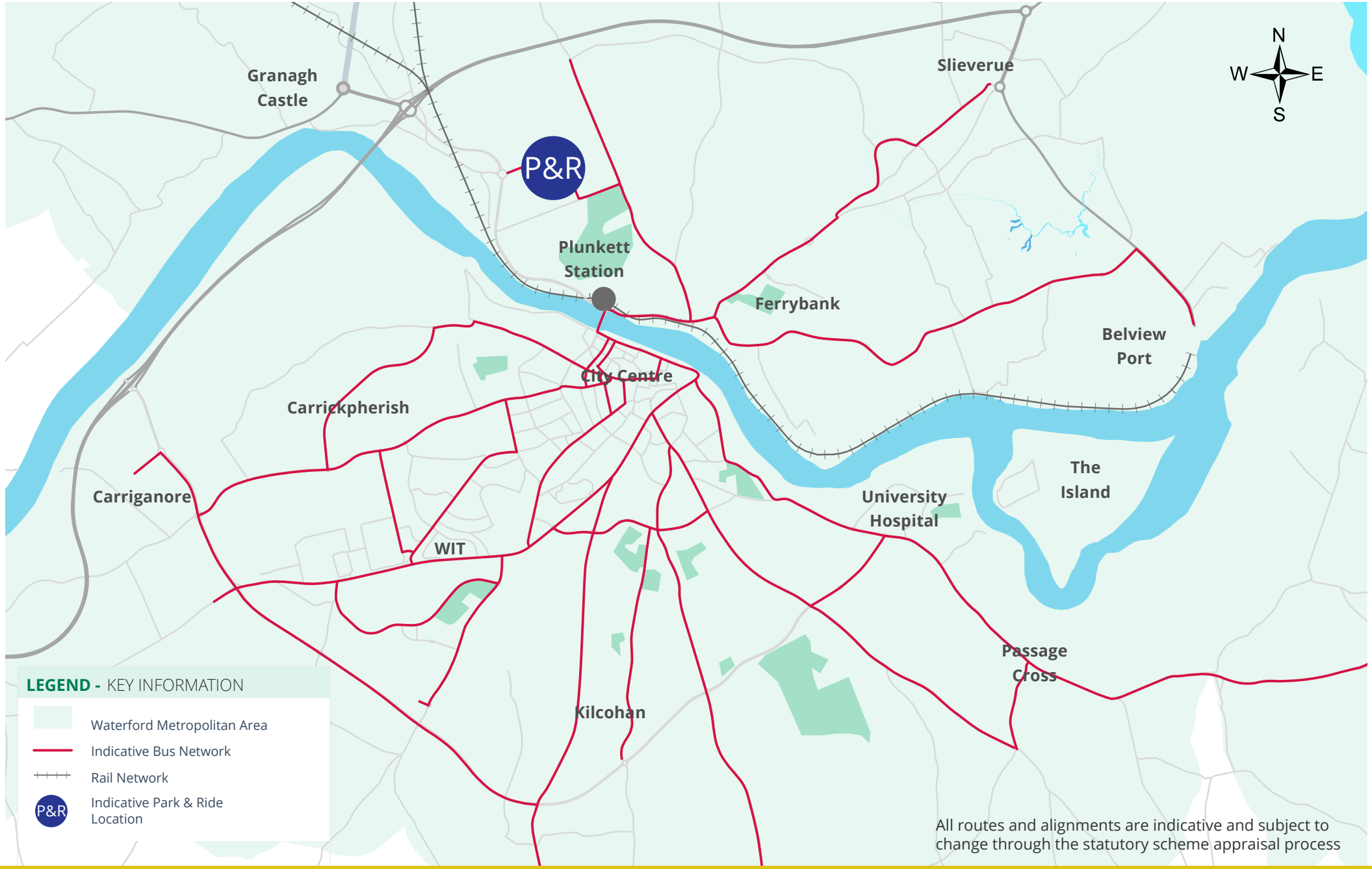
Connecting with Plunkett Station, Waterford Bus Station, WIT, University Hospital Waterford, proposed Park and Ride Network and providing interchange between radial and orbital bus services

Over
1,500
passengers interchanging between Cross City, Radial and Orbital bus services in AM peak hour

Proposed 2040 Bus Network



Proposed 2040 Bus Priority Measures




PADDYPOWER
SPAR
LANA BUS

09 Rail

The Dublin to Waterford and Limerick Junction to Waterford rail lines are subject to an examination to move to higher speeds and/or electrification leading to improved connectivity at a regional and national level.

Regional Spatial and Economic Strategy for the Southern Region

WMATS proposes to maximise opportunities offered by the existing rail network to enhance regional connectivity. Maximising the potential of the rail station will support better integration of land use planning and public transport.

The WMA's existing rail network provides access to Waterford City Centre at Plunkett Station from Dublin, Carlow, Kilkenny, Clonmel and Limerick Junction. Limerick Junction is an important regional asset interconnecting the Dublin, Cork, Limerick, Galway and Waterford rail corridors.

All Island Strategic Rail Review

The Department of Transport and the Northern Irish Department for Infrastructure are jointly undertaking the All Island Strategic Rail Review. The scope of the Review comprises six Goals as follows:

- Contribute to Decarbonisation;
- Improve All Island Connectivity Between Major Cities;
- Enhance Regional and Rural Accessibility;
- Encourage sustainable mobility;
- Foster economic activity; and
- Achieve economic and financial feasibility.

As part of this process, it is understood that the potential use of the Waterford to Rosslare rail line, which was closed in 2010, will be assessed. The recommendations of the Review should be deemed to form part of this Strategy, and pending completion of the Review the Strategy proposes to reserve the rail line to provide for future rail use.

Intercity Service

Waterford City has several InterCity services providing direct rail connections from Plunkett Station to Dublin, Kilkenny and Clonmel and connections via Limerick Junction to Cork, Limerick, Tralee and Ennis.

As identified in the NPD, RSES, Iarnród Éireann's 2016 Rail Review Report and the All Island Strategic Rail Review,the Dublin-Waterford rail lines are subject to an examination to move to higher speeds, leading to improved connectivity to regional cities through improved rail journey times. The SRA RSES also has the objective of increasing the frequency of services along the Dublin-Waterford and Waterford-Limerick Junction lines.

A study of the potential retention of the Waterford to Rosslare Rail Corridor for future freight and passenger rail connectivity is proposed by the Draft Waterford City and County Development Plan 2022-2028.

Dual Track from Waterford Plunkett-Dublin Heuston

The All Island Strategic Rail Strategy will review the benefits associated with upgrading the single track rail line between Waterford and Dublin to a dual rail line. These benefits will be reviewed in how an upgraded dual rail line will facilitate national and regional connectivity.

MEASURE RAIL1

All Island Strategic Rail Review (Dual Track)

On completion of the All Island Strategic Rail Review, the Strategy will support its conclusions and proposals regarding the potential twin-tracking and electrification of the Dublin-Waterford rail line.

Plunkett Station

Plunkett Station is the terminal for rail services in Waterford City, located just north of the River Suir approximately 15-mins' walk from the City Centre.

This station is served by Intercity rail and some city bus services, offering opportunities for interchange. The station building is proposed to be relocated to the North Quays Innovation District to create a more direct access to Waterford City, through the creation of a Sustainable Transport Bridge from The Mall to Ferrybank.

MEASURE RAIL2

Station Relocation

The Strategy supports the relocation of Plunkett Station to a new site in the North Quays SDZ.

Rail Freight

The Freight Transport Report for the Island of Ireland highlights that Waterford could lead an increase in container movements by rail. A new freight service between Ballina, Co. Mayo and Waterford was launched in 2021. The SRA RSES has recommended enhancing rail connectivity along the Waterford to Dublin and Waterford to Limerick Junction lines as an investment priority. A rail service between Waterford and Rosslare Europort has been inactive since 2010.

The adopted SRA RSES proposes an investigation of the possible reinstatement of this line for future freight and passenger rail connectivity between Rosslare Europort and Waterford.

More detail on freight is provided in Chapter 16 Freight, Delivery and Servicing.

MEASURE RAIL3

All Island Strategic Rail Review (Rosslare Europort to Waterford)

On completion of the All Island Strategic Rail Review, the Strategy will support its conclusions and any proposals regarding the potential reinstatement of the Rosslare Europort to Waterford rail line.

Supporting Measures

Signalling Improvements

Signalling improvements will be required to facilitate increased services and avoid potential delays and conflicts.

Signal Control Centre

Iarnród Éireann currently operates a Centralised Traffic Control Centre in Connolly Station, which controls much of the rail network in Ireland. The NDP commits to completing a new National Train Control Centre over the lifetime of the Strategy. This will be required to cater for immediate and future control requirements of the rail network.

Electrification and/ or Alternative Fuelling of the Rail Network

Action 279 of the recently published Climate Action Plan 2021 is to complete the Strategic Rail Review to identify the appropriate decarbonization of the interurban rail services. WMATS supports this action that would result in a shift to renewable fuels for transport. This shift to renewable fuels would result in higher performance, lower maintenance costs, lower energy costs and reduced emissions. The lower air and noise emissions are critical to support residential amenity of new development consolidated around the railway corridor.

The NDP commits to the electrification of suburban rail lines in Dublin under the DART Expansion Programme by 2030. A similar commitment for the WMA Rail Network would be likely to take place over the latter half of the Strategy.

An alternative to the full electrification of the rail network could be to examine the feasibility of a fleet upgrade to battery and/ or hybrid trains. While providing similar benefits to a standard electrification network, this type of electric train does not require the significant network wide retrofitting of electrification infrastructure, such as power supply and bridge alterations that would normally be required. This lack of changes to the network would save significant costs on the electrification of the rail network.

Tramore-Waterford Rail Line

The Waterford County Development Plan 2011-2017 included an objective to assess the potential of a commuter rail service for Tramore. While this is no longer an objective of the Draft Waterford City & County Development Plan 2022-2028, and although Tramore is beyond the boundary of the WMA, the potential for rail-based transport on this route was assessed in the preparation of the Draft WMATS. The outcome of this assessment indicated that demand on this corridor in the Strategy horizon year falls below the threshold for light rail or commuter rail services, and that an enhanced regional bus service would be sufficient to cater for passenger demand in the Strategy horizon year. Therefore, a rail-based proposal on this corridor does not form part of the Strategy.


W2
Port Lairge
(Theas)
R710
WATERFORD
(South)
(R675)
Tra Mhor
TRAMORE


LANA
BUS

10 Roads

Street networks should be designed to maximise connectivity between destinations to promote higher levels of permeability and legibility for all users, in particular more sustainable forms of transport.

Design Manual for Urban Roads and Streets, 2019

The WMA has an existing well-developed network of National, Regional and Local roads and streets. The road network includes the carriageway and other highway infrastructure including bridges, footpaths, cycleways, signposting, markings and traffic signals.

The priority for road investment in this Strategy will be to maintain, renew, manage and operate the existing road infrastructure in a more efficient manner, as set out in the NIFTI Intervention Hierarchy. Other priorities include the need to provide multi-modal travel particularly on new roads within urban areas, increasing the liveability and place-making functions of the urban street network, and to manage the network to discourage through traffic in built up areas.

Alternative Approach to Car-Based Travel

The WMA road network will be needed to carry a significant number of journeys made by people and goods. Given the nature of existing travel patterns in the WMA, the provision of any new road capacity will need to strike a balance between enabling the WMA to achieve its growth potential whilst ensuring that any additional road capacity does not attract more private car trips nor lead to car-dependent development patterns. Areas of significant future growth will need to be primarily served by public transport, walking and cycling. In addition, existing travel will need to change to more sustainable modes, thus reducing the reliance on the private car.

In line with the NPF's objective to achieve Compact Growth, the Strategy seeks to deliver on strategic development priorities for the distribution of a more compact settlement patterns, based on the effective integration of land use planning and transport planning.

This will provide a long-term sustainable economic, environmental and social case for reliable public transport, high-quality walking and cycling routes and an inclusive, permeable, people-centred public realm. A key principle of the Strategy therefore is to prioritise the provision of reliable and efficient public transport and enhanced attractive walking and cycling routes to minimise the need to travel by car.

This will be underpinned by appropriate land use decisions by both Local Authorities that maximise opportunities for sustainable travel.

Supporting Sustainable Mobility

The dispersed nature of development and the location of key destinations relative to housing within the WMA presents a significant challenge in reducing the need to travel by private car.

The WMA's road network will support sustainable travel to overcome these challenges in the following manner:

- Implementation of the proposed BusConnects network, including potential Park & Ride facilities, will reduce the demand on National roads and improve regional connectivity, particularly for those travelling from areas which are not well-served by public transport;
- Local access to the strategic road network will be managed and restricted to protect the function of National roads and to discourage use by local car traffic for short trips;
- Implementation of demand management measures;
- Urban roads and streets will be designed to facilitate more walking and cycling; and
- Street networks within inner urban areas and neighbourhoods will emphasise their 'place' function and enhance the liveability of these areas.

Moving through the different areas of the WMA the nature of roads and streets will alter in line with its changing demands. For example, towards the city, the routes and streetscape will include more high quality walking, cycling and public transport infrastructure and will become less car dominant.

Principles for the provision of new roads within the WMA

WMATS proposes a limited number of new road-based projects required to facilitate the sustainable movement of people, goods and services, and to complement sustainable travel and traffic management objectives. Aligned with recent changes in national transport, climate and land policies, the following principles will be applied to any new roads in the WMA:

- All road schemes will be developed in accordance with the NPF's Compact Growth objective and Government's Investment Priorities included in the NPF and NDP;
- Regional and Local roads must ensure that the capacity and function of National Roads for strategic traffic is maintained in accordance with the NPF's objective to Enhance Regional Accessibility, as well as TII's 'Spatial Planning and National Roads' document, which seeks to protect the strategic function of the national road network, including motorways. Local traffic will be diverted to appropriate routes and opportunities to use the National Road network;
- Apart from Motorways or other strategic, limited access roads, all new road schemes will be designed to provide a safe and appropriate arrangements to facilitate walking, cycling and public transport provision; and
- New road schemes must follow the NIFTI Intervention Hierarchy, demonstrating that alternative solutions, such as public transport provision, traffic management or demand management measures, cannot effectively and satisfactorily address the circumstances prompting the road proposal or are not applicable/ appropriate.

The following sections identify proposed infrastructure improvements for the National, Regional and Local road networks within the WMA. The alignment and form of all National road proposals will be determined in line with TII's Project Appraisal Guidelines (PAG) and DTTaS guidance for scheme appraisal including a Route Options Assessment and Business Case. The following proposals are subject to compliance with relevant environmental legislation and EU Directives.

MEASURE ROAD1

Principles of Road Development

There will be no significant increase in capacity for private car trips on radial roads within the Metropolitan Area, except where re-alignments or junction changes are necessary for safety reasons;

- Provision will be made for steady state investment in the WMA road network;
- That a proposed road scheme will only proceed where it has been satisfactorily demonstrated that: alternative solutions, such as public transport provision, traffic management and/or demand management measures, cannot effectively address the circumstances prompting the proposed road scheme or that these alternative solutions are not applicable or appropriate in the particular circumstances. That road schemes, other than a motorway or protected road, will be designed will be designed to provide safe and appropriate arrangements to facilitate walking, cycling and public transport provision, including as applicable, the delivery of walking and cycling facilities off-line where this is considered to be a more attractive solution for these modes;
- That where a road scheme comprises an urban bypass, measures must be proposed and implemented to reallocate road space within the bypassed area to sustainable transport and/or public realm improvements;
- That the travel demand or the development needs giving rise to the road proposal are in accordance with regional and national policies related to transport, land use and development planning; and
- That the development of the road scheme does not diminish in any significant way the expected beneficial outcomes of the Strategy.

National road network

Ireland's National roads play a key role within its overall transport system and in its economic, social and physical development. National roads provide strategic connectivity between the country's main centres of population and employment, and key international gateways such as ports and airports.

The focus will be on maintaining the investment already made, to protect existing National Road assets and to keep them safe and fit for purpose by applying appropriate corridor management practices. Associated with this, a decrease in car dependency for orbital trips is required if the levels of congestion are to be reduced on the strategically important N25 and other National roads in the wider region.

The following outlines the requirements for the planning and development of National roads within the WMA in the context of supporting the sustainable transport objectives of WMATS and in full alignment with the definitions and principles set out in TII's guidelines on Spatial Planning and National Roads:

- The primary function of a National Road is to cater for strategic traffic;
- Strategic traffic, in the context of National Roads, primarily comprises of inter-urban and inter-regional traffic, whether HGV, car, public transport bus services or other public service vehicles, which contributes to socio-economic development, including the transportation of goods and products, especially traffic to/ from the main ports and airports, both freight and passenger related;
- Secondary local function traffic on National roads can be tolerated insofar as it does not impact on the primary function, which is to cater for strategic traffic; and
- If existing secondary functions impact on the primary function of National roads, then demand management measures will be employed to mitigate this impact.

These measures will serve to discourage the inappropriate use of the National road network by local car traffic, to increase the attractiveness of public transport alternatives and to render investment in such public transport improvements more economically viable. Without these interventions, the WMA will continue to experience increasing congestion and private car use which put at risk any substantial investment already made on the national roads of strategic importance.

N24

The improvement of the existing N24 between Waterford and Cahir, which passes through towns and villages including Clonmel, Kilsheelan, Carrick-On-Suir and Mooncoin is being considered as part of a wider study underway by TII. These improvements include:

- N24 Carrick-On-Suir Bypass;
- N24 Clonmel Outer Bypass;
- N24 Clonmel to Cahir Road Improvement; and
- N24 Mooncoin Bypass.

This proposal is consistent with the NPF's National Strategic Outcome 2, to provide Enhanced Regional Accessibility. The NDP identifies the N24 Cahir to Waterford as a national roads project that was part of the previous NPD and is subject to further approval.

Phase 1 of this N24 project (Concept and Feasibility) was completed in February 2021. The non-statutory public consultation then took place between the 4th May 2021 and 1st June 2021, and Phase 2 (Options Selection) has commenced and is scheduled to take 24 months to complete.

N25 Waterford to Glenmore

The improvement of the existing N25 between Waterford and Glenmore, through the creation of a dual carriageway national primary route which will connect to the N25 New Ross Bypass and the N25 Waterford City Bypass is being proposed by Kilkenny County Council in association with TII. This proposal is consistent with the NPF's National Strategic Outcome 2, to provide Enhanced Regional Accessibility. The N25 Waterford to Glenmore is part of the Ten-T Comprehensive Network.

MEASURE ROAD2

National Roads Requirements

- The primary function of national roads is to cater for strategic traffic and this function must be protected;
- Strategic traffic, in the context of national roads, primarily comprises inter-urban and interregional traffic. This includes vehicles involved in the transportation of goods and products, especially those travelling to and from the main ports and airports, both freight and passenger related. It also includes cars, buses and other public service vehicles which contribute to national and regional economic development;
- Within the WMA, the asset value, reliability and functionality of the national road network will be protected and maintained;
- Secondary local functions should not be encouraged, or planned for, on national roads in the WMA;
- National roads are not to be developed or planned, to support the continued urban expansion through the zoning of residential land uses adjacent to or within national road corridors;
- Secondary local function traffic on national roads can be accommodated insofar as it does not impact on the primary function, which is to cater for strategic traffic; If secondary functions impact on the primary function of national roads, then demand management measures should be considered to mitigate this impact.

MEASURE ROAD3

National Roads Projects

- It is the intention of the NTA and TII to deliver the national road schemes listed in the Transport Strategy, subject to their appraisal against national and regional policies and objectives.

Regional and Local Roads

Requirements

The Regional Road network is required to cater for the following:

- Provide high-quality walking and cycling connections;
- Provide access and priority for public transport routes, both orbital and radial;
- Restrict the movement of through-traffic across Waterford City Centre; and
- Facilitate the removal of local traffic from the strategic road network.

To achieve these requirements, the demand and reallocation of carriageway road space needs to be reviewed, to identify how each corridor space could be better utilised for walking, cycling, public transport and car traffic. These requirements need to align with the NIFTI Intervention Hierarchy.

The following sections outline additional regional and local road infrastructure and improvements for the WMA.

Ferrybank Relief Road
The proposed Ferrybank Relief Road would be approximately 2km in length and would connect Belmont Roundabout to Newrath, where it would join up to the existing Newrath Road. The scheme incorporates a bypass of Ferrybank to help create an "Urban Village" within Ferrybank.

Enhancing the road connectivity between Newrath and Belmont Roundabout is under consideration to ensure that traffic travelling in an east-west direction would no longer need to pass through the central, built-up area of Ferrybank. This removal of traffic with the built-up area of Ferrybank would result in the creation of a safer, more attractive public space within Ferrybank. This road connectivity also aims to increase the connectivity and permeability of existing residential areas.

Abbey Road to Belmont Road
The proposed north-south link between Abbey Road and Belmont Road would be approximately 1.4km in length and would provide an opportunity to create a north-south link in the area. Connectivity is currently hampered north to south due to the presence of the disused railways line between New Ross and Waterford. This proposal would create a new north-south connection in the vicinity of Ross Abbey and Clover Meadows housing schemes.

Junction Improvements
Junction improvements are proposed to improve traffic flow, provide for public transport and enhance the pedestrian environment. These may include retrofitting old junctions focused on providing car capacity to include Intelligent Traffic Systems (ITS) or smart traffic signalling.

City Centre Traffic Management
Much of Waterford City Centre is dominated by private cars. It is a key objective to reduce private car use to and in the City Centre over the lifetime of the Strategy. This shift in focus is in line with recognition of the impacts that motorised traffic and carbon emissions have on the environment and people's quality of life.

The City's street network will be reviewed with the aim of prioritising space for public transport, walking and cycling with the intention of creating a more attractive and vibrant experience for residents and visitors, and improving air and noise quality. Local access will still be facilitated with designated driving routes into the City. Public transport will be given priority on several routes in the form of bus lanes, time-restricted bus gates or Advance Bus Signalling at junctions.

There is currently a high portion of on-street car parking present within the City Centre. This is especially present along the Quays, where approximately 1,000 car parking spaces are provided. The quantum and charging structure and levels for daily long-stay parking in the city needs to be reviewed.

Surrounding Towns
It is envisaged that over the lifetime of the Strategy, improvements to the road network within the surrounding towns will largely consist of streetscape and public realm enhancements, previously discussed in the 'Walking' chapter.

The focus for these areas will generally be to overcome the challenges posed by a legacy of dispersed development and poorly defined centres. Objectives for these areas should be developed through individual Local Transport Plans (LTPs), using the Area Based Transport Assessment (ABTA) methodology. Metropolitan towns in the Study Area include:

- Ferrybank; and
- Passage East/ Crooke.

MEASURE ROAD4
Regional and Local Roads Policy

- Implement necessary upgrades to the regional and local road network in line with the Principles of Road Development set out above;
- Where part of a sustainable mobility plan, to develop orbital roads around town centres, accompanied by and facilitating enhanced public transport, cycling and pedestrian facilities in the relevant centre;
- Develop appropriate road links to service development areas, including the provision of public transport (where required) and active travel facilities;
- Enhance pedestrian and cycle safety through the provision of safer road junctions, improved pedestrian crossing facilities and the incorporation of appropriate cycle measures including signalised crossings where necessary; and
- Implement various junction improvements, realignments and local reconfigurations on the regional and local road network to address safety deficiencies and/or support integrated transport proposals catering for all road users.

MEASURE ROAD5
Urban Roads and Streets
The implementation of the Transport Strategy will support and facilitate a place-based approach to urban roads and streets.

Cross River Connectivity

This section outlines the Bridge infrastructure that will be considered and its potential benefits assessed as part of the WMATS. It takes into consideration European and National Policy in the context of the National Development Plan (NPD), as well as Local Policy contained in the Waterford City & County Development Plan, Kilkenny County Development Plan, Waterford Metropolitan Area Strategic Plan (MASP) and Waterford Planning Land Use and Transportation Strategy (PLUTS).

River Suir Sustainable Transport Bridge

Waterford City & County Council have secured funding for a River Suir Sustainable Transport Bridge, which is intended to transform the quayside of Waterford City. A new bridge which accommodates pedestrians, cyclists and an electric shuttle bus service over the River Suir approximately in front of the existing Clock Tower on the south quays and a former industrial brownfield site which shall be developed as a Strategic Development Zone (SDZ) on the north quays is currently being delivered. The development also includes a plaza to be located at the south quays landing point. This plaza will be paved and landscaped, including lighting, street furniture, planting and associated ancillary works.

It is anticipated that the Sustainable Transport Bridge will promote further development of Waterford City and facilitate the development of the North Quays SDZ lands. Rice Bridge is currently the only other crossing of the River Suir within Waterford City centre. Due to the limited number of crossings over the River Suir, the residential areas of Ferrybank and Bellfield on the north bank have limited connectivity to Waterford City.

Downstream River Crossing

The Waterford MASP includes information on the provision of an additional Downstream River Crossing in the vicinity of Maypark or Ardkeen.

This Downstream Crossing is proposed to extend the Outer Ring Road northwards, linking the two sides of Waterford City. This bridge would also serve to curb the future growth of traffic within the City Centre, as it would provide an alternative routing option across the River Suir. The Downstream River Crossing would also link future development sites on the Outer Ring Road to the Port of Waterford and the North Quays, as well as improve access to the University Hospital.

The Downstream River Crossing aims to:

- Complete the orbital road network and provide a distributor route around the city;
- Link development areas to the north of the River Suir to housing and other developments to the south;
- Provide traffic relief for the City Centre; and
- Provide a further alternative crossing point of the River.

The Mall to Ferrybank

The Waterford MASP also highlights the objective of creating a proposed road bridge from The Mall to Ferrybank. This bridge is proposed to link Ferrybank to the City Centre, via The Mall to the south of the River Suir and Abbey Road to the north of the River Suir. Like the Downstream River Crossing, this bridge crossing aims to curb future growth of traffic within the City Centre Quays and provide an alternative routing option across the River Suir.

Outer Orbital Road and Bridge

The Draft Waterford City & County Development plan 2022-2028 includes a proposal for a new Outer Orbital Road, which would connect the Outer Ring Road / Tramore Road roundabout to the existing N29 via Belview Port. This proposal would require the construction of a new bridge across the River Suir/King's Channel to the east of The Island.

On the basis of the assessments carried out in the preparation of the Draft Strategy, and given the proposals noted above for additional downstream crossings at either Maypark/Ardkeen to Kilculliheen or The Mall to Ferrybank, the Outer Orbital Road and Bridge are not proposed for inclusion in this Strategy.

MEASURE ROAD6

Additional River Crossing

In the later stages of the Strategy period, following the completion of the substantive public transport elements of the Strategy, the NTA will support the preparation of a study to examine the need for an additional river crossing downstream of Rice Bridge.

Conclusion

On the basis of the assessment carried out in the preparation of the Draft Strategy, the Mall to Ferrybank crossing and the Outer Orbital Road and Bridge are not proposed for inclusion in this strategy. The reasoning for this is:

- The proposal at The Mall/Ferrybank is too close to the city centre to function as a bypass, as it would facilitate and encourage local trip-making by car, thereby undermining the investment in public transport; and
- The proposed Outer Orbital Road and Bridge would not pass a Cost Benefit Analysis.

The proposed Downstream Crossing at Maypark/ Ardkeen will be considered in the latter stages of the Strategy period in light of the provisions of the existing PPP contract for the N25, which runs to 2036. While the Downstream Crossing will be subject to ongoing review as part of the periodic update of WMATS, it is envisaged that the new crossing would not be delivered in advance of the substantive public transport elements of the Strategy. This would support the shift to more sustainable modes of transport, and would accord with the provisions of NIFTI and the National Sustainable Mobility Policy.

10 Roads

Regional & Distributor

Roads to provide a Multi-modal function

Waterford

City Traffic Management Plan

HGV

Additional HGV Restrictions in Waterford City

Schemes for the lifetime of the Strategy

N24

Cahir to Waterford

N25

Glenmore to Waterford

Ferrybank

Relief Road

Assessment of need for downstream crossing

Public Realm Upgrades

for Waterford City

ITS & UTC

Intelligent Transport Systems & Improvements to Urban Traffic Control

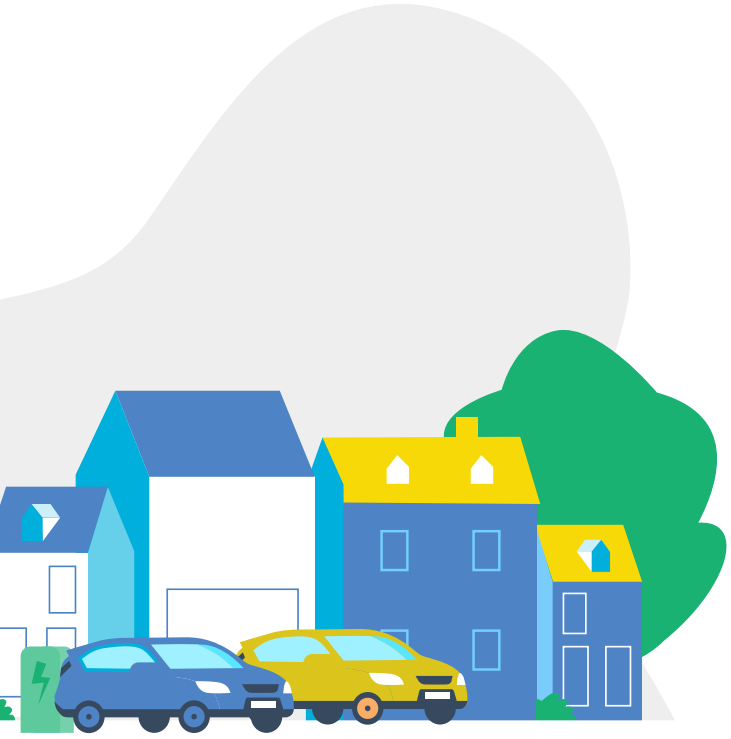
Proposed Road Network 2040


TRAMORE
Trá Mhór
EAT SHOP ENJOY

11 Parking

There should generally be no car parking requirement for new development in or near the centres of the five cities and a significantly reduced requirements in the inner suburbs.

National Planning Framework 2040



The availability and price of car parking within the WMA makes the private car attractive to use compared to sustainable transport alternatives - walking, cycling and public transport. Management of parking can and should be used as an effective demand management tool to discourage private car journeys, particularly for shorter trips across the WMA. For longer journeys, the emphasis will be on discouraging through trips in urban areas. The provision of Park and Ride and Park and Stride facilities, along with modern coherent interchange between walking, cycling and public transport, aims to make sustainable transport options more appealing compared to the private car.

Strategic Park & Ride and Park & Stride

Park & Ride entails the provision of high-capacity car parking facilities at designated public transport nodes on the approach roads to urban areas. Park and Stride are car-parking facilities that are located on the periphery of urban areas, within convenient walking distance of town and City Centres. Park & Ride and Park & Stride are a key component of WMATS and are a means of increasing the catchment of the transport network to those that might not otherwise have access via walking, cycling or public transport. They also allow for a reduction in town and city centre car parking, and a redistribution of road space to sustainable modes and an enhanced public realm.

Park & Ride and Park & Stride can deliver the following benefits to the WMA:

- Transfer commuting trips from private car to sustainable and active travel;
- Support economic vitality by improving overall accessibility to Waterford City Centre and other key destinations;
- Reduce road traffic congestion on radial routes;
- Increase attractiveness of the City Centre to visitors and shoppers;
- Meet shortfalls in urban centre parking capacity and facilitate the reduction in on-street parking;
- Management of local and strategic parking provision, to reduce the impact on other networks both in terms of access and location;
- Maximise public transport patronage by increasing the effective catchment area of the public transport network; and
- Improve access for those living in regional towns and villages and in rural areas.

At present, there are no dedicated, permanent Park & Ride or Park & Stride facilities within the WMA. The Strategy will address this shortfall.

An independent Park & Ride study was undertaken by the Park & Ride Development Office. It was identified that there would be sufficient demand for the provision of a Park & Ride site (approximately 110 car parking spaces) on the Newrath Road.

The Newrath Road Park & Ride site is included as a measure in this Strategy and its location is denoted on the Proposed 2040 Bus Network Map in Section 8 of this Strategy.

A potential Park & Ride location was also identified on the Tramore Road as part of the demand study undertaken by the P&R Development Office. However, due to the existing parking availability in close proximity to Tramore Bus Station (approximately 100 car parking spaces) the study concluded that these spaces should be utilised initially. Therefore, instead of proposing a new Park & Ride location on the Tramore Road, it is proposed to improve the Journey Time from Tramore to Waterford by bus and reduce the price of travel, in order to make public transport a more attractive option.

Additional Park & Ride locations will be considered and reviewed throughout the life cycle of this Strategy. These sites will be dependent on future growth locations within the WMA.

Park & Ride facilities will be required to be open at off-peak times to support event parking for sports stadia and festivals. These facilities being open at off-peak times will also be supported by the provision of more flexible local bus and coach services, offering direct routes to these events. Opportunities to further maximise their potential will be identified through Workplace Travel Plans, School Travel Plans and Access and Mobility Plans for new residential development.

All Park & Ride facilities will be expected to provide ancillary services including:

- Sheltered waiting areas;
- Real Time Passenger Information (RTPI);
- Dedicated cycle hub facilities for long-stay cycle parking; and
- Electric Vehicle Charging Points (EVCPs).

The provision of EVCPs to suit a variety of different charging speeds to support the transition to low emission vehicles and e-bikes will be considered in the design and development of each of the facilities.

It is intended that all Park & Ride facilities will be accessible by quality walking, cycling and public transport, to ensure that onward trips can be taken by sustainable transport.

Interchange
The Park & Ride site at Newrath Road and the car parking spaces in Tramore will provide opportunities for interchange between modes and widen the catchment for public transport services, enhancing accessibility to key destinations. Improved sustainable connectivity and interchange opportunities from the Metropolitan Area to the wider region will strengthen the functional relationship between these areas.

Park & Ride Implementation
The implementation of the Park & Ride site at Newrath Road and the utilisation of the existing available car parking spaces at Tramore will need to include a phased reduction in the availability of on-street parking and the delivery of BusConnects Waterford and bus priority measures.

To ensure the long-term viability of the Park & Ride site at Newrath Road and utilising the spaces at Tramore, it is recommended that both Local Authorities seek to:

- Implement a comprehensive on-street parking management structure with robust enforcement in residential areas outside of existing controlled parking zones to deter overspill into neighbouring areas.
- Limit parking capacity available to City Centre developments for example, city and metropolitan town centre hotels, office blocks, and educational facilities. For developers this available capacity should be highlighted at the early stages of the planning application process; and will negate need for on-site parking provision.

MEASURE PARK1
Strategic Park & Ride
It is the intention of the NTA to deliver a strategic Park & Ride facility in the vicinity of the N25-N9 junction at Newrath Road, and to keep under review the potential for additional Strategic Park & Ride sites on key radial corridors serving the WMA.

MEASURE PARK2
Park & Stride
It is the intention of the NTA, in conjunction with the local authorities, to identify potential sites for Park & Stride on the outskirts of Waterford city and in other settlements in the WMA.

Mobility Hubs

The concept of Mobility Hubs is relatively new to European cities but is gaining traction particularly in new regeneration areas planned around mass public transit systems (Public Transit Oriented Development). Mobility Hubs are places of connectivity where different travel options of walking, cycling and public transport come together. They provide an integrated suite of mobility services, amenities and supporting technologies to better connect people to their origins and destinations through high-frequency transport and high-quality walking and cycling networks. Mobility Hubs are a means to support the transition of the traditional 'predict and provide' parking model to one that facilitates a reduction in car parking standards in regeneration sites through Mobility as a Service (MaaS) systems and active travel.

In the context of the WMA, mobility hubs will be encouraged in regeneration areas or central areas where high-density housing is planned, such as the North Quay SDZ, to contribute to sustainable transport mode share targets and reduce the reliance on the private car particularly for short trips.

Characteristics of Mobility Hubs include:

- Consolidated car parking areas that predominately cater for long-stay residential use;
- Provide a focal point in the transport network that seamlessly integrates different modes of transport to maximise first mile-last mile connectivity with high-frequency public transport and high-quality walking and cycling networks;

- Supporting Mobility as a Service (MaaS) systems including car-sharing, car-clubs, bike sharing systems, cargo bikes and Electric Vehicle Charging Points (EVCPs);
- Places of intensification that contribute positively to the vitality of their surroundings by wrapping the parking area with apartments, roof-top facilities such as playgrounds and active ground-floor uses such as local shopping facilities and restaurants; and
- Provide drop-off/pick-up centres and concierge services to minimise the movement of delivery vehicles.

The application of mobility hubs is consistent with the NPF and Section 28 of the Sustainable Residential Developments in Urban Areas guidelines which seeks to minimise or reduce car parking in central areas or those well served by public transport.

MEASURE PARK3

Mobility Hubs

It is the intention of the NTA, in conjunction with the local authorities, to identify potential sites for Mobility Hubs in regeneration areas or areas where high-density housing is planned.

Parking Management

As noted above, the availability and price of parking across the WMA are major determinants of the attractiveness of the private car relative to sustainable transport options. Effective management seeks to control the availability and price of parking in the WMA.

Parking enforcement is also vital to ensure that footpaths, bus lanes and cycle lanes are not blocked by parked cars. This enforcement is crucial as parked cars in these locations can be a barrier to movement for pedestrians and cyclists, especially those with disabilities.

Parking for New Development

The NPF sets objectives that there should be no car parking requirements for new developments in or near the centre of the five cities, and significantly reduced requirements in the inner suburbs. The NPF also states that universal standards for car parking should be replaced by site-specific performance-based criteria. The application of low-car or car-free development is a tool to facilitate higher density development and prioritise sustainable transport. Restrictions are usually placed on the occupants of the new development to apply for on-street parking permits to mitigate local parking stress. Alternatives to private car ownership will be made available including provision of car club bays, public transport cards and expansion of cycle hire schemes and membership.

Guiding principles for parking in new developments for the WMA include:

- Set out car-free or low-car standards in development areas within an 800m walking catchment area of Waterford City Centre and/or of quality public transport;
- Direct high-density residential land use and high trip generating uses including employment, education and retail to areas that are currently, or will be, served by high frequency transport services and local services;
- The temporary oversupply of car parking during the early phases of development will be restricted. Local mobility hubs could be utilised to provide for the phased implementation of new development parking in some circumstances;
- Maximum parking standards must be applied by both Local Authorities and updated in the Development Plans as necessary; and
- Employers should be encouraged to limit or eliminate the availability of free parking.

On-Street Parking

There are significant and often competing demands for kerbside spaces in Waterford City Centre and metropolitan town centres. These include but are not limited to:

- Long and short-term parking;
- Loading and unloading facilities;
- Bus priority and ease of boarding measures;
- Taxi ranks;
- A desire to increase footpath widths and dedicated cycle infrastructure;
- Flood management measures; and
- Parklets, street trees and furniture.

A gradual reduction in on-street parking levels in urban centres over the lifetime of this Strategy will be required, in order to prioritise the other kerbside uses.

Waterford City and County Council currently operates a dual on-street parking payment system that incorporates disposable parking discs and an e-parking payment system. The availability and pricing structure for on-street parking within the WMA will be reviewed alongside the implementation of WMATS, with a view to moving towards a smarter system that facilitates a quicker turnover of spaces. This would facilitate the economic functions of town centres. Provision of Electric Vehicle Charge Points (ECVPs) should be reviewed. In residential areas, the objectives will be to discourage commuter parking that contributes to parking stress and unsafe parking practices immediately outside paid parking zones, and to free-up kerbside space by providing alternatives to private car ownership.

The proposed approach to on-street parking is as follows:

- Undertake comprehensive rolling reviews of the available kerbside space in town centres to understand how the space is currently being used and assess against existing and future needs, including the implementation of BusConnects;
- Employ performance-based smart parking pricing systems in town centres to ensure that spaces are used efficiently but are readily available for non-commuting purposes including shoppers. Pricing should be set to reach a target maximum of 85% occupancy to reduce search traffic, congestion and emissions;
- Extend coverage of parking zones controls across the WMA to safeguard spaces for residents, tackle illegal parking and to discourage commuter and other forms of long-stay parking;
- Consider gradual increases for the price of permits, particularly in areas where off-street parking options are readily available; and
- Provide alternatives to private car ownership including re-purposing more on-street space for car clubs, bike share systems and similar measures.

Off-Street Parking

The main objective of the off-street parking measures is to free-up kerbside space within urban centres and to support walking, cycling and public transport.
The proposed approach will require coordination at a local and national level and includes the following:

- Implement a network of high capacity long-stay strategic Park and Ride facilities outside of the main approach roads to the city, serviced by appropriate high-frequency bus services, walking and cycling networks;
- Examine the case for Mobility Hubs in regeneration areas proposed to be served by public transport, walking and cycling networks;
- Introduce parking charges at out-of-town retail centres, to reduce local congestion associated with these developments;
- Examine the case for a Workplace Parking Levy (WPL), to reduce congestion and ring-fence funding for sustainable transport provision;
- Support the phased, long term reduction of car parking using mandatory, target-based Mobility Management Plans for new development and area-based travel planning for clusters of existing places of education and employment; and
- Undertake a review of parking in Waterford City Centre with a view to developing a Parking Management Strategy.

12 Freight, Delivery and Servicing

Decarbonising transport will also focus on alternative and low emission fuels for vehicles for freight, a modal shift of freight to rail transport and the increased electrification of freight transport.

Regional Spatial & Economic Strategy for the Southern Region

To meet the NPF growth projections, construction of new homes, offices and schools will result in the increased movement of freight. There will also be a greater level of delivery and servicing activity and waste management. While presenting challenges in terms of safety, congestion, air and noise pollution, the clustering of activities - allied to an improvement in the strategic transport infrastructure - offers the possibility of innovative approaches to mitigate the impact of freight activity.

Heavy Goods Vehicles (HGVs)

HGVs play an integral role in moving goods throughout the WMA and nationwide. HGV movement can have significant impacts on traffic operations, noise, air pollution and the safety of other road users, particularly within urban environments.

The central area of Waterford City is unsuitable for heavy goods traffic and HGV restrictions are already implemented in Waterford, restricting access to only those vehicles of a suitable size with an origin or destination in the centre. There is currently a 3.5 Tonne weight restriction implemented through the city.

There is also a 5 Axle Ban Area within Waterford City Centre, covering the Quays and the Viking Triangle.

The implementation of designated 'lorry routes' on National roads at designated times of the day will help reduce through traffic and mitigate delays and conflict with other modes. In addition, regulating delivery times by limiting them to off-peak periods would contribute to off-setting local traffic congestion. This could also bring additional benefits to freight operators in terms of reductions on travel times and operating costs.

MEASURE FREIGHT1

HGV Management

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

Construction and Logistics Centres (CLCS)

Shared construction and logistics centres (CLCs) are a recent trend in European cities projected to receive significant increases in population and construction activity in future years.

CLCs are typically set-up near strategic development areas on sites adjacent to the strategic road network to minimise travelling distances for construction materials. Developers are often required to sign up to shared CLCs as part of the development management process.

Trips to and from construction sites are minimised as HGVs with less than 80% occupancy are held until fully occupied and trips to construction sites are controlled using a booking system. The scale of development envisaged in the WMA, in relation to the population and employment growth targets would suggest the need for CLCs.

Rail-Based Freight

A new freight service between Ballina, Co. Mayo and Waterford was launch in 2021. This new freight line offers a greener and more efficient mode of transporting freight between the west and southeast of the country.

A rail service between Waterford and Rosslare Europort has been inactive since 2010. The adopted RSES proposes an investigation of the possible reinstatement of this service for future freight and passenger rail connectivity between Rosslare Europort and Waterford.

WMATS is supportive of further investigation into the feasibility of rail freight. Further consideration between linking the Tier 1 Port of Cork and the Tier 2 Port of Rosslare by rail is recommended over the lifetime of the Strategy.

Freight Strategy

Both the Climate Action Plan and RSES propose the development of a Regional Freight Strategy to accelerate the decarbonisation of the freight sector, integrate smart technologies in logistics management and reinforce the important role that the strategic rail and road (including TEN-T) network play in efficiently moving freight. WMATS supports the development of this strategy in recognition of the inter-regional nature of freight and HGV movements, which may increase on the basis of increased activity at Belview Port and an overall expansion of goods-intensive activity in the WMA.

MEASURE FREIGHT2

Delivery and Servicing Strategy

It is the intention of the NTA, in collaboration with local authorities, to prepare a Delivery and Servicing Strategy to address, inter alia, the projected growth in home deliveries, waste management and collection, the use of smaller vehicles and e-mobility for 'last mile' deliveries, and out of hours operation.

MEASURE FREIGHT3

Rail Freight

The NTA will support Irish Rail in the implementation of the outcomes of the Rail Freight 2040 Strategy.

Delivery and Servicing Strategy

Waterford has several significant regeneration and employment areas that will lead to an increase in delivery and servicing needs. Personal deliveries and waste management services are liable to increase significantly as the population of the WMA grows.

Objectives to manage this increase in delivery and servicing include:

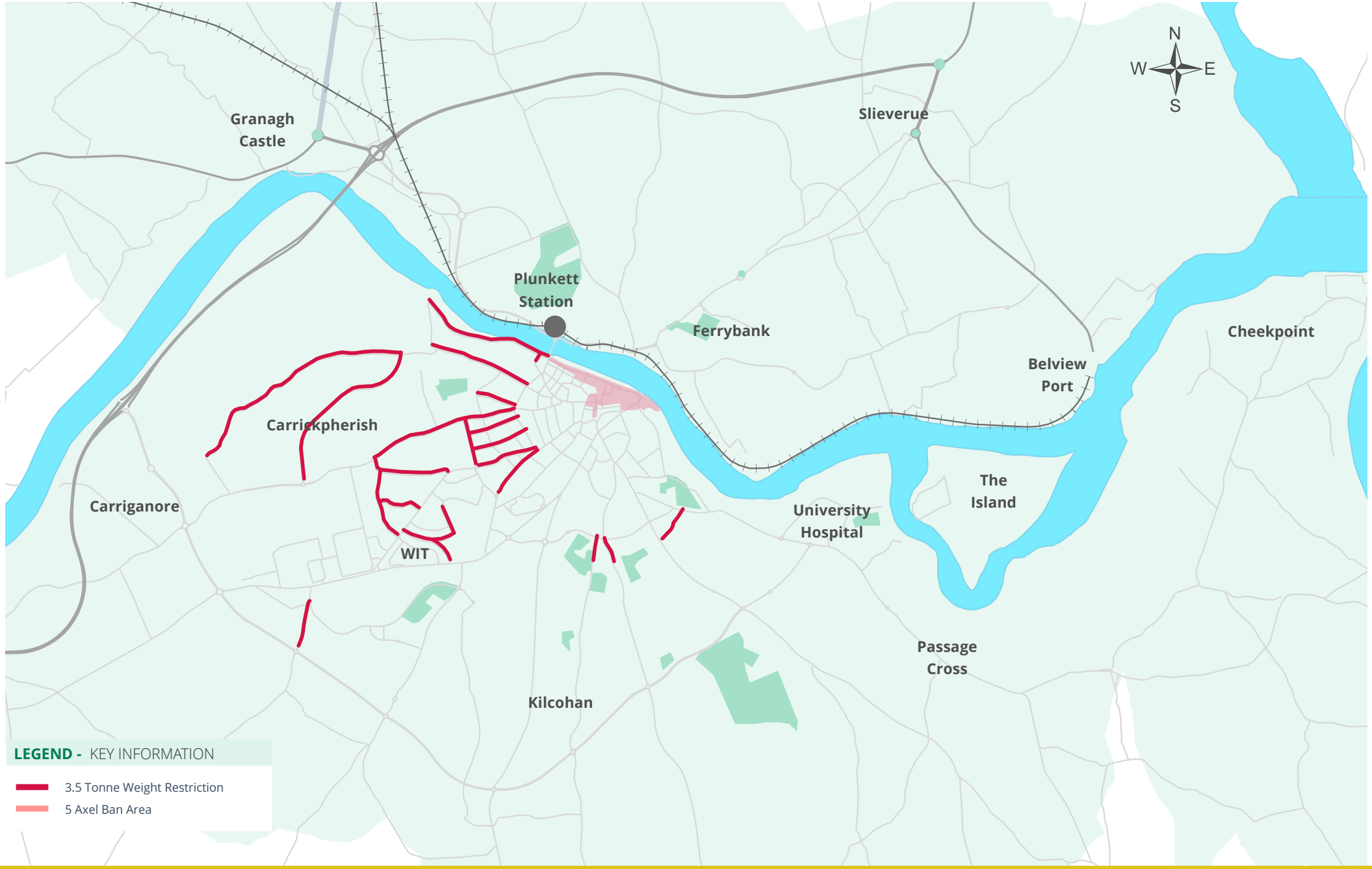
- Examination of the case for urban or micro-consolidation centres within Waterford City to reduce the number of last-mile trips being made by motorised vehicles;
- Examination of the feasibility of out-of-hours delivery and servicing using low-noise vehicles like Electric Vehicles (EVs) and changes to planning conditions where appropriate;
- Examination of the feasibility of using smaller and non-motorised vehicles for delivery and servicing to reduce noise and air pollution and enable more street space to be given to pedestrians and cyclists;
- To minimise empty return trips by taking inspiration from innovative practices such as the Utrecht Cargohopper and Gothenburg's Stadleveransen city delivery system; and
- To support the placement of local 'Click and Collect' facilities at rail stations, new residential developments and Mobility Hubs, to reduce the amount of individual personal deliveries to workplaces and homes where the recipient is often absent.

MEASURE FREIGHT4

Strategy for Sustainable Freight Distribution

It is the intention of the NTA, in collaboration with relevant stakeholders, to prepare a Strategy for Sustainable Freight Distribution to, inter alia, support the decarbonisation of the freight sector, to seek to further integrate smart technologies in logistics management and to reinforce the important role that the strategic road and rail network play in the efficient movement of freight. This Strategy will also consider the potential of Construction and Logistics Centres.

Existing Freight Restrictions



13 Supporting Measures and Integration

The approach required will be principally based on the application of a more integrated model of street design, where real and perceived barriers to movement are removed to promote more equitable interaction between users in a safe and traffic calmed environment.

Design Manual for Urban Roads and Streets, 2019

WMATS will set the framework for a significantly enhanced transport system that supports the future growth of the WMA, by increasing the attractiveness of sustainable travel and reducing the dependency on the private car. This will contribute to lessening the transport impacts on climate change in the WMA.

The role of supporting measures is to complement any infrastructure investment. The full benefits of the significant investment that will be delivered on foot of WMATS cannot be achieved through the provision of infrastructure alone and must be combined with the implementation of measures that support the best use of that infrastructure.

The supporting measures proposed in WMATS will be essential to the creation of physical, social and cultural environments where walking, cycling and public transport are attractive, practical and logical options for the majority of citizens' daily travel needs.

Local Transport Plans

Both Local Authorities should seek to translate the overarching outcomes and objectives of WMATS through the use of area specific Local Transport Plans (LTPs) at city or Metropolitan town centre level.

These Plans should set ambitious but achievable mode share targets in order to support a significant shift to active and sustainable modes and the reduction in private car trips in the short- to medium-term.

Event Travel Plans should also be considered for large trip-generating events such as match days and concerts to mitigate any negative impacts on the surrounding area and road network.

SM1

Local Transport Plans

The NTA will promote and assist Local Authorities to develop Local Transport Plans based on the ABTA methodology, as part of the statutory plan-making process.

Walking and Cycling Officer

The appointment of a dedicated Walking and Cycling Officer (similar to that of Dublin City Council) should be considered within both Local Authorities. The person who is appointed to this role should preferably be trained in behavioural change and have a working knowledge of design. Their role could include responsibility to:

- Coordinate a forum of relevant stakeholders to raise local issues relating to active travel;
- Hold a variety of promotional events to raise the profile of active travel in all metropolitan urban centres; and
- Be actively involved in the early stages of public realm schemes, road projects and other proposals that may impact on the pedestrian and cyclist environment.

SM2

Active Travel Officers

The NTA will support the implementation of dedicated Active Travel Officers in local authorities to foster a culture of active travel and provide input into the development of walking and cycling schemes.

Built Environment Measures

The design of the built environment plays a critical role in determining the number of people walking, cycling and using public transport throughout the WMA.

Urban Design and Place-Making
There has been a change in approach in recent years to re-examine the role of our streets as places that support a wider range of functions, other than simply routes to facilitate the through movement of traffic. Quality urban design that prioritises walking and cycling use for all ages and abilities is critical to enhancing a sense of place.

As noted in the Walking Chapter, the quality of design and layout of new developments will be required to support the physical infrastructure improvements outlined in this Strategy. These include safe, accessible permeable street and residential layouts that maximise the attractiveness of walking, cycling and access to public transport trips.

Addressing the perception of safety and security is a high priority for WMATS to achieve its active and sustainable mode share targets. Streets, buildings and places of interest must be safe, attractive, inclusive and accessible to all. Quality landscaping, tactile paving, play facilities and non-intrusive security measures including lighting, ground floor activity, and passive surveillance are therefore important place considerations.
The accessibility of the public realm for all individuals is also essential. The principles of Universal Design and Age-Friendly design will be followed in the implementation of public realm and streetscape interventions including access to public transport.

SM3
Urban Design in Transport Schemes
The NTA will incorporate a high standard of urban design and placemaking into the planning and design of all major public transport infrastructure schemes and active travel schemes and will consider how greater biodiversity could be fostered.

SM4
Universal Design/Age-Friendly Public Realm
During the period of the Transport Strategy, the NTA will ensure that public transport infrastructure and facilities are made accessible for all users, and that the principles of Universal Design and Age-Friendly design are adhered to in all public transport projects and active travel schemes.

Wayfinding
Wayfinding relates to the ease of how people orientate themselves in a space and navigate from place to place and interpret their surroundings.

The Design Manual for Urban Roads and Streets (DMURS) provides guidance on wayfinding. There are several wayfinding techniques including visual cues such as landmarks, surface treatments, lighting, sight lines and, where appropriate, signage. It is important that wayfinding techniques do not contribute to street clutter. There are a variety of signage typologies present throughout Waterford City. A consistent wayfinding system along the lines of the Legible London system should be employed, alongside the delivery of WMATS. This will benefit locals and visitors travelling through the WMA.

Behavioural Change

A shift toward more sustainable modes of travel will need to be supported at a local level through behavioural change initiatives. Tailored programmes and awareness-raising campaigns can have an influence on an individual's mobility choices, particularly when paired with high-quality infrastructure.

Typically, an effective behavioural change programme comprises a highly personalised approach to make people reflect on their existing travel behaviour, inform them of all their options and educate them on the social, health, economic and environmental benefits of choosing sustainable and active transport.

Smarter Travel Programme
Smarter Travel works in partnership with a wide range of stakeholders to develop travel plans and to promote events such as Bike Week, BeSPOKE Cycling Festival and European Mobility Week.

The NTA continues to operate the TFI Smarter Travel behavioural change programme. This provides support and resources to places of work and education to promote a shift toward more sustainable travel patterns.

Expanding the role of TFI Smarter Travel in the WMA is recommended to play an important role in delivering the behavioural change that is required to achieve the full benefits of WMATS. It also provides a platform to communicate the implementation of WMATS and to promote the benefits of the Strategy directly with a large number of people.

SM5
Smarter Travel Programme
The NTA will continue to expand the Smarter Travel Workplaces and Campuses Programme in order to directly influence travel behaviour and to maximise the use of public transport, walking and cycling infrastructure and services to be developed under the Transport Strategy.

Workplace Travel Planning
Workplace Travel Plans comprise a package of measures aimed at promoting and supporting sustainable travel patterns to and from places of work, as well as reducing single-occupancy car journeys.

Given the projected employment growth across the WMA by the NPF and RSES, WMATS recommends the development of Mobility Management Plans / Workplace Travel Plans for large scale workplaces / employment zones and as planning conditions for all new large scale planning permissions. Close collaboration between the Local Authorities and workplace clusters at the

Waterford IDA, Kilcohan Industrial Complex and the wider Waterford City Centre employment areas is recommended for the robust implementation of Workplace Travel Plans.

SM6

Travel Plans

The NTA will support the development of Travel Plans for large-scale employment locations, residential developments and educational institutions.

School Travel Planning

Improving the quality and extent of school travel planning across the WMA is of critical importance to the reduction of the social, health and environmental impacts of car-based journeys to school on public health, the environment and congestion.

In simple terms, far too many children are driven relatively short distances to school. Many schools are now located on greenfield sites at the edge of new development areas, remote from existing residential catchments, with a resultant high level of dependence on car-based accessibility. In many cases, attempts to incorporate active travel are undermined by a lack of adequate design provision for walking and cycling, and by readily available car parking. To address some of these issues, the NTA has overseen the Travel Module of An Taisce's Green Schools Programme since its inception in 2008. Measures which would improve travel to school include:

- Better integration of new schools into existing or planned new development areas to optimise walking and cycling catchments;
- Mandatory School Travel Plans;
- NTA's Universal Walkability Audits to be undertaken to identify areas for improvement around the school gates and on main pedestrian approach routes;
- Safer Routes to School programmes that include targeted infrastructural improvements to facilitate initiatives such as the School Bike Buses, Walking Buses and Park and Stride drop-off areas within walking distance of the school;
- Facilitate 'No Idling' zones and 'School Streets' programmes to improve local air quality, public health, safety and incorporate informal play;
- Continued roll-out and expansion of the Green Schools Travel Module;
- Cycle training carried out in schools can give children the skills and confidence to cycle to school; and
- An uplift in cycle parking provision.

SM7

Safe Routes to School

The Safe Routes to School programme will be rolled out and expanded over the period of the Transport Strategy in a collaborative manner by An Taisce, NTA, the local authorities, supported by the Departments of Transport and Education.

SM8

Green Schools

The NTA will continue to support An Taisce in the operation and expansion of the Green-Schools Travel Module as a key measure in reducing car use to school and in the fostering of a sustainable transport culture from a young age.

SM9

School Planning and Design

Development Plans, SDZ Planning Schemes and Local Area Plans should ensure that access by walking, cycling and public transport is a key determinant in the location of new schools. Planning for new schools and the expansion of existing schools should ensure that the detailed design is undertaken in a manner which maximises the priority for pedestrians and cyclists.

SM10

Cycle Training

The NTA will support the development by local authorities of cycle training programmes in places of education and employment.

SM11

School Travel Strategy

The NTA will support the preparation of a School Travel Strategy for the WMA to address, inter alia, School Travel Plans, Walkability Audits, School Bike Buses and cycle parking.

Dungarvan has recently opened a 'Learn to Cycle' track in 2022. The 'Learn to Cycle' track will allow children to learn how to cycle on a 'real life' road structure with lines, signs and pedestrian crossings, without the presence of traffic. Amenities such as the 'Learn to Cycle' track in Dungarvan will allow children from an early age learn the skills required for cycling and help gain confidence in cycling.

WMATS recommends the further investigation of this topic through a comprehensive School Travel Strategy for the WMA.

'Learn to Cycle' track located in Dungarvan

Marketing Campaigns
Marketing campaigns are an effective tool to raise awareness and encourage people to travel by sustainable modes. The NTA undertakes such campaigns under the "Transport for Ireland" brand.

In delivering sustainable transport improvements, consideration should be given to branding, marketing and advertising using smart, creative, cost-efficient campaigns targeted at increasing and maintaining sustainable transport demand. Information campaigns will be an integral part of WMATS delivery.

SM12
Public Information and Marketing
Campaigns In delivering sustainable transport improvements, the NTA will develop and implement smart, creative, cost-efficient marketing campaigns targeted at increasing and maintaining sustainable transport demand.

Technology for Sustainable Transport

Technological advancements offer transformative potential to respond to some of the issues outlined in the Strategy and will become more prevalent over the lifetime of WMATS. Some established and emerging technologies in the transport industry relevant to WMATS are outlined below.

Mobility as a Service
Mobility as a Service (MaaS) is a concept which involves the use of technology to support integration and multi-modal travel. It represents the transition away from depending on personally owned transport to a model based on mobility provided as a service. MaaS usually takes the form of a unified gateway / online account which provides access to the user to public transport, cycle hire, car clubs and taxis at the click of a button. MaaS will also be a useful tool in land use planning to support car-free or low-car developments near public transport hubs and provide access to a car when needed without the requirement to own one.

SM13
Mobility as a Service
It is the intention of the NTA to investigate the potential for MaaS to play a role in the WMA transport system and the use of the Next Generation Ticketing roll-out as a basis for its implementation, as appropriate.

Intelligent Transport Systems
The application of Intelligent Transport Systems (ITS) to the transport system will increase the efficiency of its operation. ITS represents the evolution of traffic management from a static unresponsive activity to a dynamic responsive activity that can adapt to the ever-changing traffic conditions in real time. ITS allows for rapid response to real-time conditions. Applications of ITS include:

- Application of Variable Speed Limits;
- Use of dynamic parking systems;
- Advanced Bus Signalisation; and
- Smart delivery and servicing systems, such as the pre-booking of delivery bays.

SM14
Intelligent Transport Systems
The NTA will support the application of Intelligent Transport Systems (ITS) to the transport network in order to improve the efficiency of its operation.

Car Clubs
Car clubs are a growing area in Ireland with the long-established GoCar that operates nationwide, recently being joined by the YUKO car club in Dublin. Car clubs can be an important tool in facilitating car-free or low-car development in urban areas, providing access to a car for residents without the on-going expense of owning one.

There is credible evidence to suggest that the increased availability of car clubs leads to a reduction of private car ownership. A recent survey undertaken by Steer Davies Gleave in London (Carplus, 2016) suggests that 10.5 private cars are removed from London's roads for each car club vehicle as users' dispose of their cars. Furthermore, a third of round-trip car club members reported that they would have bought a private car had they not joined a car club meaning a deferred purchase of a further 22 cars per car club vehicle.

At present, there is one GoCar location in Waterford City Centre, at Tesco Poleberry. WMATS envisages an uplift in the provision of car clubs, particularly as part of mobility hubs, in high-density residential development or a high concentration of employment or commercial uses. Further consideration should be given to one-way or 'floating' car clubs such as the DriveNow or Zipcar Flex.

SM15
Car Clubs
The NTA will support the local authorities, workplaces and other relevant agenices and companies in the implementation of car sharing initiatives, in particular as part of new housing developments.

Dynamic Parking Systems/ Virtual Loading Bay Systems
To support a more efficient use of kerbside space, urban areas in Europe have begun trialling smart technology including dynamic on-street parking models and virtual loading bays, recouping costs by charging for vehicles to use this service. This technology can be investigated further in Ireland to minimise conflict for competing demands for limited road space and to reduce search traffic and local congestion.

Virtual parking and advanced booking of loading bays can assist companies make deliveries on time, reducing congestion and conflict.

SM16

Dynamic Parking/Loading Bays

The NTA, in collaboration with the local authorities, will examine the potential for multi-use kerbside and off-street facilities to serve a range of needs including loading, taxi ranks and car parking.

Electric Vehicles

The use of Electric Vehicles (EVs) is expected to grow significantly in the coming years. The NPF, in line with Ireland's Climate Action Plan and Climate Mitigation Plan, envisages the progressive shift towards EVs and hybrid traction systems for private vehicles and public transport fleets. The RSES also foresees the increase of EVs on roads as part of its smarter travel strategies.

This expected increase in the use of EVs must be supported by the development of public charging infrastructure. The ESB currently provides over 1,350 public charging points in Ireland, with 11 points located within the WMA. The Strategy envisages an uplift in the number of EVCPs across the WMA to include slow-charge, medium charge and fast-charge facilities primarily replacing existing parking spaces.

EV's, however, are not a panacea to alleviating congestion or the pressing issue of reallocating private car storage space for sustainable transport and biodiversity. The initial focus for lower emission vehicles should be for 'necessary' trips such as public transport, public authority fleets, private hire vehicles, delivery and servicing and waste collection.

SM17

EV Charge Points

The NTA, in collaboration with the local authorities, will undertake a study regarding public EV charge points to address the growth in EV usage.

Autonomous Vehicles

Autonomous Vehicles (AVs), or driverless cars, may potentially provide an opportunity to improve safety, with cars programmed to obey traffic regulations and speed limits and geofencing preventing them from entering certain spaces. Driverless cars could potentially free up kerbside space as they reduce the demand for on-street residential and long-stay parking. However, AVs are not considered as a substitute for walking, cycling and public transport. There are several outstanding legislative, legal and technical issues in relation to AVs and their impact on active travel and public transport.

Though outside of the scope of this Strategy, the NTA and both Local Authorities will need to assess, legislate and monitor benefits (or otherwise) presented by the advent of shared use AVs likely to present themselves over the lifetime of the Strategy. This assessment will need to measure their relevance against over-arching objectives to promote more active travel, promote equitable transport, and to reduce congestion, pollution and street clutter.

SM18

Monitor Evolution of Autonomous Vehicles

The NTA will work with the Department of Transport and local authorities to take into account new emerging technology such as connected and autonomous vehicles and the benefits they may bring, in planning and designing the transport network in the WMA.

Smart Ticketing

At present, there are two options to pay on-board Waterford city buses: cash or Transport for Ireland's Leap Card. However, two routes are operated by JJ Kavanagh, on which it is possible to pay by cash and a JJ Kavanagh Smartcard. Available smartphone apps in Ireland such as Transport for Ireland (TfI) Leap Top Up, TfI Journey Time and TfI Cycle Planner do not offer the option for contactless payment. However, the NTA recently invested €3.6 million in the development of a new mobile ticketing app for Bus Éireann routes that will allow users to search for ticket options, purchase them and present them for validation when travelling.

One of the goals of WMATS is to deliver an integrated transport system to allow people and goods to move efficiently and seamlessly throughout the WMA across all modes. Integrated ticketing and smartcard technology will play an integral role in achieving this.

There are many benefits of integrated ticketing, including:

- Convenient way to pay fares;
- Contributes to seamless travel across different public transport modes from bus, rail, bike share schemes to car share schemes, improving dwell and travel times;
- Smart ticketing and 'pay as you go' modality allow for responsive fare structures to be implemented to offer better value for money; and
- Contactless payment allows transport operators to reduce operational costs related to paper tickets printing and issuance and cash handling.

Example of Smart Ticketing include:

- Contactless payments using debit cards, credit cards, Google Pay, Apple Pay, NFC-based smartphone apps; and
- Smart cards, which are cards that contain a chip that can safely store information such as available and used credit and subscriptions rights; plus, they enable the application of different types of discounts to regular users (e.g. Oyster Card in London, Carte Navigo in Paris).

Over the lifetime of the Strategy, it is envisaged that cashless fares with smarter ticketing and subscription-based, Mobility as a Service (MaaS) will become increasingly more prevalent.

SM19

Smart Ticketing

It is the Intention of the NTA to deliver Next Generation Ticketing in the short term, facilitating seamless multimodal travel and reducing dwell times at bus stops.

Public Transport Fares

The broad principle for public transit fares is that the system should be:

- Easy to use and understand;
- Designed to provide price incentives for more frequent use;
- Regionally integrated with as many modes of transport as possible; and
- Affordably priced to make public transit an attractive alternative to the private car.

A zone-based fare structure is currently available in Waterford city and suburbs on public transport services provided by Bus Éireann.

The on-going changes to public transport fares being implemented by the NTA will be continued within the lifetime of WMATS. A fare structure review will be undertaken to ensure that the WMATS networks are supported in a manner that encourages increased public transport use and provides for appropriate cost recovery. It is intended that a further simplified fare structure will be put in place in the WMA, potentially a flat fare or a zone-based system, allowing multiple journeys by different modes for a single fare.

Other structures that could be considered during the lifetime of WMATS include:

- Subscription-Based Fare Structure that rewards frequent users by providing them with a pass for unlimited trips, zones and modes for the duration of the subscription. For instance, the Citymapper Pass, in combination with a multi-modal mobility app, provides a subscription-based service to all residents of London. Run by the private sector, the contactless card can be used across different transport services within TfL and other local operators within the London's Oyster / contactless zone; and
- Multi-Modal Fare Structure that is currently applied in Dublin through the Leap 90 discount. Transport users using more than one mode within 90 minutes after their first tag-on get an automatic fare discount on the subsequent trip legs. For instance, an adult travelling by bus up to Dublin City Centre and boarding the Luas within the following 90 minutes receives a discount of €1.00 on the Luas fare. The Leap Card in Dublin can also be used to access GoCars and the Bike Sharing Scheme.

SM20

Fares Review

It is the Intention of the NTA to review the fare structure for transport in the WMA in the short-term and to consider revisions to support the increased use of public transport. This will be monitored throughout the period of the strategy and further changes implemented where appropriate.

Small Public Service Vehicles

Taxis provide an important transport service offering door-to-door trips and can supplement a public transport system. Taxis offer the ability to complete one-off trips that may be difficult to provide for efficiently by other modes. WMATS recommends the following for small public service vehicles:

- Implement good practice in efficient kerbside management such as dual use of delivery bays and taxi ranks through time-restrictions to support both the day- and night-time economy. This is particularly pertinent given the increased use of smartphone apps;
- Prioritise taxis for conversion to low emission vehicles;
- Ensure all taxis are fully wheelchair accessible;
- Improve the integration of small public service vehicles into the overall public transport network through better interchange opportunities and information provision; and
- Encourage the provision of local hackney services in areas where conventional taxi services are generally unavailable.

SM21

Small Public Service Vehicles

The NTA, with the cooperation of the local authorities and the taxi industry, will support the operation of an efficient and effective taxi service for the WMA through the following actions:

- The provision of appropriate additional taxi rank space, taking into account the needs of all transport users;
- Continuing to review the national maximum fare for taxi use approximately every two years;
- Investigating the need for driver welfare facilities to be provided at public transport interchanges and in town centres;
- Incentivising the use of low and zero emissions vehicles, and;
- Ensuring that the fleet transitions to be a 100% accessible fleet during the period of the Transport Strategy.


We're shining a
light on vibrant
Waterford
A community full of talent, of ideas and of enterprise
A spirit of neighbourhood and connection
THE
VINTAGE
FACTORY

14 Climate Action Management

Effective Transport Demand Management measures will be needed to respond to the increasing mobility needs of the growing population and economies of the five cities, while continuing to manage congestion, reduce greenhouse gas emissions, improve air quality and the urban environment.

Taking decisive and rapid action to address these issues will be a major challenge, but the benefits for our cities' residents and visitors are huge - cleaner air, a sustainable use of the world's scarce resources, more connected and healthier communities and liveable vibrant cities.

Five Cities Demand Management Study, Recommendations Report, Government of Ireland, 2021

Introduction

WMATS aims to provide an effective and sustainable transport system across the region and to accommodate future travel growth in a managed and balanced way. Increased public transport provision, coupled with enhanced cycling and walking facilities in the urban areas, will enable a transition to more sustainable travel modes for many people in addition to providing the means to cater for much of the increased travel demand.

There is now, however, a legislative requirement that public bodies must take account of the Climate Action Plan and Low Carbon Development (Amendment) Act 2021 in the performance of their functions. Specifically, in relation to greenhouse gas emissions, the Act requires a total reduction of 51% in such emissions over the period to 2030, relative to a baseline of 2018. While that overall target has not yet been disaggregated into sectoral targets, for the purposes of the Strategy a 51% reduction in transport emissions has been assumed.

This is a very significant and challenging target, which will require fundamental changes in the area of transport over the next decade. Central to those changes will be the need to increase the proportion of travel by sustainable modes and reduce the level of usage of Internal Combustion Engine (ICE) powered vehicles.

While the provision of new and additional transport infrastructure and transport services will encourage and deliver increased movement by sustainable modes, such provision will be insufficient on its own to achieve the level of emissions reduction required by 2030. Accordingly, additional demand management measures will need to be put in place to complement the additional transport provision and achieve the overall 51% reduction goal. The following sections set out the additional measures that will need to be adopted.

Electrification and Bio-Fuels

One of the main policies to reduce greenhouse gas emissions in the transport sector is the transition away from fossil fuel powered vehicles to electric vehicles. At a national level, the Government's Climate Action Plan 2021 sets out the intention to increase the number of electric vehicles in the State to 936,000 vehicles by 2030, comprising:

- 845,000 passenger cars;
- 95,000 Low Emissions Vans;
- 3,500 Low Emission HGVs; and
- 1,500 electric buses and expanded electrified rail services.

This is an ambitious level of transition to electric vehicles and will contribute substantially to reducing greenhouse gas emissions.

The Climate Action Plan 2021 also sets out a policy to increase the volume of biofuels used in the road transport sector as a blended fuel for petrol and diesel powered vehicles. It proposes a 10% blend penetration rate in petrol and 20% penetration in diesel by 2030.

Initial Emissions Assessments

The NTA's Regional Modelling System has been used to calculate the level of greenhouse gas emissions reduction under various scenarios.

As identified earlier, the overall target required to be achieved in 2030 is an overall emissions reduction of 51% across the WMA. Emissions for the WMA in 2018 were 0.09 MtCO2eq, which requires a reduction to 0.05 MtCO2eq by 2030.

An assessment has been undertaken of the forecast emissions level in 2030, taking account of the additional transport infrastructure and transport services set out

in the Transport Strategy proposals, in addition to the vehicle electrification and increased use of bio-fuels proposals. This assessment forecasts that with all of these elements in place, emissions are likely to reduce to 0.07 MtCO2eq, i.e. 0.02 MtCO2eq short of the target. To deliver the additional reduction to reach the target of 0.05 MtCO2eq by 2030, further measures to decrease the usage of petrol/diesel powered vehicles are required.

Addressing the Deficit

To address the shortfall to achieving the overall target, a set of core demand management measures (the "Core Measures") were identified for assessment in combination with three alternative overall demand management approaches, being:

- Approach 1 – Increased fuel prices;
- Approach 2 – Additional electrification (including hydrogen vehicles) and freight changes; and
- Approach 3 – Congestion charging / low emission zones plus road pricing / tolling.

Each of the three approaches was then considered in order to establish how that approach would address the deficit to fully achieve the 51% reduction target.

Approach 1 – Fuel Price Increases

Approach 1 is focused on altering the cost of vehicle operation, being petrol/diesel vehicles.

An assessment was undertaken to establish the level of fuel price change that would be necessary to achieve the required additional emissions reductions under this approach. That assessment identified that a significant increase would be necessary to achieve the required decrease in the usage of petrol/diesel powered vehicles, albeit that such increase could be spread out over a number of years.

However, fuel pricing is a national issue rather than a regional matter and could only be implemented by Government. In addition, this issue is likely to be separately considered under the Climate Action Plan reviews and the carbon budgets envisaged under the Climate Action Plan and Low Carbon Development (Amendment) Act 2021.

Approach 2 – Additional Electrification

A second approach to the full achievement of the emissions target is through additional electrification. Under this approach, an accelerated level of transition to electrically powered vehicles would be incentivised such that the increased take-up such vehicles provides the required additional emissions reductions.

It was noted in the Electrification and Bio-fuels section that the target level of electrification is already very ambitious, in particular for cars. Accordingly, it is likely that this approach would require an increased electrification of other vehicle types.

Heavy Goods Vehicles make up a high component of the residual emissions in 2030 following the implementation of the planned strategy elements by that date plus the electrification and bio-fuels arrangements set out in the Climate Action Plan 2021. It comprises about 50% of the residual emissions.

While battery operation of HGVs over long distances is not currently a viable solution, given range limitations, hydrogen powered HGVs do represent a technically feasible solution. Hydrogen powered vehicles use a fuel cell powered by hydrogen to operate the vehicle electrically. However, a key downside to the operation of such vehicles is the high costs currently associated with hydrogen fuel.

Assessment work undertaken has identified that a transition of about one third of the HGV fleet to electrified use, probably using hydrogen fuel cells, would achieve the necessary additional emissions reduction. Hydrogen power is an embryonic technology for HGV use and it is too early to rely upon the successful advancement of this propulsion technology for widespread use in order to reach the emissions target. It is clear, however, that the freight sector can make a significant contribution to the meeting of our national climate change targets, and the regional objectives for the WMA. In addition to the potential to operate a proportion of HGVs using hydrogen generated power (or other emerging technology), other freight-related initiatives to reduce carbon emissions include:

- Increased use of rail freight for longer distance deliveries;
- Greater transfer of goods movements towards smaller vehicles such as vans and smaller rigid vehicles which can more readily transition to zero emissions;
- An accelerated transition of the LGV fleet to fully electric zero emissions vehicles; and
- The use of consolidation centres for more efficient deliveries.

Approach 3 – Congestion / low emission zones plus road pricing / tolling

Under this approach there are a number of different fiscally-based arrangements that could be put in place to reduce the level of car travel and promote a greater transition to sustainable modes. These include congestion charging, low emission zone (or zones), tolling and/or road pricing.

Various configurations and combinations of these options are feasible to achieve the required additional emissions reduction target.

One potential scenario would be the implementation of additional tolls on the radial routes into the city, in particular on the Newrath Road (R448) on the city side of the proposed Park & Ride facility. The cost of parking at the facility plus the public transport fare would be configured to be lower than the cost of the toll plus parking in the city centre. However, this is only one permutation from the multiple potential configurations. Accordingly, the exact arrangements in respect of such an approach will require detailed evaluation at the implementation stage, which will need to assess different alternatives to appropriately select and calibrate the final configuration.

Other Factors

While the earlier sections of this chapter focus on the need to achieve the vehicle emissions target, there are additional reasons for the implementation of certain demand management measures. For instance, the conversion of all vehicles to electric vehicles would fully achieve the climate change objectives in transport, but would do nothing to reduce congestion. If car use continued unabated, traffic congestion would still persist and worsen, resulting in a diminished quality of life for many commuters struggling through long commutes in congested traffic conditions.

In addition, there is a need to ensure that the national road network can appropriately perform its primary role of catering for strategic traffic, in particular vehicles involved in the transportation of goods and products, public transport vehicles, and other usage which contributes to national and regional economic development. This means that the level of usage by non-strategic traffic needs to be controlled on these elements of the overall road network to preserve its core functionality.

Ensuring that urban centres are people-focused and not vehicle-focused is an objective of national, regional and local planning policies. This means that management of vehicle numbers, particularly car numbers, is essential in those areas to support the place-making ambitions set out in various policies and plans. Linked to this is the need to improve air quality in urban centres in advance of achieving full vehicle electrification, which may require measures such as the implementation of low emission zones.

Accordingly, there are numerous factors, additional to the greenhouse gas reduction targets, supporting and requiring management of the level of car use in order to deliver on other objectives.

2030 Emissions Assessment for Consistency with Climate Action Plan

The implementation of the WMATS elements intended for delivered by 2030 – which comprises an ambitious delivery programme for BusConnects Waterford and the WMA Cycle Network, coupled with the planned vehicle electrification and increased use of bio-fuel set out in the Climate Action Plan 2021, (taking account of the growth to 2030), will achieve a 26% reduction compared to the 2018 figure.

Additional measures are required to further reduce emissions to meet the 51% reduction target. A number of alternative approaches, as set out above, are available to achieve this supplemental reduction and it is clear that viable pathways are available to achieve the halving of greenhouse gas emissions from transport across the region by 2030.

Following the adoption of the final WMATS, it is intended that an additional demand management study will be undertaken, in conjunction with a further examination of goods vehicles operation, to develop finalised proposals to achieve the intended level of emissions reductions. It is acknowledged that there are various permutations available to achieve the required target, and further detailed assessment will be required to establish and calibrate the optimal framework. That assessment work to develop the optimal framework will be undertaken at an early point in the lifetime of the Strategy, and will take account of policies set out in updates to the Climate Action Plan 2021 and derived from the carbon budgets to be established under the Climate Action Plan and Low Carbon Development (Amendment) Act 2021.

Emissions Levels in 2040

Emissions targets are clearly established for 2030 under the provisions of the Climate Action Plan and Low Carbon Development (Amendment) Act 2021. That Act also sets out the objective to achieve a 'climate neutral economy by no later than the end of the year 2050'. Accordingly, while no specific targets are set for 2040, the final year of this strategy, it is intended that emissions will continue on a downwards trajectory between 2030 and 2050.

The continued electrification of the transport fleet and the implementation of the remaining elements of this strategy will further reduce greenhouse gas emissions within the WMA.


Waterford Treasures Museums
1A. Reginald's Tower
1B. Medieval Museum
1C. Bishop's Palace
2. House of Waterford Crystal
3. Christ Church Cathedral
4. City Hall and Theatre Royal
5. Greyfriars
6. St. Olaf's
7. Widows Apartments
8. Craft Design Centre
9. John Roberts House
10. Tourist Information
11. Dealery
VIKING TRIANGLE
RIVER SUIR

15 Monitoring and Implementation

The success of the National Planning Framework depends on its policy reflection and programme delivery at National, Regional and Local Level.

National Planning Framework 2040

WMATS is intended to be scalable, flexible and future proofed enough to meet changes in population and employment growth. It is a live document, subject to periodic review every 6 years.

To achieve the optimum results from WMATS, Waterford City and County Council and Kilkenny County Council will work in collaboration with the National Transport Authority, Transport Infrastructure Ireland, the Southern Regional Assembly and other key stakeholders to:

- Deliver on the necessary land-use consolidation to achieve compact growth and critical mass;
- Secure capital investment under the NDP and other forms of investment;
- Implement WMATS' transport network, supporting measures and demand management measures; and
- Monitor and review progress

Monitoring

The NTA will support the local authorities in undertaking periodic monitoring of transport trends and patterns. In addition to these regular snapshots, the NTA will continue to monitor public transport passenger data on an on-going basis as part of its role in public transport regulation. The data collected during these processes will form an input into transport investment decisions made under the WMATS. Census 2022 will provide the most comprehensive data set on transport and travel trends in the WMA and will feed directly into the next review of the WMATS.

SEA Monitoring

As part of the Strategic Environment Assessment (SEA) that is being undertaken alongside the preparation of the Strategy, measures envisaged for monitoring the likely significant environmental effects of implementing the Strategy have been identified. These envisaged measures are included in the SEA Environmental Report that accompanies the Draft Strategy.

Following adoption of the Plan, an SEA Statement will be prepared that will include the measures decided upon for monitoring the likely significant environmental effects of implementing the Strategy.

Mechanisms for Delivery

There are a number of mechanisms that will be used to deliver the WMATS, including the following:

EIA and AA Transport Project Applications to An Bord Pleanála

Transport projects over a certain threshold are subject to Environmental Impact Assessment. Such projects are submitted to An Bord Pleanála for assessment and approval, as appropriate. Certain Road schemes and certain bus schemes would fall into this category.

Railway Order and Motorway Order

Applications for new rail lines and / or supporting infrastructure, and for new motorways or changes to existing motorways, are submitted to An Bord Pleanála for assessment as Railway Orders and Motorway Orders, respectively.

Part 8 Developments

Many walking, cycling and road schemes are subject to the Part 8 process whereby projects over a certain threshold, that do not require EIA or AA, are assessed and decided upon by the Elected Members of the Council.

Development under Section 38 of the Road Traffic Act 1994 (as amended)

Certain measures which enhance the provision of public bus services and certain measures which facilitate the safe use of public roads by different classes of traffic (including pedestrians and cyclists), can be implemented by the relevant Local Authority.

Bus Operational Changes
Changes to the timetables and routeing of bus routes and rail service timetables are a matter for the NTA.

Consultation

The requirement for public consultation related to the above processes is set out in legislation. In cases where consultation is not a statutory requirement, such as in changes to bus routeings, the NTA will seek engagement with local communities as part of the decision-making process.

Phased Implementation

The delivery of WMATS will be subject to the availability of funding. It is acknowledged that each of the major elements of WMATS will be appraised individually on its own merits, in terms of feasibility, design, planning, approval and funding. Business Cases will be required for each of the major infrastructure proposals included in the Strategy, in line with the requirements of the Public Spending Code and the Common Appraisal Framework.

The implementation of the major public transport and roads infrastructure projects of the WMATS has been determined by the National Development Plan and will be subject to subsequent reviews. However, an indicative implementation is attached, which divides delivery into three suggested phases – short, medium and longer term.

In order to set out a phasing plan for the public transport infrastructure, a more detailed investment programme will be prepared by the NTA once the WMATS is finalised and the current capital spending review is completed. In the case of bus infrastructure, the NTA will commence the preparation of the BusConnects Waterford programme immediately and will publish concept details of potential bus corridors and new routes for public consultation and development within 2 years of WMATS' finalisation.

In relation to walking and cycling, the implementation of the WMATS will continue primarily as part of the following programmes:

- NTA Regional Cities Grants Programme;
- Active Travel Towns Programme; and
- Safe Routes to School.

In these programmes, the NTA will oversee the roll-out of the funding provided by the Department of Transport. The implementation agencies for these programmes will, for the most part, be Waterford City and County Council and Kilkenny County Council.

Notwithstanding the above, the NTA and both local authorities are of the view that the high-level implementation programme set out below is practical and realistic at this stage in the WMATS process. This will be subject to change due to potential changes to funding, feasibility and the efficiency with which schemes can be delivered through the design and planning approval stages.

Pedestrian Network

Short- to Medium-Term

- Improvements to the Walking Network aligned with the implementation of BusConnects Waterford;
- Development of permeability links to enhance walking at the neighbourhood level and to improve the accessibility of public transport;
- Delivery of the River Suir Sustainable Transport Bridge;
- Walkability audits of the WMA involving all relevant stakeholders to inform site-specific improvements; and
- Ongoing maintenance, upgrade and renewal of footpaths, public realm and other pedestrian infrastructure.

Long-Term

- Ongoing maintenance and renewal of footpaths, public realm and full realisation of the walking network proposals.

Cycle Network

Short- to Medium-Term

- Audit of cycling infrastructure throughout Waterford City involving all relevant stakeholders;
- Development and completion of the Primary and Secondary Cycle Network;
- Development of Feeder Network and Quietways;
- Implementation of the city Bike Share Scheme;
- Implementation of the Cycle Network in line with the delivery of BusConnects Waterford bus priority measures; and
- Further implementation of the network in line with new development opportunities and traffic calming.

Long-Term

- Completion of Inter-urban and Greenway Cycle Networks; and
- Ongoing maintenance of cycle infrastructure.

Bus Network

Short-Term

- Further develop, design and implement the BusConnects service network and bus priority measures for Waterford based on the WMATS proposals; and
- Improve regional services from Waterford to Dublin, Cork, Limerick, Kilkenny and Wexford.

Medium-Term

- Completion of BusConnects Waterford bus priority measures and supporting measures.

Long-Term

- On-going operation and optimisation of the BusConnects network and priority measures.

Rail Network (Subject to All Island Strategic Rail Review)

Short-Term

- Support the relocation of Plunkett Station

Medium-to Long-Term:

- Support and implement the outcomes of the All Island Strategic Rail Review regarding twin-tracking, electrification and the re-opening of the Waterford-Rosslare line.

Road Network

Short-Term

- Identify junction improvements required to improve facilities for public transport, walking and cycling;
- Development of a City Centre Traffic Management Strategy by NTA and Waterford City and County Council;
- Deliver public transport priority measures in line with the implementation of BusConnects Waterford;
- On-going development of the regional road network to provide sustainable access to development lands; and
- Design and Planning for the WMA National Road Schemes (N24 Cahir to Waterford and N25 Waterford to Glenmore).

Medium-Term

- Ongoing review, monitoring and implementation of National Road network demand management measures; and
- Progress and delivery of WMA National Road Schemes (N24 Cahir to Waterford and N25 Waterford to Glenmore).

Long-Term

- Ongoing review, monitoring and implementation of National Road network demand management measures;
- Ongoing development of the regional road network to provide sustainable access to development lands;
- Examine the feasibility of a Downstream River Crossing in the vicinity of Maypark or Ardkeen; and
- Progress and delivery of WMA National Road Schemes.

Parking

Short-to Medium-Term

- Identification of sites for Park & Stride and their planning, design and implementation;
- Design, planning and land acquisition for strategic Park & Ride at Newrath Road;
- Reduction in on-street parking;
- Implement parking zones across the WMA;
- Development of Mobility Hubs in regeneration areas;
- Review potential for additional Park & Ride facilities in tandem with the implementation of BusConnects Waterford; and
- Continue to reduce on-street parking.

Long-Term

- Delivery of any additional Park & Rides.

Freight

Short-Term

- Preparation of a Regional Freight Strategy that encompasses the Tier 2 Ports of Belview and Rosslare; and
- Develop / Update a Local Freight Strategy to better manage HGV movements in Waterford City.

Funding and Operational Costs

Aside from capital investment, the implementation of the Strategy will incur on-going operational costs. The bulk of capital investment will require Exchequer funding from Central Government. However, other sources of supplementary funding will be required.

These are likely to include but not be limited to:

- Loans from the European Investment Bank (EIB) to fund feasibility and start-up costs for public transport;
- Development contributions for strategic public transport infrastructure;
- Site-specific development contributions for targeted local interventions; and
- Future levies imposed for congestion, safety or air quality reasons (e.g. workplace parking levies, road user charging, parking zones, or parking levies on out-of-town shopping centres).

Timeframe		Short term *(up to 2028)*	Medium term *(up to 2034)*	long term *(up to 2040)*
Walking	Upgrades and Improvements to Pedestrian Infrastructure	■	■	■
	Delivery of Sustainable Transport Bridge	■		
Cycling	Primary Network	■	■	■
	Secondary Network	■	■	■
	Feeder Network	■	■	■
	Inter-Urban Network		■	■
	Bike Share Scheme Expansion & Electrification	■		
	Greenway Network		■	■
Bus	BusConnects Implementation	■	■	
	Wider Bus Network Improvements	■	■	
Rail	Rail Interventions subject to All Island Strategic Rail Review			
Parking	Delivery of Newrath Road Park and Ride Facility	■	■	
	Implementation of Parking Management Measures	■	■	
	Review and Delivery of potential additional Park & Ride Sites		■	■
Roads	Development of a City Centre Traffic Management Strategy	■	■	■
	Junction Improvements	■	■	
	Examination of the feasibility of a Downstream River Crossing			■
	Progress and Delivery of WMA National and Regional Road Schemes		■	■
Freight	Preparation of a Regional Freight Strategy	■		
	Preparation / Update of a Local Freight Strategy	■		
Other Supporting Measures	Demand Management Measures	■	■	■
	Integration Measures	■	■	■
	Intelligent Transport Systems (ITS)	■	■	■
	Travel Planning - Smarter Travel and Work Based	■	■	■

16 Strategy Outcomes

This Strategy will deliver an accessible, integrated transport network that enables the sustainable growth of the Waterford Metropolitan Area as a dynamic, connected, and internationallycompetitive European city region as envisaged by the National Planning Framework 2040.

Project Ireland - 2040 National Planning Framework

The successful implementation of the Strategy's proposals will result in overwhelmingly positive outcomes for the Waterford Metropolitan Area, providing long-term economic, social and environmental benefits to the region. WMATS addresses the existing transport challenges outlined in the introductory chapters.

Key Indicators

Reduction in CO2 Emissions from Transport in the WMA

The WMATS, in combination with a number of Government initiatives, related primarily to the conversion of the national fleet to low and zero-emissions vehicles, is forecast to lead to a reduction in CO2 Emissions of approximately 56% over the lifetime of the Strategy to 2040.

The rate at which this is achieved will depend on a number of factors, including the following:

1. The speed at which the conversion of the fleet to electric vehicles can be rolled out;
2. The extent to which the local authorities and the NTA deliver alternatives to the private car such as the Cycle Network and Bus Corridors;
3. The extent to which demand management measures are implemented by local and national government to reduce the use of cars; and
4. Technological advances in the area of alternative fuels for goods vehicles.

In phasing the implementation of the WMATS, many of the key Climate Action Management measures, such as BusConnects Waterford, the cycle network, traffic signal prioritisation for sustainable modes, reduced parking and vehicle electrification are front-loaded into the first phase. This enables, in conjunction with the additional steps set out in Chapter 14, transport emissions in the WMA to meet the target level of reduction by 2030.

As set out on that chapter, this will require additional assessment work on the additional emissions reduction approaches to establish and calibrate the optimal permutation, particularly in relation to demand management. The assessment work to develop this optimal framework will be undertaken at an early point in the lifetime of the WMATS in cooperation with Government and the local authorities.

Air Quality

The Transport Strategy, in combination with other Government policies and programmes, is forecast to lead to a significant reduction in air polluting emissions compared to 2016.

Air-polluting Emissions 2016 and 2040 (Kg)

	NOx	NO2	PM10	PM2.5
2016	232.72	70.38	16.97	11.16
2040 with strategy	41.22	10.13	15.36	8.45
Reduction	**-82%**	**-86%**	**-10%**	**-24%**

Mode Share

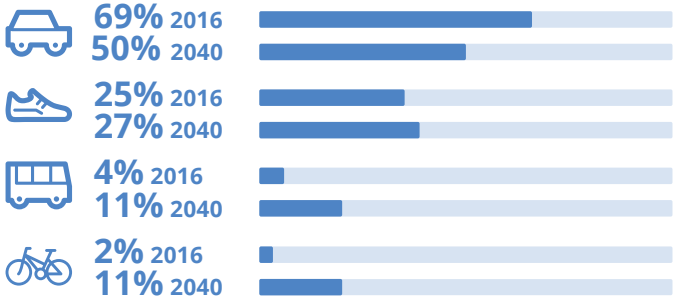
Waterford Metropolitan Area

The WMATS is forecast to lead to a significant reduction in car mode share for the study area as a whole, reducing from 72% in 2016 to 56% in 2040 with the WMATS in place.

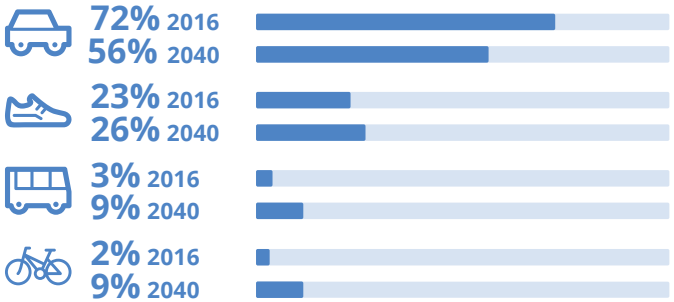
For the AM Peak period, the corresponding figures are 69% and 50%.

All other modes increase with the highest proportional increase being seen in cycling, from 2% to 11%.

AM Peak Mode Share 2016 - 2040



Mode Share 2016 - 2040



Targets for Walking and Cycling

Notwithstanding the outputs above, which are the result of a modelling exercise only, the NTA, in conjunction with the local authorities will aim to meet the walking and cycling mode split targets set out below up to 2040.

	Walking	Cycling
WMA Baseline	23%	2%
WMA Modelled Outcome	26%	9%
WMA Target	30-35%	10-15%

The cycle infrastructure proposed under this Strategy will deliver a comprehensive and safe network of cycling routes serving all of the key areas and destinations, and with the capacity for large volumes of cyclists.

With that infrastructure in place, the level of usage will be determined by the willingness to use cycling instead of other modes, in particular the car mode. Accordingly, the cycling target is ambitious and meeting it will require high levels of cooperation from all stakeholders in the region. The higher targets for Waterford City and Suburbs reflect the greater potential for these modes due to the number of shorter trips being undertaken.

It should be noted that the modelled output in relation to cycling mode share, doesn't take account of uplifts from behavioural change programmes and targeted information campaigns, which are difficult to account for in a strategic transport model. With the addition of these measures, an increased mode share for cycling will be delivered. However, it should also be noted that the implementation of demand management measures which aim to encourage the use of alternatives to the private car further, will be required to support these higher levels of uptake.

Meeting the Strategic Objectives

This section summarises the performance of the Strategy under each of the objectives set out at the beginning of the document.

Objective 01

To meet the demand generated by future growth of the WMA through the provision of an efficient transport network

The WMATS has been prepared based on the land use forecasts prepared by the NTA in consultation with both Local Authorities, guided by higher level national and regional plans As such, the demand generated for the strategy's development and assessment considers all existing and proposed development as provided for by these policy documents.

Objective 02

To prioritise sustainable transport and active travel to reduce car dependency

Implementation of WMATS will result in a step-change in public transport provision and builds upon existing walking and cycling strategies adopted by both Local Authorities.

This prioritisation of sustainable modes and the decarbonisation of the public transport fleet is in line with the growing recognition of the negative impacts of motorised vehicles and carbon emissions on the environment and people's health and wellbeing. The need for private car ownership (and dependency) will be greatly reduced through the adoption of demand management and supporting measures including car clubs and Mobility as a Service (MaaS)

Objective 03

The provision of a high level, citywide public transport system connecting to key destinations within high demand corridors

BusConnects Waterford will provide end-to-end radial and orbital connectivity between Waterford City Centre and suburbs. The network's key corridors will encompass catchment areas of high trip attractors and generators of all key education and employment hubs including the City Centre, Waterford IDA, Waterford Institute of Technology, Belview Port, University Hospital Waterford and Waterford Airport.

Objective 04

To increase transport capacity where needed to achieve the strategy outcomes

Implementation of WMATS will result in significantly upgraded transport network and capacity to realise future population and employment growth projections. The Strategy directs sustainable transport infrastructure to where it is most needed, to complement land-use projects outlined in the NPF, NDP, RSES and future growth scenarios provided to the NTA by Waterford City & County Council and Kilkenny County Council.

Objective 05

To deliver a fully accessible and inclusive transport system.

70% of jobs and people within the WMA will be covered by the BusConnects Waterford network. This will provide a reliable, high frequency, fully accessible public transport service to improve connectivity, in particular within the city and suburbs. In terms of social inclusion, the WMATS provides for significant uplift in bus services to areas of social disadvantage.

The harnessing of the principle of Universal Design will ensure that walking network upgrades, especially to and around public transport stops and stations, public transport buildings and passenger facilities, and public transport vehicles consider and provide accessibility for all. The WMATS provides the framework for investment which will enhance personal security around public transport stops and stations; and along walking and cycling routes, in particular through improved public lighting and security measures.

Objective 06

To enhance the public realm of the WMA through demand management measures and transport interventions

There will be a gradual transfer of kerbside space and other areas currently dominated by cars for use by pedestrians and cyclists. This will facilitate public realm enhancements in line with Design Manual for Urban Roads and Streets and the National Cycle Manual guidance. Public realm will be accessible, attractive, safe and interesting for all ages and abilities.

Objective 07

To minimise the impact of motorised traffic in urban centres.

There will be a gradual transfer of kerbside space and other areas currently dominated by cars for use by pedestrians and cyclists. This will facilitate public realm enhancements in line with Design Manual for Urban Roads and Streets (DMURS) and the National Cycle Manual guidance. The public realm will be accessible, attractive, safe and interesting for all ages and abilities. This will be of particular benefit to Waterford City Centre where road space will be reallocated to sustainable modes and for the creation of new urban spaces. This will make the city a more attractive place to live, work in and visit, and will facilitate significantly higher levels of social, cultural and economic activity.

Objective 08

To identify and protect key strategic routes for the movement of freight traffic

The existing removal of HGVs from the City Centre and built-up areas has significantly improved the pedestrian environment by reducing noise and air pollution and risk of conflict. WMATS also supports the development of a Regional Freight Strategy and an updated to the existing Local Freight Strategy.

16 Strategy Outcomes

Future Growth

59 k
Population 2016

93 k
Population 2040

Daily Demand For Travel

192 k
2016

264 k
2040

Environmental

Reduction between 2016 and 2040

83%
in car CO_2 emissions

14%
in particulate matter

95%
in NOx pollution from cars

Safety

Over the 30-year appraisal period

Reduction in
294
Fatal, Serious or Slight Casualties

Accessibility

% of Waterford Metropolitan Area population within 30-minute Public Transport Journey

For City Centre
90 %

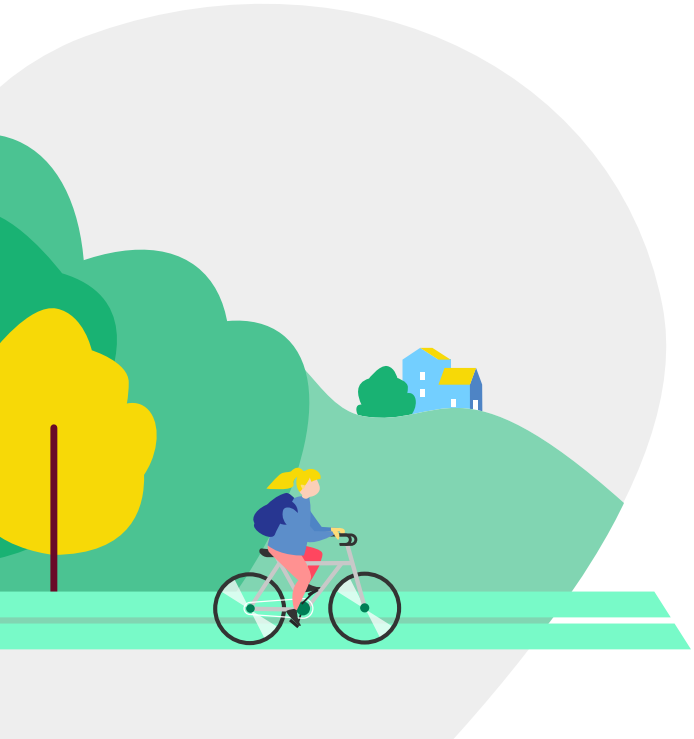
For IDA Business Park
92 %

For University Hospital
89 %

Social Inclusion

Up to
4.2 %
increase in PT mode share for disadvantaged and very disadvantaged areas

17 Environmental Protection and Management



Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) have both been undertaken alongside the preparation of the Strategy. All recommendations arising from the SEA and AA processes have been integrated into the Strategy. Many of these recommendations have been set out in the SEA Environmental Report; however, some of the more strategic recommendations are detailed below. Compliance with these measures will facilitate environmental protection and management.

Regulatory Framework for Environmental Protection and Management

In implementing this Strategy, the Authority will cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management and will ensure that plans, programmes and projects comply with EU Directives, including the Habitats Directive (92/43/EEC), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (2011/92/EU, as amended by 2014/52/EC) and the Strategic Environmental Assessment Directive (2001/42/EC), and relevant transposing Regulations.

Lower-Level Decision Making

Lower levels of decision making and environmental assessment should consider the environmental sensitivities identified in Section 4 of the SEA Environmental Report, including the following:

- Special Areas of Conservation and Special Protection Areas;
- Features of the landscape that provide linkages/connectivity to designated sites (e.g. watercourses and areas of semi-natural habitat, such as linear woodlands);
- Salmonid Waters;
- Shellfish Waters;
- Freshwater Pearl Mussel catchments;
- Natural Heritage Areas and proposed Natural Heritage Areas;
- Areas likely to contain a habitat listed in Annex 1 of the Habitats Directive;
- Entries to the Record of Monuments and Places and Zones of Archaeological Potential;
- Entries to the Record of Protected Structures;
- Un-designated sites of importance to wintering or breeding bird species of conservation concern;
- Architectural Conservation Areas; and
- Relevant landscape designations.

Corridor and Route Selection Process

The following Corridor and Route Selection Process will be undertaken for relevant new infrastructure:

Stage 1: Route Corridor Identification, Evaluation and Selection

- Environmental constraints (including those identified in Section 4 of the SEA Environmental Report) and opportunities (such as existing linear infrastructure) will assist in the identification of possible route corridor options;
- Potentially feasible corridors within which infrastructure could be accommodated will be identified and these corridors assessed. The selection of the preferred route corridor will avoid constraints and meet opportunities to the optimum extent, as advised by relevant specialists; and
- In addition to the constraints identified above, site-specific field data may be required to identify the most appropriate corridors.

Stage 2: Route Identification, Evaluation and Selection

- Potentially feasible routes within the preferred corridor will be identified and assessed. The selection of preferred routes will avoid constraints and meet opportunities to the optimum extent, as advised by relevant specialists, taking into account project level information and potential mitigation measures that are readily achievable;
- In addition to the constraints identified above, site-specific field data may be required to identify the most appropriate routes; and
- In addition to environmental considerations, the identification of route corridors and the refinement of the route lines is likely to be informed by other considerations.

Appropriate Assessment (AA)

All projects and plans arising from this Strategy will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and subsequent Appropriate Assessment where necessary, that:

- The Plan or project will not give rise to adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or
- The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions, and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or
- The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.

Protection of Natura 2000 Sites

No projects giving rise to adverse effects on the integrity of European sites (cumulatively, directly or indirectly) arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Strategy (either individually or in combination with other plans or projects)[1].

Climate Change, Emissions and Energy

As identified in the SEA Environmental Report that accompanies this Strategy, the Strategy facilitates sustainable mobility and associated positive effects, including those relating to:

- Reductions in greenhouse gas emissions and associated achievement of legally binding targets;
- Reductions in emissions to air and associated achievement of air quality objectives, thereby contributing towards improvement or air quality and protection of human health;
- Reductions in consumption of non-renewable energy sources and achievement of legally binding renewable energy targets; and
- Energy security.

In implementing the Strategy, the Authority will support relevant provisions contained in the following documents (and any superseding revisions of same): National Energy and Climate Plan (2021); the Waterford Climate Change Adaptation Strategy (2019); the Climate Action Plan (2021); the National Climate Change Adaptation Framework (2018); and the Department of Transport's Climate Change Sectoral Adaptation Plan for Transport Infrastructure (2019), which builds on the 2017 "Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector".

Cognisant of the imperative to reduce emissions, the Authority will seek to ensure primacy for transport options that provide for unit reductions in carbon emissions. This can most effectively be done by promoting public transport, walking and cycling, and by actively seeking to reduce car use in circumstances where alternative options are available.

During the preparation and/or review of policies and plans relating to climate charge, carbon emissions and energy usage, the Authority will seek to integrate Strategy objectives, as appropriate.

Other Strategic Environmental Assessment (SEA) Recommendations

In implementing the Strategy, the Authority will ensure that the measures included in Table 9.2 of the SEA Environmental Report are complied with.

[1]Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be: a) no alternative solution available; b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.

List of Acronyms

AA	Appropriate Assessment
ABTA	Area Based Transport Assessment
ASL	Advanced Stop Lines
AV	Autonomous Vehicles
AVL	Automatic Vehicle Location
BRT	Bus Rapid Transit
BSS	Bicycle Sharing Scheme
CLCs	Construction and Logistics Centres
CSO	Central Statistics Office
DMURS	Design Manual for Urban Roads and Streets
DTTaS	Department of Transport, Tourism and Sport
EIB	European Investment Bank
EU	European Union
EV	Electric Vehicle
EVCP	Electric Vehicle Charging Points
HGV	Heavy Good Vehicle
ITS	Intelligent Transport Systems
LEV	Low Emitting Vehicle
LRT	Light Rail Transit
LTP	Local Transport Plan
MaaS	Mobility as a Service
MASP	Metropolitan Area Strategic Plan
NDP	National Development Plan
NIFTI	National Investment Framework for Transport in Ireland
NPF	National Planning Framework
NPO	National Policy Objective
NSO	National Strategic Outcomes
PAG	Project Appraisal Guidelines
PCI	Pavement Condition Index
PLUTS	Planning, Land Use and Transportation Study
RSES	Regional Spatial and Economic Strategy
RTPI	Real Time Passenger Information
SDZ	Strategic Development Zone
SEA	Strategic Environmental Assessment
SRA	Southern Regional Assembly
TEN-T	Trans European Network - Transport
TfI	Transport for Ireland
TII	Transport Infrastructure Ireland
TOD	Transit-Oriented Development
TUSE	Technological University of the South-East
WIT	Waterford Institute of Technology
WMA	Waterford Metropolitan Area
WMATS	Waterford Metropolitan Area Transport Strategy
WPL	Workplace Parking Levy

NTA
Údarás Náisiúnta Iompair
National Transport Authority

TII
Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Waterford
City & County Council
Comhairle Cathrach
& Contae Phort Láirge

Kilkenny County Council
Comhairle Chontae Chill Chainnigh

Tionól Réigiúnach an Deiscirt
Southern Regional Assembly

Project Ireland 2040
Building Ireland's Future

SYSTRA

Jacobs