



Limerick-Shannon Metropolitan Area Transport Strategy
Baseline Conditions and Policy Context Report

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CONTENTS

CONTENTS	i
1 Introduction	3
1.1 Purpose of this Report	3
1.2 Report Structure	4
2 Policy Overview (Statutory Plans, Guidelines and Studies)	5
2.1 National Level Policy	6
2.2 National Level Guidance	10
2.3 Regional and Metropolitan Level	14
2.4 Metropolitan Level	17
2.5 Local Area Level	19
2.6 Other Policy Documents/Guidelines/Studies	23
3 Study Area and Existing Development Patterns	24
3.1 Study Area Definition	24
3.2 Existing Development Patterns	25
4 Existing Transport Demand	31
4.1 Data Sources	31
4.2 Existing Transport Demand Characteristics	32
4.3 Existing Transport Demand Movements Patterns	39
5 Existing Transport Networks – Limerick City and Suburbs	49
5.1 Road Network	49
5.2 Rail Network	52
5.3 Bus Networks	54
5.4 Public Transport Interchange	59
5.5 Cycle Network	59
5.6 Pedestrian Network	62
5.7 Parking Supply	62
5.8 Summary of Transport Supply	63
6 Existing Transport Supply – Shannon and Environs	64
6.1 National Road Network	64
6.2 Regional Road Network	64
6.3 Rail Network	64
6.4 Regional Bus Network	64
6.5 Cycle Network	65
6.6 Pedestrian Network	65
6.7 Parking Supply	66
7 Existing Transport Networks – County Towns	67
7.1 Road Network	67
7.2 Rail Network	67
7.3 Regional Bus Network	67
7.4 Cycle Network	68
7.5 Pedestrian Network	68

7.6	Parking Supply	68
8	Key Objectives and Challenges	69
8.1	Key Objectives	69
8.2	Strengths, Weaknesses, Opportunities and Threats	71
8.3	Key Challenges	72

1 Introduction

The National Transport Authority (NTA) is a public body set up under statute and established in December 2009. The role and functions of the NTA are set out in three Acts of the Oireachtas; the Dublin Transport Authority Act 2008, the Public Transport Regulation Act 2009 and the Taxi Regulation Act 2013. In August 2015, the Department of Transport, Tourism and Sport (DTTaS) published its policy document *“Investing in our Transport Future - Strategic Investment Framework for Land Transport”*. Action 4 of that framework states that: *“Regional transport strategies will be prepared by the NTA and provide an input to regional spatial and economic strategies”*.

Having regard to its role in relation to transport, and the action placed upon it in the DTTaS policy document, the NTA, in collaboration with Limerick City and County Council, and Clare County Council, is developing a Transport Strategy for the Limerick-Shannon Metropolitan Area (L-SMA) covering the period 2019 to 2040. The strategy (L-SMATS henceforth) will provide a framework for the planning and delivery of transport infrastructure and services in the L-SMA over the next two decades. It will also provide a planning policy for which other agencies can align their future policies and investment.

1.1 Statutory Basis for Integrating Spatial and Transport Planning

The development of L-SMATS will be consistent with National Planning Framework (NPF 2040) and other over-arching national, regional and metropolitan plans and policies that are presented in more detail in Chapter 2 of this Report. However, at present the statutory requirement for consistency between the Regional Spatial and Economic Strategy, Development Plans and Local Area Plans and the Transport Strategy is unique to the Greater Dublin Area (GDA) and is not yet a statutory requirement in any other part of the country.

National Policy Objective 69 of the National Planning Framework (NPF) 2040 outlines the Government’s intention to extend the statutory arrangements between the spatial planning and transport planning already place in the GDA to all of Ireland’s cities. With this in mind, the L-SMATS is being prepared with a view to it becoming a statutory document which must be taken into account in the planning process in the Metropolitan Area, in advance of the formal legislation coming forward.

1.2 Purpose of this Report

The methodology for the development of the L-SMATS 2040 is undertaken on a step by step basis, from: reviewing the existing policy and transport baseline, undertaking a demand analysis, developing transport options, optimisation of land use to align with high performing transport corridors, developing the draft Strategy for public consultation and subsequently finalising the Strategy.



Figure 1-1: Limerick Metropolitan Area Transport Strategy Methodology

The first task in the preparation of the Strategy is an assessment of existing transport conditions. This report outlines the current situation and conditions within the L-SMA in the context of land-use, transport supply and movement patterns. In addition, the report outlines all current and relevant policies and planning documents pertaining to the L-SMA.

The purpose of this report is to establish a clear and thorough understanding of the current transport conditions and policies which will form the basis for subsequent tasks. A review of all existing data available has been undertaken to inform this report and consideration has been given to the demand of all modes across the L-SMA.

1.3 Report Structure

The following outlines each section of the report:

- **Section 2:** Review of all relevant National, Regional and Local Policy and Planning Documents;
- **Section 3:** Outline of existing land-use patterns and demographic data;
- **Section 4:** Summary of existing travel demand patterns and characteristics;
- **Section 5:** Review of the current transport network and supply for all modes; and
- **Section 6:** Based on the data collated, this section highlights the key strengths and weaknesses of the current situation and potential opportunities and threats. This section also outlines the key challenges facing the L-SMA from a transport perspective.

2 Policy Overview (Statutory Plans, Guidelines and Studies)

This section of the report provides a concise overview of the relevant National, Regional, City/County/Metropolitan and local level policy relevant to Limerick and Shannon. Figure 2–1 outlines the documents that were reviewed as part of this policy review.

National Level	
Policy/Plans <ul style="list-style-type: none"> • National Planning Framework 2040 • The National Development Plan 2018-2027 • Ireland Planning Policy Statement 2015 • Smarter Travel 2009-2020 • Rebuilding Ireland: Action Plan for Housing and Homelessness • Climate Action Plan 2019: To Tackle Climate Breakdown 	Guidance <ul style="list-style-type: none"> • Sustainable Residential Development in Urban Areas • Urban Design Manual: A Best Practise Guide • Design Manual for Urban Roads and Streets (updated 2019) • Permeability: A Best Practice Guide • Spatial Planning and National Roads: Guidelines for Planning Authorities • Achieving Effective Workplace Travel plans: Guidance for Local Authorities • Ireland’s Climate Strategy to 2020 and beyond • National Cycle Policy Framework • National Cycle Manual
Regional Level Policy	
Draft Regional Spatial and Economic Strategy (RSES) Draft Limerick Metropolitan Area Strategic Plan (MASP) Mid-West Area Strategic Plan 2012-2030 Mid-West Area Strategic Plan: Public Transport Feasibility Study, June 2012	
City/County/Metro Level Policy	
Limerick 2030: An Economic and Spatial Plan for Limerick Limerick Metropolitan Cycle Network Study Limerick Metropolitan District Movement Framework Study, 2015	
Local Level Policy	
Limerick City Development Plan 2010-2016 Limerick County Development Plan 2010-2016 Limerick City and County Council Local Area Plan’s (LAP) Clare County Development Plan 2017-2023: Shannon Town and Environs Local Area Plan 2012-2018 (extended to 2023).	

Figure 2–1: Overview of Policy and Guidance Reviewed

2.1 National Level Policy

2.1.1 National Planning Framework 2040 (Department of Housing, Planning, Community and Local Government, 2018)

The National Planning Framework (NPF) 2040 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. The NPF is being followed and underpinned by supporting policies and actions at sectoral, regional and local level.

Under the framework three regional assemblies have been identified, Eastern and Midland, Northern and Western and Southern. Limerick and Clare are part of the southern Region Assembly. Each of the assemblies is illustrated in Figure 2–2 below.

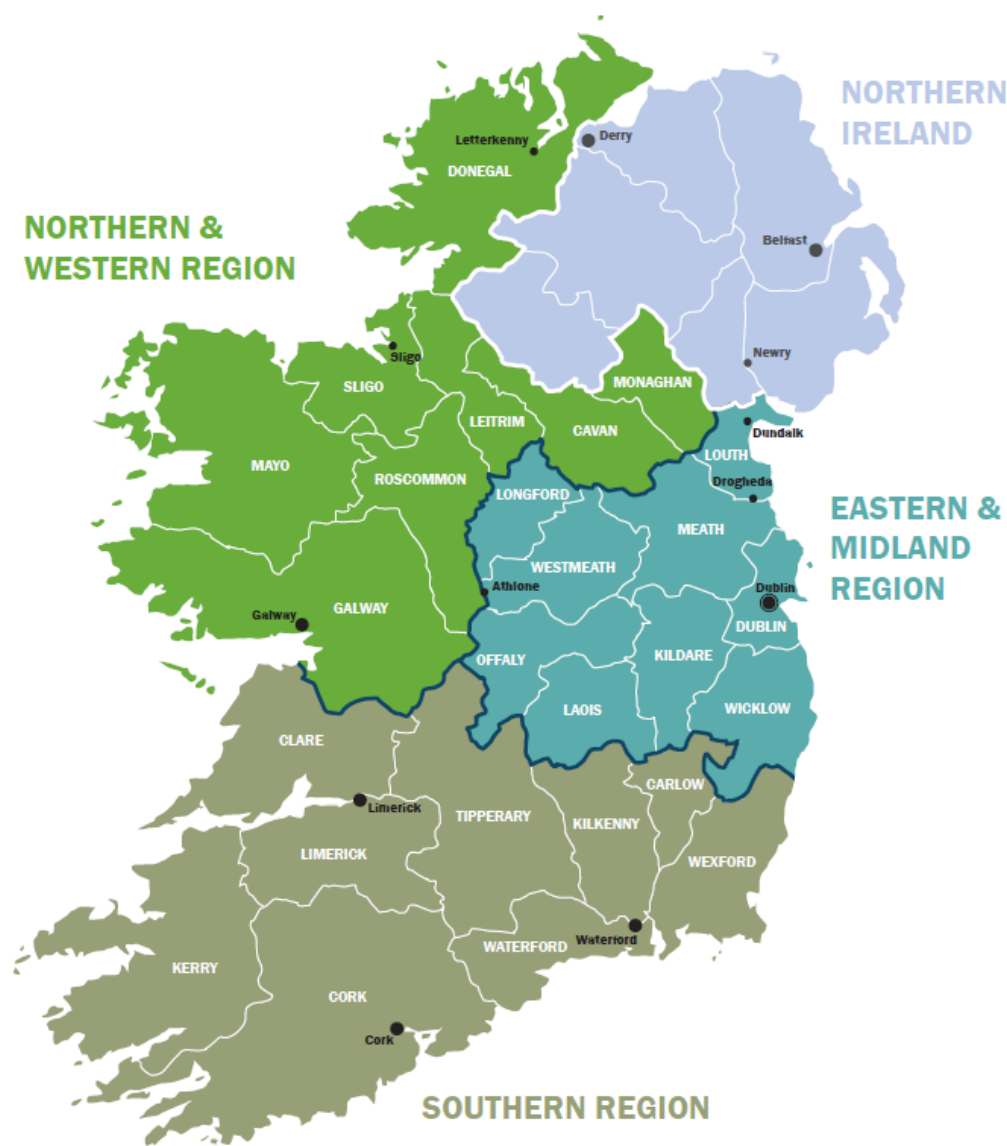


Figure 2–2 Ireland's Regional Assembly Areas and Northern Ireland – National Planning Framework 2040

The NPF has identified that the big challenge for the Southern Region in the period to 2040, will be to position its cities to be more significantly scaled, compact and attractive, acting as metropolitan drivers for the region as a whole, and as effective complements to the economic strength of the Greater Dublin Area.

Due to the large geographical extent of each assembly, each strategy will be informed by smaller Strategic Planning Areas (SPAs) which cover key economic catchments. The Limerick-Shannon Metropolitan Area lies within the Mid-West SPA.

Limerick is projected to grow with at least an additional 55,000 people by 2040 to support a minimum population of 145,000 within the CSO defined *City and Suburbs* alone.

Some of the key transport growth enablers outlined in the NPF relevant to the development of L-SMATS include:

- Implementation of the Limerick 2030 economic strategy to revitalise and redevelop Limerick City Centre and further extension of the plan towards Limerick Docks area;
- Identifying development in 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 the National Technological Park, UL and Shannon Airport;
- Development of a strategic cycleway network with high capacity flagship routes;
- Enhanced road connectivity to Shannon-Foynes Port, including local by-passes; and
- Enhanced regional connectivity through improved average journey times by road to Cork and Waterford.

2.1.2 The National Development Plan (NDP) 2018-2027

The National Development Plan was published in tandem with the NPF and is set to drive Ireland's long term economic, environmental and social progress. The NDP is fully integrated with the approach to Ireland's spatial planning in the NPF and provides a comprehensive breakdown of the ten National Strategic Outcomes (NSO).

Some of the key NDP investment actions which are relevant to the Strategy are summarised as follows:

- Improvement of the existing M20 Cork to Limerick Road;
- N21/N69 Limerick to Adare to Foynes, to improve access to Shannon Foynes Port;
- N24 Cahir to Limerick Junction;
- The Limerick Regeneration Programme;
- Progression of the Coonagh to Knockalisheen phase of the Limerick Northern Distributor Road.
- Shannon Group plans to develop manufacturing, office and warehousing at Shannon, an International Aviation Services Centre and redevelopment of Bunratty Castle in partnership with Failte Ireland.

2.1.3 Ireland Planning Policy Statement 2015

The purpose of Ireland's planning policy is to assist with decisions on competing development options in the future and aims to deliver a planning process that will:

“ensure the right development takes place in the right locations and at the right time in providing the social, economic and physical infrastructure necessary to meet the needs of

our people in a way that protects the many qualities of our natural and built environment”

National, regional and local officials aim to implement the ten principles the Planning Policy Statement is built upon (as listed below):

- Planning must be plan-led and evidence-based;
- Planning must proactively drive and support sustainable development;
- Planning is about creating communities and further developing existing communities in a sustainable manner;
- Planning must support the transition to a low carbon future and adapt to a changing climate;
- Planning must ensure that development facilitates and encourages greater use of public transport as well as making walking and cycling more attractive for people;
- Planning will encourage the most efficient and effective use of previously developed (brownfield) land;
- Planning will enhance the sense of place;
- Planning will conserve and enhance the rich qualities of natural and cultural heritage;
- Planning will support the protection and enhancement of environmental quality; and
- Planning will be conducted in a manner that affords a high level of confidence.

2.1.4 Smarter Travel: A Sustainable Transport Future 2009-2020 (Department of Transport, Tourism and Sport, 2009)

The Government policy document “Smarter Travel: A Sustainable Transport Future 2009 – 2020”, recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development, but it also sets out the necessary steps to ensure that people choose more sustainable transport modes such as walking, cycling and public transport.

The policy acknowledges that continued growth in demand for road transport is not sustainable due to the impact on congestion, local air pollution, contribution to global warming 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 also to reduce the share of travel demand growth that is car dependant. Controlling development so that it is sustainable / public transport oriented, is identified as a mechanism by which this can be achieved.



The Key Goals of the policy document are to:

- Improve quality of life and accessibility to transport for all and with emphasis on people with reduced mobility and those who may experience isolation due to lack of transport;
- Improve economic competitiveness through maximising the efficiency of the transport system and alleviating congestion and infrastructural bottlenecks;
- Minimise the negative impacts of transport on the local and global environment through reducing localised air pollutants and greenhouse gas emissions;

- Reduce overall travel demand and commuting distances travelled by the private car; and
- Improve security of energy supply by reducing dependency on imported fossil fuels.

These are to be achieved by four main actions;

- Actions to reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live near places of employment and the use of pricing mechanisms or fiscal measures to encourage behavioural change;
- Actions aimed at ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking;
- Actions aimed at improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies; and
- Actions aimed at strengthening institutional arrangements.

Smarter Travel outlines 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% by 2020.

2.1.5 Rebuilding Ireland: Action Plan for Housing and Homelessness (Department of Housing, Planning, Community and Local Government, 2016)

This action plan is designed to accelerate housing supply in Ireland and aims to tackle the country's housing shortage. The plan focuses on actions with a common trend of increasing the delivery of homes nationwide. The plan focuses on five main pillars that are the foundation of the plan and are the starting point for immediate action under the plan. The five pillars are:

- Address homelessness.
- Accelerate social housing.
- Build more homes.
- Improve the rental sector.
- Utilise existing housing stock.

Part of the plan also includes a Local Infrastructure Housing Activation fund that aims to provide funding to local authorities to provide infrastructure required for the building of houses. Under this activation fund Limerick has been allocated funding for supporting infrastructure at the site outlined in Table 2.1.

Table 2.1 Approved LIHAF projects in in Limerick

Local Authority	Project Name	Detail of infrastructure	No of housing units to be provided by 2021	Total Potential for Housing units	Total Allocation (€m)
Limerick City and County Council	Mungret	Provision of new distributor road	450	2,700	10.50

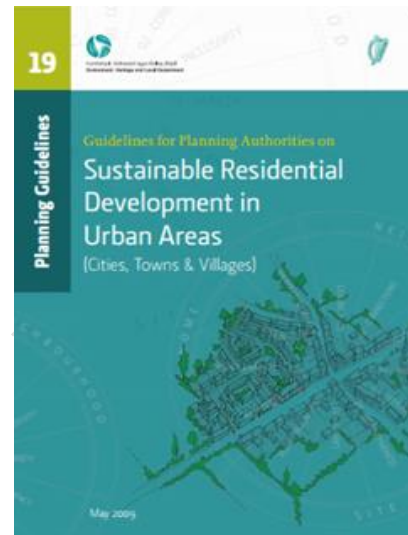
2.2 National Level Guidance

2.2.1 Sustainable Residential Development in Urban Areas (Department Environment, Heritage and Local Government, 2009)

The *Sustainable Residential Development in Urban Areas* guidance sets out the key planning principles which should be reflected in development plans and local area plans. It also guides the preparation and assessment of planning applications for residential development in urban areas.

The guidelines promote residential layouts that:

- Prioritise walking, cycling and public transport, and minimise the need to use cars;
- Are easy to access for all users and to find one's way around;
- Promote the efficient use of land and energy, and minimise greenhouse gas emissions; and
- Provide for a mix of land uses to minimise transport demand.



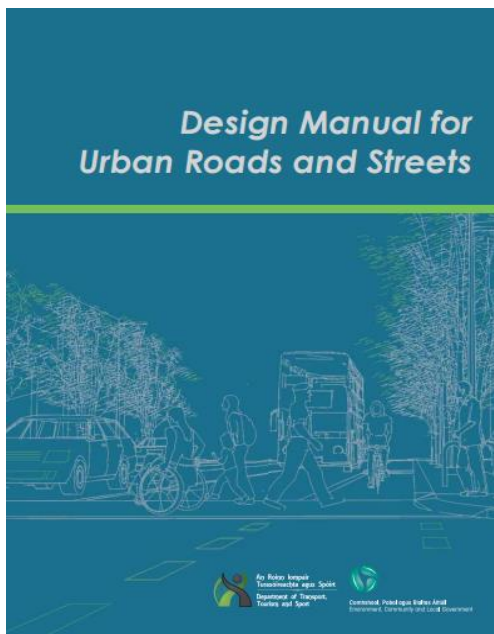
2.2.2 Urban Design Manual: A Best Practice Guide (Department of Environment, Heritage and Local Government, 2009)

Urban Design Manual: A Best Practice Guide provides advice on implementing sustainable residential development in urban areas and supersedes the Urban Design Manual - A Best Practice Guide: A Companion Document to the Draft Planning Guidelines on Sustainable Residential Development in Urban Areas, 2008. The Manual is intended to be read in conjunction with Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (2009). The manual is underpinned by 12 design principles as outlined in Figure-24.



Figure 2-3 Graphic showing the 12 Design Principles that underpin the Urban Design Manual

2.2.3 Design Manual for Urban Roads and Streets (DMURS) (updated 2019)



The *Design Manual for Urban Roads and Streets (DMURS)* promotes an integrated street design approach within urban areas (i.e. cities, towns and villages) focused on:

- Influence by the type of place in which the street is located; and
- Balancing the needs of all users.

A further aim of this Manual is to put well designed streets at the heart of sustainable communities to promote access by walking, cycling and public transport.

The principles, approaches and standards set out in this Manual apply to the design of all urban roads and streets (with a speed limit of 60 km/h or less), except: (a) Motorways (b) In exceptional circumstances, certain urban roads and streets with the written consent of Sanctioning Authorities.

The Manual is underpinned by a holistic design-led approach, predicated on a collaborative and consultative design process. There is specific recognition of the importance to create secure and connected places that work for all, characterised by creating new and existing streets as attractive places with high priority afforded to pedestrians and cyclists while balancing the need for appropriate vehicular access and movement.

To achieve a more place-based/integrated approach to road and street design, the following four core principles are promoted within the manual:

- **Connected Networks** - To support the creation of integrated street networks which promote higher levels of permeability and legibility for all users, and with emphasis on more sustainable forms of transport;
- **Multi-Functional Streets** - The promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment;
- **Pedestrian Focus** - The quality of the street is measured by the quality of the environment for the user hierarchy as shown below in Figure 2-5 with pedestrians considered first; and
- **Multi-disciplinary Approach** - Greater communication and co-operation between design professionals through the promotion of a plan-led, multidisciplinary approach to design.

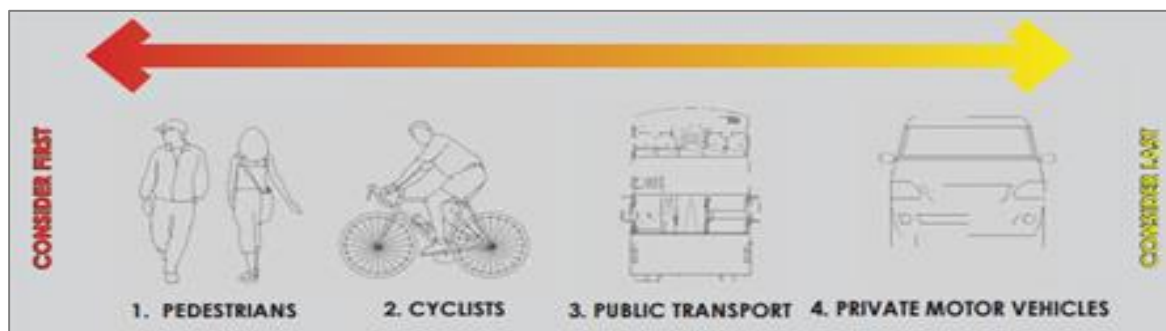


Figure 2-4 DMURS User Hierarchy

DMURS was updated in 2019 to take into consideration changes to government agencies, initiatives such as BusConnects and four new Advice notes relating to Transition Zones and Gateways, Geometric Standards, Materials and Specifications and Quality Audits.

2.2.4 Permeability: A Best Practice Guide (National Transport Authority, 2015)

Permeability: A Best Practice Guide sets out guidance on how best to facilitate demand for walking and cycling in existing built-up areas. The scope extends to linkages for people to walk and cycle from their homes to shops, schools, local services, places of work and public transport stops and stations. For the purposes of the guidance, permeability is defined as the extent to which an urban area permits the movement of people by walking or cycling. Characteristics of a permeable environment are highlighted as follows:

- Interconnected pedestrian and cycle street network;
- Absence of high walls and fences segregating housing areas and local/district centres;
- Absence of cul-de-sacs for pedestrians and cyclists; and
- Secure, well-lit, overlooked pedestrian and cycle links between housing areas and between housing and local/district centres.

2.2.5 Spatial Planning and National Roads: Guidelines for Planning Authorities (Department of Environment, Community and Local Government, 2012)

Spatial Planning and National Roads: Guidelines for Planning Authorities set out planning policy considerations relating to development affecting national primary and secondary roads, including motorways and associated junctions, outside the 50-60 km/h speed limit zones for cities, towns and villages.

The guidelines aim to facilitate a well-informed, integrated and consistent approach that affords maximum support for the goal of achieving and maintaining a safe and efficient network of national roads in the broader context of sustainable development strategies, thereby facilitating continued economic growth and development throughout the country.

The following Key Principles have informed these guidelines:

- Land-use and transportation policies are highly interdependent;
- Proper planning is central to ensuring road safety;
- Development should be plan-led;
- Development Management is the key to Plan Implementation; and
- Planning Authorities and the National Roads Authority and other public transport bodies must work closely together.

2.2.6 Achieving Effective Workplace Travel Plans Guidance for Local Authorities (National Transport Authority, 2013)

Achieving Effective Workplace Travel Plans Guidance for Local Authorities aims to assist local authorities in fully integrating the principles and practice of Workplace Travel Plans into both the development plan process and the development management process.

The guidance advocates either a 'Standard' Workplace Travel Plan or a Workplace Travel Plan 'Statement' be assessed on a case by case basis with consideration taken of the location, scale of development, nature of the uses proposed and anticipated impact on the surrounding area, in terms of trip volume and congestion. As an indicative threshold, a 'Standard' Workplace Travel

Plan should be required if an existing or proposed development has the potential to employ over 100 persons.

2.2.7 Ireland's Climate Strategy to 2020 and Beyond

Ireland's Climate Strategy to 2020 and Beyond outlines Ireland's commitment to reducing emissions by 25-40% relative to 1990 emission levels by 2020 and that these emissions be cut by 80-95% by 2050. The proposed Action Plan aims to:

- Creating policies and measures to support technological solutions and behavioural change in transport; and
- Focus on producing the cleanest possible technologies for the transport sector.

2.2.8 Climate Action Plan – To Tackle Climate Breakdown

The Government published the Climate Action Plan in June 2019. The Plan identified how Ireland would achieve its 2030 targets for carbon emissions and a pathway towards achieving net zero emissions by 2050.

Tackling emissions from the Transport sector (accounting for almost 20% of Ireland's greenhouse gases in 2017) is of relevance to this Strategy. The Government's approach to reducing emissions from the transport sector is to adopt policies to influence both the transport intensity of growth and the carbon intensity of travel.

To make growth less transport intensive some key policies include:

- The successful execution of the National Planning Framework designed to promote compact, connected and sustainable living
- Expansion of walking, cycling and public transport to promote modal shift
- Better use of market mechanisms to support modal shift
- The successful roll-out of the National Broadband Plan, which can promote remote working and wider activities which reduce unnecessary journeys.

The electrification of transport (both public and private) features prominently in the Plan with a range of initiatives to boost the roll-out of low emission buses, electric cars, EV charge points and to decarbonise heavy and light goods vehicles. Of most interest to this Strategy however is the identification of modal shift measures including compact growth to reduce the demand for travel; the BusConnects programme; the development of a comprehensive (and safe) walking and cycling network for metropolitan areas of Ireland's cities; expansion of smarter travel initiatives and development of a Park and Ride Implementation Plan (that will include EV charge facilities). Other relevant measures include the enhancement of public transport priority, developing a strategy for the heavy freight sector and the ability for Local Authorities to designate low emission zones.

2.2.9 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 it is considered the norm. Its vision is that all cities, towns, villages and rural areas will be bicycle friendly so as 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 (with the exception of motorways) is designed / retrofitted so as 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, events etc.

2.2.10 National Cycle Manual

The National Cycle Manual promotes safe traffic environments for all road users including cyclists. It underlines the importance of integrating cycle travel opportunities in the planning and designing of new developments at all levels of the network including the strategic level, the route planning level and at design level. It provides technical information on the design of junctions, roundabouts, crossings and so on to ensure the optimum balance between the various modes and road functions is reached.

The manual subscribes to the five core principles of Sustainable Safety which are:

- Functionality;
- Homogeneity;
- Legibility;
- Forgivingness; and
- Self-awareness.

2.3 Regional and Metropolitan Level

2.3.1 Regional Spatial and Economic Strategies (RSES)

The Limerick-Shannon Metropolitan Area lies within the Southern Regional Assembly. The Southern Regional Assembly established on 1st January 2015, is one of three Assemblies in Ireland along with the Northern and Western, and the Eastern and Midland regional assemblies. They incorporate the functions of both the former regional authorities and assemblies, with significant enhancement of some powers, particularly in relation to spatial planning and economic development. The Assemblies are charged with preparing new RSESs for their regions.

The RSES is a link between the NPF, the City and County Development Plans and the Local Economic and Community Plans. Through this process the Assemblies are centrally involved in the formulation of policies geared towards achieving a greater dispersal of economic growth and development throughout the region.

The draft RSES was published in December 2018 and – through the provision of a Limerick-Shannon Metropolitan Area Strategic Plan (MASP) – outlines strategic priorities for the Limerick - Shannon Metropolitan Area Plan (LSMA) to ensure it can fulfil its strategic function as a driver for growth in the Mid-West Region. The delivery of the L-SMATS and an integrated multi-modal transport network is recognised as a key priority.

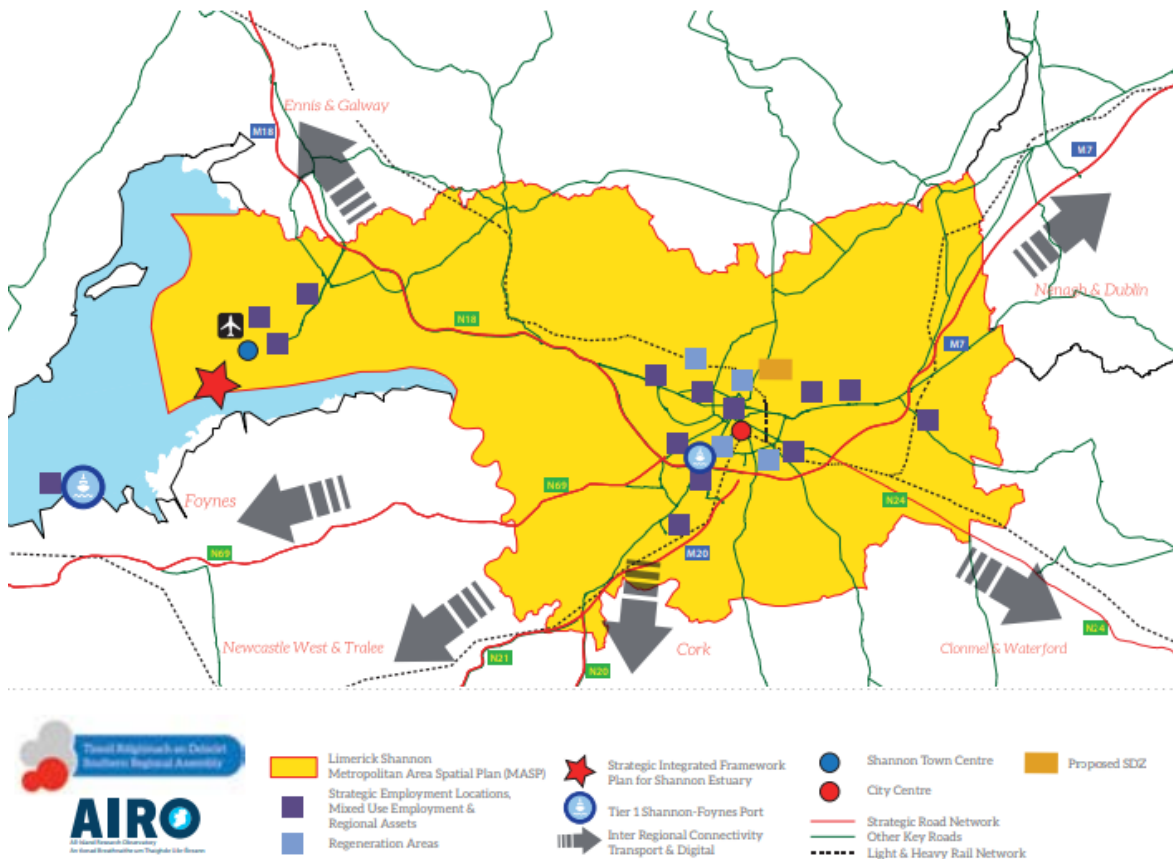


Figure 2-5 Limerick-Shannon Metropolitan Area Strategic Plan. Source: RSES 2018

2.3.2 Draft Limerick-Shannon Metropolitan Area Strategic Plan (L-SMASP)

RSEs are developed to co-ordinate local authority plans at a strategic and regional assembly level. However, the area of the Assemblies is too broad to be able to sufficiently focus on city and metropolitan issues. Accordingly, in tandem with and as part of the RSES process, the NPF stipulates that five coordinated MASPs for the Dublin, Cork, Limerick-Shannon, Galway and Waterford Metropolitan Areas will be prepared.

In line with the RSEs, the MASPs will be provided with statutory underpinning to act as 12-year strategic planning and investment frameworks for the city metropolitan areas, addressing high-level and long-term strategic development issues.

The draft RSES for the Southern Region was published in December 2018 and contains a draft MASP for the LSMA. L-SMATS in combination with the RSES for the Southern Region and the MASP for the LSMA, provides the building blocks for regional planning in the Limerick-Shannon area, which is also informed by the national policy objectives within the NPF 2040 and the NDP.

Key transport priorities for the Limerick-Shannon Metropolitan Area include:

- Preparation of the Limerick-Shannon Metropolitan Area Transport Strategy;
- Target growth along high-quality public transport corridors and nodes linked to the delivery of key public transport projects;
- Development of the Limerick Northern Distributor Route (LNDR) to enhance access across the region to the University of Limerick and proposed South Clare SDZ, the IDA national technology park, to the regeneration area of Moyross, to Shannon International Airport, and across east and north County Limerick, south County Clare and onto the national road network;

- Implementation of an integrated, multi-modal public transport network across the Metropolitan Area servicing strategic residential and employment growth locations;
- Development and promotion of existing intercity rail and commuter links from Limerick to Dublin, Cork, Galway, together with Ennis, Nenagh, Thurles, Clonmel, Ballybrophy and Athenry;
- Reinstatement of the Limerick to Foynes rail line, linking Ireland's deepest port to the national rail network; and
- Investigate the potential for a higher speed rail link between Dublin and Limerick City.

2.3.3 Mid-West Area Strategic Plan 2012-2030

This document was formed to 'provide a framework to help guide decision making with regard to the physical and spatial development of the Region to 2030, and to promote balanced growth throughout the region to achieve the maximum social, economic, health and cultural benefits for all its citizens'. This document is also aligned with the National Spatial Strategy 2002-2020. Regarding the 2012-2030 document, the following key messages have been identified:

- Transport must be a key consideration in land use planning;
- Link Limerick City through an integrated public transport system and traffic management system;
- To increase the use of walking, cycling and public transport to 55%;
- Provide rural transport opportunities for the hinterland areas to access the core area and economic nodes;
- Provide a more integrated transport system with buses being frequent, reliable, cheaper and reach a wide range of people;
- Addressing urban congestion in Limerick is a priority;
- The capacity of the strategic road network must be protected;
- A significant reduction in the share of trips undertaken by car is required, particularly in relation to short trips and commuter trips;
- To create more Park and Ride facilities for Limerick City;
- An improvement to the safe cycle network, with the need for a more extensive cycle network covering Limerick City and in other towns, is needed to cater for the increased use of cycling that is already occurring and to reduce the dominance of the private car in meeting travel needs; and
- To provide a high level of connectivity and permeability in between Development Clusters to encourage the provision of cycle and pedestrian routes.

2.3.4 Mid-West Area Strategic Plan: Public Transport Feasibility Study, June 2012

The Public Transport Feasibility Study (PTFS) forms a part of the Mid-West Area Strategic Plan and aims to achieve a mode shift from car to more sustainable modes, primarily public transport. The PTFS aims to reconcile the different transport needs of the metropolitan population by improving accessibility and hence expanding opportunities for social inclusion and connectivity within the city and suburbs and improving links beyond.

2.4 Metropolitan Level

2.4.1 Limerick 2030: An Economic and Spatial Plan for Limerick

The Economic and Spatial Plan for Limerick sets a framework for public sector action and private sector investment until 2030. It is a medium to long term strategy and sets the direction for early projects to be implemented. The Limerick Twenty Thirty Strategic Development Designated Activity Company (DAC) is the first, local authority wholly-owned special purpose vehicle created in Ireland to deliver this city and countywide plan.

The core objective of the DAC is to invest in the wider metropolitan area through the assembly, master planning and development of sites. These strategic sites include: Mungret; Opera Site; Cleeves Campus; Troy Studios; and Gardens International.

The plan seeks to deliver a new vision for Limerick, which is to become a major economic force in the Irish and European economy, a leading centre for commercial investment, and an attractive magnet for retail, leisure, residential, commercial, educational and cultural growth across the metropolitan area.

This spatial plan places Limerick City Centre at the heart of the region and recognises the need for further enhancements to the centre including public realm and transport improvements.

Some of its key objectives and projects for transport and infrastructure are:

- To create quality strategic gateways to the City Centre, thereby making it a welcoming experience for visitors;
- To create a high quality and safe urban environment attractive to investors, employers, residents and tourists which generates a sense of pride in the City;
- Colbert Station renewal – a new public transport interchange and enhance station environment;
- 'Great Streets' – a transformation of the City's three main streets – O'Connell Street, Catherine Street and Henry St;
- Reduce the impact of car traffic along the quays, thereby working toward the creation of a 'World Class' Waterfront – a renaissance of Limerick's entire Waterfront;
- Put pedestrians first throughout the City Centre – wider pavements, wider crossing points, etc;
- Remove as much extraneous car traffic from the City Centre as possible;
- Improved management of on-street parking; and
- Accommodate a new/improved connection between the City Centre and the University of Limerick campus for pedestrians, cyclists and public transport users.

2.4.2 Limerick Metropolitan Cycle Network Study

The Limerick Metropolitan Cycle Network Study sets out the envisaged cycling network for the Limerick Metropolitan Area (LMA) for 2025 and forms the basis of funding and delivery of the cycle network. The study is an important component in Limerick City and County Council's vision of developing a cycling culture within the LMA.

The Cycle Network Study has been developed in keeping with the important Smarter Travel objectives, i.e. 10% of all trips will be by bike.

There are many existing barriers to cycling through the Metropolitan Area, including watercourses such as the River Shannon and the Mulkear River, railways lines and a motorway.

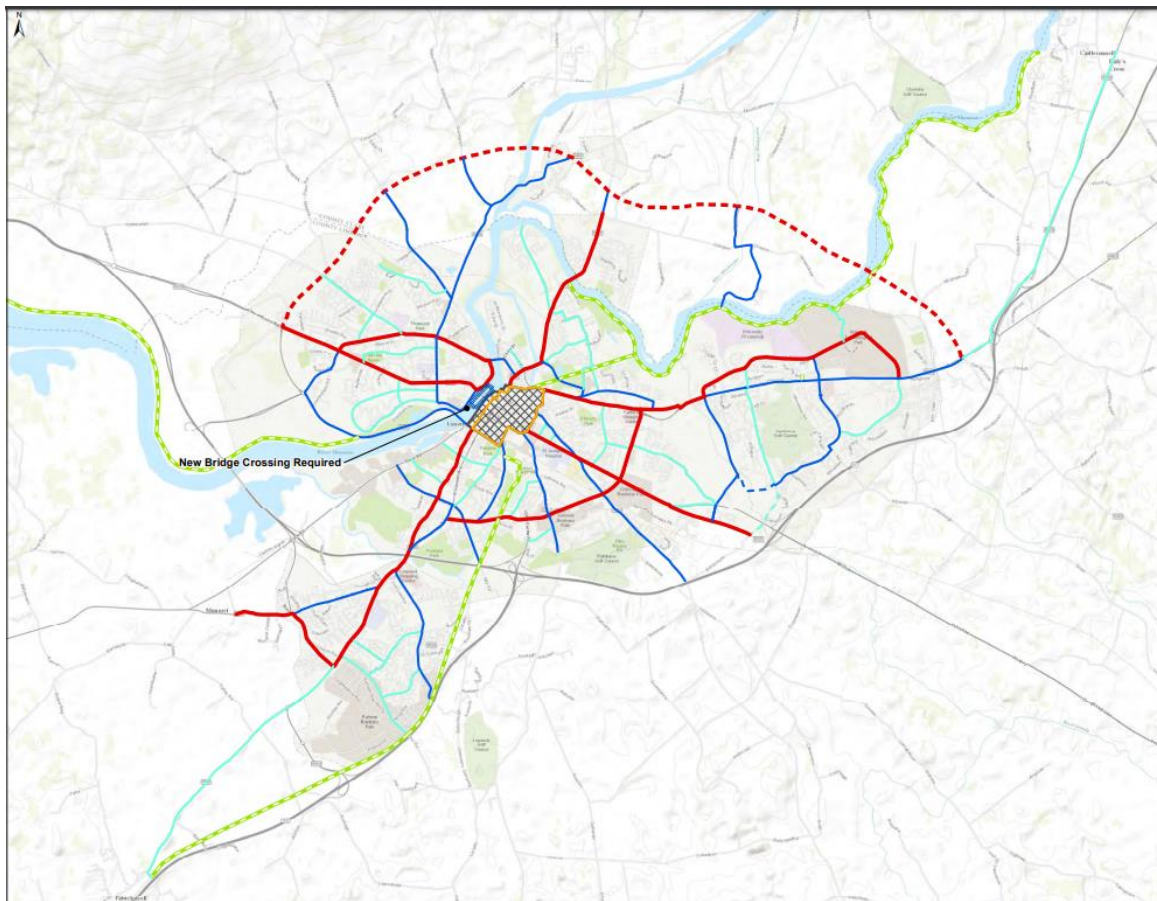


Figure 2–6 Limerick Proposed Limerick Cycling Network map

This Study identified three economic corridors: Transverse Economic Corridor; North Western Economic Corridor; and South Eastern Economic Corridor. The main trip generators along these corridors include:

- University Hospital Limerick;
- Limerick City and County Council (Dooradoyle);
- The Crescent Shopping Centre;
- Residential areas in Dooradoyle, Castletroy, Ballinacurra and Monaleen;
- Mary Immaculate College;
- Limerick School of Art and Design;
- University of Limerick; and
- National Technological Park.

An analysis of cycling conditions within the L-SMA are presented in more detail in Chapters 5-7.

2.4.3 Limerick Metropolitan District Movement Framework Study, 2015

The Limerick Metropolitan District Movement Framework seeks to develop a long-term vision for the Limerick Metropolitan District (LMD) in terms of accessibility, mobility and sustainability, as well as to develop an implementation plan for comprehensive measures to upgrade the existing transport network over a 5-year period.

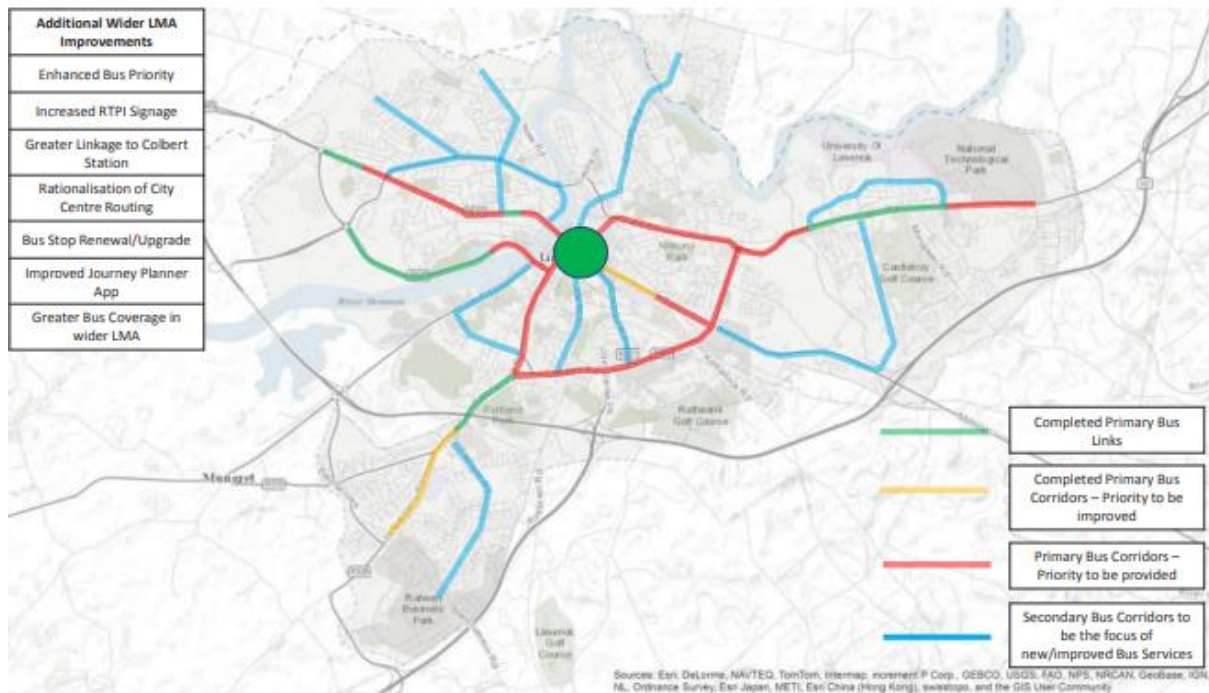


Figure 2–7 Limerick Metropolitan District Movement Framework Study Proposed Bus Map

The Study represented the first stage of the Limerick Metropolitan District Movement Framework and aimed to evaluate and appraise the LMD to understand the existing transport network applicable to all modes, and to identify the principal areas of concern across the transport network, divided into five categories as follows:

- Network Functionality and Management;
- Pedestrian Network;
- Cyclist Network;
- Public Transport; and
- Vehicle Network.

Many of the issues and challenges identified in this report remain relevant to the emerging Strategy.

2.5 Local Area Level

2.5.1 Limerick County Development Plan 2010-2016

The Limerick County Development Plan 2010-2016 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 facilitate the improvement and further development of the public transport system in 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;

- Prohibit the creation of any new access onto all National Routes and keep the number of junctions to a minimum consistent with good traffic management; and
- Promote road safety measures throughout the County, through minimising existing traffic hazards, preventing the creation of additional or new traffic hazards in the road network and securing appropriate signage.

2.5.2 Limerick City Development Plan 2010-2016

The Limerick City Development Plan 2012-2016 seeks to “embrace the principle of sustainability and deliver on the growing demand for travel by sustainable forms of transport” and acknowledges that greater integration of land-use and transportation planning is key to achieving this. Some of the strategic goals which are relevant to the Strategy are summarised as follows:

- Align land-use development along well-serviced public transport corridors including bus lanes, rail lines and high-quality cycle and pedestrian infrastructure;
- Provide for strategic, as well as small park and ride sites, and bicycle parking facilities in developments close to public transport stops;
- Prioritise design for walking and cycling in all new developments;
- Construct the inner orbital route to facilitate the efficient movement of traffic around the City Centre and streetscape enhancement works;
- Control the provision of on-street and off-street car parking in the City Centre; and
- Promote public transport interchange at strategic locations throughout the City.

2.5.3 Clare County Development Plan 2017-2023:

The Clare County Development Plan governs the overall land use, infrastructural and economic development of County Clare through a number of volumes including Volume 3 (b) Shannon Municipal District. It is of relevance to this strategy because parts of the Metropolitan Area lie outside the Shannon Municipal District.

It is a goal of the County Development Plan to “support strong economic growth and a high quality of life for all residents through the provision of efficient and robust physical infrastructure whilst having regard to environmental responsibilities and complying with National and European Legislation”. Volume 1 contains a number of objectives relevant to the Strategy such as:

- Limerick Northern Distributor Road (LNDR) – Knocknalisheen to Shannon River Crossing – and university link road to the University of Limerick;
- Upgrade/extension of N19 to Shannon Airport
- Shannon Crossing south of O’ Briensbridge
- New routes southeast of Shannon linking Bothar na Luchra with Sli and tSionnasigh and Bothar na Loiste.
- A number of infrastructural safeguards including the LNDR and University Link Road and the Shannon Rail reservation.
- Provision of relief roads around Sixmilebridge with the intention of diverting through traffic away from the town centre;

In addition, a number of other strategic transport objectives relevant to the LSMATS area;

- To support and facilitate transport linkages to and from Shannon Airport by both public and private service providers.

- To support the development and enhancement of long-distance cycling routes in County Clare, in accordance with the National Cycle Network Scoping Study 2010;
- To support and facilitate the improvement and expansion of rail infrastructure and services and the opening/reinstating of railway stations on the Western Railway Corridor within County Clare;
- To safeguard the route of the proposed Shannon Rail Link and permit development where it is demonstrated it will not inhibit the future development of the selected route as a rail link.
- To support the provision of more regular and efficient bus services throughout the County and to encourage private/public partnership in the provision of more widespread rural bus services;
- To facilitate the creation of bus corridors, integrated bus transportation stations, and bus parking facilities within settlements and at tourist attractions, throughout the County;
- To support the integration of transport services throughout the County in order to create more efficient transport services that meet the needs of a wide range of users.

South Clare Strategic Development Zone

Clare County Council has identified lands within the Clare Campus of University of Limerick as a Strategic Development Zone (SDZ). A formal application to the Minister for Housing, Planning and Local Government for the designation of these lands as an SDZ is to be made during the preparation of the transport strategy. The site is zoned within the Clare County Development Plan as a University Zone with a number of objectives relevant to the LSMATS set out in the Development Plan including;

- To support and encourage the further expansion of the University of Limerick campus on the north side of the River Shannon;
- To support, facilitate and promote the overall development of University Zone, including hinterland development within the zone;
- To facilitate the development of the Limerick Northern Distributor Road to provide direct access from County Clare to the University;
- To improve footpaths and cycle access to the campus from County Clare;
- To support and promote the future reopening of the Errina Canal as a functioning piece of waterway infrastructure and facilitating water-borne access to the Clare Campus, and to support and development proposals the University may have to maximise its strategic position adjacent to the River Shannon, River Blackwater and Errina canal, including the reinstatement of the riverside walkway;
- To support the future attainment of a strategic rail link from the Clare Campus of the University of Limerick to the Ennis-Limerick line.

The above lists are representative of the development objectives of the Clare County Development Plan and will be taken into account in the preparation of the strategy through the strategy appraisal process, which will assess each transport scheme against an agreed set of objectives.

2.5.4 Shannon Municipal District - Volume 3(b)

The Shannon Municipal District Plan forms part of the Clare County Development Plan 2017-2023 and sets out the land-use plan for the planning and sustainable development for the settlements

and clusters within the Municipal District of Shannon, except for Shannon town. It outlines specific Transport Objectives for each of the settlement clusters, including:

- To deliver an integrated and coherent green infrastructure strategy, encouraging walking, cycling and recreation;
- To maximise infrastructural resources, including the Shannon Estuary;
- To actively pursue a low-carbon strategy;
- To provide clear and unambiguous carriageway markings, lighting, footpaths and associated signage at junctions indicating directional priorities for traffic within towns and villages; and
- To secure the provision of a dedicated shuttle bus service between Sixmilebridge railway station and Shannon Airport (via Bunratty).

2.5.5 Southern Environs Local Area Plan 2011-2017 (extended to 2023)

The Southern Environs Local Area Plan 2011-2017 seeks to 'improve the overall quality of life by improving levels of accessibility; reducing dependence on private car transport; reducing the need to travel; encouraging the use of energy efficient forms of transport and alternatives to the private car'. This document has been extended this plan for a further five years, until 2023. Regarding the 2011-2017 document, the following key messages have been identified:

- Protect the junctions onto the Southern Ring Road by not permitting new access onto these junctions or developments which would effectively rely on these junctions or create traffic levels that would reduce their design life;
- Prohibit frontage development or the creation of new access points along certain sections of road;
- Promote walking, cycling and public transport;
- Protect existing bus lanes and support the development of further quality bus corridors;
- Provision for possible extensions of bus services into new developments; and
- Improve and create additional facilities for pedestrians and cyclists as opportunities arise.
-

2.5.6 Castletroy Local Area Plan 2019-2025

The Castletroy Local Area Plan came into effect in January 2019. The Plan Area encompasses the University of Limerick and the National Technology Park. Of particular relevance to the formation of this Strategy include;

- An aspiration to create a Park and Ride facility within the Plan Area;
- An objective to create a bus corridor from UL to the City Centre;
- Provision of walking and cycle networks on a number of public roads and some off-road routes including a link between UL to Annacotty along the Banks of the River Shannon and Mulkear.
- The Limerick Northern Distributor Road and access points to the Plan Area.
- The widening of a number of roads including the R445, Ballysimon Road and Plassey Park Road to provide for improved bus and cycle lanes.
- Upgrade of some Link Roads and junctions.

2.5.7 Shannon Town and Environs Local Area Plan 2012-2018

The Shannon Town and Environs Local Area Plan 2012-2018 sets out the land-use plan for the planning and sustainable development of the settlement of Shannon and its environs. The Local Area Plan was made in accordance with the objectives established in the Clare County Development Plan 2011-2017.

To achieve the vision set out for Shannon, eleven strategic goals and a series of objectives were established. Some of the strategic goals which are relevant to the Strategy are summarised as follows:

- Enable the growth and development of Shannon International Airport;
- Pursue a low carbon strategy;
- Deliver an integrated and coherent green infrastructure strategy, encouraging walking, cycling and recreation;

Some of the Local Area Plan objectives are summarised as follows:

- Reserve a corridor that will facilitate the future provision of a rail link to Shannon Airport;
- Facilitate and encourage the provision of a direct shuttle bus service from Sixmilebridge railway station, via Bunratty, to Shannon Airport (in the absence of the rail link);
- Support and facilitate linkages and connectivity between the Shannon Free zone/Smithstown and the town centre;
- Promote and facilitate improved access, parking and circulation arrangements within Shannon town centre;
- Secure a vibrant and viable town centre; and
- Deliver an integrated and coherent green infrastructure strategy, encouraging walking, cycling and recreation.

2.6 Other Policy Documents/Guidelines/Studies

Several other policy documents, guidelines and studies were reviewed as part of this policy review report. These policy documents include the following:

- The National Mitigation Plan;
- National Spatial Strategy 2002-2020; and
- Trans-European Transport Network (TEN-T) Policy Documents.
- The Shannon Town Green Infrastructure Plan – which aims to enhance pedestrian and cycle connectivity between the town centre and outlying areas
- The Draft Clare Noise Action Plan 2018 - which aims to improve noise monitoring and noise reduction measures on a specified set of national roads (by TII) and Regional Roads (by Clare County Council)

2.7 Summary of Policy Context

This chapter outlined a summary of some of the key National, Regional, City and County and Local level plans and policies relevant to the preparation of this Strategy.

Much of the above are representative of the development objectives of both Limerick City and County Council and Clare County Council as articulated in their respective Development Plans and Local Area Plans. These will be considered in the preparation of the strategy through the strategy appraisal process, which will assess each transport scheme and emerging policies and measures against an agreed set of objectives.

3 Study Area and Existing Development Patterns

3.1 Study Area Definition

The Study Area has been defined by the Department of Housing, Planning and Local Government to include the continuous built-up area of Limerick City and Suburbs (as defined by the CSO) and Shannon in Co. Clare. It also includes the following settlements;

- Annacotty;
- Castleconnell;
- Patrickswell;
- Clarina;
- Mungret in County Limerick;
- Sixmilebridge;
- Ardnacrusha;
- Clonlara;
- Cratloe;
- Ballycannan; and
- Bunratty

The population of the Limerick-Shannon Metropolitan Area is over 132,420 (CSO, 2016) and covers 387km².

Limerick City is the largest urban centre in Ireland's Mid-West region and the country's third largest city. Shannon is a significant employment centre with assets such as Shannon International Airport and Shannon Free-Zone. Both Limerick City and Shannon are interdependent upon each other, with their complementary functions contributing to a combined strength which is a key economic driver for the Mid-West Region.

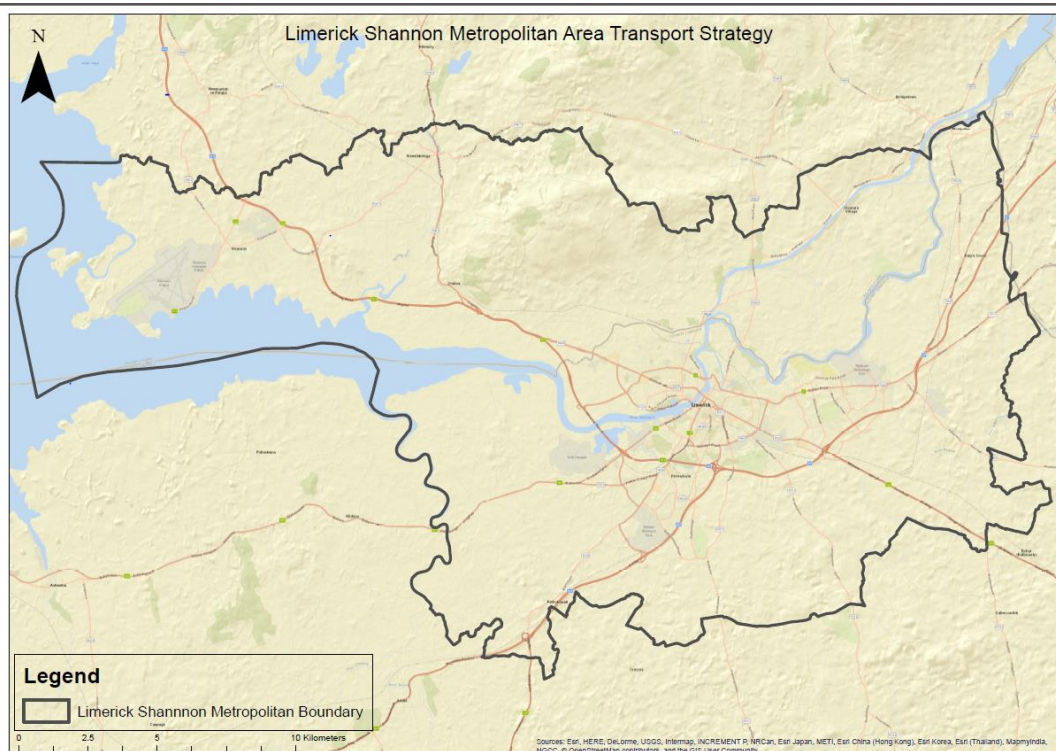


Figure 3–1 Limerick-Shannon Metropolitan Area Boundary

Limerick City is home to two third-level education institutions, University of Limerick (including Mary Immaculate College) which is located to the north-east of the City Centre and the Limerick Institute of Technology (including Limerick School of Art and Design) which is located to the west of the City Centre.

The Shannon College of Hotel Management is a locally-significant third-level education centre. Bunratty Village and Castle is a regionally significant visitor centre generating in excess of 410,000 visitors per annum. It is understood that Clare County Council wish to develop the village further with the intention of significantly increasing visitor numbers.

Limerick-Shannon and its wider Metropolitan Area is served by commuter and intercity rail services; city, regional and expressway bus/ coach services; and Shannon International Airport is located approximately 20km to the north-west of the City Centre.

Existing public transport services will be discussed in more detail in Sections 5, 6 and 7 of this report.

3.2 Existing Development Patterns

3.2.1 Population

The Limerick and Shannon Metropolitan Area was estimated to have a population of 132,420 in 2016, i.e. an increase of 2.7% since 2011. Data shows that the increase is more important in the urban areas (Limerick City & Suburbs and Shannon where the respective growths are 2.9% and 3.5%) than in the more rural areas where the growth is below 2%.

Table 3.1 Breakdown of Limerick-Shannon Metropolitan Area Population

Area	2011 Population	2016 Population	2011-16 Growth
Limerick City and Suburbs	96,761	99,548	2.9%
Limerick County Rural Areas	11,260	11,398	1.2%
Shannon	10,085	10,442	3.5%
Clare County Rural Areas	10,841	11,032	1.8%
Total	128,947	132,420	2.7%

Population distribution in 2016

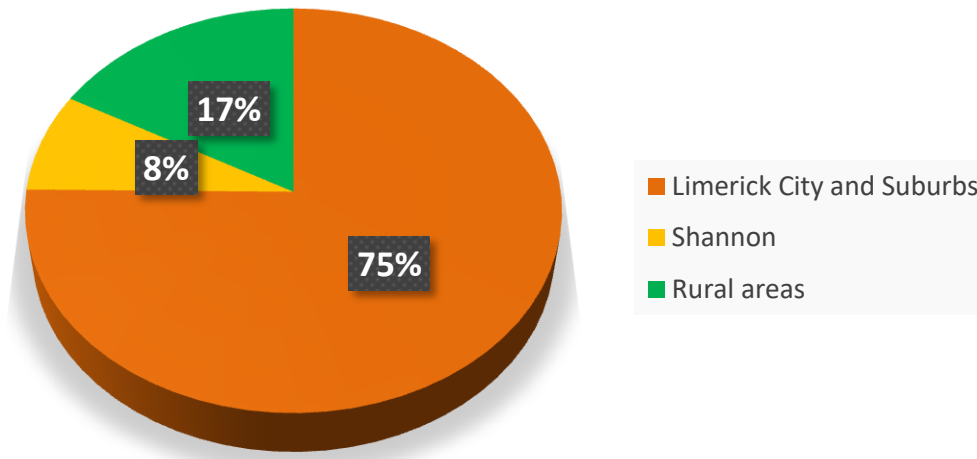


Figure 3–2 Population Percentage Breakdown – Limerick and Shannon Metropolitan Area

The figure above is showing that the geographical breakdown of the population is uneven in the Metropolitan area as three quarters of the residents are living in the Limerick City and Suburbs area and only 17% of the population is living in Rural Areas.

Population density by CSO Small Area has been mapped for the Limerick and Shannon Metropolitan Area as shown in Figure 3–3. The map shows significantly higher population density within Limerick City Centre and Dooradoyle and to a lesser extent within Shannon.

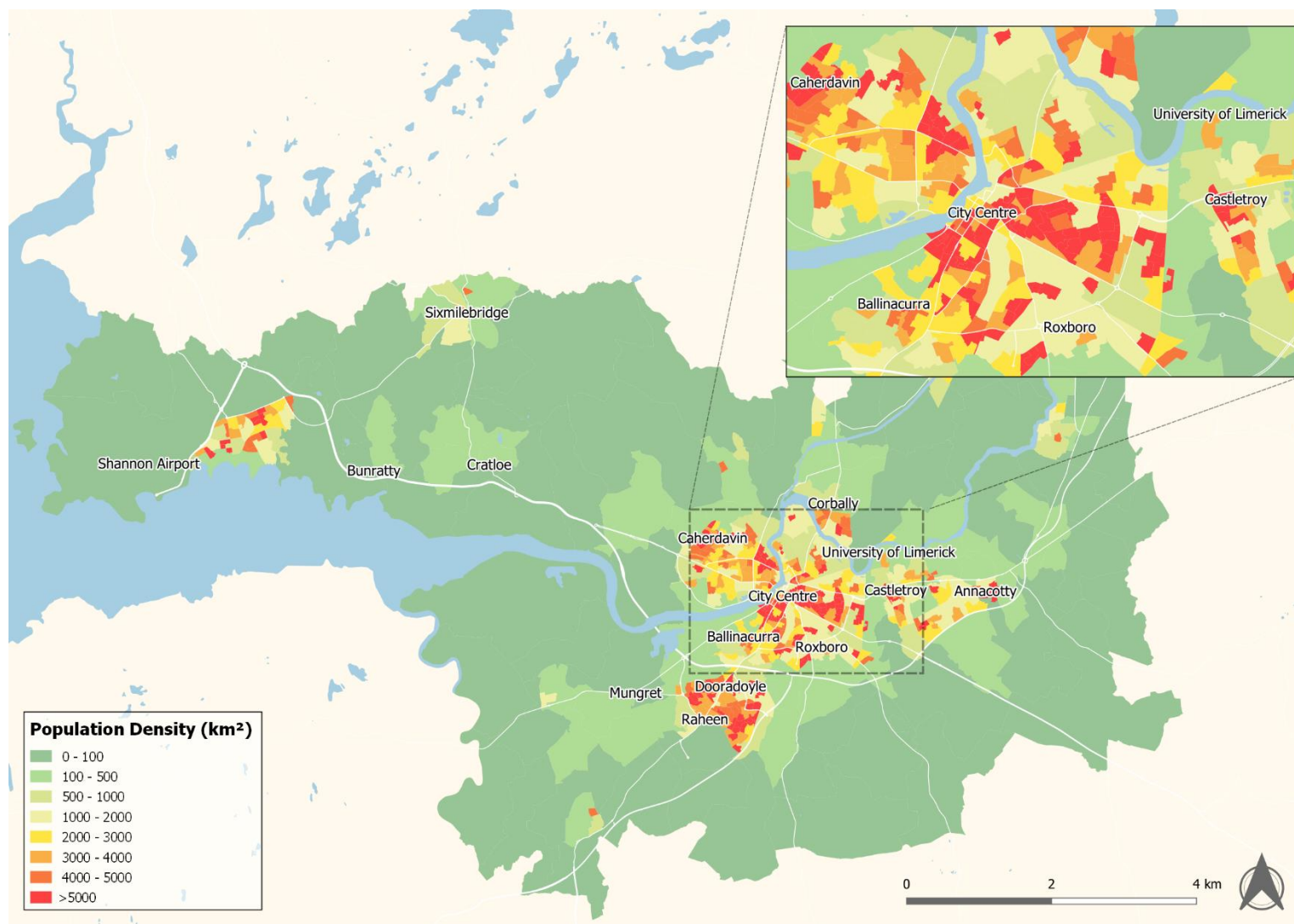


Figure 3–3 Limerick and Shannon Metropolitan Area 2016 Population density (per square kilometre)

3.2.2 Employment

The graphics below present the distribution of jobs within the Limerick and Shannon Metropolitan Area. Figure 3–4 shows total number of jobs per CSO-defined Small Area and Figure 3–5 shows job density per small area.

Across the wider L-SMA area, the most notable concentrations of employment are within Limerick City centre and Shannon – particularly around the International Airport, town centre and Business Park. Specific locations that are source of high jobs densities within Limerick include Saint Camillus Hospital, University Maternity Hospital Limerick, Limerick Institute of Technology and the Mid-Western Regional General Hospital.

There are also significant clusters of employment to the North-East of Limerick City in the general University of Limerick and the wider Castletroy/ Annacotty area. To the south-west, the Raheen Business Park and University Hospital are complemented by retail and local government functions at Dooradoyle. These are followed by smaller employment clusters along the South Circular Road, O Connell Avenue and the N69 primarily at Docklands Business Park. There are employment clusters to the SW of the city at a number of light industrial parks and out-of-town retail parks at Limerick One, Coonagh Cross Shopping Centre and Parkway Shopping Centres near Garryowen. Bunratty is a locally-significant employment centre primarily based around the visitor economy.

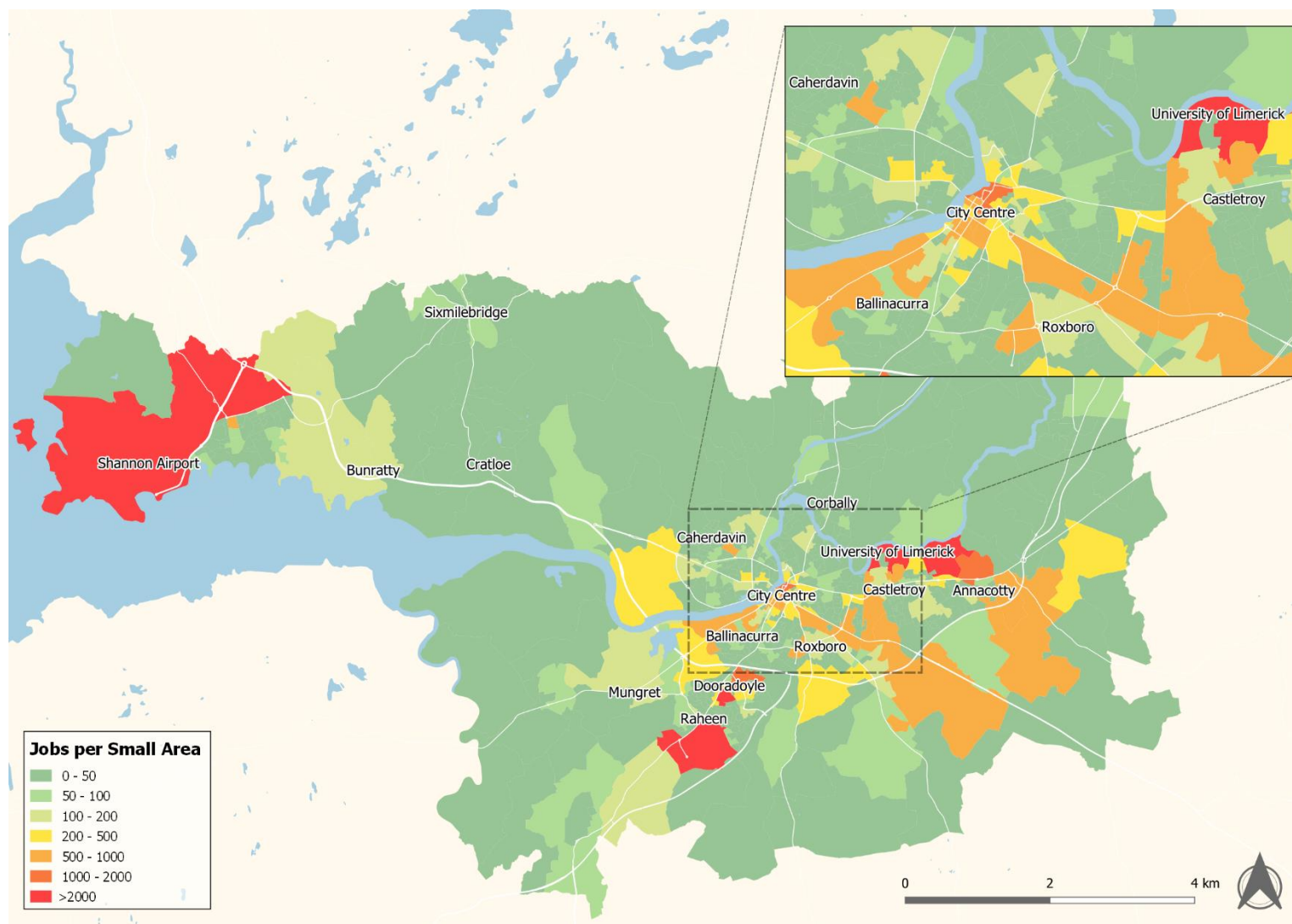


Figure 3–4 Limerick and Shannon Metropolitan Area 2016 Jobs per CSO Small Area

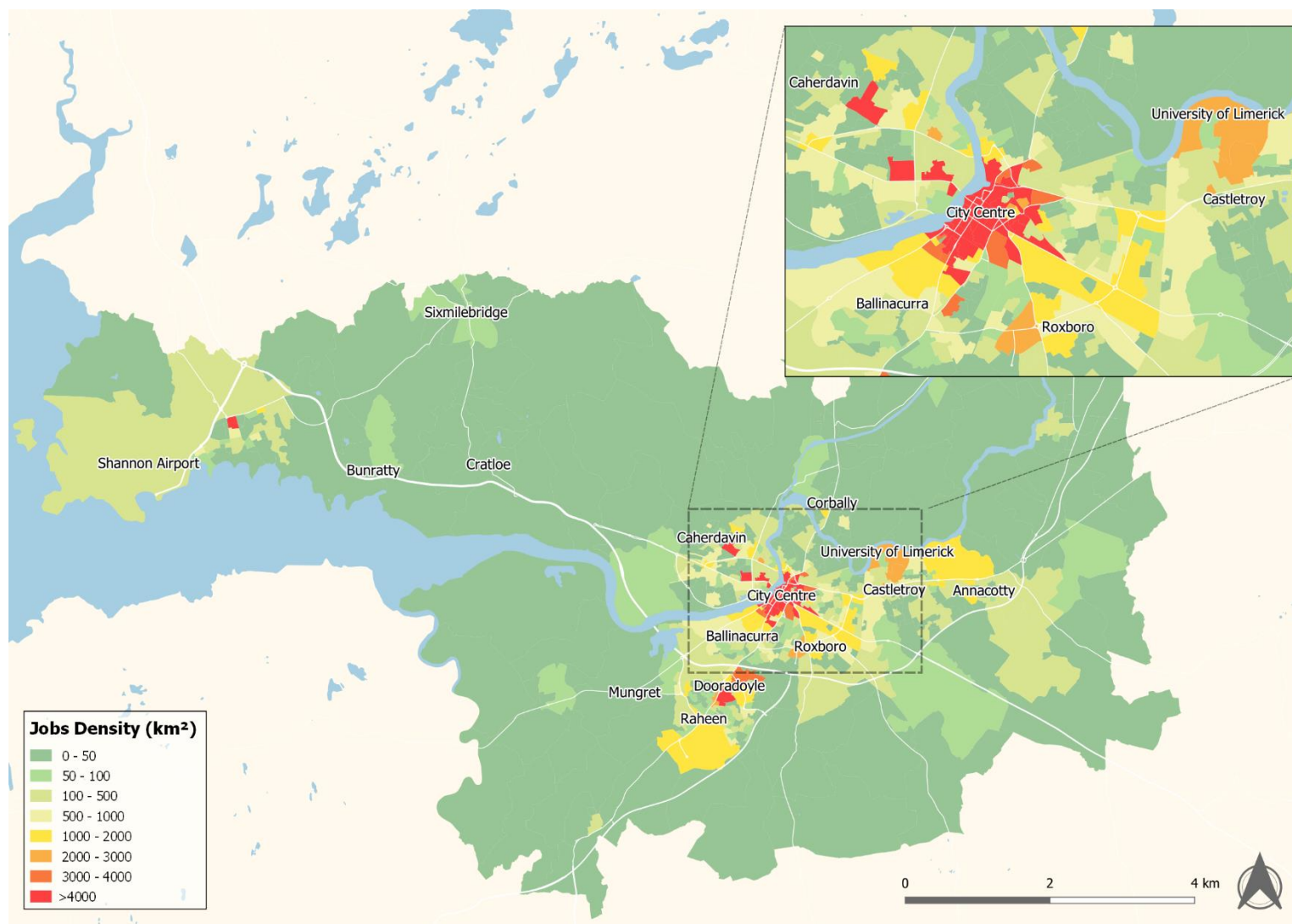


Figure 3–5 Limerick and Shannon Metropolitan Area 2016 Jobs Density (per square kilometre)

4 Existing Transport Demand

4.1 Data Sources

4.1.1 Census Data 2016

The latest available census data is from 2016 and provides data on population and social demographics at a CSO Small Area level. In addition to population totals and demographics, the 2016 census delivers extensive information on commuting travel patterns for all work and education trips. This includes information on mode choice, time of departure, trip duration and destination choice which is collated as part of the Place of Work, School or College – Census of Anonymised Records (POWSCAR). Both the POWSCAR data and the small area population statistics are used in the calibration of the NTA's Mid-West Regional Model (MWRM) discussed below in section 4.1.3.

4.1.2 2012 National Household Travel Survey

The NTA's National Household Travel survey (NHTS) was carried out between March and November 2012 with just over 6,000 houses participating nationally. The main purpose of the survey was to obtain essential information on all-day travel patterns and travel behaviour across the country and to build on the information gathered during the 2006 Greater Dublin Area (GDA) Household travel survey.

The all-day travel data obtained from the NHTS was required to provide information on travel behaviour at off-peak times of the day when trips for purposes other than work or education become more significant and are not captured within POWSCAR. This data was used to inform the parameters used within the MWRM and the calibration of the final demand.

4.1.3 Mid-West Regional Model

To examine the existing characteristics of demand within and to the Limerick and Shannon Metropolitan Area, data has been extracted from the NTA's Mid-West Regional Model (MWRM). The MWRM is one of 5 regional models which comprise the NTA Regional Modelling System (RMS). The MWRM covers all the mid-west region with detailed representation of the Limerick and Shannon Metropolitan Areas.

The model covers all surface access modes for personal travel and goods vehicles including private vehicles (taxis and cars), public transport (bus and rail), walking and cycling. The impact of the movement of goods is represented through the inclusion of goods vehicles within the highway element of the model.

The travel demand within the model is segmented according to trip purpose, car availability, employment type and educational level. The model represents an average weekday with five separate peak periods modelled:

- AM peak (07:00-10:00);
- Morning Inter peak (10:00-13:00);
- Afternoon Inter peak (13:00-16:00);
- PM peak (16:00-19:00); and
- Off peak (19:00-07:00).

The current release version of the MWRM is calibrated to the 2012 Census Data. An update of the model to a 2016 base is currently underway at the time of writing. All data presented in this section of the report has been extracted from the 2012 base year model which has been calibrated

to data from the 2012 NHTS and 2012 Census as well as traffic counts and public transport count data. For the purpose of this assessment, the road and public transport networks have been updated to 2016. In addition, the demand used in the assessment utilises the latest available 2016 census data on population and social demographics at a CSO Small Area level

4.2 Existing Transport Demand Characteristics

4.2.1 Profile of Demand throughout the Day

In total, there is approximately 415,000 trips originating within the Metropolitan area over the 24-hour period. The busiest periods in terms of total demand are the AM morning peak and the Afternoon Inter peak. The percentage breakdown of demand between the five modelled periods is shown below in Figure 4–1.

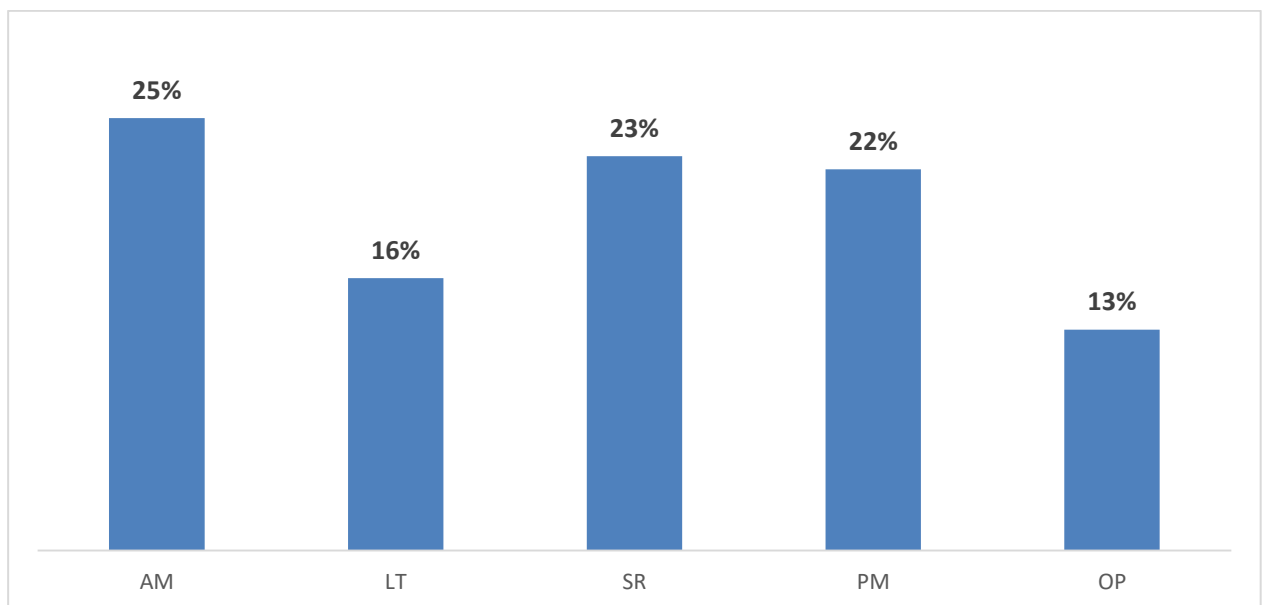


Figure 4–1 Percentage of demand by Time Period

4.2.2 Breakdown of Trip Purposes

Figure 4–2 below shows the breakdown of demand between trip purposes by each time period. The trip purposes defined are 'Food Shopping', 'Education' (including accompanying escort trips), 'Commute' trips and 'All Other Purposes'. The other purposes include visiting friends or relatives, leisure trips, business trips and non-food related shopping trips. All trips made by those in retirement are also classed as 'Other' trip purpose.

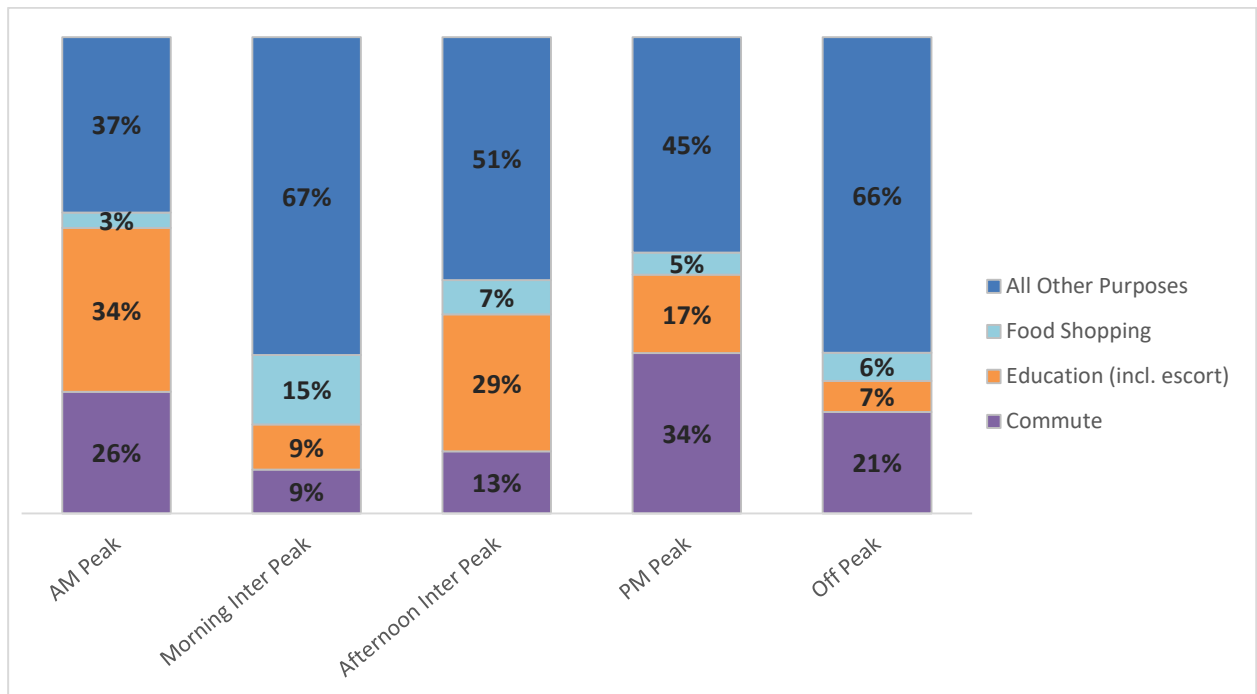


Figure 4–2 Percentage of Demand by Trip Purpose per Time Period in 2016

The breakdown of trip purposes shows that 60% of the morning peak's trips are made for commuting and education. This percentage is about 50% in the PM peak. During the rest of the day, the other trip purposes are dominant.

Overall, commuting to work and education accounts for 42% of 'all day' trips, and the other purposes for 51%, as shown in Figure 4–3 below.

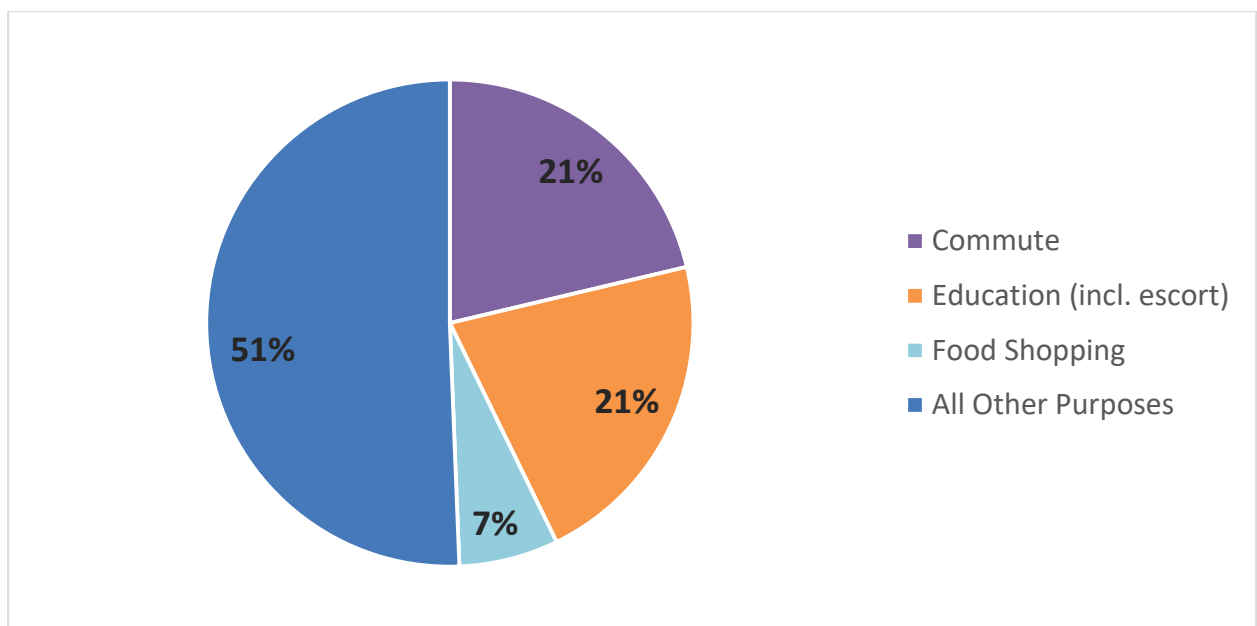


Figure 4–3 Percentage of 24-Hour Demand by Trip Purpose

4.2.3 Overall Mode Share

The overall mode share for the 24-hour demand which is illustrated in Figure 4–4 below, shows a dominant car mode share of 61%. The second most used mode is walking which represents 29% of all trips made in the day. Public transport and cycling stand for a small part of the total with respectively 8% and 2%.

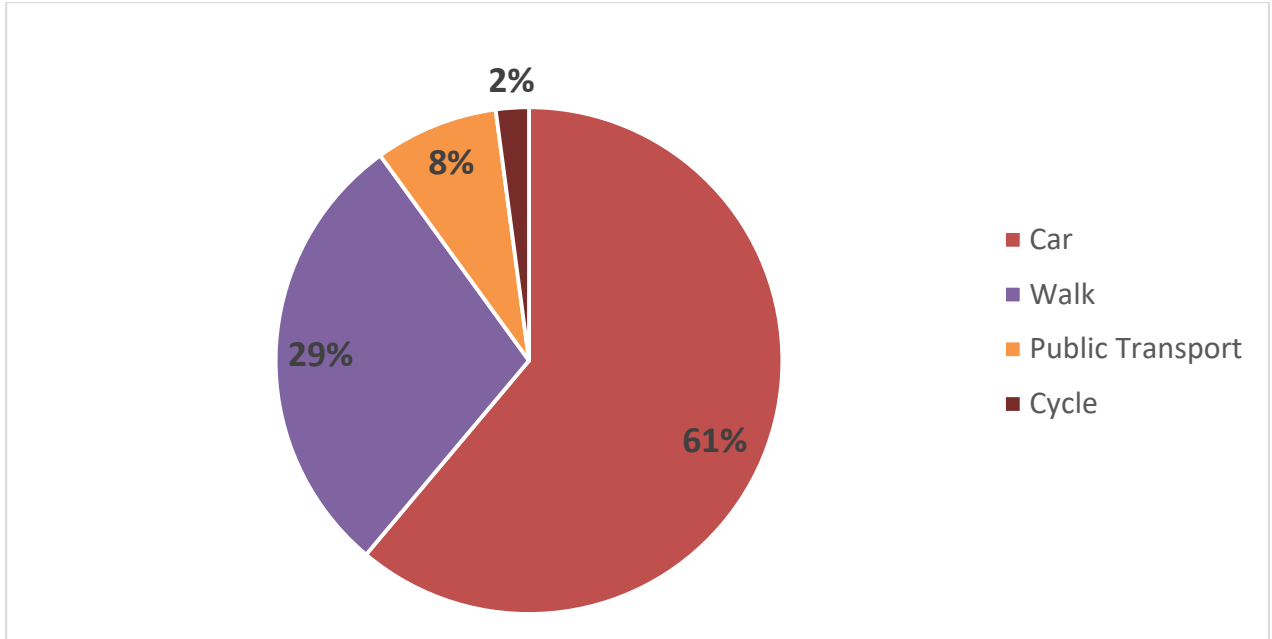


Figure 4–4 Metropolitan 24-Hour Mode Share Split

4.2.4 Mode Share by Area

The 24-hour mode share for the Limerick City and Suburbs, the other metropolitan urban areas and rural areas is presented in Figure 4–5 below. It appears that the car share is at a significant lower level in Limerick and its suburbs than it is in the rest of the Metropolitan Area. On the other hand, more trips are made by walking or with public transport in Limerick, as the transport infrastructure and the relatively short distances make these modes more attractive.

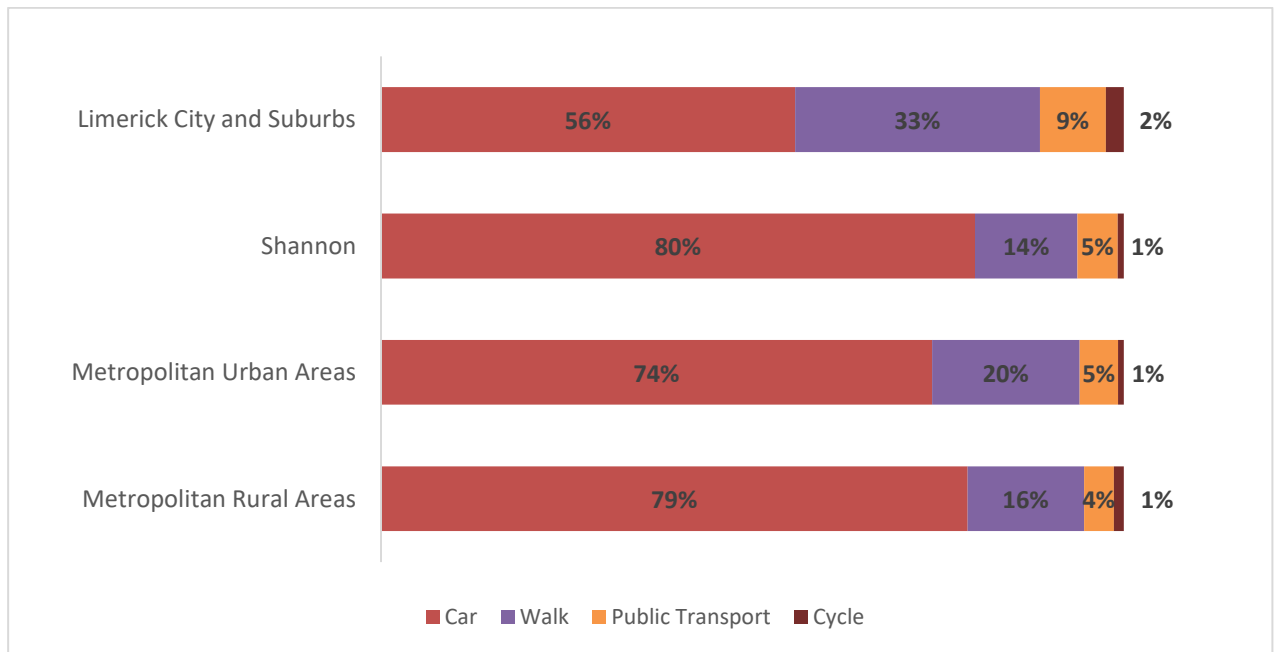


Figure 4–5 Metropolitan 24-Hour Mode Share Split by Area

A more detailed breakdown of mode share by area is shown in the following figures which illustrate the car, public transport and combined walking and cycling mode share for each MWRM zone within the Limerick and Shannon Metropolitan Area. The figures demonstrate the higher non-car mode share, overall, within the City and some County Towns.

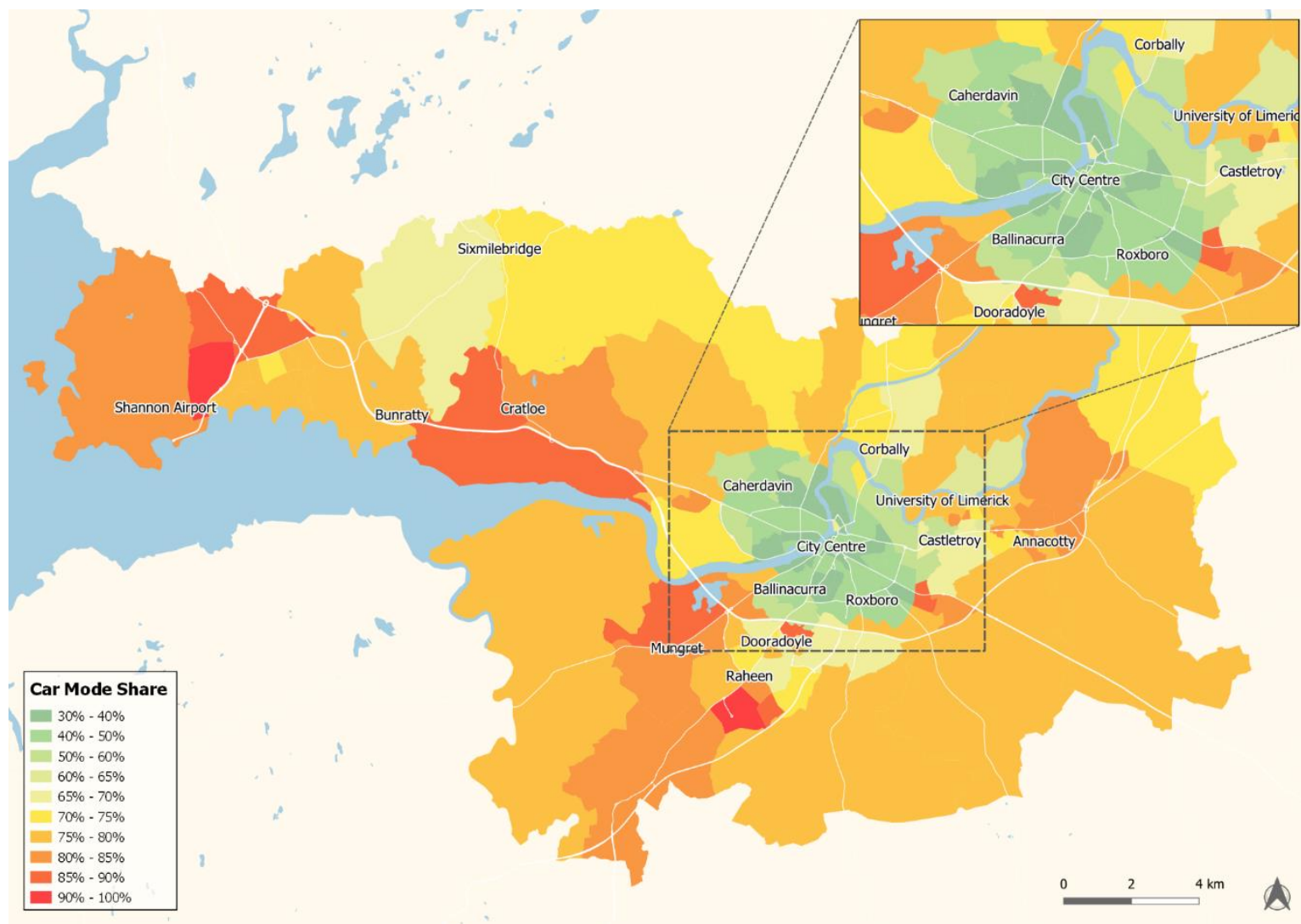


Figure 4–6 Limerick Shannon Metropolitan Area 24-Hour Car Mode Share by MWRM Zone

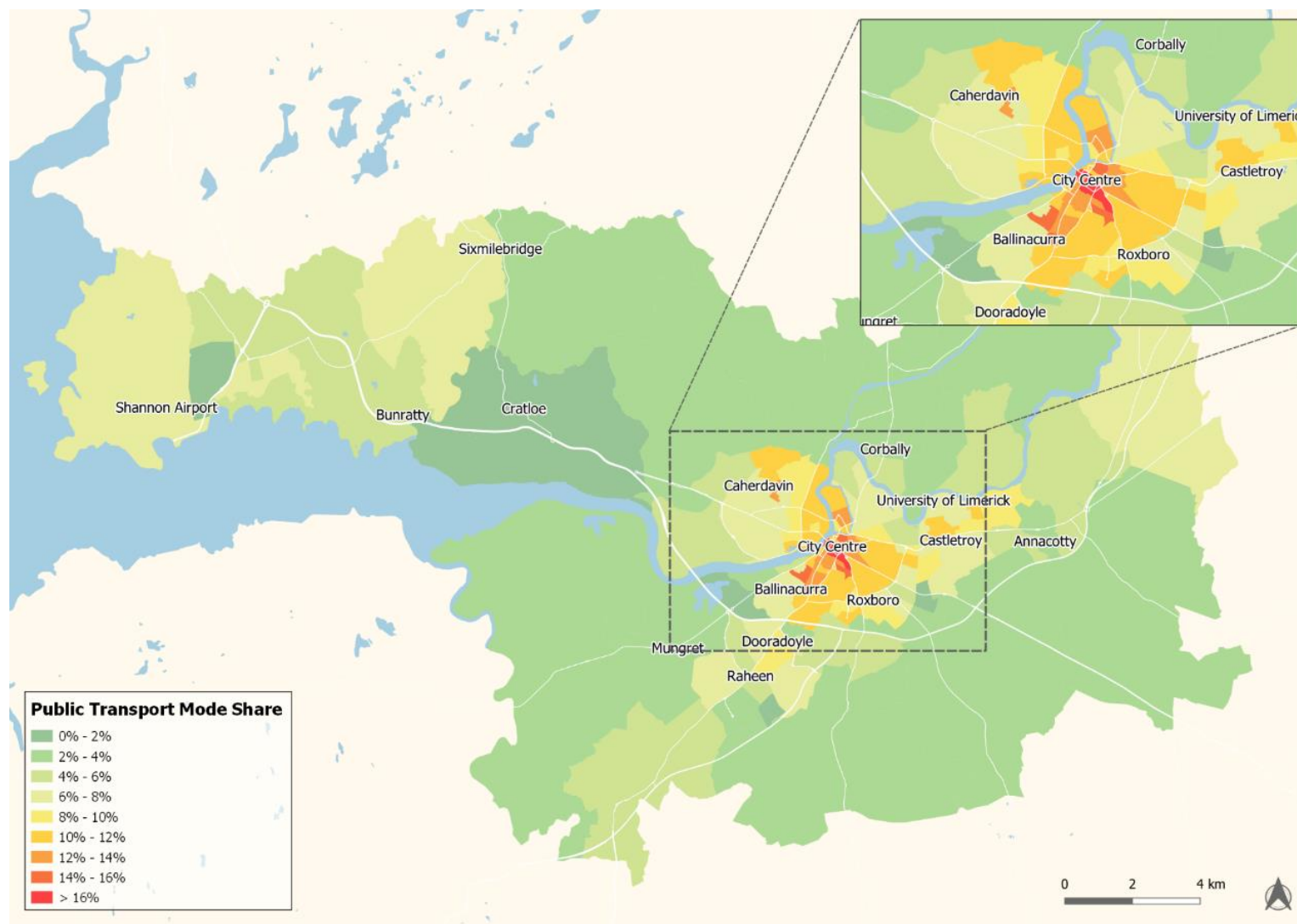


Figure 4-7 Limerick-Shannon Metropolitan 24-hour Public Transport Mode Share by MWRM Zone

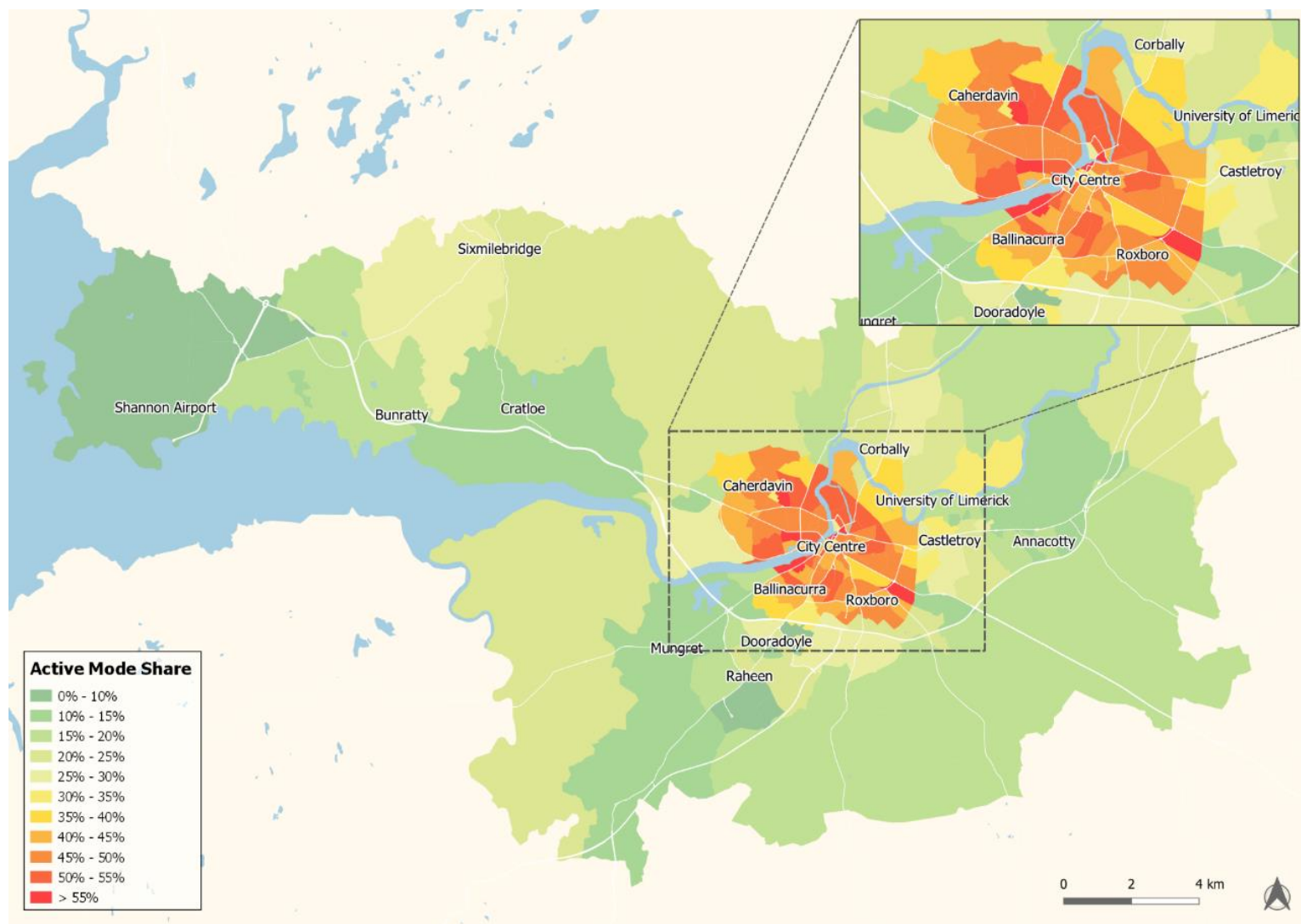


Figure 4–8 Limerick-Shannon Metropolitan 24-hour Active Mode Share by MWRM Zone

4.2.5 Mode Share by Time Period

The distribution chart below shows the mode share for the Limerick-Shannon Metropolitan Area by each time period. It appears that the off-peak period (7pm – 7am) is most dominated by car mode share at around 68%. On the contrary, the lowest car mode share is observed during the AM time period at a time when more public transport is in use.

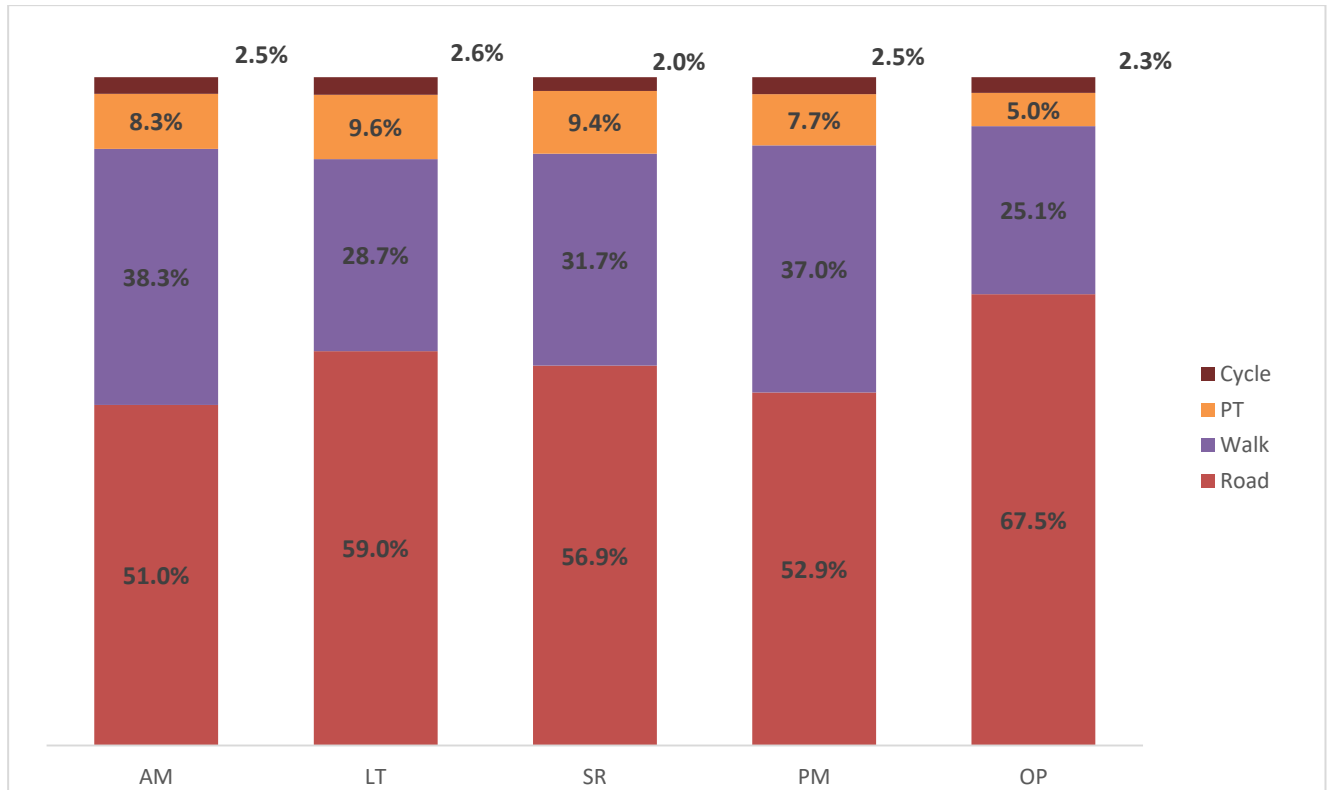


Figure 4–9 Limerick-Shannon Metropolitan Area 24-Hour Mode Share by Time Period

4.3 Existing Transport Demand Movements Patterns

4.3.1 Key Origins and Destinations

The number of origin and destination trips by MWRM model zone are shown in Figure 4–10 and Figure 4–11 for the AM morning peak. The figures show a strong demand originating from Limericks City and its suburbs and Shannon.

In term of destinations, demand is concentrated in the city centre of Limerick, in Ballinacurra where the docks and some business parks are located, Limerick North-East and the University area. There is also a strong demand to Shannon where the airport is located.

The demand has also been aggregated to a sector level system which covers the key settlements within the Metropolitan Area. The origin and destination demand at a sector level is shown in Figure 4–12 Figure 4–13 for the AM peak.

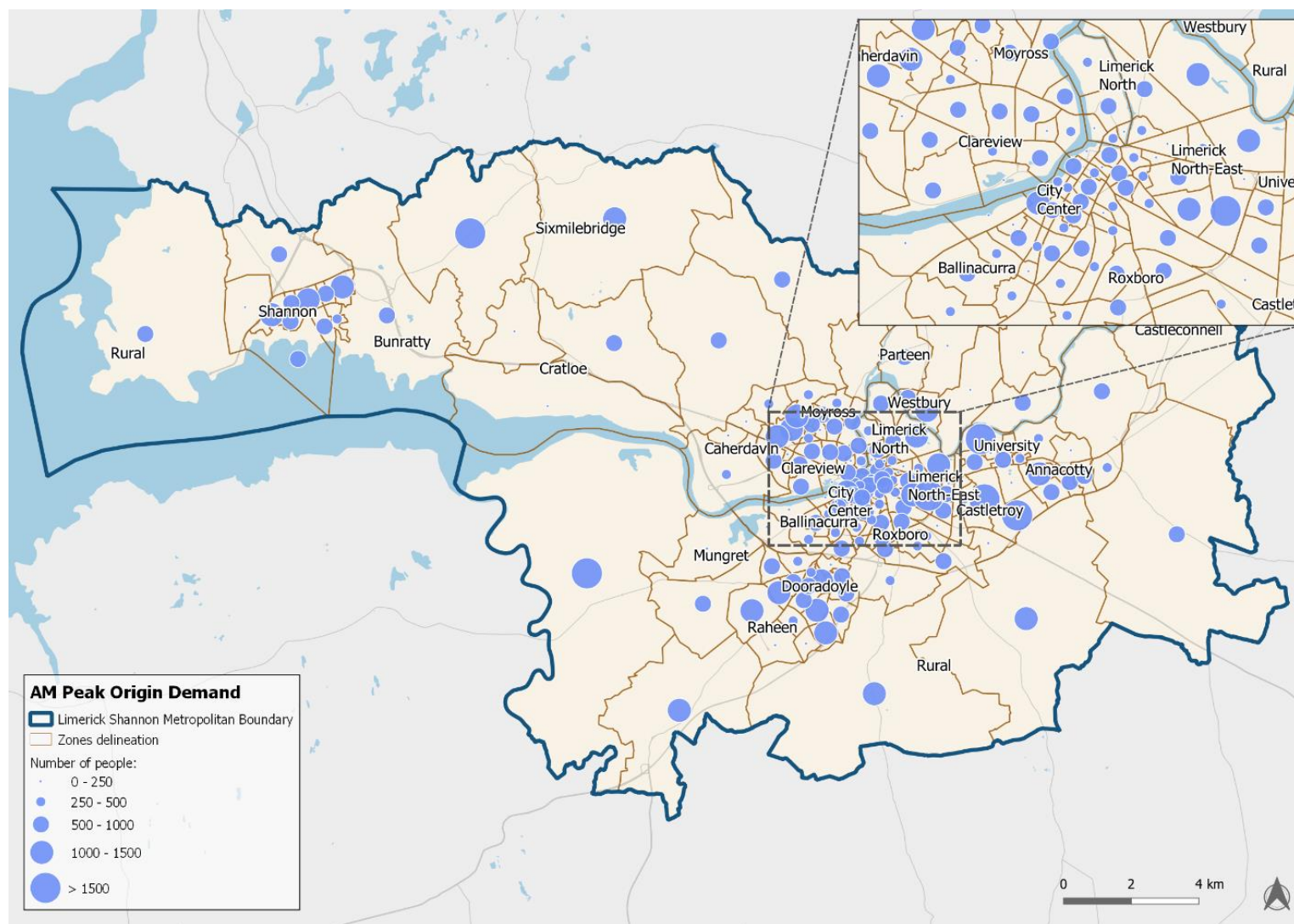


Figure 4–10 Limerick-Shannon Metropolitan Area AM Peak Origin Demand by Zone

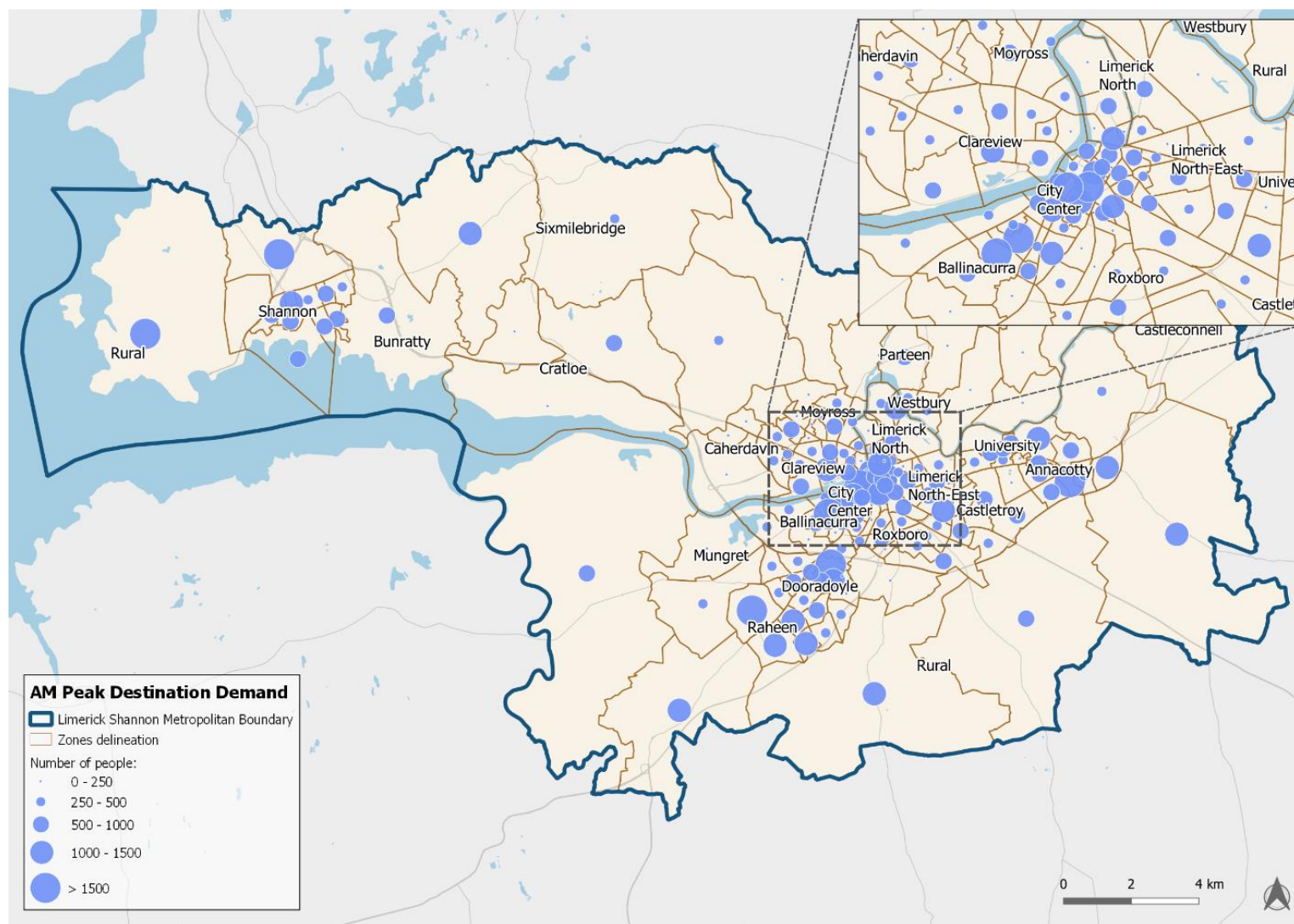


Figure 4–11 Limerick-Shannon Metropolitan Area AM Peak Destination Demand by Zone

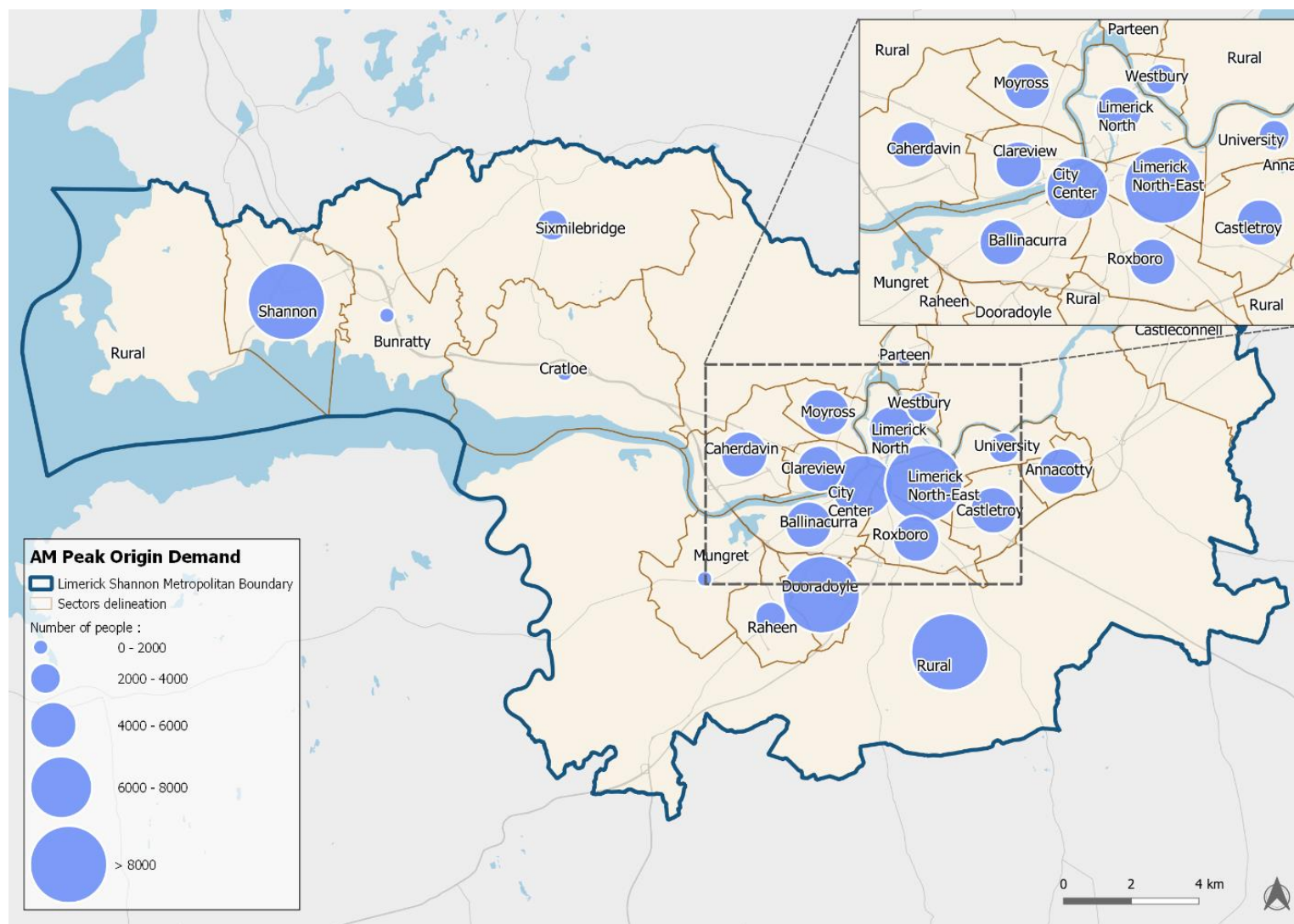


Figure 4–12 Limerick-Shannon Metropolitan Area AM Peak Origin Demand by Sector

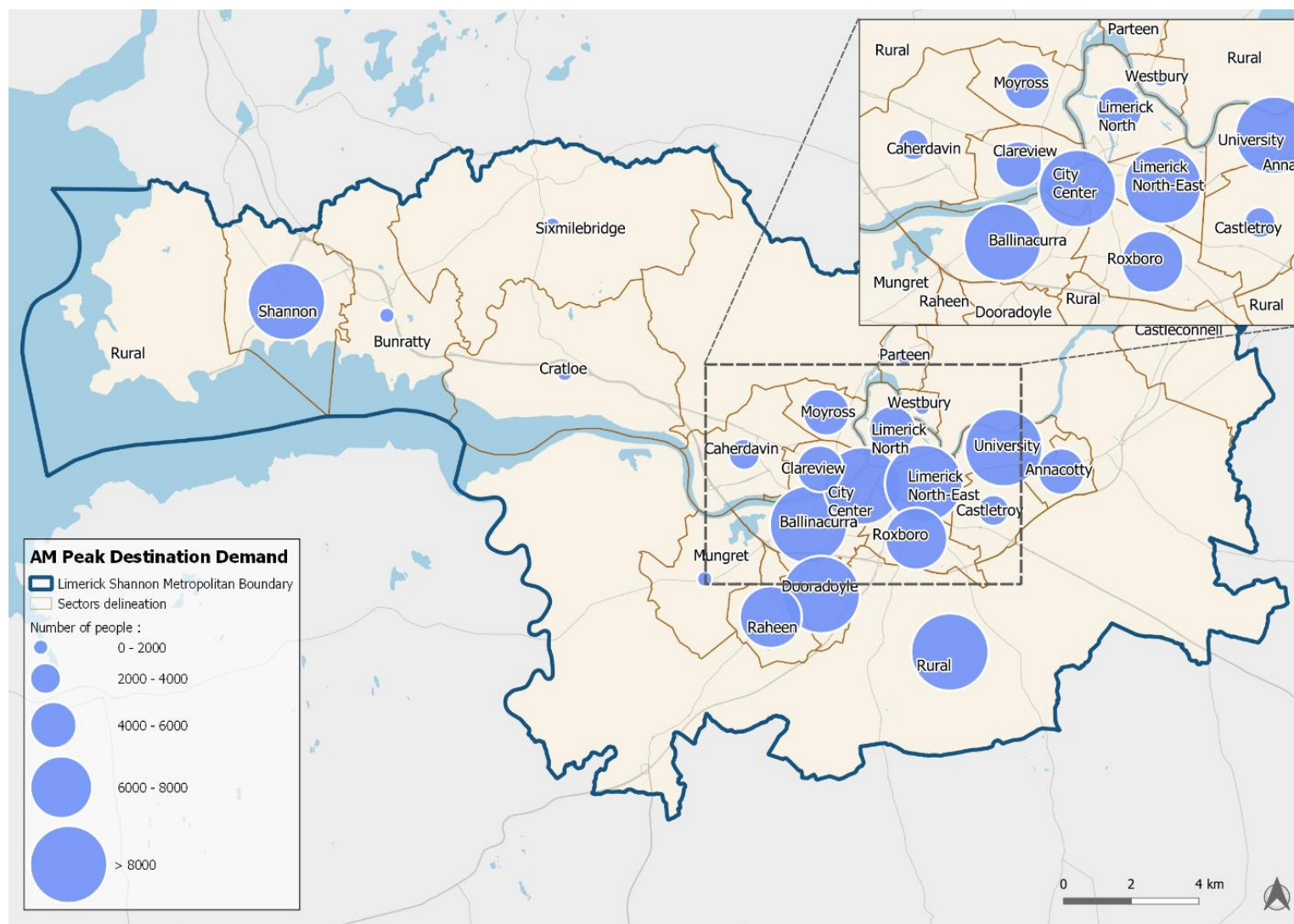


Figure 4–13 Limerick-Shannon Metropolitan Area AM Peak Destination Demand by Sector

4.3.2 Sector to Sector Analysis

The movements between the Limerick City and Shannon, the Metropolitan area and outside of the rest of the MWRM are summarised in Figure 4–14 below.

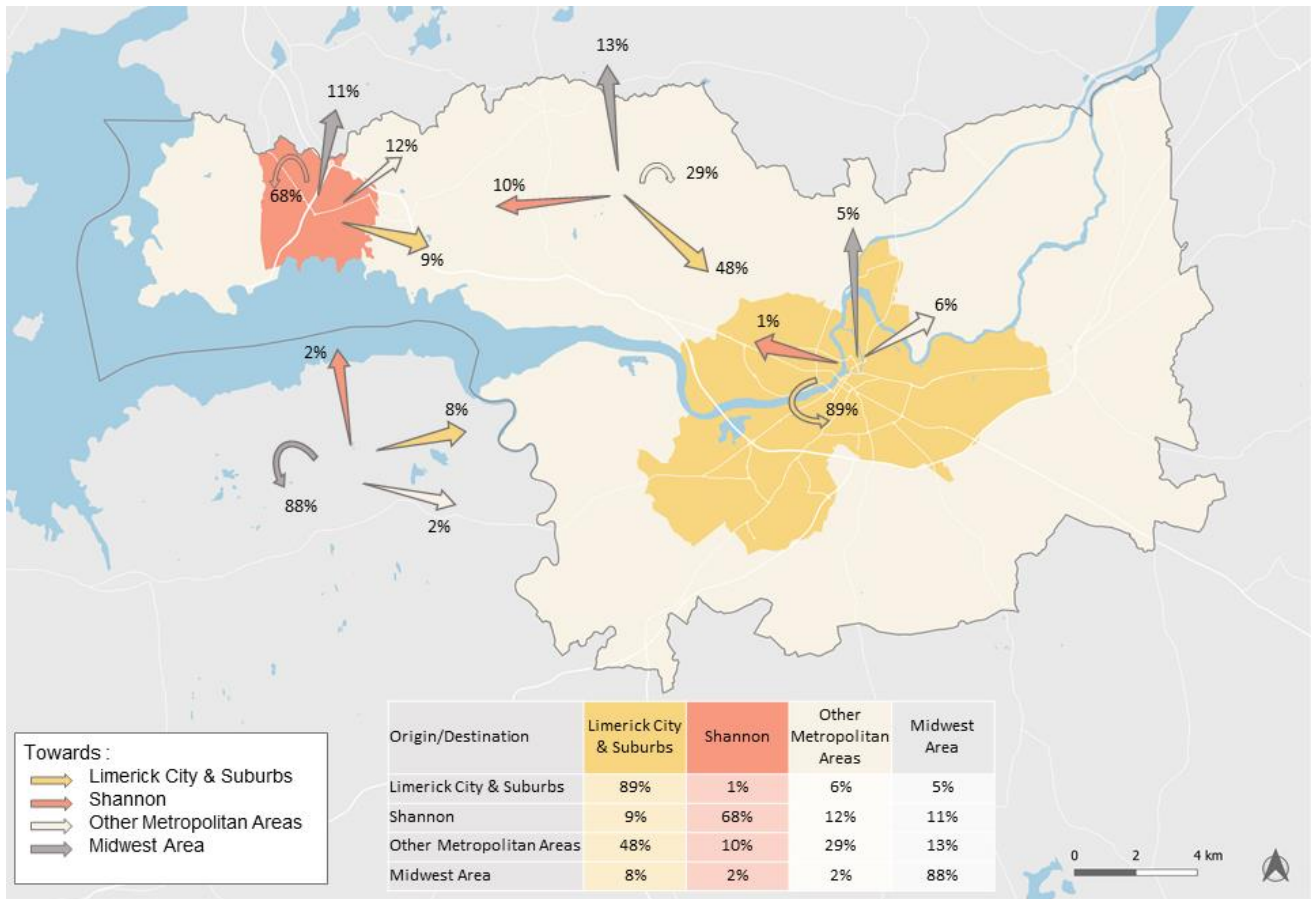


Figure 4–14 Metropolitan AM Peak Destination Demand by Sector

As shown above, the majority of travel demand is mostly internal for Limerick City and Shannon, with 89% and 68% respectively of morning peak's trips made within the same area. It's worth noting that almost half of the trips originating from the Metropolitan Areas are made towards Limerick City and about 10% towards Shannon. In the same manner, 8% of the trips made from the Midwest Area are heading to Limerick and 2% to Shannon. The Table 4.1 below outlines the 24-hour total trip demand.

Table 4.1 Total 24-Hour Demand

24-hour Demand		Destination				
		Limerick City & Suburbs	Shannon	Other Metropolitan Areas	Midwest Area	Total
Origin	Limerick City & Suburbs	252,965	2,691	25,987	35,339	316,982
	Shannon	2,971	18,759	4,654	8,443	34,827
	Other Metropolitan Areas	26,112	5,313	20,378	12,767	64,570
	Midwest Area	34,945	7,599	11,436	641,288	695,268
	Total	316,993	34,363	62,455	697,837	1,111,647

A map, dividing the Metropolitan Area into sectors is provided in Figure 4–15 below. Sector to sector demand is presented in Tables 4.2 and Table 4.3 in a matrix format which outlines the key origin-destination movements within the Limerick-Shannon Metropolitan Area for the AM peak and 24-hour periods respectively. It should be noted that the sector system is based on the MWRM zone system. Some settlement zones cover large greenfield and rural hinterland areas such as Sixmilebridge and Castleconnell.

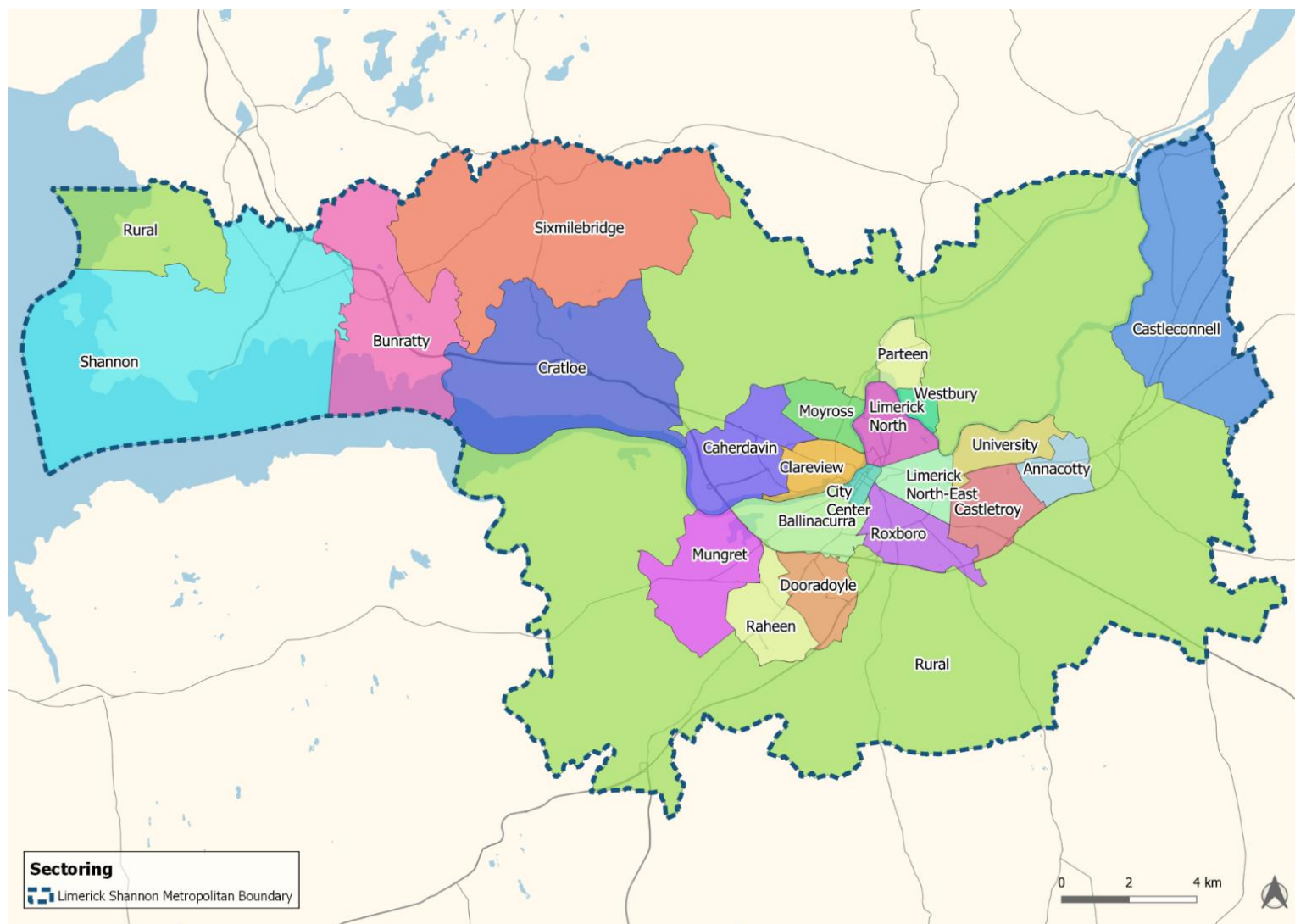


Figure 4–15 Sector System used for Origin Destination Analysis

Table 4.2 Sector to Sector AM Peak Demand

AM Peak Sector to Sector Demand			Destination																					
			Limerick City & Suburbs																Metropolitan Area					
			City Center	Annacotty	Ballinacurra	Caherdavin	Castletroy	Clareview	Dooradoyle	Limerick North	Limerick North-East	Moyross	Mungret	Parteen	Raheen	Roxboro	University	Westbury	Shannon	Sixmilebridge	Cratloe	Castleconnell	Bunratty	Rural
Origin	Limerick City & Suburbs	City Center	1,873	65	789	129	84	451	351	341	605	307	17	18	103	574	184	52	54	28	19	18	7	201
		Annacotty	169	1,120	75	15	205	39	155	82	238	31	9	7	109	176	792	11	27	3	4	75	2	433
		Ballinacurra	1,035	44	1,667	73	63	243	622	170	365	157	28	8	188	492	125	22	36	16	13	13	4	184
		Caherdavin	499	27	188	778	25	690	127	144	159	702	7	17	54	136	76	17	142	34	44	3	15	148
		Castletroy	294	414	157	20	406	69	208	137	465	56	10	8	127	368	1,016	12	31	3	4	20	3	234
		Clareview	1,031	40	387	298	43	1,490	195	271	341	675	10	22	67	302	108	31	84	34	30	6	10	156
		Dooradoyle	961	122	1,441	60	115	211	3,043	149	326	110	76	8	1,195	493	243	16	86	11	16	27	8	614
		Limerick North	836	86	329	83	73	345	140	1,172	608	309	6	39	48	364	256	109	35	17	10	10	4	190
		Limerick North-East	1,380	232	632	85	239	399	310	645	2,214	263	15	23	117	1,175	708	57	41	13	9	29	4	285
		Moyross	683	36	277	392	34	740	129	313	277	1,450	6	33	40	229	121	33	79	41	32	5	10	167
		Mungret	49	15	87	5	11	14	171	10	18	8	38	1	136	27	26	1	17	1	3	2	1	70
		Parteen	66	13	25	18	9	50	20	71	37	61	1	98	9	24	31	27	19	7	4	2	2	65
		Raheen	257	45	450	20	40	61	871	42	91	33	52	3	847	137	84	5	47	6	9	11	4	240
		Roxboro	872	120	700	56	141	228	379	226	714	143	17	9	125	1,229	270	26	29	11	8	19	3	221
		University	221	275	92	17	183	49	84	104	334	66	5	6	33	168	1,704	18	9	4	3	47	1	247
		Westbury	333	36	123	26	24	111	55	448	186	87	2	61	24	131	111	151	28	6	6	3	2	103
	Metropolitan Area	Shannon	114	10	56	64	9	76	59	28	38	76	4	4	39	36	83	5	5,604	121	81	2	226	592
		Sixmilebridge	85	16	73	56	10	63	66	60	34	81	4	20	43	40	70	9	656	951	124	3	72	195
		Cratloe	38	9	32	44	5	38	46	16	12	45	3	4	27	13	32	4	265	51	244	1	24	80
		Castleconnell	63	231	58	6	48	17	119	28	55	13	6	5	79	56	265	4	20	3	2	526	2	244
		Bunratty	17	2	12	11	1	13	11	5	6	20	1	1	6	6	21	1	298	23	14	0	123	41
		Rural	604	584	518	173	227	272	1,134	470	405	320	77	136	693	436	1,288	80	702	66	76	105	41	2,906

Table 4.3 Sector to Sector 24 Hour Demand

24 Hour Sector to Sector Demand			Destination																						
			Limerick City & Suburbs																Metropolitan Area						
			City Center	Annacotty	Ballinacurra	Caherdavin	Castletroy	Clareview	Dooradoyle	Limerick North	Limerick North-East	Moyross	Mungret	Parteen	Raheen	Roxboro	University	Westbury	Shannon	Sixmilebridge	Cratloe	Castleconnell	Bunratty	Rural	
Origin	Limerick City & Suburbs	City Center	8,864	538	3,226	1,307	842	3,010	2,839	2,406	4,330	2,094	158	177	725	3,038	760	814	353	247	154	181	54	1,839	
		Annacotty	598	3,527	228	81	1,039	169	564	315	991	140	45	34	260	616	1,721	95	61	29	20	519	7	1,744	
		Ballinacurra	3,866	233	4,665	465	392	1,111	3,438	832	1,750	758	190	56	970	1,957	405	238	169	135	80	116	29	1,182	
		Caherdavin	1,475	88	469	2,704	98	1,753	451	453	533	1,706	30	69	149	400	184	100	396	213	193	20	56	689	
		Castletroy	883	1,054	375	91	1,399	219	663	366	1,410	174	44	29	286	1,001	1,818	79	65	24	17	144	7	876	
		Clareview	3,131	169	1,030	1,652	223	4,516	870	1,066	1,369	2,256	54	127	249	970	304	263	297	189	139	44	44	856	
		Dooradoyle	3,078	524	3,280	397	660	850	11,487	595	1,400	524	482	54	3,437	1,754	593	162	257	131	108	265	34	3,020	
		Limerick North	2,601	328	793	433	379	1,102	620	3,458	2,224	1,072	33	173	172	1,072	657	817	115	122	51	74	16	1,094	
		Limerick North-East	4,472	961	1,615	497	1,406	1,350	1,416	2,150	7,904	1,055	80	121	415	3,439	1,835	503	149	96	52	209	20	1,534	
		Moyross	2,251	144	716	1,710	179	2,341	560	1,082	1,084	4,450	33	159	154	721	347	239	293	249	154	35	53	963	
		Mungret	164	43	187	26	45	51	514	32	78	30	138	3	316	97	51	8	35	9	11	16	4	269	
		Parteen	193	35	55	68	30	135	60	171	123	163	4	255	21	65	65	145	39	42	15	12	4	318	
		Raheen	894	257	1,018	142	300	264	3,845	182	438	157	334	21	2,661	526	207	60	144	77	61	142	18	1,551	
		Roxboro	3,241	580	1,853	374	972	967	1,805	1,031	3,382	708	99	63	499	4,371	795	288	123	87	47	160	17	1,309	
		University	1,090	1,903	418	182	1,906	340	673	687	2,099	370	55	66	216	961	5,237	240	137	109	53	562	31	2,467	
		Westbury	826	92	224	92	76	260	163	785	490	227	8	135	56	283	221	600	58	35	20	16	6	393	
	Metropolitan Area	Shannon	451	63	174	403	69	345	285	126	178	306	36	39	148	142	142	62	18,759	1,313	572	33	940	1,795	
		Sixmilebridge	268	30	132	189	24	183	136	118	100	221	9	39	76	91	106	35	1,220	3,460	277	12	162	425	
		Cratloe	160	20	76	179	18	139	118	50	51	141	11	15	60	46	52	21	558	294	784	5	69	255	
		Castleconnell	182	493	112	18	137	43	269	67	198	34	16	11	140	156	499	17	33	12	5	1,995	3	605	
		Bunratty	65	7	29	55	7	49	38	17	23	54	4	4	19	19	31	7	902	175	71	3	441	125	
		Rural	2,007	1,727	1,181	662	890	878	3,278	1,052	1,540	930	279	300	1,549	1,377	2,316	407	2,600	480	272	632	164	9,653	

5 Existing Transport Networks – Limerick City and Suburbs

The following section outlines the existing transport network, services and facilities within Limerick City and Suburbs by mode.

5.1 Road Network

5.1.1 National Road Network

The strategic road network is important for the movement of goods and services within the LSMA. Maintaining the capacity of the roads with optimal levels of service is of critical importance for growing the economy of Limerick and Shannon Metropolitan Area.

The National Road network provides the basis for Limerick's inter-regional and national-level connectivity. Figure 5–1 presents the existing road network in LSMA and highlights the National Network. There are seven National Roads within the Limerick Shannon Metropolitan Area, four of which comprise the TEN-T (Trans European Network – Transport) Core and Comprehensive network.

- M7 Limerick – Dublin: Motorway (TEN-T Core);
- M20 Limerick – Patrickswell: Motorway
- N20 Limerick – Cork: national primary road (TEN-T Comprehensive);
- N18 Limerick – Galway: national primary road (TEN-T Comprehensive);
- N69 Limerick – Tralee: national secondary road (TEN-T Core);
- N21 Limerick – Tralee: national primary road;
- N24 Limerick – Waterford: national primary road;

5.1.2 Regional Road Network

The regional road network supports the national road network by providing connectivity with other national roads, and the local road network by creating links between urban centres, neighbourhoods and suburbs. Key regional routes within Limerick City include:

- R526 Ballinacurra Road (radial route);
- R527 Condell Road (including Shannon Bridge).
- R858 Prospect Hill / Parnell St. / Mungret St. (radial route);
- R445 Ennis Road (including Sarsfield Bridge).
- R463 Athlunkard St/ Ardnacrusha (including O' Dwyers Bridge and Athlunkard Bridge).
- R464 Kileely Road / (radial route);
- R512/R527 Kilmallock Road / Ballysimon Road (radial route);
- R445 Dublin Road (radial route);
- R463 Corbally Road (radial route);
- R511 Roxboro Road (radial route); and
- R509 Childers Road (orbital route).

There are very limited orbital routes in Limerick, particularly to the north of the City Centre, resulting in orbital movements using the indirect local network to move around the city resulting in inefficient journeys and unnecessary congestion on the national road network, impacting negatively on its intended strategic function.

5.1.3 Local Road Network

This network of roads has a local distribution function. They are typically characterised by side road accesses and frontage development at frequent intervals. The local road network links to routes with a more strategic function.



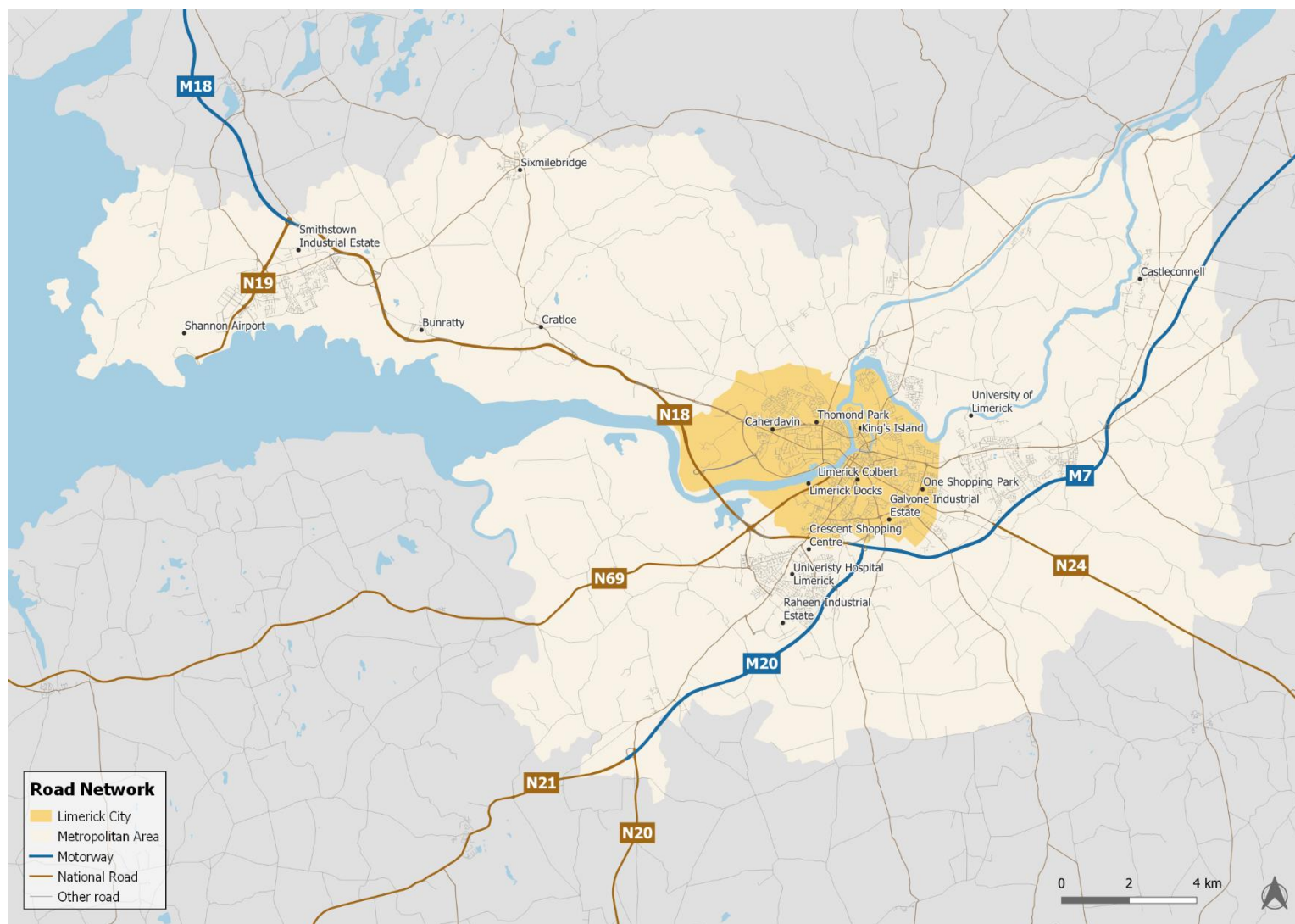


Figure 5–1 Limerick and Shannon Metropolitan Area Road Network Map

5.2 Rail Network

5.2.1 InterCity Rail Network

Figure 5–2 below shows the extent of the rail network in the L-SMA.

There are a number of InterCity services providing direct rail connections from Limerick Colbert train station to Ennis and Galway and connections via Limerick Junction to Dublin, Cork, Clonmel, Tralee and Waterford.

In comparison to any other regional destination, Limerick has the highest number of connections from Dublin. Most of these connections are provided via an interchange at Limerick Junction on the Dublin-Cork line. While the route via Limerick Junction performs almost to its full potential, the interchange at this station remains a disadvantage for the route and causes additional delays to Dublin - Cork services.

There are 3 non-stop services to Dublin Heuston available on the morning without the need to transfer at Limerick Junction. Three non-stop journeys from Dublin Heuston are possible in the afternoon and evening peak.

5.2.2 Commuter Train

Castleconnell to the east of the LSMA, has three direct services a day to Limerick Colbert on the Ballybrophy-Limerick line. Other destinations on this line include Nenagh, Cloughjordan and Birdhill. Direct weekday services from Ballybrophy to Limerick are generally unsuitable for commuters with the first service beginning at 10.05 am and has a journey time significantly longer than that of a car. The 2030 Rail Network Strategy Review indicated that demand to Limerick City is low on this route with the line primarily acts as a feeder service from Nenagh and Roscrea onto InterCity services at Ballybrophy.

Sixmilebridge station on the Limerick-Ennis line was reopened in 2010 as part of the Western Rail Corridor project. There are nine services a day to Limerick Colbert with two services available in the morning peak and frequencies of between 90 mins- 2 hours thereafter.

It is noted that whilst Clare County Council Development Plan supports the development and/or re-opening of a number of rail stations along the Western Rail Corridor, the National Development Plan is prioritising Phases 2 (Athenry to Tuam) and Phase 3 (to Claremorris). Correspondence from Clare County Council acknowledges that flooding is a recognised issue on the railway track near Ballycar. A Study has been commissioned by Irish Rail to examine a feasible engineering solution to this.

5.2.3 Freight

Freight now accounts for less than one percent of rail movements in Ireland. A freight line between Limerick and Foynes Port has been inactive since 2001. Re-establishing rail freight movements across the wider L-SMA in the medium term, is likely to depend on a variety of factors relating to a desire to reduce transport emissions, the feasibility of electrifying railway lines and continued shortages in ability to recruit HGV drivers.

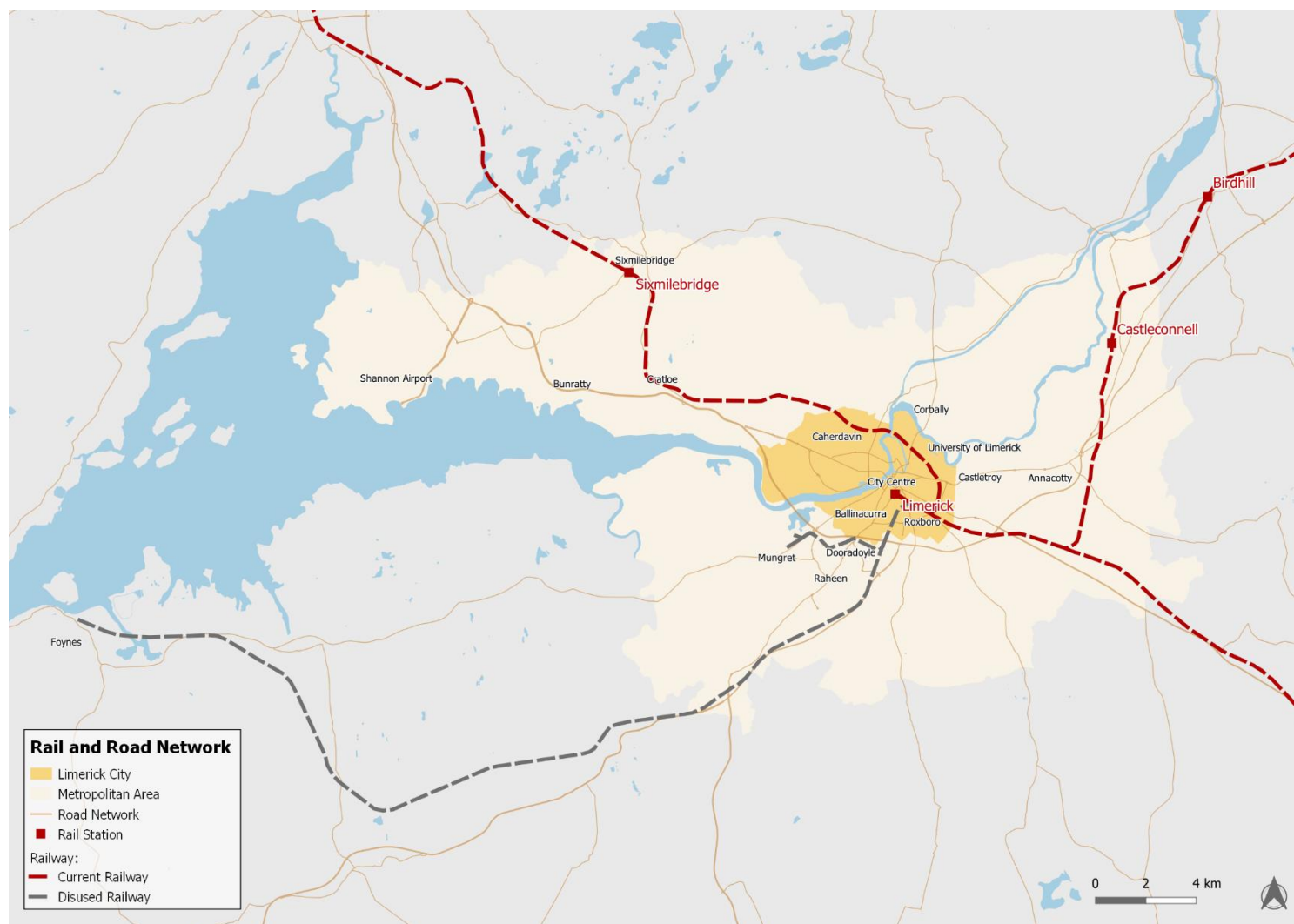


Figure 5–2 Limerick and Shannon Metropolitan Area Rail Network Map

5.3 Bus Networks

5.3.1 City Bus Networks

The principal service provider in the Limerick-Shannon Metropolitan Area is Bus Éireann, who operates a reasonably extensive city bus network. Most of these services are cross-city radial routes, three of which terminate in the City Centre. At present, there is one orbital bus route to the north of the city centre (no. 313). Additionally, Dublin Coach operates two further city bus services (routes no. 307 and 308).

Collectively, there are two higher-frequency (generally every 15 to 20 minutes) and ten lower-frequency (generally every 30 to 60 minutes) city bus routes. Figure 5–3 presents the map of the higher-frequency bus services and Figure 5–4 shows bus routes of lower frequency. From the first group, route 304 is a cross-city service and route 302 is a radial one. The second group is a combination of cross-city, radial and orbital routes.

Limerick City Centre has an extensive one-way traffic system, which has a negative impact on public transport operations as bus routes are separated on inward and outward legs. This can be confusing for less frequent bus passengers and visitors to the City, who may not be familiar with the city bus network. Certain bus routes are also separated as a result of restricted road widths.

Table 5.1 classifies each of the city services into either high or low frequency service for all available operators. A high frequency service is classified as four or more buses an hour; anything lower than this has been classified as a low frequency service.

Table 5.1 Frequency of city bus services

Service	Route	Operator	Frequency
301	Raheen University Hospital Limerick to Westbury	Bus Éireann	Low
302	Caherdavin to City Centre	Bus Éireann	High
303	Pineview to O'Malley Park	Bus Éireann	Low
304	Ballycummin to University of Limerick	Bus Éireann	High
304A	Raheen University Hospital Limerick to University of Limerick	Bus Éireann	Low
304X	Raheen (Opposite Raheen Church) - Limerick Bus Station	Bus Éireann	Low
305	St. Mary's Park to Lynwood Park	Bus Éireann	Low
306	Ballynanty to Edward Street	Bus Éireann	Low
307	William Street to Cappavilla	Dublin Coach	Low
308	William Street to University of Limerick - Annacotty	Dublin Coach	Low
313	City Centre to Ardnacrusha	Bus Éireann	Low
323	City Centre to Castleconnell	Bus Éireann	Low

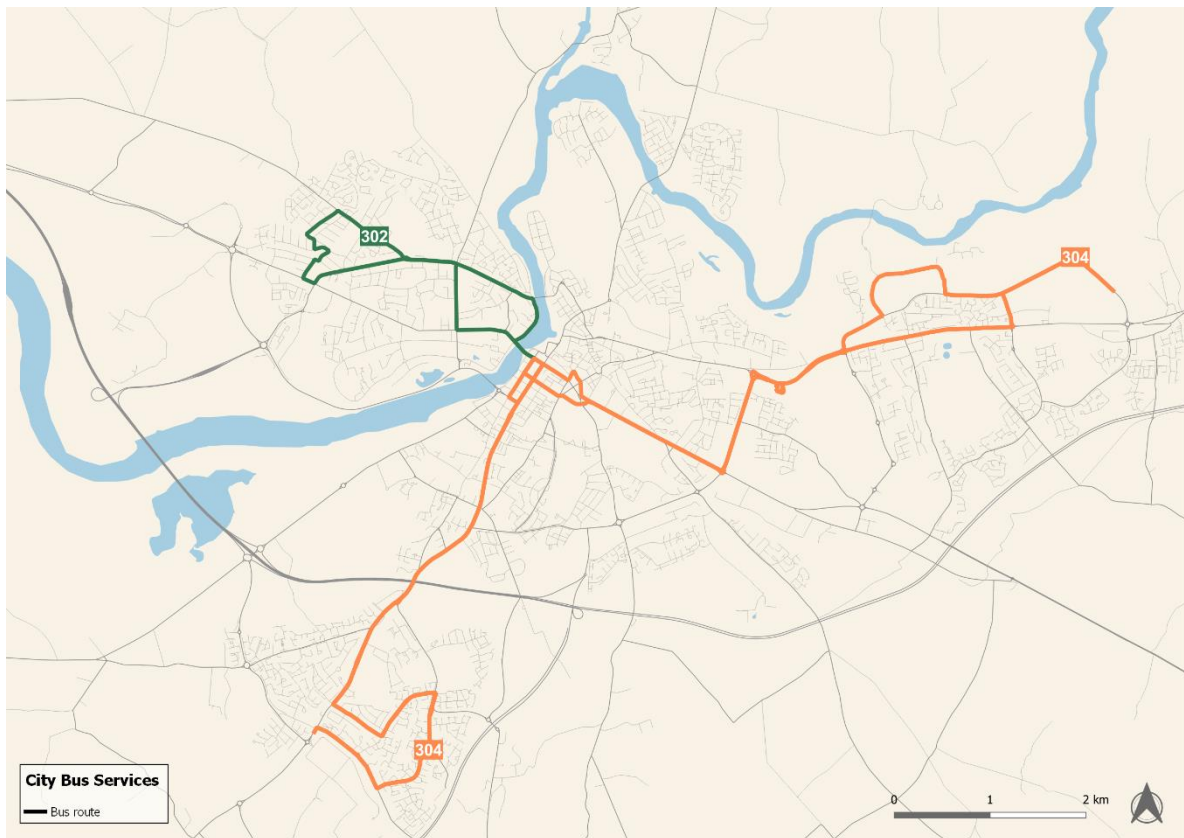


Figure 5–3 Existing High Frequency City Bus Network in Limerick Metropolitan Area

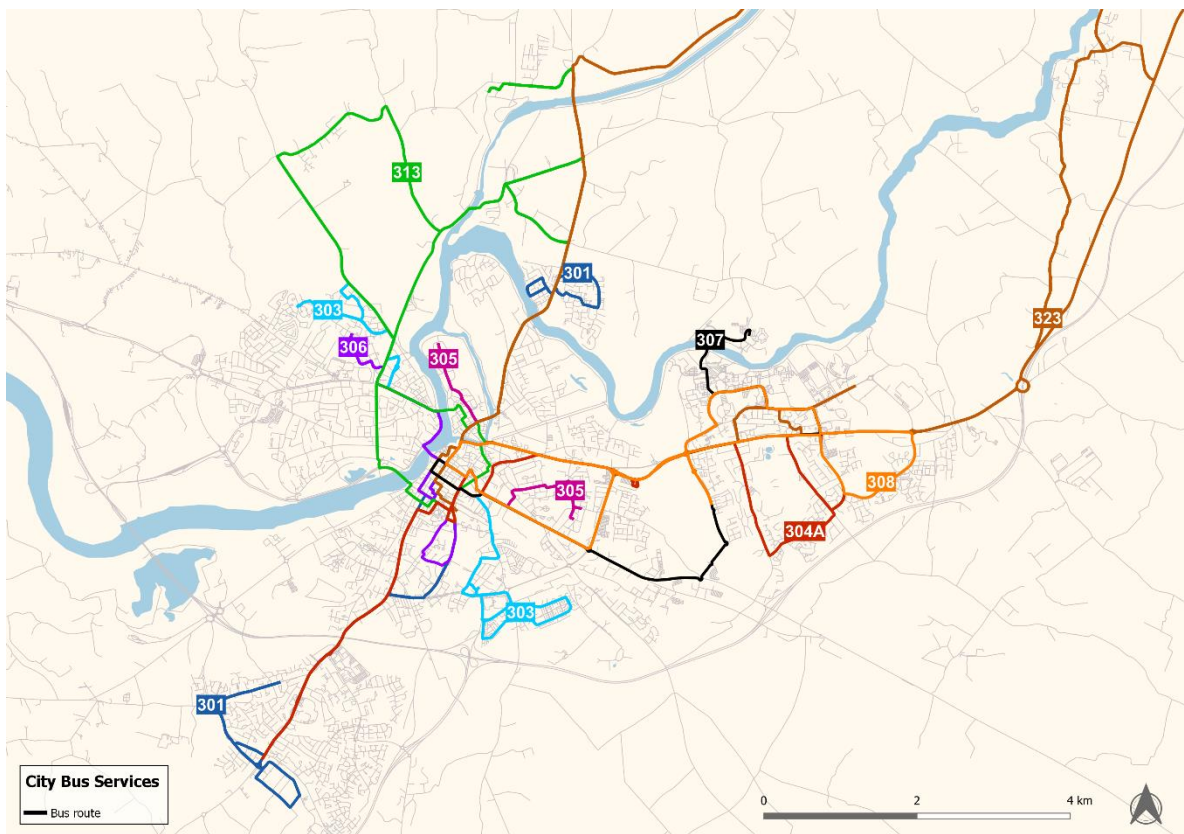


Figure 5–4 Existing Low Frequency City Bus Network in Limerick Metropolitan Area

5.3.2 L-SMA Regional Bus Services

In addition to the city services, there are a number of regional Bus Éireann services providing links from different settlements within the wider County Limerick to the L-SMA as well as from counties Clare, Offaly, Tipperary, Cork, Kerry, Galway, Waterford and Dublin. These services are shown below in Figure 5–5.

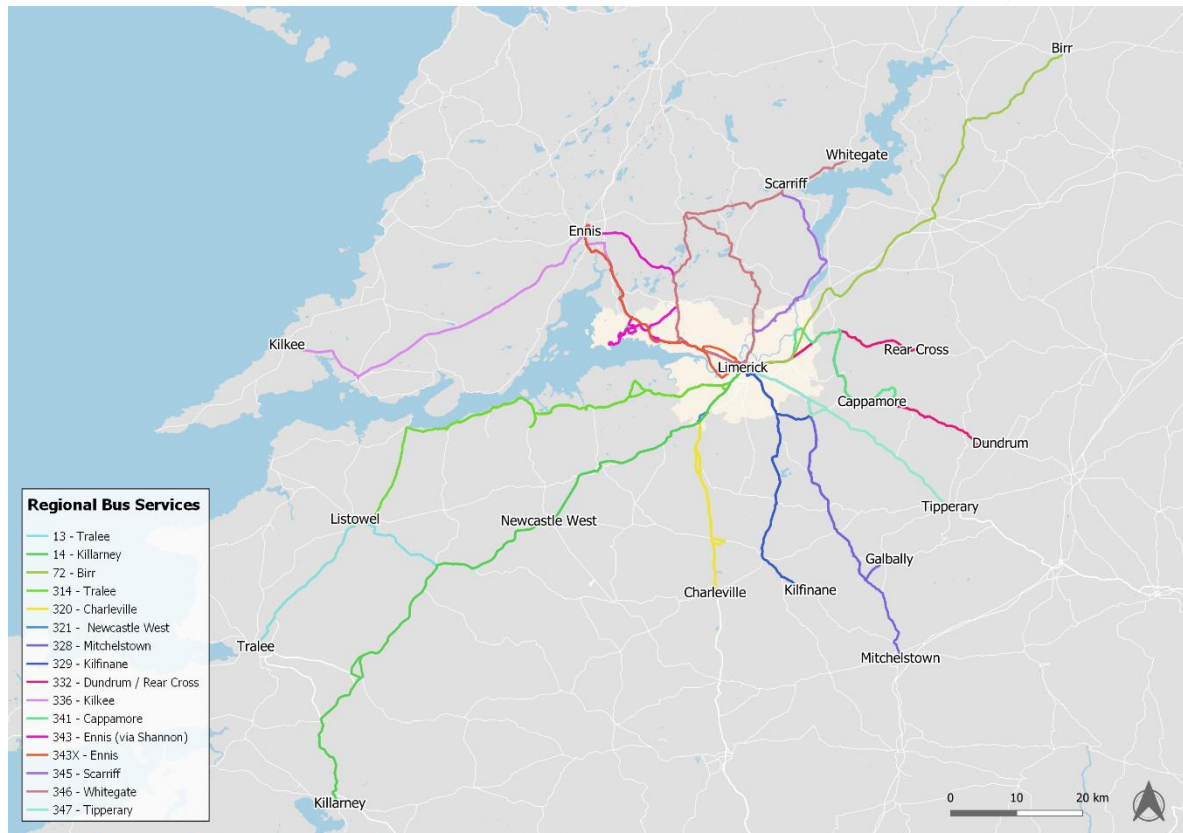


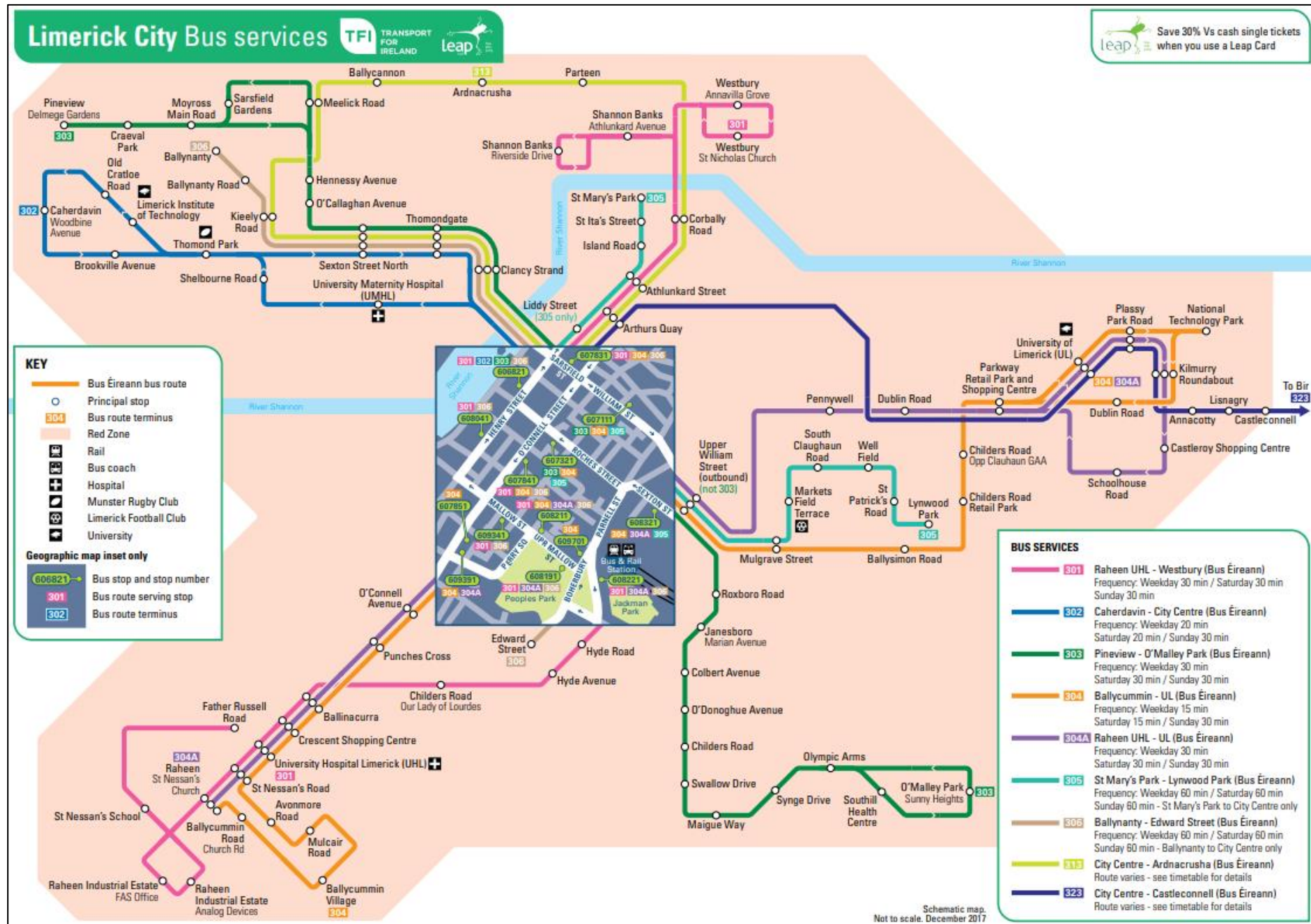
Figure 5–5 Existing Regional Bus Network in Limerick Metropolitan Area

A further 7 regional bus services are provided by the private operators including;

- CityLink,
- Dublin Coach,
- Kelly Travel
- Kenneally's /JJ Kavanagh

These are routes 251, 251X, 300, 309, 352, 712X and 735.

Dublin Coach provides an hourly service from Tralee-Ennis-Bunratty-Limerick-Dublin City which provides an important link for visitors and students. JJ Kavanagh's operate a weekend service to both UL and Limerick City on a route that covers from Carlow, Kilkenny and Nenagh.



5.3.3 Bus Lanes

The existing network of dedicated bus lanes within the Limerick Metropolitan Area has been mapped in Figure 5–6 (below). The majority of these are located within Limerick City, and along the R445 at Annacotty/ Newcastle near UL and Dooradoyle (near University Hospital Limerick), within the wider metropolitan area.

The provision of bus lanes throughout the L-SMA is inconsistent. Where lanes are provided, they are often not continuous and end abruptly. Specifically, bus lanes are partially present on the following roads:

- St. Nesson's Road (R526);
- Ballinacurra Road (R526);
- Ennis Road (R445);
- Ballysimon Road (R527); and,
- Condell Road (R527).

These roads include some of the primary approach roads into the City Centre from the surrounding areas. The bus lane along Condell Road (R527) primarily benefits regional services and taxis, as there are no City Centre services which operate along Condell Road at present and ends approximately 600m before entering the centre.

The bus lane along St. Nesson's Road (R526) begins after the Raheen Roundabout and continues as far as the Ballykeefe Roundabout, approximately 1km from the City Centre. There is a bus lane provided for inbound to the City Centre only.

The Limerick District Movement Framework Strategy indicated that bus priority is provided at approximately twenty junctions throughout Limerick and integrated to the Limerick City Urban Traffic Control system. The system assists in providing priority for public transport vehicles, helping buses stay on schedule and improve service reliability. Further enhancement of existing junctions to incorporate Bus Priority is planned. The introduction of these facilities on routes entering the City Centre provides greater option for alternative modes of transport.

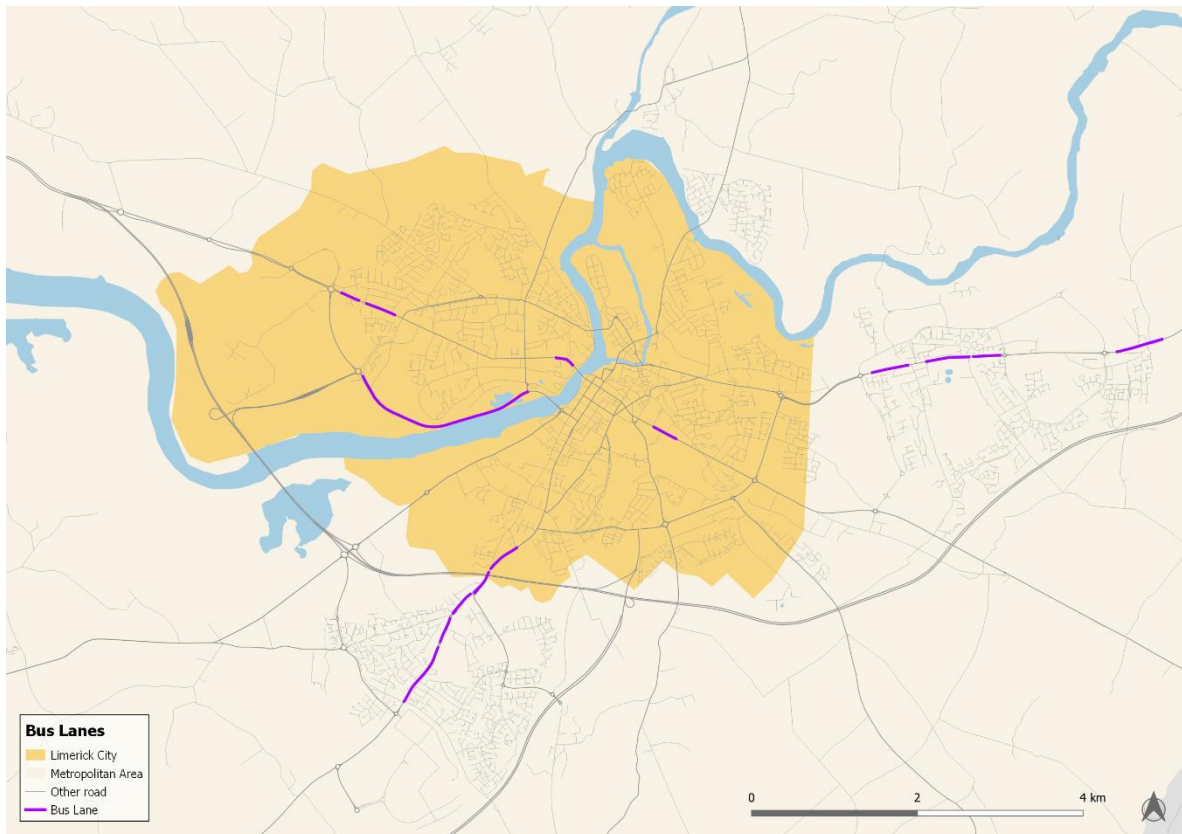


Figure 5–6 Existing Bus lanes within the Limerick Metropolitan Area

5.4 Public Transport Interchange

The primary terminal for public transport services in Limerick City is at Colbert Station, located just off Parnell Street/Hyde Road, an approximate 15-minute walk from the City Centre. This station facilitates interchange for rail, coach and bus. The station was recently upgraded which enhanced the station environment and improved the interchange facilities. However, the station lacks a clear and obvious connecting pedestrian route to the City Centre. Pedestrian crossing facilities at the most obvious route Shannon Street/ Parnell Street are under-developed.

The station is the principal bus station in Limerick for Expressway and Regional services operated by Bus Eireann, InterCity services operated by GoBe, and international services operated by Eurolines.

5.5 Cycle Network

The Limerick-Shannon Metropolitan Area cycle network has been developed incrementally over many years. The existing network contains many barriers to cycling, both real and perceived, natural and manmade. The primary natural barriers to cycling are the watercourses through the metropolitan area, including the River Shannon, The Abbey River, The Mulkear River, the Ballynaclogh River and the Park Canal. Of these watercourses, the River Shannon is the principal natural barrier to north-south movement. There are currently 3 vehicular bridges crossing the River Shannon from the west, Caherdavin area. None of these bridges currently provide dedicated cycle facilities. The potential to retrofit these bridges is limited due to their width.

The Metropolitan Area also contains several manmade barriers to cycle movement. These include, three railway lines, a motorway / dual carriageway on which cycling is prohibited, one-way and

circuitous routes, junctions with little or no provision for cyclists e.g. large diameter, multi-lane roundabouts and high traffic volumes and speeds.

Figure 5–8 and Figure 5–9 present the characteristics and quality of service of the existing cycle facilities within Limerick. The current cycle network is not continuous and does not offer a full coverage of the Limerick city. Most of the cycle track within the network is immediately adjacent to the road with sections that have a quality of service between C and D (Source: *Limerick Metropolitan Cycle Network Study*, 2016). This poses potential conflicts with traffic that need to be properly addressed.

There is a public bike scheme provided throughout the City Centre with 215 bikes at 23 stations at Colbert Station, Mary Immaculate College and so on. A map of station locations is shown in Figure 5–7 below.

There are many Advanced Stop Lines (ASLs) provided throughout the City Centre which are marked beyond the stop line for general traffic.

The Southern Environs Local Area Plan (2011 – 2021) sets out a cycling strategy proposal to extend the network having special focus on routes to schools, shopping areas and open spaces. Target locations to be linked by the proposal include Raheen, Dooradoyle, Crescent Shopping Centre and Limerick City. Mungret- Loughmore defined as a primary development area in the Southern Environs has a partially constructed cycle lane extending along the regional road R859 from Quinn’s Cross to Mungret Village.

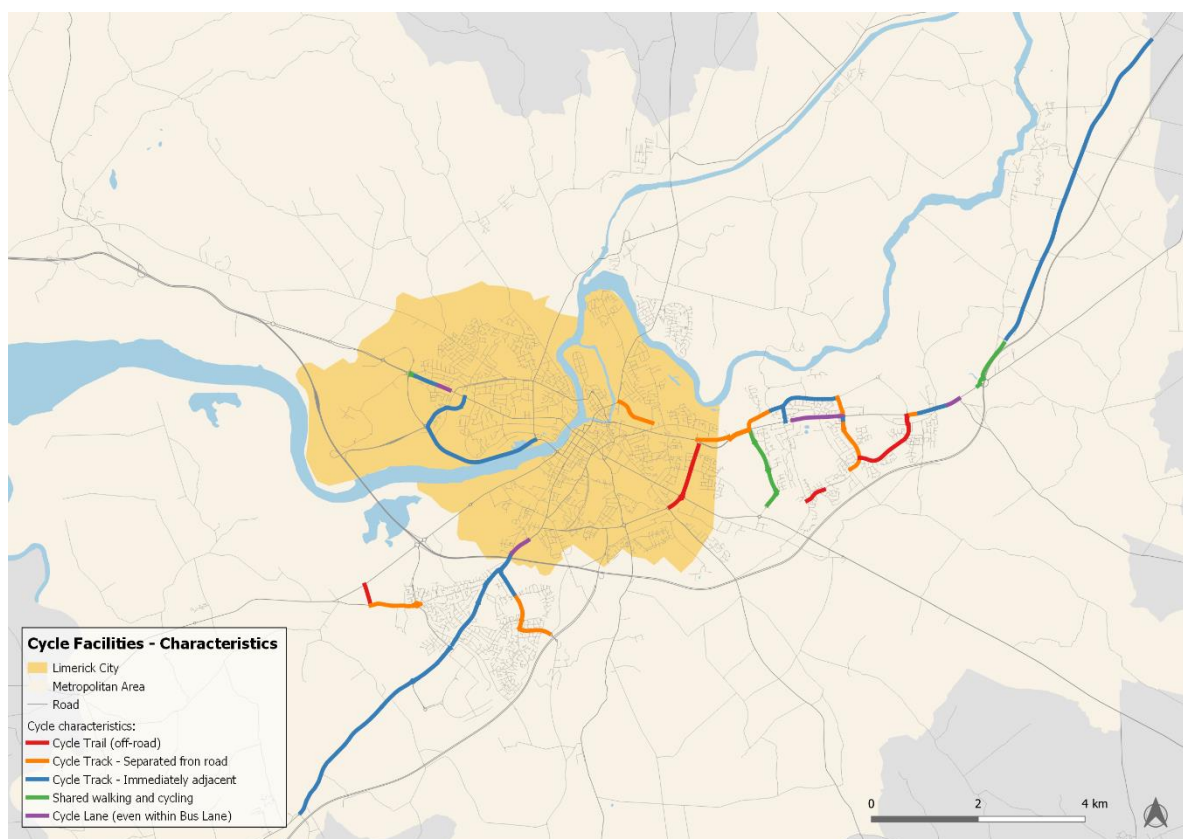


Figure 5–8 Map of existing cycling routes within Limerick City

The Shannon Town and Environs LAP (extended to 2023) identified a number of walking and cycling routes linking the town centre, Airport, employment centres and schools, nature corridors residential areas. Similarly, the South Clare SDZ contains proposals dedicated walking and cycling infrastructure within the Plan area and to the University near the Errina Canal.

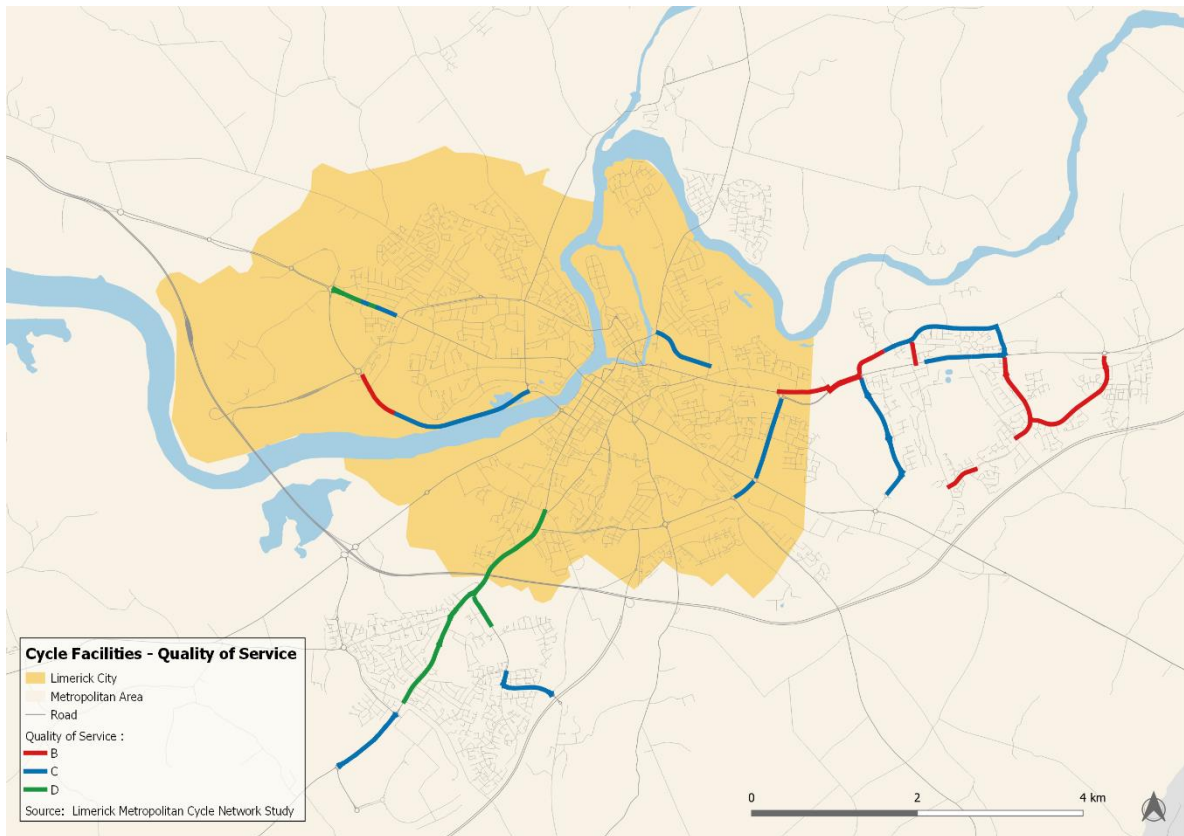


Figure 5–9 Quality of existing Cycle Facilities Quality of service within Limerick City and suburbs

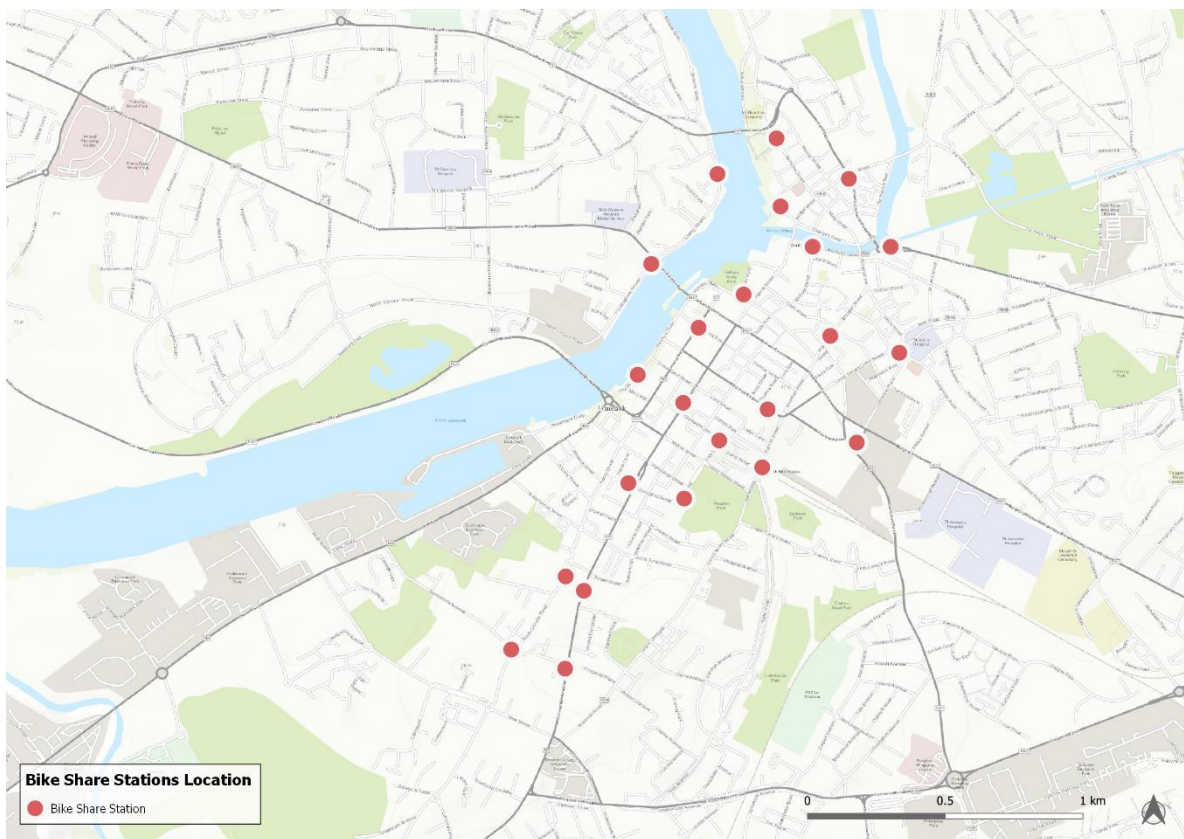


Figure 5–10 Existing Bike Share Stations Location within Limerick City

5.6 Pedestrian Network

The quality of the pedestrian environment of the City Centre has improved in recent times following the partial implementation of a public realm strategy and the pedestrianisation some streets as part of the Limerick Urban Centre Revitalisation of O'Connell Streets (LUCROC).

5.7 Parking Supply

The Movement Framework Study 2012 indicated that there are over 1,000 on-street parking spaces operated by Limerick City Council, and over 5,000 off-street privately-operated parking spaces. The structure of the city centre parking charges is such that it encourages and facilitates long-stay car parking, and therefore incentivises commuter traffic into the City Centre. This undermines the viability of the city bus services.

At present, there are no dedicated, permanent park and ride facilities provided within the LSMA. There are park and ride services provided on a temporary basis for all major events such as concerts, festivals and the pre- Christmas shopping period. During these times, there are Park and Rides located at Great National South Court Hotel, Raheen and University of Limerick. When operational, these Park and Rides are serviced by the regularly scheduled services 304, 304A and 301.

Figure 5–11 shows the location of car parks and their total capacity in Limerick City. Major parking locations are within the city centre and include Q-Park Harvey's Quay and Arthurs Quay with 634 and 570 parking spaces, respectively. Colbert Station parking area has a capacity of 280 vehicles and it operates as a Park and Ride facility on a temporary basis.

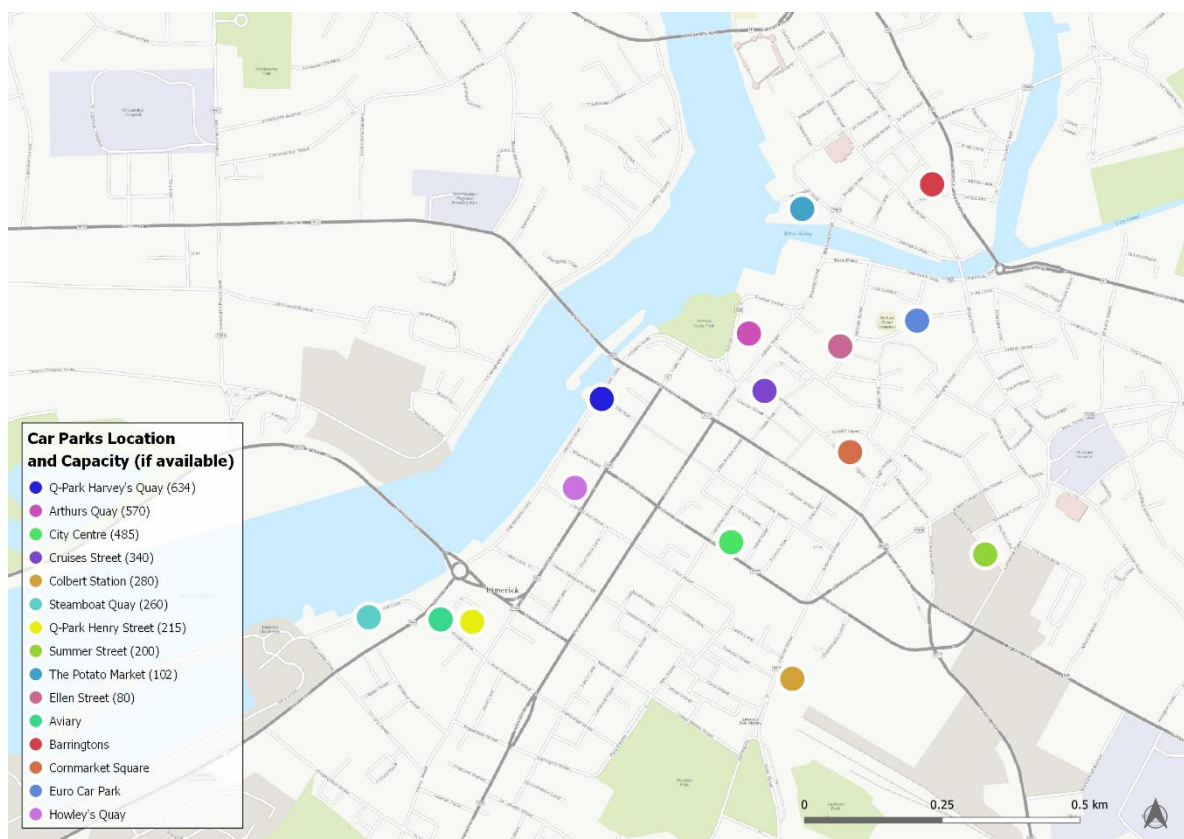


Figure 5–11 Car Park Locations & Total Spaces

5.8 Summary of Transport Supply

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

- Construction of Limerick Tunnel crossing River Shannon;
- Improvements to the transport infrastructure and bus routes in Limerick;
- Redevelopment of Colbert Station and Plaza;
- Development of Limerick Smarter Travel walk and cycleway from UL to City Centre;
- Improvements to the cycle network from Mungret to Limerick City.
- Development of the Rhebogue Neighbourhood Greenway;
- Implementation of Limerick Public Bicycle Sharing Scheme (BSS);
- Improvements to the River Walk in Shannon.

Despite these improvements to the transport network, there is still significant levels of congestion within Limerick City that pose high pressure on the existing road infrastructure such as the river crossing in the City Centre. Besides, there is limited accessibility to the city centre from County Clare and low connectivity between the areas along the northern fringe of the city. Most of these challenges could be overcome with the construction of the Limerick Northern Distributor Road.

In Shannon, there are issues of congestion and queueing at the M18/M19 motorway junction at peak times. A series of improvements to the cycle and pedestrian networks are planned as part of the Shannon Town Park project, expected to be completed in 2019.

6 Existing Transport Supply – Shannon and Environs

6.1 National Road Network

Shannon Town is located just off the N18 National Primary Road between Ennis and Limerick. In total, there are two National roads within the area, one of which is part of the TEN-T comprehensive network.

- N19 connects Shannon Airport to M18;
- N18 connects Shannon to Limerick City (TEN-T Comprehensive).

Correspondence from Clare County Council suggests that the N18/N19 Interchange experiences tailbacks at peak hours on the Ennis side. Motorists are advised that the hard shoulder can be used by use of signage.

6.2 Regional Road Network

The Regional Road network supports the national road network by providing connectivity with other national roads. Key regional routes within Shannon and Environs include:

- R471 connects Shannon with Clonlara and Sixmilebridge and can also access the N19/N18/M18
- R458 connects Shannon to Kilcolgan (N67) via Ennis and Gort;
- R472 connects Shannon to Newmarket-on-Fergus

6.3 Rail Network

There is no rail network serving Shannon. The closest rail station to Shannon is Sixmilebridge, located approximately 6km east from the town centre. Bus route 343 operated by Bus Eireann provides an infrequent connection between Shannon Town Centre and Sixmilebridge. Onward connections to Limerick City, Ennis and Galway are available at the line.

It is noted that the Shannon Town and Environs LAP includes an objective to link Shannon with Sixmilebridge station via a direct shuttle bus in the short-term.

6.4 Regional Bus Network

Bus route 343 operated by Bus Eireann provides a regular service Shannon Town Centre from Limerick City on a 30 minutes frequency from 05:05 to 08:35, after which it operates at a reduced frequency of every 60minutes.. The service connects Limerick Colbert Station to Ennis Bus Station via Sixmilebridge, Bunratty, Shannon town centre and Shannon Airport.

Further bus routes operating within Shannon and Environs provides connections to Shannon Airport and Shannon Industrial Estate. These include:

- Route 51: interurban hourly service operated by Bus Eireann that connects Cork, Limerick, Shannon Airport and Galway.
- Route 341: bus route operated by Bus Eireann that connects Cappamore to Shannon Airport;
- Route X51: Interurban service operated by Bus Eireann that connects Limerick and Galway to Shannon Industrial Estate.

The Southern Regional Economic and Spatial Strategy draft highlights the need to enhance public transport services to Shannon Airport to attract and ease the movement of tourist and visitors

around the region and to strengthen connectivity to strategic transatlantic hubs from the airport. Framed on this goal, Clare County Council identifies the Shannon – Cork and the Shannon – Galway as two important transport corridors to be strengthened.

Between Galway and Shannon Airport, there are 19 bus services provided by Bus Eireann, five of which are direct expressway services. The rest of the services are not direct and take longer travel time from Galway to Shannon.

The current direct services provided by Bus Eireann do not coincide with flight times, discouraging the use of public transport to and from the airport. At present, direct services by Bus Eireann coincide with only 6 of the summer scheduled departures and with 8 of the scheduled arrivals. There are no dedicated Aircoach services to Shannon Airport at present.

Clare County Council report a displacement of passenger movement from Galway to Dublin, which has a negative impact on the passenger numbers at the Shannon Airport. On any given day there are 67 coaches going from Galway to Dublin Airport as set out below:

- GoBus.ie – 20 daily departures (Direct/Express)
- Citylink – 33 daily departures (Direct/Express/Multi-stop)
- Bus Eireann – 14 daily departures (X20/20 routes)

Research commissioned by Shannon Airport indicates that there is demand for direct public transport connectivity to Galway City. Red C market research found that Shannon Airport plays an important role in supporting the Tourism sector in the North West, with 29% of inbound visitors through Shannon going to Galway. This indicates a market for improving direct public transport services to Galway.

The introduction of additional direct routes could increase the number of services coinciding with flights without undermining the current public transport offer along the Galway to Shannon route. This could assist in further growing passenger numbers at the airport ensuring it is more effectively utilised in the national interest.

6.5 Cycle Network

Currently, the cycle network in Shannon and its environs is very limited and lacks adequate cycling infrastructure. There are few dedicated cycle parking and cycle lanes with the main one located along the R471, between the Shannon Town Centre and Ballycasey Cross, sharing space with bus stops along the road. In terms of design, the lane does not comply with the road markings and with the minimum dimensions (2 meters per lane) defined in the National Cycle Manual.

Both the Shannon Town and Environs LAP and Green Infrastructure Plan contain objectives to improve pedestrian and cycle connectivity between the town centre, Industrial Park and Airport, its outlying suburban areas as well as a longer-distance routes to Ennis. The objectives also include improvements to ancillary infrastructure such as cycle parking and smarter travel initiatives.

6.6 Pedestrian Network

The pedestrian network in Shannon and Environs is shaped by the organic development pattern of both residential and industrial areas, typical of suburban locations. This pattern tends to reduce permeability and requires pedestrian to walk longer distances than necessary to reach their destinations though permeability around schools has improved in recent years.

Existing pedestrian paths have adequate widths and provide protection from motor vehicle, specially near the Sky Court Shopping Centre and within residential areas. The overall pedestrian

network is often interrupted or limited by main roads, on-street and off-street parking and grass verges. In some cases, pedestrian paths are provided only on one side of the street.

6.7 Parking Supply

There are a number of parking areas across Shannon including ancillary off-street parking areas associated with the International Airport, IDA Business Parks, and the Skycourt Shopping Centre.

Shannon also has three charging stations for electric vehicles, one of them located off-street just outside the local Garda Station.

7 Existing Transport Networks – County Towns

The Limerick-Shannon Metropolitan Area also includes the towns and villages of Castleconnell, Patrickswell and Clarina in Limerick and Sixmilebridge, Ardnacrusha, Clonlara, Cratloe, Ballycannon and Bunratty in Co. Clare. The following section outlines the existing transport network for these towns.

7.1 Road Network

Most of the county towns are located adjacent to the regional and local road networks. The following list outlines each county towns and their main access roads.

- Castleconnell is located beside the Daly's Cross which links regional routes R525 and R445;
- Patrickswell is located along the R526 section between Limerick and Adare and it has a nearby access to the M20;
- Clarina is located along the N69 (TEN-T Core) between Limerick and Foynes;
- Sixmilebridge comprises the radial road R470 and the transversal roads R471 and R462;
- Ardnacrusha is located adjacent to L3056 and R465;
- Clonlara is adjacent to the R463 leading to Killaloe and Limerick
- Cratloe is located beside the Cratloe Cross, which connects R462 with Wood Road and has a nearby access to the N18;
- Ballycannon - a townland located between the Knockalisheen Road and Parteen Road.
- Bunratty is located along the L3122 and L3126, with an access road to the N18 between Shannon and Limerick.
- Parteen is located on the R464 and Ballykeelaun Rd/ School Road.

7.2 Rail Network

Passenger rail connectivity is possible from the Castleconnell train station on the Ballybrophy to Limerick Colbert Line. Three services are provided a day (Mon-Sat) from Castleconnell to Limerick and two on Sundays. and Clarina, are not directly served by the rail network with the nearest train station being Limerick Colbert Station.

Within County Clare, Sixmilebridge is the only settlement along the rail network with its station re-opened in 2010 as part of the Western Rail Corridor project. The rest of the towns and villages in the LSMATS area are served by bus connections to stations on the rail network.

7.3 Regional Bus Network

All County Towns have at least one bus route towards Limerick City and few have similar services to other major towns in the region. This means these areas are highly dependent on available bus connections within Limerick City. Particularly, the interurban Route 735 currently allows passengers from Castleconnell to reach Dublin via Portlaoise and Kildare without changing buses.

Bunratty, an important touristic destination in County Clare, has one direct bus service to Limerick (Route 343), one to Ennis (Route 300) and one to Mallow (Route 51). The 343 Limerick-Shannon-Ennis route also serves Cratloe and Sixmilebridge and operates on an hourly basis.

The 313 connects Ardnacrusha, Parteen and Ballycannon/Meelick with Limerick City with 5 services daily spread across the morning, afternoon and early-evening.

Bunratty is served by a number of regional and private bus operators given its status as a nationally-significant visitor centre. It is understood that Clare County Council wish to significantly increase the number of visitors over the next few years.

7.4 Cycle Network

At present, all County Towns are characterised by a lack of dedicated cycling infrastructure with some exceptions on the Old Bunratty Road. Cycling is shared with motor vehicles and many of the county towns offer limited supporting infrastructure including appropriate cycle parking both in the private and public realm.

7.5 Pedestrian Network

The pedestrian environment in the county towns is heavily influenced by their organic development pattern which is generally characterised by ribbon development. Completeness and continuity of the pedestrian network is proportional to the size of the settlement, meaning that larger and more consolidated towns have a better provision of pedestrian footways.

Across most of the county towns, pedestrian infrastructure is under-developed and require reallocation from carriageway space to support continuous networks and better crossing opportunities. It is a common aspect within these towns to have areas where footways are interrupted by grass verges, cul-de-sac and walls, limiting permeability of the pedestrian network.

7.6 Parking Supply

- Bunratty Village is a significant visitor attraction in the L-SMA and has a number of ancillary parking areas ancillary to the Castle, visitor accommodation and private businesses located off the Old Bunratty Road.
- Castleconnell: on-street parking within the village and a number of small off-street parking locations including a park and ride facility at the Castleconnell train station;
- Patrickswell: on-street parking outside shops in the village. Some off-street parking in garages and individual stores.
- Clarina: some off-street parking ancillary to individual businesses.
- Ardnacrusha: off-street facilities provided outside stores and public houses.
- Clonlara: off-street facilities provided outside stores, school and public houses.
- Cratloe: off-street facilities provided around commercial properties around Cratloe Cross, school, community centre and recreation area.
- Ballycannon: some off-street parking in commercial premises off the Knockalisheen Road.
- Sixmilebridge: two off-street parking locations with public access. One of them offers charging facility for electric cars and the other one is located beside the Sixmilebridge train station.
- Parteen: some on-street parking on School Road and some off-street parking at private businesses including the Dairygold Co-op on the R464;

8 Key Objectives and Challenges

8.1 Key Objectives

The following outlines the NTA's Vision, Mission and relevant Priorities and Objectives as set out by the NTA Statement of Strategy 2018-2022.

8.1.1 NTA Vision

"To provide high quality, accessible, sustainable transport connecting people across Ireland."

8.1.2 NTA Mission

The NTA's mission is to:

"increase the share of travel by sustainable transport across the country by

- *Securing the provision of an efficient, accessible and integrated transport system in rural and urban Ireland;*
- *Transforming and elevating customers' transport experience;*
- *Regulating privately operated transport services for the benefit of consumers;*
- *Contributing to the effective integration of transport and land-use policies; and*
- *Advancing Ireland's transition to a low emissions transport system.*

in a manner that supports Government policies and priorities and contributes to economic development, environmental sustainability and social cohesion in the State."

8.1.3 NTA Relevant Priorities and Objectives

The following outlines Priorities and associated Objectives set out in the NTA Statement of Strategy 2018-2022 that are of relevance to the Limerick-Shannon Metropolitan Area Transport Strategy 2019-2040.

- **Priority 1:** Undertake strategic transport planning seeking the optimal alignment of land use and transport policy and practice, enabling an increased proportion of travel by sustainable transport modes.
 - Key Objectives:
 - Enable enhanced integration between transport provision and land use planning that reduces transport demand and promotes and facilitates travel by sustainable transport modes; 3. Provide a robust planning framework to guide transport investment decisions and project delivery; and
 - Assist in the achievement of Ireland's emission reduction targets.
- **Priority 2:** Promote the use of more sustainable modes of transport.
 - Key Objectives:
 - Promote a shift from car to more sustainable modes of transport thereby reducing carbon emissions;
 - Promote the convenience and attractiveness of public transport; and
 - Enhance the national identity for public transport, Transport for Ireland, across the public transport and travel options.

- **Priority 5:** Secure optimal provision of high-quality subsidised public transport services in the State.
 - Key Objectives:
 - Identify the appropriate network of public passenger transport services; and
 - Procure high quality and accessible bus, heavy rail and light rail services, at best value for money.
- **Priority 6:** Develop and secure the infrastructure to ensure a seamless customer experience across all travel modes.
 - Key Objectives:
 - Improve the customer experience of public transport by removing barriers to interchange between public transport services;
 - Provide information for all public transport services on new and existing information channels; and
 - Provide ticketing systems that allow for easy interchange between services.

8.2 Strengths, Weaknesses, Opportunities and Threats

Strengths

- Well-located regional centres situated mid-way between Cork and Galway on the Atlantic Economic Corridor;
- International connectivity provided by Shannon Airport and Port of Foynes;
- Ambitious NPF 2040 growth forecast of 50%+ by 2040 for Limerick to become a city of scale;
- Reputation of Shannon as an employment hub;
- Strong local policy framework including Limerick 2030;
- Reasonably frequent bus services between NTC, UL, City Centre, hospital and Raheen Business Park;
- Favourable topography for walking & cycling in Limerick City and Suburbs and Shannon;
- Active Liveable Limerick advocacy group promoting inner city living, walking, cycling and public transport;
- High quality motorway/dual-carriageway connection from Limerick and Shannon to Dublin & Galway;
- Committed NDP 2018-2027 investment e.g Limerick-Cork motorway link;
- Diversion of freight traffic from Limerick City Centre has improved the traffic and pedestrian conditions; and
- Attractive wide aspect streetscape in Georgian Quarter of Limerick City can support multi-modal solutions for City Centre.

Weaknesses

- High level out-commuting by L-SMA residents predominantly by the private car; to employment centres, shopping and leisure facilities outside of the city centre and administrative boundary;
- Poor quality public realm, ill-defined centres and lack of self-sufficiency including local convenience shops and services centres contributing to car use for short journeys across many of the L-SMA Metropolitan towns and visitor centres;
- Ribbon development and suburban-style housing estates poorly connected to existing centres in many metropolitan centres.
- Legacy of population decline in Limerick city centre;
- Lack of dedicated cycling infrastructure on existing Shannon bridges;
- Low quality environment for pedestrians and cyclists in parts of the city centre and suburbs and bridges across the Shannon (i.e. lack of orientating spaces, dedicated space for cyclists on bridges, narrow pavement widths, heavily trafficked streets and one-way streets);
- Congested City Centre network in peak traffic periods;
- Congestion on the national road network serving Shannon;
- Low quality strategic gateways to the City Centre;
- Poor road infrastructure serving the ports on the Shannon Estuary;
- Travel time of rail service between Limerick and Cork, and Dublin;
- Heavy reliance on the private car in peripheral areas due to limited public transport network; and
- Poor transport connectivity and access to defined regeneration areas.
- Noise and Air Pollution from proximity to heavily-trafficked National & regional roads

Opportunities

- Opportunity to leverage national and international connectivity of Shannon Airport and Port of Foynes;
- Foynes to Limerick Road offer connectivity to TEN-T network.
- Opportunity to consolidate projected NPF 2040 LSMA growth forecast around city centre and designated growth areas including Dooradoyle, Mungret, Castletroy and Caherdavin to create compact settlement patterns & viability of public transport;
- Opportunity for L-SMATS to inform strategic direction of emerging MASP for Limerick City and front-load PT e.g. BusConnects;
- Opportunity to consolidate residential and employment growth around a revitalised Colbert Station;
- Opportunity to maximise rail-based growth around existing lines;
- A high-speed rail network Limerick Junction-Cork/ Dublin
- Opportunity to capitalise on momentum offered by Limerick 2030, and local initiatives including Liveable Limerick, URDF Funding for World Class Waterfront and 'Great Streets' transformation of O'Connell Street, Catherine St & Henry St;
- Opportunity to exploit canal greenway between city & UL;
- Provision of Park and Ride facilities (e.g. Limerick Junction).
- Proposed LNDR offers potential to remove through traffic in the city centre subject to adoption of appropriate demand management measures;
- Potential of the South Clare SDZ to support the integration of education, employment, enterprise, accommodation in a town and gown environment and provide sustainable modes of transport and interconnectivity with the city centre.
- Opportunity to build upon Climate Action Plan 2019

Threats

- A Business-as-usual approach to land use and transport planning by both LA's, further continuation of sprawl into areas outside of the LSMA not supported by public transport leading to further unsustainable travel patterns and increased pressure on the strategic road network;
- A failure to provide residential and commercial development to the required densities to support identified public transport corridors;
- Insufficient investment in upgrade of key city centre routes, lead to increase commuter times for all modes;
- A lack political and civic leadership at national and metropolitan levels to push through the necessary car restraint interventions to support the viability of public transport and promote economic development; and
- A change in the economic outlook of the city, metropolitan and national economy leading to uncertainty around required capital infrastructure and private investment.

8.3 Key Challenges

The Limerick-Shannon Metropolitan Area has a very high mode share for car-based travel. Unless more compact land use patterns are employed allied to the increased attractiveness of more sustainable transport, the L-SMA will continue to have high levels of dependency on the private car and worsening congestion and delays.

To provide for a better, more efficient and effective transport network, there are several key challenges that must be addressed by the Limerick-Shannon Metropolitan Area Transport Strategy. These include:

- The requirement to better integrate land use and sustainable transport planning and investment;
- The need to support increased population, employment and educational densities in accessible centres and along public transport corridors;
- The need to re-allocate carriageway space to support more walking, cycling and public transport;
- The need to improve public transport through higher frequency services operating with greater speed and journey time reliability, and attracting higher demand;
- The need to balance the needs of different transport modes to better support the movement of larger numbers of people through the transport network;
- The need to support a vibrant and accessible Limerick City Centre, Metropolitan urban centres, key regeneration areas and county towns;
- Support improvements to the public realm to support more walking, cycling and street activity;
- The need to accommodate a greater number of trips more efficiently by maximising connectivity by walking, cycling and public transport to major employers and education facilities;
- The need to supplement the public transport network with complementary facilities such as Park and Ride for the benefit of people accessing the city from the surrounding rural areas;
- The need to maintain an effective strategic road network in the Limerick-Shannon Metropolitan Area that is integrated with the wider national road network to cater for strategic trips and the movement of goods;
- The need to optimise the utility and potential of the existing transport infrastructure including InterCity and Commuter rail network, Shannon Airport;
- The need to reduce community severance created by the challenging topography and physical features in Limerick such as the River Shannon, railway tracks and existing road network;
- The need to improve transport infrastructure in a cost-efficient manner that will support the case for funding and investment;
- The need to achieve efficiency and resilience within Limerick-Shannon Metropolitan Area's transport network across all modes;
- The need to improve the health and safety of road users within the L-SMA, promoting active modes to improve health and reduce traffic collisions and incidents; and
- The need to consider the impact of transport on the environment through targeted measures to limit the negative impact of transport emissions.