Department for Infrastructure
An Roinn Bonneagair
www.infrastructure-ni.gov.uk

CAUSEWAY COAST & GLENS

LOCAL TRANSPORT STUDY

Version 3

Contents

1.0 Introduction

1.1. Local Development Plans

1.1.1. The Department for Infrastructure (the Department) is working co-operatively with the councils in Northern Ireland (NI) to produce a new family of Local Transport Plans (LTP) integrated with the councils Local Development Plans (LDPs). These plans move through different stages, and increase in detail from an overall strategic direction, through to specific local policies and schemes. The integration of land-use and transport planning processes provides a unique opportunity to combine the shared regional and local ambitions which are set out in the Executive's draft Programme for Government (PfG) and also in the councils' Community Plans and LDPs.

1.1.2. This approach is in accordance with the stated aim of the Strategic Planning Policy Statement (SPPS) with regard to transportation "to secure improved integration with land-use planning". In addition, Section 3 of Part 2 of the Planning Act (Northern Ireland) 2011 refers to the "survey of the district" and the requirement from councils to keep under review matters which may be expected to affect the development of its district or the planning of that development, including "the communications, transport system and traffic of the district" (Section 3 (2) (d)).

1.1.3. This Causeway Coast and Glens Borough Council (CCGBC) Local Transport Study (LTS) has been prepared by the Department. Throughout the development of this study, the Department has shared the evidence used as it became available so that consideration of the emerging study could inform the CCGBC LDP.

1.2. Purpose of Local Transport Study

1.2.1. The purpose of this LTS is to set out an objective evidence-based assessment in relation to current and future transport issues, in the context of Council growth ambitions and future indicative transport measures required to facilitate growth ambitions during the LDP period to 2030 in the CCGBC area. It will also ensure that the transport network and transport needs of the CCGBC area are taken into account when planning for its future development. Whilst the transport elements are quite distinct in terms of the services they offer and benefits they bring, the key linkages with land-use planning will collectively help deliver on shared regional and local ambitions and outcomes.

1.2.2. The transport measures developed in this LTS are in line with the draft PfG, current government policies and with the direction of the CCGBC Community Plan and LDP Preferred Options Paper (POP).

1.2.3. This LTS presents the range of illustrative measures for active travel[1] public transport and roads for the period up to 2035, in addition to the linkages with the Regional Strategic Transport

[1] Active travel means making journeys by physically active means such as wheelchair users, walking, scooting and cycling.

Network Transport Plan (RSTNTP), which will look at how best to develop the key transport corridors and other main routes.

1.2.4. At this stage, consistent with the LDP POP and Plan Strategy stage, the locations of the transport measures are not described in detail. The detail and specific schemes will be added at LDP Local Plan Policies (LPP) stage, when land use zonings are identified. Therefore in this LTS, measures are described in terms of strategic locations. CCGBC has both urban and rural areas, as such the area has particular needs for both land use planning and transportation infrastructure. The majority of key services and economic generators are located in the main and local hubs of Coleraine, Limavady, Ballymoney and Ballycastle, and therefore these towns naturally provide the focus for the potential transport measures.

1.3. Study Area

1.3.1. This LTS is aligned to the CCGBC area, as shown in Figure 1, and includes potential transport measures for the main hubs of Coleraine and Limavady, the local hubs of Ballymoney and Ballycastle (as defined in the RDS, and preferred option in the POP). Coleraine is the largest settlement in the Borough followed by Limavady, Ballymoney, Portstewart, Portrush and finally Ballycastle. The other settlements in the Borough are smaller and are summarised in Table 1. While Portstewart and Portrush have larger populations than Ballycastle, Ballycastle serves an important role in providing goods and services in the east of the Council area and is therefore included in this LTS.

Figure 1. Causeway Coast and Glens Borough Council Area

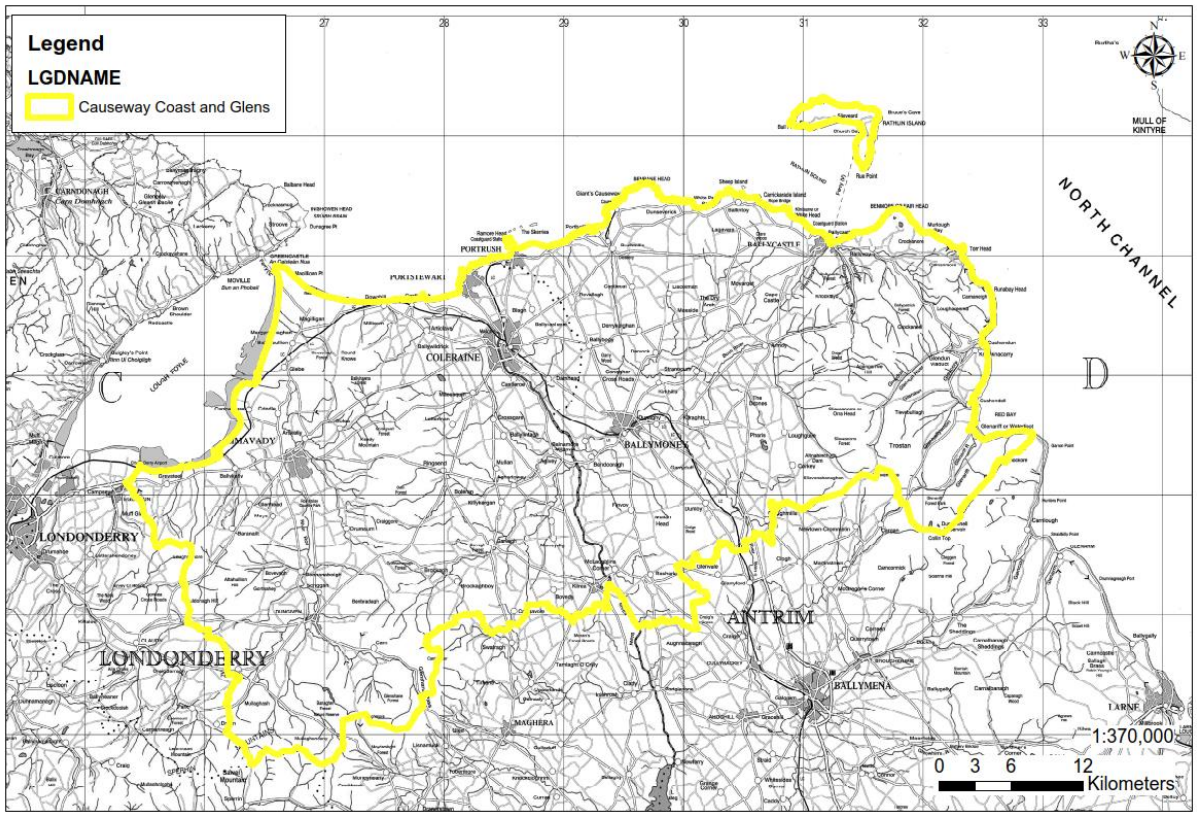


Table 1. Causeway Coast and Glens Borough Council Settlements and 2011 Population

SETTLEMENT	USUAL RESIDENTS 2011
Coleraine	24,634
Limavady	12,032
Ballymoney	10,402
Portstewart	8,003
Portrush	6,454
Ballycastle	5,237
Dungiven	3,288
Ballykelly	2,107
Kilrea	1,678
Greysteel	1,465
Cloughmills	1,318
Bushmills	1,295
Cushendall	1,280
Garvagh	1,271
Castlerock	1,256
Dunloy	1,194
Rasharkin	1,115
Articlave	922
Balnamore	897
Dervock	714
Feeny	690
Bendooragh	622
Macosquin	614
Portballintrae	601
Ballybogey	529
Waterfoot	520

1.3.2. Figure 2 summarises a number of the area's key demographic and transport related characteristics and expresses these in terms of their percentage variation from the NI average and the average excluding the almost exclusively urban Belfast City Council (BCC). The full details are provided in Table 2.

1.3.3. CCGBC has a large area at 197,992 ha when compared to the NI average of 123,294 ha. It has a low population density, 0.71 when compared to the NI average of 3.66 (or 1.54 when excluding BCC). 47% of the population live in towns of 5,000 or more compared to the NI average of 58% or just under 54% excluding BCC. The road length per capita is 0.02km, the same as the NI average. Average road speeds within the Borough are 66km/hr, marginally higher than the NI average of 62km/hr. 19% of households do not own cars and only 56% of the population able to access a main town in the Borough by public transport within 30 minutes compared to the NI-wide value of 68% (62% if BCC is excluded).

Figure 2. Causeway Coast and Glens Borough Council Key Characteristics Compared to NI Average

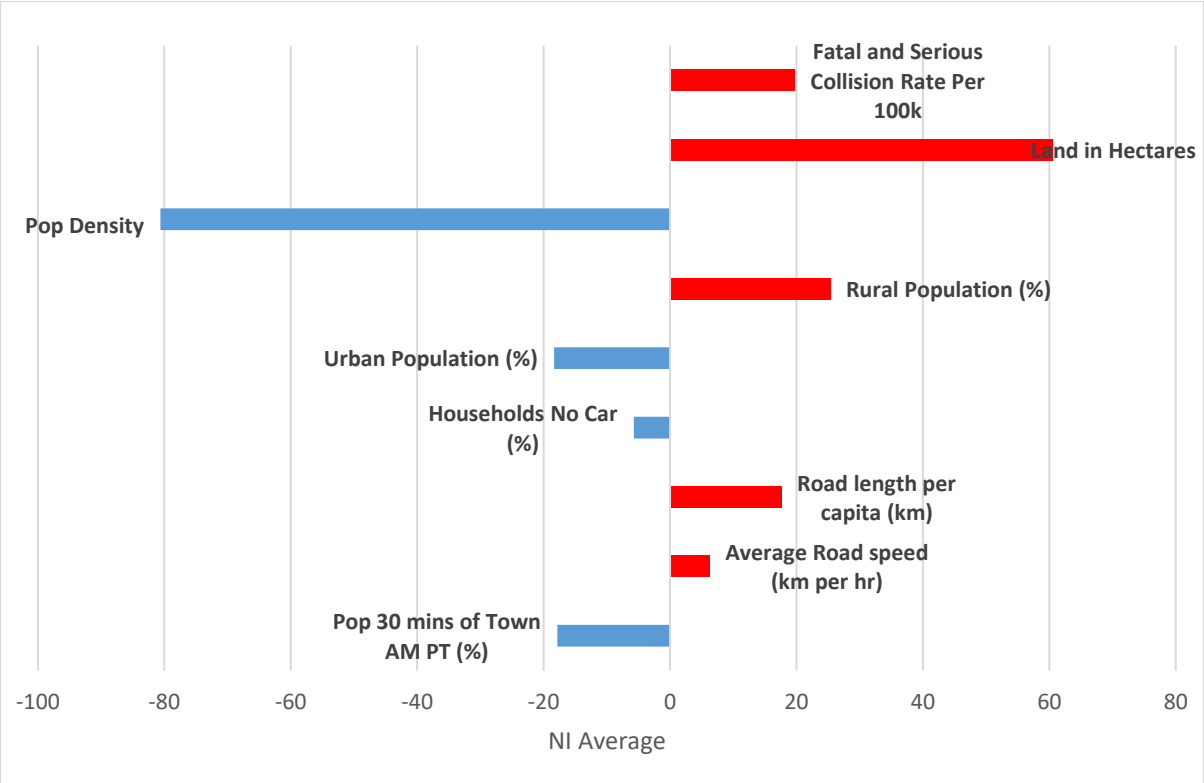


Table 2. Causeway Coast and Glens Borough Council Key Characteristics Compared to NI Average

	Council	NI Avg	NI Avg (exc. Belfast)	% Variation from Average	% Variation from Average (exc. Belfast)
Pop 30 mins of Town AM PT (%)	56%	68%	62%	-18	-10
Average Road speed (km per hr)	65.63	61.79	65.00	6	1
Road length per cap (km)	0.021	0.017	0.019	18	9
Households No Car (%)	19.33	20.51	18.74	-6	3
Urban Population (%)	47.38	58.01	53.90	-18	-12
Rural Population (%)	52.62	41.99	46.10	25	14
Pop Density	0.71	3.66	1.54	-81	-54
Land in Hectares	197,992	123,294	134,282	61	47
Fatal and Serious Collision Rate Per 100k	53.6	44.8	45.41	20	18

1.4. Report Structure

1.4.1. The structure of the LTS is as follows:

- Chapter 2 provides the Policy Context that outlines the principal policies and strategies that have informed the preparation of the LTS;
- Chapter 3 outlines the Transport Evidence Baseline in the form of regional connectivity, accessibility and transport networks;
- Chapter 4 outlines population growth and development proposals;
- Chapter 5 outlines a summary of the transport issues and opportunities as developed from an interpretation of the Transport Evidence Baseline;
- Chapter 6 presents the Transport Objectives which have been developed in light of the strategic policy context, CCGBC issues and the direction as set by the Community Plan and the LDP POP;
- Chapter 7 commences with a discussion of transport options and their merits before presenting the potential Transport Measures; and
- Chapter 8 summarises the conclusions of the Transport Study and the recommended potential measures.

2.0 Policy Context

2.1. Transport Policy Context

2.1.1. The CCGBC LDP and Community Plan set out a wide range of objectives and outcomes for the Council area.

2.1.2. Similarly, the draft PfG sets out the Northern Ireland Executive's wider ambitions to address the major social, economic and environmental issues affecting all sections of society.

2.1.3. In addition to the draft PfG, there are a number of strategic planning and transport policies which set the context for this LTS, namely:

- The Regional Development Strategy 2035 – Building a Better Future (RDS);
- Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation (the New Approach);
- Northern Ireland Changing Gear – A Bicycle Strategy for Northern Ireland; and
- Exercise Explore Enjoy: A Strategic Plan for Greenways.

2.1.4. These strategic documents are NI wide and all Council areas are required to take account of their content and to plan accordingly. In particular the urban areas in CCGBC, most notably Coleraine, Limavady, Ballymoney and Ballycastle have a key role to play in helping to deliver any urban-related objectives.

2.1.5. This study has been developed to support the achievement of the both the objectives set out in these documents and the objectives of the CCGBC LDP POP and Community Plan.

2.1.6. An overview of the content of these key strategic documents and their context is outlined below.

2.2. Draft Programme for Government 2016-2021[2]

2.2.1. The NI Executive's draft PfG framework focuses on improving wellbeing for all through tackling disadvantage and driving economic growth. The draft PfG is outcomes-based and is focused on impact at a whole population level, rather than a list of activities or inputs. The ambitions contained in the draft PfG will only be realised through sustained collaboration, across organisational and sectoral boundaries.

2.2.2. The draft PfG identifies key strategic outcomes, supported by a number of indicators. Draft Delivery Plans have been developed for each of these, setting out the key actions to support delivery of PfG outcomes.

[2] The last Executive provided policy direction as set out in the PfG 2016-2021, consequently, Departments are continuing to deliver public services in line with the policy direction in the draft PfG 2016-2021..

2.2.3. The Department's main contribution to the draft PfG is through:

- Outcome 2: We live and work sustainably – protecting the environment; and
- Outcome 11: We connect people and opportunities through our infrastructure.

2.2.4. Outcome 2 has a focus on protecting the environment while supporting wider economic growth and social cohesion objectives. The key focus of Outcome 11 is the importance of physical connectivity as a key enabler of economic growth and social cohesion. Under this framework the Department is directly responsible for delivery of two transport related draft PfG indicators:

- Indicator 23: Average journey time on key economic corridors; and
- Indicator 25: % of all journeys made by walking, cycling and public transport.

2.2.5. The focus within the Delivery Plan for Indicators 23 and 25 is to ensure that investment in transport infrastructure supports economic and social progress while seeking to minimise the harmful effects generated by road traffic through congestion and pollution on the environment and on health. Indicators 23 and 25 are strongly inter-dependent, for example, progress in increasing the uptake of active travel and public transport will help reduce pressure on the strategic road network, mitigate congestion and improve journey times on key corridors.

2.2.6. It is understood that variations in the rural / urban settlement balance across NI will provide different challenges and opportunities for councils in delivering PfG outcomes and indicators. The Departments contribution to the successful delivery of PfG outcomes will also be highly reliant on the concerted and collaborative efforts of delivery partners working in partnership with the Department.

2.3. The Regional Development Strategy 2035 – Building a Better Future

2.3.1. The RDS, published in March 2012, is a long-term plan to deliver the spatial aspects of the draft PfG. The RDS recognises the need for balanced sub-regional growth and importance of key settlements as centres for growth and investment.

2.3.2. The RDS includes Regional Guidance to "deliver a balanced approach to transport infrastructure" (RG2) which will allow the region to remain competitive in the global market in a sustainable manner. The focus of this guidance is on managing the use of road and rail space and how we can use our network in a better, smarter way.

2.3.3. In particular, the RDS recognises the need to maximise the potential of the Regional Strategic Transport Network (RSTN) to enhance accessibility to towns; to help build an integrated regional economy; facilitate tourist travel including improving connections to key tourism sites; and reduce, where possible, unsuitable traffic into towns.

2.3.4. The RDS contains a Spatial Framework and Strategic Planning Guidelines based on focusing development in principal cities, main hubs, hubs and clusters. It also prioritises the improvement of the main transport corridors that form the regional transportation network. The RDS identifies Coleraine and Limavady as main hubs and Ballymoney and Ballycastle as local

hubs. It states that Coleraine, Limavady, Ballymoney and Ballycastle have potential to form a cluster. It recognises that their journey times to Belfast and Derry increases the need for this cluster to provide all the level three services.

2.4. Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation

2.4.1. The New Approach, published April 2012, sets out proposals for regional transportation beyond 2015. The New Approach was developed to complement the RDS.

2.4.2. The New Approach sets out three High Level Aims for transportation, each of which is supported by a number of Strategic Objectives – these are outlined below:

A. Support the Growth of the Economy
1: Improve connectivity within the region
2: Use road space and railways more efficiently
3: Better maintain transport infrastructure
4: Improve access in our towns and cities
5: Improve access in rural areas
6: Improve connections to key tourism sites

B. Enhance the quality of life for all
7: Improve Safety
8: Enhance Social Inclusion
9: Develop transport programmes focused on the user

C. Reduce the Environmental Impact of Transport
10: Reduce Greenhouse gas emissions from transport
11: Protect biodiversity
12: Reduce water, noise and air pollution

2.4.3. The New Approach sets out the Policy Prioritisation Framework which is an objective-led decision-making tool which allows for transport schemes / programmes to be assessed by taking a broad view on how they contribute to specific policy objectives. The aim is to link strategic transportation interventions to the draft PfG, based on qualitative and quantitative evidence.

2.5. Northern Ireland Changing Gear – A Bicycle Strategy for Northern Ireland

2.5.1. Northern Ireland Changing Gear - A Bicycle Strategy for Northern Ireland, published in April 2015, outlines the ambition to transform cycling in Northern Ireland over a 25-year period. The strategy outlines the vision for cycling in Northern Ireland as:

"A community where people have the freedom and confidence to travel by bicycle for every day journeys"

2.5.2. The document identifies a number of objectives which have been set to guide the delivery of the bicycle strategy. These are:

- *Making urban areas in Northern Ireland more accessible for people using the bicycle – improvements to cycling infrastructure will enable more people to access facilities in our urban centres by bicycle or by multi modal journeys.*

- *Improve opportunities for social interaction – 22% of households in Northern Ireland do not have access to a car/van. Improved cycling infrastructure enhances the travel opportunities for those who don't have access to a car/van. Perhaps more importantly, cycling is a social form of transport. It allows people to interact and engage with their surroundings, their community and their neighbours. This can help build a sense of community and contribute to personal well-being and social inclusion.*

- *Improvements in public health – increased levels of bicycle use have both direct (personal fitness) and indirect (improvements to air quality) benefits for public health.*

- *Increase safety for people using the bicycle – this includes reducing the proportion involved in collisions and increasing the 'feel safe' factor for people riding a bicycle.*

2.5.3. The Strategy outlines how a comprehensive network of bicycle facilities should be developed, including a focus on urban networks where detailed proposals for infrastructure should be outlined and delivered alongside specific behaviour change initiatives and campaigns. In the urban areas, radial routes (primary routes), quiet routes and greenways should be developed to form a comprehensive hierarchical network.

2.5.4. The Strategy outlines a Three Pillar Approach, based around Build (infrastructure, design, cycle parking and safety), Support (education and training, safety and security, legibility and mapping), and Promote (respect and understanding, marketing and flagship events and schemes).

2.5.5. The Bicycle Strategy is particularly relevant to the towns of Coleraine, Limavady, Ballymoney and Ballycastle.

2.6. Exercise Explore Enjoy: A Strategic Plan for Greenways

2.6.1. In November 2016 the Department published its greenways strategy entitled "Exercise Explore Enjoy: A Strategic Plan for Greenways". The document provides a vison for "A region where people have ready access to a safe traffic free environment for health, active travel and leisure".

2.6.2. The strategy sets out the plans for a network of greenways, connecting towns and cities to the villages and countryside from east to west and north to south across all eleven councils.

2.6.3. The document identifies three classifications of greenway routes that should be explored;

- Primary Greenway Network – to provide long distance connectivity;
- Secondary Greenway Network – to provide wider access to greenways; and

- Community Paths – to provide doorstep opportunities to connect local communities to their local green space and neighbouring communities.

2.7. Sub Regional Transportation Plan 2015

2.7.1. The Sub-Regional Transport Plan 2015 (SRTP 2015) was launched by the Department on 11 June 2007. The SRTP 2015 deals with the transport needs of the whole of Northern Ireland with the exception of the Belfast Metropolitan Area and the Regional Strategic Transportation Network.

2.7.2. The purpose of the SRTP 2015 is to study the needs of the designated areas in detail and to confirm a package of transport schemes, consistent with the general principles and indicative levels of spend in regional policy at the time.

2.7.3. Whilst many of the core objectives of the SRTP 2015 remain relevant, the wider strategic framework has changed with the publication of the RDS 2035 and a new RTS and therefore SRTP 2015 is considered outdated. Schemes and transportation initiatives included in the SRTP 2015 will require further consideration as part of the development of the new Sub Regional Transport Plan 2035 which will accompany the Local Policies Plan.

2.8. Planning Policy Context

Reform of local government & development planning

2.8.1. Reform of the NI planning system came into operation on 1st April 2015. The unitary system where all planning powers rested with the Department of the Environment[3] was replaced by a new two-tier system model of delivery, with local councils being made responsible for a number of planning functions including local plan-making, development management and planning enforcement.

2.8.2. Within this system, the Department has responsibility for regional planning policy, the determination of regionally significant planning applications and called-in applications, and planning legislation. It also provides oversight, guidance for councils, audit, governance and performance management functions. In addition the Department continues to be the competent authority for transport.

Strategic Planning Policy Statement

2.8.3. The Strategic Planning Policy Statement for Northern Ireland – Planning for Sustainable Development (SPPS) was published in September 2015 and provides the government's policy

[3] The Department of the Environment no longer exists. Functions and services delivered by the Department of the Environment have been transferred to new departments, including the Department for Infrastructure.

on important planning matters that should be addressed across Northern Ireland. It reflects expectations for delivery of the planning system.

2.8.4. The document consolidates the 20 separate Planning Policy Statements into one document and sets out strategic planning policy for a wide range of planning matters. It sets out the core planning principles to underpin delivery of the two-tier planning system with the aim of furthering sustainable development.

2.8.5. The SPPS identifies a number of regional strategic objectives for transportation and land-use planning as follows:

- Promote sustainable patterns of development which reduce the need for motorised transport, encourages active travel, and facilitate travel by public transport in preference to the private car;
- Ensure accessibility for all, with the needs of people with disabilities and others whose mobility is impaired given particular consideration;
- Promote the provision of adequate facilities for cyclists in new development;
- Promote parking policies that will assist in reducing reliance on the private car and help tackle growing congestion;
- Protect routes required for new transport schemes including disused transport routes with potential for future reuse;
- Restrict the number of new accesses and control the level of use of existing accesses onto Protected Routes; and
- Promote road safety, in particular for pedestrians, cyclists and other vulnerable road users.

2.8.6. Accessibility is considered to be a key strand throughout the SPPS. The SPSS must be taken into account in the preparation of LDPs and in the determination of planning applications. The SPPS also recommends that councils undertake transport studies to identify transportation and land use planning issues to be addressed through the delivery of LDPs. This is to have consideration of transport infrastructure (as related to development proposals / land use zoning); new transport schemes; active travel; car parking etc.

Local Development Plan

2.8.7. Part 2 of the Planning Act (NI) 2011 places a statutory requirement on each council to prepare an LDP for its district. An LDP consists of two separate development plan documents, covering the Council district:

(i) a Plan Strategy which will set out the council's vision, objectives and growth strategy for the area along with strategic policies; and

(ii) a LPP which will set out the council's detailed policies in relation to the development and use of land in its district.

2.8.8. The Plan Strategy is produced first with scrutiny at the independent examination stage. The LPP is prepared subsequently to be consistent with the Plan Strategy.

2.8.9. As an initial task, each council is also required to prepare and publish a POP which sets out for consultation purposes:

- A series of options for dealing with the key issues in the plan;
- Evidence to appraise the different issues and options; and
- The council's preferred options and its justification for selecting/recommending its preferred approach.

POP

2.8.10. CCGBC published their Preferred Options Paper (POP) in June 2018. The Council's LDP vision is for "A vibrant and innovative economy, sustainably delivering health and well- being and high quality built and natural environments, for all citizens and visitors to the Borough".

2.8.11. The POP identifies strategic objectives under the three key themes of social, environmental and economic as follows:

- **Social Objectives:**
  a) To promote the continued growth of Coleraine and Limavady as Main Hubs and Ballymoney and Ballycastle as Local Hubs, consistent with their roles as defined in the RDS.
  b) To consolidate and sustain the small towns and villages as important local service centres, meeting the daily needs of their rural hinterland, in accordance with the RDS.
  c) To facilitate the provision of approximately 9,270 new homes by 2030, in a range of types and tenures.
  d) To help provide for a vibrant rural community through sustainable growth on Rathlin Island, Northern Ireland's only inhabited offshore island.
  e) To provide appropriate opportunities for sustainable housing in the countryside.
  f) To facilitate the sustainable provision of necessary community facilities.
  g) To provide for environments that are accessible to all and enhance the opportunities to provide shared spaces.
  h) To provide for improved infrastructure to access employment, commercial, health, education and community services.

i) To protect existing open space and seek new sustainable open space and recreational uses within new development.
j) To promote high quality design and layout.

- **Environmental Objectives:**
  a) To promote sustainable development throughout the Borough.
  b) To protect the coastline, river corridors, mountains and other natural and man-made environments in terms of their character, quality and biodiversity.
  c) To protect areas of high scenic value (landscapes and seascapes) from inappropriate development.
  d) To protect our built heritage from inappropriate development.
  e) To prevent inappropriate development in areas known to be at risk of flooding or likely to increase flood risk elsewhere.
  f) To promote the improvement of existing and provision of new infrastructure in appropriate locations.
  g) To promote development that enhances the character and identity of existing settlements.
  h) To provide for more sustainable forms of travel, particularly walking and cycling.
- **Economic Objectives:**
  a) To facilitate the creation of an adequate number of new jobs by 2030 at a range of sustainable locations.
  b) To promote town centres first as places to work, shop and visit, including the promotion of a night-time economy.
  c) To promote the sustainable regeneration of existing town centres.
  d) To protect employment land from inappropriate uses.
  e) To provide for an adequate supply of land to facilitate sustainable economic growth in appropriate locations.
  f) To facilitate new education provision in appropriate locations.
  g) To promote the integration of public transport, cycle and footpath networks.
  h) To promote sustainable tourism throughout the Borough.
  i) To promote a sustainable approach to the provision of tourism infrastructure.
  j) To manage mineral resources in a sustainable manner.
  k) To facilitate the upgrade/improvement of broadband services throughout the Borough.

2.8.12. Within the POP infrastructure considerations include direct support for specific road schemes such as the A6 Dualling of the Dungiven to Derry-Londonderry route and the Ballykelly Bypass. The infrastructure considerations within the POP gives rise to specific Preferred Options:

- **Provision of Green and Blue Infrastructure.**
  - Provide policy to facilitate proposed green and blue infrastructure in the Borough.
- **Filling Stations in the Countryside**
  - Provide policy on acceptable location, size and function. This option would help support the focus of retail and other activities in village and town centres as required in the SPPS, and where they have the ability to serve a greater population, and allow the possibility of walking and cycling to them. It would

acknowledge that, in more remote locations, some retail activity may be appropriate to cater for the day to day needs of the rural population where the nearest town or village is some distance away.

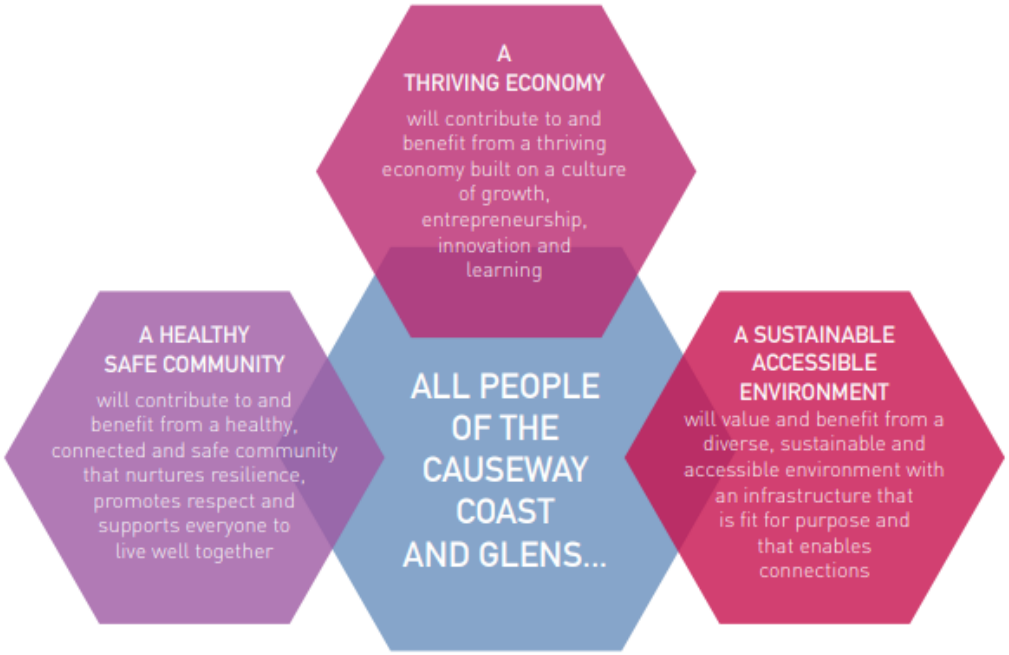
- **Encourage Active and Sustainable Travel**
  - Identify potential transport hubs and provide policy to ensure active and sustainable modes of transport are accommodated in new development.
- **Parking Provision at Key Tourist Assets.**
  - Identify areas of parking restraint around the tourism asset and provide policy to facilitate the provision of sustainable and sympathetic provision of off-site parking.
- **Developer Contributions.**
  - Seek developer contributions on appropriate types and scale of development. This option may deliver, for example, the provision or improvement of infrastructural works and community infrastructure.

Community Plan

2.8.13. The CCGBC 2030 Community Plan sets out the vision for "a better future together".

2.8.14. The primary themes and outcomes which underpin this vision are a thriving economy, a healthy safe community and a sustainable accessible environment. These themes are fundamental in guiding the emerging vision and strategic objectives of the LDP – Plan Strategy and the LTP. An illustration of the Community Plan Vision and Aims is provided in Figure 3.

Figure 3 - Community Planning Vision and Aims



3.0 Transport Evidence Baseline

3.1. Figures 1 and 2 in Section 1 – Introduction, have provided a demographic and transport context for the CCCGBC area. This section introduces a more detailed transport evidence baseline for the CCGBC area as presented in Annex 1.

3.2. The evidence has been gathered from a range of published sources including the 2011 Census, Translink public transport timetables, and Police Service of NI statistics, in addition to analytical analyses undertaken by the Department and fieldwork surveys on behalf of the Department. The evidence baseline focuses on the performance of the transport networks and features accessibility and modal choice.

3.3. The key public services and economic generators in the CCGBC area are centred on the largest towns of Coleraine, Limavady, Ballymoney and Ballycastle. Therefore consideration of transport and access in and around Coleraine, Limavady, Ballymoney and Ballycastle is key to the performance of the area as a whole. The evidence is presented for a range of issues; for some cases across all of the Council area and for others, where appropriate, with a focus on the towns of Coleraine, Limavady, Ballymoney and Ballycastle. Annex 1 presents the following in turn:

- Regional connectivity from Coleraine, Limavady, Ballymoney and Ballycastle by road and public transport – what time is required to travel to the economic centres and travel gateways of Northern Ireland?
- Accessibility within the area, to essential local services by public transport from across the Council area – to what degree do current rural bus services allow residents, including those in rural areas to reach essential services such as health, shops and banks?
- Active travel infrastructure in Coleraine, Limavady, Ballymoney and Ballycastle – how well developed are the current networks?
- Local urban bus services in Coleraine, Limavady, Ballymoney and Ballycastle – to what degree do they provide coverage for urban residents?
- Travel to work journeys – where do residents of CCGBC work?
- Modal choice for journeys to work and education across the Council area – how far do people travel to work and school / college and what mode of travel do they use?
- Road network speeds at peak and off-peak time periods – to what degree is the road network congested?

- Road collision history in Coleraine, Limavady, Ballymoney and Ballycastle – how many people are injured or killed on roads and streets in the towns and which modes are most vulnerable?

- Parking provision in Coleraine, Limavady, Ballymoney and Ballycastle – how many parking spaces are there in the town centres, where are they located, what tariffs are in place and how they are designated?

3.4. Interpretation of the evidence and identification of transport issues and opportunities are described in the Section 5 – Transport Issues and Opportunities.

4.0 Growth and Development proposals

4.1. Growth in Population and Employment

4.1.1. The CCGBC POP foresees that 9,270 new houses will be required over the period 2015 – 2030. The preferred option is to '*Focus (our) housing and economic growth in the hubs and sustain our rural communities'*. Additional population, new houses and households will lead to increases in the demand for travel. This gives rise to the following transport issues:

- Addressing additional congestion which would be created by an increase in private cars. The urban road network is already congested at peak times whilst relatively few people choose to walk, cycle or use public transport.

- Additional demand for travel needs to be minimised through land-use planning and sustainable infrastructure provided to reduce growth in road traffic. In all cases the consideration of safety for all road users will be a primary concern.

- Housing growth in the main towns is the most integrated land-use and transport planning solution. It offers the greatest opportunity to minimise congestion, social exclusion, air quality problems and increase walking and cycling. However, it is recognised that where there are committed housing sites which have planning permission or where development is ongoing, the ability to provide alternative modes of travel as part of any current development management process may be more difficult to achieve.

- Outside of the main and local hubs. Those areas located on the public transport network that have frequent and direct bus/rail services to main and local hubs offer the best locations for sustainable transport opportunities, offering people an alternative to the private car. Outside of the main and local hubs, these should be the focus of most new housing (and taking into account the Housing Evaluation Framework, RDS).

- Houses in the countryside are unlikely to contribute to a meaningful shift towards alternative transport modes. However, where houses can be located within easy walking distance of existing bus routes, this may help minimise the potential for social exclusion.

4.1.2. The potential for increasing social inclusion is magnified by the predicted differential ageing effect and the growth in people living alone. The proportion of over 65's is expected to increase to 19% by 2030. During the same period, the greatest increase in household size will be in 1 and 2 person households.

4.1.3. The POP aims to facilitate the creation of an adequate number of new jobs by 2030 in a range of sustainable locations.

4.1.4. The transport impacts differ according to the type of employment and are generally as follows:

- Land use such as business parks, would generate a relatively high number of people movements and a primary concern should be its accessibility by public transport and active travel.

- Manufacturing would require a balance concerning accessibility for employees and the traffic impacts of heavy goods vehicles carrying materials and finished goods to and from the site.

4.1.5. However, in both cases it should be noted that the location, and in particular its distance from residential areas will dictate whether accessibility by walking and cycling is practical and whether public transport becomes the primary consideration for employee accessibility. In all cases the consideration of safety for all road users will remain a primary concern.

5.0 Transport Issues and Opportunities

5.1. Introduction

5.1.1. This section provides an interpretation of the Evidence Baseline, identifying issues and proposes opportunities for transport measures.

5.1.2. The following issues are dealt with in turn:

- Regional connectivity from Coleraine, Limavady, Ballymoney and Ballycastle by road and public transport;
- Accessibility to essential local services by public transport from across the Council area;
- Urban walking and cycling infrastructure and bus services in Coleraine, Limavady, Ballymoney and Ballycastle;
- Modal choice for journeys to work and education across the Council area;
- Road network speeds at peak and off-peak time periods;
- Road collision history in Coleraine, Limavady, Ballymoney and Ballycastle;
- Parking provision in Coleraine, Limavady, Ballymoney and Ballycastle; and
- Legacy Road Alignments.

5.2. Regional Connectivity

5.2.1. The towns of Coleraine, Limavady, Ballymoney and Ballycastle are currently relatively well connected by road to the transport gateways by the Key Transport Corridors. Travel times are not uniform on account of the CCGBC area's peripheral location and the predominately single carriageway roads located within the CCGBC area. As shown in Figures 2 A-D of Annex 1, travel times from Coleraine and Ballymoney are similar, and travel times from Limavady and Ballycastle are longer on account of the town's relative peripheral locations and road connections.

5.2.2. Public transport travel times are dependent on the bus and rail network coverage and timetable integration. The Goldline 'limited-stop' bus network is important in providing attractive travel times but overall plays a limited role as its focus is primarily the A2, A6, A26 and A37 corridors and Belfast. The Derry rail and Portrush network lines are located within the CCGBC area and provides connections to Belfast, Derry and other transport gateways. As a consequence, unlike car travel times, the pattern of public transport travel times is unevenly distributed as public transport requires interchanges and hence long journey times to reach locations to the south of the A2, A6, A26 and A37 corridors and locations which are not served by the local rail network. From Coleraine, journeys of up to an hour generally extend only within the Council area; travel times to Belfast are 1.5 – 2hrs hours via direct services and to Derry are 1 – 1.5hrs via direct services, as shown in Figure 3a. Along the rail route, other locations such as Antrim, Ballymena and Newtownabbey are within 1.5hrs of Coleraine. These travel times are comparable with the times provided by the Translink Journey Planner of 1 hour 45 minutes to Belfast Europa Bus Station and 1 hour 15 minutes for travel to Derry Bus Centre. Regional travel

times from Limavady to Belfast are 2 – 2.5 hours via indirect routes and connecting services, and to Derry are 0.5 – 1 hour via direct services, as shown in Figure 3b. These travel times are comparable with the times provided by the Translink Journey Planner of 2 hrs and 15 minutes to Belfast Europa Bus Station and 45 minutes for travel to Derry Bus Centre. Regional travel times from Ballymoney to Belfast are 1 – 1.5 hours via direct services and Derry within 1 – 1.5 hours via direct services, as shown in Figure 3c. These travel times are comparable with the times provided by the Translink Journey Planner of 1 hour 7 minutes to Lanyon Place Train Station and 1 hour 5 minutes for travel to Derry Buscentre using travel connections. These sustainable travel times are comparable to travel times by car (54 minutes to Lanyon Place and 58 mins to Derry Bus Centre in off-peak normal travel conditions). Regional travel times from Ballycastle to Belfast are 1.5 – 2 hours via indirect routes and connecting services, and Derry within 2 – 2.5 hours via indirect routes and connecting services, as shown in Figure 3d. These travel times are comparable with the times provided by the Translink Journey Planner of 1 hour 55 minutes to Belfast Europa Bus Station and 2 hours 20 minutes for travel to Derry Buscentre. However, it is noted that given the travel connections required from Ballycastle only a limited number of journeys can achieve these travel times.

5.2.3. Near to Coleraine, Limavady and Ballymoney and at strategic locations along the routes, park and ride facilities may have a role to play in encouraging use of Goldline and rail services for longer journeys. These facilities may be especially important for residents of smaller towns, villages and outlying rural areas, such is the case with Drumadoon P&R located on Frosses Road, Cloughmills.

5.2.4. There are a number of protected routes within the study area. These routes facilitate the efficient and safe movement of traffic over long distances. Reflecting the importance of the routes, regional policy restricts the number of new accesses and controls the level of use of existing accesses onto protected routes. The regional policy will be translated into local planning policies within LDPs. A map viewer showing the most up-to-date protected routes is available on the Departmental website[4]

5.3. Accessibility to Essential Local Services

5.3.1. Figure 4 in Annex A shows accessibility by public transport to health facilities. The map shows that there is good accessibility to health services during the morning peak period.

5.3.2. Figure 4 shows that the majority of people living along the public transport routes have travel times of up to 1 hour. Accessibility is provided by bus and rail services scheduled to provide access to work and education in Coleraine, Limavady, Ballymoney and Ballycastle town centres, and to a lesser degree, the smaller settlements.

5.3.3. In addition, the catchment areas are effectively limited to the radial bus routes and coverage of the local rail network, and therefore large outlying tracts of the Council area have no access. Some bus services and their frequency from towns/villages to the Hubs of Coleraine, Limavady,

[4] https://dfi-ni.maps.arcgis.com/apps/webappviewer/index.html?id=cbef2552e0d348b8839f9c2aecb050d1

Ballymoney and Ballycastle are limited. Without improvements to some services car dependency will likely continue.

5.3.4. Any changes to the provision of local services could result in substantial increases in journey times which may effectively put these services out of reach for residents outside the main towns, without access to private car. Also any reductions in rural bus services could have a direct detrimental impact on these residents. Any additional residential development in rural areas not currently on a bus route will add directly to the number of people who have no access to essential local services, except by private car.

5.3.5. It is important to note that the viability of rural bus networks is an NI-wide policy issue for the Department and transport providers and is the subject of separate current work. The findings and recommendations from this ongoing work will be fed back to the LTP and LDP processes.

5.3.6. Rathlin Island, NI's only inhabited offshore island, has a population of 150 people and is located 10km north from Ballycastle. It is connected to the mainland by a car ferry and fast passenger ferry, with nine return services daily in summer and five return services in winter.

5.4. Urban Sustainable Transport Infrastructure in Coleraine, Limavady, Ballymoney and Ballycastle

5.4.1. Coleraine

5.4.1.1. Figure 5a shows the current provision of pedestrian infrastructure in Coleraine. The length of radial road within the development limit of Coleraine totals 34.2 km. A length totalling 2.4 km do not have footways. Whilst there is predominately consistent provision of dropped kerbs at breakpoints, only 8.8 km of footway exceeds 2.5 m in width.

5.4.1.2. Within Coleraine town centre there are 91 crossing facilities for pedestrians and cyclists. The most common form of provision being pedestrian refuges. There are also 24 signal-controlled pedestrian crossings.

5.4.1.3. Figure 6a shows details of the cycling infrastructure in Coleraine. In total, 9 cycle facilities provide 18 bicycle parking spaces. There is also 16.8 km of cycle network in Coleraine as follows:

- 7.2 km advisory cycle lane;
- 0.1 km mandatory cycle lane; and
- 9.5 km shared cycleway / pedestrian footway.

5.4.1.4. There would appear to be some gaps in the provision of sustainable transport infrastructure in Coleraine including missing footway sections and only a small portion of the cycle network include mandatory cycle lanes (1%).

5.4.1.5. Figure 7a shows details of the local bus network in Coleraine. Coleraine has 8 town centre bus services that operate local routes at a range of headways ranging from approximately half hourly from the Bus Centre to Portrush via Portstewart (Ulsterbus service 140a/b) to hourly

services from the Bus centre to Ulster University Coleraine Campus via Lissadell (Ulsterbus service 140c/d). Half hourly services operate from the Mall to the bus centre via Willowfield and Millburn (Ulsterbus service 319a) and half hourly services operate from the Mall to Mountsandel via Newmills and Windyhall (Ulsterbus service 319b). Half hourly services operate from the Mall to The Heights via Greenmount (Ulsterbus service 319c) and half hourly services operate from the Mall to Ballycairn via Carthall and Somerset (Ulsterbus service 319d). The majority of town centre services provide Saturday services, however most of the services do not operate during the evenings. In addition, the inter-urban Ulsterbus routes (such as those to Bushmills, Limavady and Ballycastle) serve the urban areas along their routes. These services provide accessibility to the town centre for residents who may live up to 2km from the centre and find walking or cycling impractical. It is likely that the service will be most attractive to people without a car and for those who have free concessionary fares.

5.4.1.6. The town centre bus services in Coleraine could be improved by:

- Extending the hours of operation, especially to support the town centre evening economy; and
- Increasing the number of services to ensure full coverage of all residential areas in the town.

5.4.2. Limavady

5.4.2.1. Figure 5b shows details of the pedestrian infrastructure in Limavady. The length of radial road within the development limit of Limavady totals 14.6 km. A length totalling 0.3 km does not have footways. Whilst there is good consistent provision of dropped kerbs at breakpoints, only a small length of footway exceeds 2.5m in width (1.6 km).

5.4.2.2. Within Limavady town centre there are 57 crossing facilities for pedestrians and cyclists. The most common form of provision are pedestrian refuge islands. There are also 8 signal-controlled pedestrian crossings.

5.4.2.3. Figure 6b shows details of the cycling infrastructure in Limavady. There are 4 cycle stands which provide a total of 16 bicycle parking spaces. There is also 3.1 km of cycle network in Limavady as follows:

- 1.4 km traffic free cycle route; and
- 1.7 km shared cycleway / pedestrian footway.

5.4.2.4. There would appear to be some gaps in the provision of sustainable transport infrastructure in Limavady including missing footway sections and only a small portion of cycle network is provided.

5.4.2.5. Figure 7b shows details of the local bus network in Limavady. Limavady has 1 town centre bus service that operates approximately half hourly services from Main Street to Irwin Avenue, Whitehill Park and Edenmore Road (Ulsterbus service 336). In addition, the inter-urban Ulsterbus routes (such as those to Coleraine, Derry and Dungiven) serve the urban areas along

their routes. These services will be most attractive to people without a car and for those who have free concessionary fares.

5.4.2.6. The town centre bus service in Limavady could be improved by:

- Extending its hours of operation, especially to support the town centre evening economy; and
- Increasing the number of services to ensure full coverage of all residential areas in the town.

5.4.3. Ballymoney

5.4.3.1. Figure 5c shows details of the pedestrian infrastructure in Ballymoney. The length of radial road within the development limit of Ballymoney totals 13.4 km; of which 1 km do not have footways. Whilst there is generally consistent provision of dropped kerbs at breakpoints, a small proportion of footway exceeds 2.5 m in width (3.5 km).

5.4.3.2. Within Ballymoney town centre there are 35 crossing facilities for pedestrians and cyclists. The most common form of provision is pedestrian refuges. There are also 8 signalised pedestrian crossings.

5.4.3.3. Figure 6c shows details of the cycling infrastructure in Ballymoney. There are 3 cycle facilities which provide a total of 8 bicycle parking spaces. There is also 5.3 km of cycle network in Ballymoney as follows:

- 0.1 km advisory cycle lane; and
- 5.2 km shared cycleway / pedestrian footway.

5.4.3.4. There would appear to be gaps in the provision of sustainable transport infrastructure in Ballymoney, including missing footway sections and limited length of cycle network provision.

5.4.3.5. Figure 7c shows details of the local bus network in Ballymoney. Ballymoney has 1 town centre bus service that generally operates 2 morning and 2 afternoon services between 0900 and 1700. Ulsterbus service 373a serves the rail station, town hall and east of the town. In addition, the inter-urban Ulsterbus routes (such as those to Coleraine) serve the urban areas along their routes. These services provide accessibility to the town centre for residents who may live up to 2km from the centre and find walking or cycling impractical. It is likely that the service will be most attractive to people without a car and for those who have free concessionary fares.

5.4.3.6. The town centre bus service in Ballymoney could be improved by:

- Extending the hours of operation, especially to support the town centre evening economy; and
- Increasing the number of services to ensure full coverage of all residential areas in the town.

5.4.4. Ballycastle

5.4.4.1. Figure 5d shows details of the pedestrian infrastructure in Ballycastle. The length of radial road within the development limit of Ballycastle totals 10 km. A length totalling 1.6 km do not have footways. Whilst there is consistent provision of dropped kerbs at breakpoints, a small proportion of footway exceeds 2.5 m in width (1.9 km).

5.4.4.2. Within Ballycastle town centre there are 9 crossing facilities for pedestrians and cyclists. The most common form of provision are pedestrian refuges. There are also 2 puffin crossings.

5.4.4.3. There would appear to be significant gaps in the provision of sustainable transport infrastructure in Ballycastle, including missing footway sections, no cycle network nor cycle parking facilities are provided, and no town centre bus services operate.

5.4.4.4. The feasibility of providing town centre bus services in Ballycastle could be investigated, as this would support the town centre and provide accessibility to the town centre for residents who find walking and cycling impractical and who live further from the town centre.

5.5. Modal Choice for Journeys to Work and Education

5.5.1. Introduction

5.5.1.1. The 2011 census results for journey to work present a summary of movements between council areas. As reported at 2011, it is possible to inspect the results for the legacy Coleraine, Limavady, Ballymoney and Moyle Council areas separately, as shown in Figures 8a – 8d respectively. These show that the majority of employed residents in Coleraine work within the council area in which they reside i.e. 67%. In Limavady, Ballymoney and Moyle 44%, 35% and 40% of residents respectively work within their own council area.

5.5.1.2. The legacy Coleraine Council area plays an important role in the CCGBC area in terms of employment with Coleraine (67%), Limavady (10%), Ballymoney (25%) and Moyle (17%) residents working in Coleraine. The legacy Ballymena Council area also has an employment role for Ballymoney (18%) and Moyle (11%) residents. However there are some differences with a higher proportion of Limavady residents (29%) working in Derry compared to Coleraine (4%), Ballymoney (1.5%) and Moyle (1.5%).

5.5.2. Results

5.5.2.1. The 2011 census results also allow contrasts to be drawn between CCGBC and NI in terms of travel behaviour, differentiating between working adults, school children and students.

5.5.2.2. Figure 9 shows that the use of sustainable modes in CCGBC is below the NI average for journeys to work with only 11% walking, cycling or using public transport compared to 15% across NI. It

is notable that for short journeys (less than 2km) 51% of journeys to work are made by single occupancy cars with 32% using active travel modes (walking and cycling) compared to the NI average of 37%, as shown in Figure 10. As for journeys to work (2km to less than 5km), 7% use active modes compared to 9% in NI.

5.5.2.3. In CCGBC the use of sustainable modes for journeys to education is the same as the NI average with 44% walking, cycling or using public transport. For short journeys (less than 2km) 35% use active modes compared to the NI average of 37%.

5.5.2.4. Comparing journeys to education and work presents a stark contrast in terms of use of public transport, see Figures 10 and 12. Public transport accounts for 30% of journeys to education, but only 3% to work. It is notable that 9% of shortest (less than 2km) education journeys are made by public transport whilst by far the greatest share is car passenger (52%).

5.5.3. Conclusions

5.5.3.1. In the majority of instances CCGBC has low levels of active travel to work and education compared to NI averages and these even apply when comparisons are limited to short journeys. 51% of journeys to work less than 2km are made by single occupancy cars. Therefore there appears to be considerable potential to increase the number of journeys made by walking and cycling. This may require new and/or improved infrastructure, picking up on the conclusions of the previous section and a continued emphasis on road safety for vulnerable road users. Land-use planning should therefore seek to encourage residential development within the existing urban area to reduce travel distances. Ideally residential development should be located in proximity to existing centres of employment and schools and be convenient to existing radial routes and existing active travel infrastructure.

5.5.3.2. The 2011 census for legacy councils of the CCGBC area also shows that public transport is popular for children and students' journeys to education, presumably where it is provided on a statutory and subsidised basis to a small number of largely centralised locations. However, public transport is underused for adult journeys to work which tend to be more widely distributed and where fares are generally not subsidised. Therefore there appears to be considerable potential for additional use of bus and rail for journeys to work to town centre locations provided fares can be made attractive. Land-use planning should therefore seek to encourage employment development in town centres where practical.

5.6. Road Network Speeds

5.6.1. Introduction

5.6.1.1. An investigation of road network efficiency has been undertaken by inspection of estimates of actual vehicular speeds calculated from a global positioning system data sourced by commercial

telematics sources (INRIX). The data was collected between October 2013 and 2015 and is available for peak (0700 - 0900 and 1600 - 1900) and off-peak (0900-1600) periods.

5.6.2. Results

5.6.2.1. The off-peak speeds have been inspected for the road network which extends over the CCGBC area as this is considered most appropriate for most inter-urban journeys including commercial traffic. Figure 13 shows that in general terms the A road network, consisting of the A2, A6, A26, A29, A37 and A44, between the principal towns generally operates at speeds exceeding 51mph except where the network passes through towns and villages.

5.6.2.2. Peak period speeds have been considered in the urban areas of Coleraine, Limavady, Ballymoney and Ballycastle, as this will highlight congestion on journeys to and from work. Speeds in the urban area of Coleraine, in Figure 14a, show a general pattern of decreasing speeds toward the centre of the town. In general terms, speeds drop to 31mph or less on the inner lengths relating approximately to the 30mph speed restricted area and drops further to 20mph or less at the principal junctions in the town centre.

5.6.2.3. Speeds in the urban area of Limavady, in Figure 14b, show a general pattern of decreasing speeds toward the centre of the town. Speeds on the outer lengths of the main radial routes generally exceed 31mph. In general terms, the 30mph speed restricted area is reached where speeds drop to less than 30mph. At the principal junctions in the town centre, speeds drop further to 20mph and less. Speeds on the A2 to the north and A37 to the east of the town centre exceed 40mph.

5.6.2.4. Speeds in the urban area of Ballymoney, in Figure 14c, show a general pattern of decreasing speeds toward the centre of the town. Speeds on the outer lengths of the main radial routes exceed 40mph, in general terms, the 30mph speed restricted area is reached where speeds drop to less than 30mph. At the principal junctions in the town centre, speeds drop further to less than 20mph.

5.6.2.5. Speeds in the urban area of Ballycastle, in Figure 14d, show a general pattern of decreasing speeds toward the centre of the town. Speeds on the outer lengths of the main radial routes generally exceed 31mph, in general terms, the 30mph speed restricted area is reached where speeds drop to less than 30mph. At the principal junctions in the town centre, speeds drop further to 20mph or less. Speeds on a section of the Clare Road beyond the development limit drop to 30mph, which reflects the road alignment.

5.6.3. Conclusions

5.6.3.1. In general terms traffic speeds are consistent with the road class and level of development. On the principal inter-urban network roads are generally single-carriageways. Recorded average speeds on the A road network generally exceed 51mph except where the network passes through villages.

5.6.3.2. In the urban areas of Coleraine, Limavady, Ballymoney and Ballycastle speeds reduce in line with the urban restrictions of 30 / 40mph. Traffic progression is controlled by the throughput of the principal junctions in the town centre which typically reduces peak speeds to less than 20mph. The Ring Road in Coleraine, A26 in Ballymoney and A2 / A37 in Limavady provides traffic relief to the town centres.

5.7. Urban Road Collision History

5.7.1. Introduction

5.7.1.1. An investigation of road collision history has been undertaken of the urban areas of Coleraine, Limavady, Ballymoney and Ballycastle using PSNI records dated between 2007 and 2016, with particular attention given to latest period 2012 – 2016. Consideration has been given to the type of road user, the severity of the casualties and the location of the collision in seeking to draw general conclusions. The results are presented in Figures 15a – d for the four towns.

5.7.2. Results

5.7.2.1. In Coleraine between 2012 and 2016, there were a total of 28 people seriously injured of which 15 were pedestrians. Of the 2 Coleraine fatalities, 1 was a pedestrian. In Limavady, there were a total of 9 people seriously injured of which 2 were pedestrians and 2 were cyclists. There were no fatalities in Limavady during this period. In Ballymoney a total of 9 people were seriously injured of which 3 were pedestrians. The 1 Ballymoney fatality was a motor vehicle user. In Ballycastle a total of 5 people were seriously injured of which 2 were pedestrians and 1 was a cyclist. The 1 fatality in Ballycastle was a cyclist.

5.7.3. Conclusions

5.7.3.1. Whilst there are relatively small numbers of journeys made by active travel to work or education in the urban areas of Coleraine, Limavady, Ballymoney and Ballycastle, pedestrians and cyclists are often seriously injured in road collisions. By contrast, collisions in the urban areas involving vehicles only tend to result in slight casualties to driver or passengers. The application of engineering, enforcement and education methods all have a role in minimising urban road casualties. In particular the message that there needs to be mutual respect between all road users is particularly important for the safety of pedestrians and cyclists.

5.8. Parking Provision in Coleraine, Limavady, Ballymoney and Ballycastle

5.8.1. Introduction

5.8.1.1. An investigation of existing public car parking provision has been undertaken by surveying and recording the location of all on and off-street parking spaces in the town centres of Coleraine, Limavady, Ballymoney and Ballycastle in 2017. .

5.8.2. Results

5.8.2.1. The results for Coleraine are presented in Figures 16a, 17a and 18a. The surveys show that the town centre of Coleraine provides a total of 2,274 public parking spaces of which 2,062 are off-street and 212 are on-street. Of the off-street spaces, 1,468 are free and 594 require payment. A number of the free car parks are privately operated, often by supermarkets, options for any change in future operation should be carefully considered. All of the on-street spaces are free, however 191 have day time restrictions (generally 1 hour with no return in 1 hour) and 21 are unrestricted. The on-street spaces are generally the most conveniently located for shopping and personal business purposes in the principal business streets.

5.8.2.2. The results for Limavady are presented in Figures 16b, 17b and 18b. The town centre of Limavady has a total of 1,124 public parking spaces of which 847 are off-street and 277 are on-street. Of the off-street spaces, 575 are free and 272 require payment. All of the on-street spaces are free, however 229 have day time restrictions (generally 1 hour with no return in 1 hour) and 48 are unrestricted. The on-street spaces are generally the most conveniently located for shopping and personal business purposes in the principal business streets.

5.8.2.3. The results for Ballymoney are presented in Figures 16c, 17c and 18c. The surveys show that the town centre of Ballymoney provides a total of 957 public parking spaces of which 844 are off-street and 113 are on-street. Of the off-street spaces, 632 are free and 212 require payment. A number of the free car parks are privately operated, often by supermarkets, options for any change in future operation should be carefully considered. All of the on-street spaces are free, however 92 have day time restrictions (generally 1 hour with no return in 2 hours) and 21 are unrestricted. The on-street spaces in Ballymoney are generally the most conveniently located to town centre services.

5.8.2.4. The results for Ballycastle are presented in Figures 16d, 17d and 18d. The town centre of Ballycastle has a total of 436 public parking spaces of which 365 are off-street and 71 are on-street. Of the off-street spaces, 263 are free and 102 require payment. All of the on-street spaces are free, however 57 have day time restrictions (generally 1 hour with no return in 1 hour) and 14 are unrestricted. The on-street spaces are generally the most conveniently located for shopping and personal business purposes in the main town centre streets.

5.8.3. Conclusions

5.8.3.1. Coleraine town centre is around 900m in length and 600m in breadth, therefore it is possible for drivers to walk from edge of town to their places of work or other long-stay purposes. Publicly owned parking provision is generally distributed throughout the town centre and are within short walking distance of the goods, services and amenities on offer in the town.

5.8.3.2. Limavady town centre is around 400m in length and 600m in breadth, therefore it is possible for drivers to walk from edge of town to their places of work or other long-stay purposes. Publicly owned parking provision is generally distributed throughout the town centre and are within short walking distance of the goods, services and amenities on offer in the town.

5.8.3.3. Ballymoney town centre is around 300m in length and 600m in breadth, therefore it is possible for drivers to walk from edge of town to their places of work or other long-stay purposes. The publicly managed car parks are generally distributed to the south and west of the town centre and can be easily accessed from the radial routes.

5.8.3.4. Ballycastle town centre is around 500m in length and 300m in breadth, therefore it is possible for drivers to walk from edge of town to their places of work or other long-stay purposes. The majority of car parks located within the town centre are privately owned.

5.9. Legacy Road Alignments and Other Protected Land

5.9.1. Legacy Road Alignments and other transport related schemes with associated protected lands exist in the extant LDPs within the study area. They are regarded as undeveloped alignments/areas identified in previous LDPs that have been protected from development. While not all alignments/schemes will be retained in the future, they should remain protected until more detailed consideration is given to each alignment at the LDP LPP / LTP stage when zoning and scheme level detail will be provided.

5.9.2. In some cases these alignments may first appear out of line with current policy and some schemes will not progress in the form previously planned or not at all. However, these alignments will be retained until the LDP LPP when they will be reviewed in conjunction with individual zoning considerations and consequently dropped or retained; as they could have potential alternative uses such as for active travel routes.

5.9.3. The remaining Legacy Road Alignments included in the previous area plans for the CCGBC area are as follows;

- A2 Ballykelly Bypass; and,
- A26 Ballymoney Bypass.

6.0 Transport Objectives

6.1. Introduction

6.1.1. This chapter sets out the transport context and objectives. This has been undertaken following careful consideration of the existing strategic policy context, local policies and the LDP POP for CCGBC.

6.2. Context

6.2.1. The New Approach, published by the former Department for Regional Development in 2013, recognised that while some car journeys are unavoidable, it is important that all council areas, including CCGBC, are developed in a way which enables people to have options, other than driving, to access key services. Although challenging, this requires a rebalancing of transport provision in conjunction with the new LDP to ensure that all modes of transport play their part.

6.2.2. This rebalancing must recognise the need for long-term stability and maintenance of the network and hence must play to the natural strengths of each mode of transport. For example, in general, public transport must focus on travel to and from urban centres where there is a 'critical mass' of key services and travel demand. Similarly active travel must provide safe and attractive local connectivity to challenge the presumption of car travel for short journeys. Roads standards should be in balance with the economic role of the traffic carried whilst care should be taken to ensure vehicles do not dominate town centres and reduce vital place-making opportunities.

6.3. Objectives

6.3.1. These Transport Objectives link to the objectives in the LDP POP.

6.3.2. Transport Study Objectives

Objective 1	
Enhance accessibility by road and public transport from the centres of Coleraine, Limavady, Ballymoney and Ballycastle to Belfast, Derry, gateways and hubs.	**Link to POP** **Social** 1a, g & h. **Environmental** 2a & f. **Economic** 3a, b, c, f, g, h & i.

6.3.2.1. One of the draft PfG high level indicators for transport is to improve travel times on key inter-urban economic corridors. The outworking of this will be to provide highway capacity improvements and attractive limited-stop bus services focused on inter-urban journeys made on the key economic corridors linking the gateways and hubs identified in the RDS.

Objective 2	
Ensure viable public transport accessibility to essential services for people living in the Causeway Coast and Glens Council area.	**Link to POP** **Social** 1a, b , f & h. **Economic** 3a, b, c, e, f, g, h & i.

6.3.2.2. It is important that everyone can access work, education and essential goods and services such as healthcare or food shops. Whilst private car may be predominantly the preferred mode of travel, it should be possible to access these services without a private car. However, standard bus services are not financially viable where there is not a 'critical mass' of passengers. The LTS and Plan will therefore seek to identify a range of possible innovative public transport options for the area that will be supported by the authorities, (including health and education). Those transport options, although not currently developed, may be deliverable within the lifetime of the plan, subject to NI-wide transport policy. This will take account of the location of current and future essential services.

Objective 3	
Ensure there are attractive and safe active travel networks (walking and cycling) connecting all new and existing residential, employment, retail and leisure uses in the urban areas of Coleraine, Limavady, Ballymoney and Ballycastle.	**Link to POP** **Social** 1a, c, e, 1g, 1h, 1i & 1j. **Environmental** 2a, f, g & 2h. **Economic** 3a, b, c, e, f, g, h.

6.3.2.3. Creating higher density, mixed use places will require transport investment to be fully aligned with the growth strategy set out by CCGBC.

6.3.2.4. Focusing growth in the main and local hubs of Coleraine, Limavady, Ballymoney and Ballycastle will maximise the capacity of the existing urban bus and active travel networks and will facilitate their improvement.

6.3.2.5. Development should be located in areas which have good accessibility. This will enable residents to access facilities which are within walking and cycling distances and have the option to use bus services for longer journeys. In general, the scale of Coleraine, Limavady, Ballymoney and Ballycastle are such that residential areas within the development limits are generally within walking distance of the centre of the town (approximately 1 mile or 20 minutes). The exceptions to this are certain areas in Coleraine and Limavady which fall outside of this walking distance. The full development area of Coleraine, Limavady, Ballymoney and Ballycastle is within a convenient cycling distance (approximately 3 miles or 20 minutes).

6.3.2.6. A requirement when obtaining planning permission is the demonstration of safe transport infrastructure for all users.

Objective 4	
Deliver high quality public realm in the centres of Coleraine, Limavady, Ballymoney and Ballycastle, with reduced vehicle dominance, to make the towns attractive places to live and work and to improve safety for active travel modes.	**Link to POP** **Social** 1a g, f, i & j. Environmental 2a, f, g & h. **Economic** 3a, b, c, g, h & i.

6.3.2.7. Indicator 25 of the draft PfG focuses on increasing the proportion of journeys made by active travel and public transport. This will a require a change in modal demands in urban areas by providing safer infrastructure which will encourage and support an increase in active travel and public transport use whilst reducing private car travel. Journeys to and within the town centre, where there is critical mass of demand, offer the greatest potential for active travel and public transport and can be influenced by parking strategies. The transport infrastructure in town centres also merit special priority in terms of place-making.

Objective 5	
Enhance transport accessibility to Coleraine, Limavady, Ballymoney and Ballycastle to safeguard their viability.	**Link to POP** **Social** 1a b, g & h. **Environmental** 2a & f. **Economic** 3a, b, c, e, f, g, h, I & j.

6.3.2.8. Coleraine, Limavady, Ballymoney and Ballycastle town centres offer a broad range of services which meet the needs of their residents of and the wider CCGBC area. By improving transport infrastructure and accessibility between and within towns it is considered that the role of these town centres will be strengthened, supporting their development and vitality. Development in close proximity to town centres should be focussed on active travel networks and public transport, reducing the need for car use and contributing to place making opportunities.

Objective 6	
	Link to POP
Enhance safety for all modes of transport and reduce the number and severity of casualties.	**Social** 1a, b, g, h, i & j. **Environmental** 2a, f & h. **Economic** 3b, c, e, f, g, h & i.

6.3.2.9. By improving transport infrastructure and encouraging a greater awareness of road safety and the needs of other road users it is considered that the number and severity of collisions and casualties can be reduced.

Objective 7	
	Link to POP
Protect and ensure our transport systems are resilient to climate change.	**Social** 1a, b, g, h, I & j **Environmental** 2a, e, f & h. **Economic** a, b, c, e, f, g, h & i.

6.3.2.10. This objective is over-arching in nature. Any new infrastructure should be designed and constructed to the latest standards and future-proofed taking account of the particular flood risks applying in Causeway Coast and Glens. Also taking account of the rural nature of the area and the high dependence on car the infrastructure should be as safe as possible whilst users made aware of the risks. Maintenance needs to be considered fully, taking account of the flood risks and the remoteness of some locations.

6.4. Alignment with Wider Strategy Aims and Objectives

6.4.1. Table 3 shows how the Local Transport Study objectives align with key objectives from other policy documents, including:

- Draft PfG;
- RDS;
- The New Approach;
- NI Changing Gear;
- CCGBC Community Plan; and
- CCGBC LDP POP.

Table 3. Alignment with Wider Strategy Aims / Objectives and Council Policies

LTS Objective	PfG	RDS	New Approach	NI Changing Gear	CCGBC Community Plan	CCGBC POP
Objective 1: *Enhance accessibility by road and public transport from the centres of Coleraine, Limavady, Ballymoney and Ballycastle to Belfast, Derry, gateways and hubs*	Outcome 13 Indicator 23 Indicator 25	RG2	Objective 1 Objective 2 Objective 5 Objective 6 Objective 8 Objective 9 Objective 12	Objective 2	Outcome 7 Outcome 9 Outcome 10 Outcome 11	Outcomes 1, 3 6, 7, 9, 10 & 12.
Objective 2: *Ensure viable public transport accessibility to essential services to essential services for people living in the Causeway Coast and Glens Council area.*	Outcome 13 Indicator 23 Indicator 25	RG2	Objective 1 Objective 5 Objective 8 Objective 9	Objective 2 Objective 3	Outcome 7 Outcome 9 Outcome 10 Outcome 11	Outcome 1, 2, 3, 4, 6, 7, 9, 10 & 12.
Objective 3: *Ensure there are attractive and safe active travel networks (walking and cycling) connecting all new and existing residential, employment, retail and leisure uses in the urban*	Outcome 2 Indicator 25		Objective 1 Objective 4 Objective 6	Objective 1 Objective 2 Objective 3	Outcome 7 Outcome 8 Outcome 9	Outcome 1, 2, 3, 6, 7, 8, 9, 10 & 12.

LTS Objective	PfG	RDS	New Approach	NI Changing Gear	CCGBC Community Plan	CCGBC POP
areas of Coleraine, Limavady, Ballymoney and Ballycastle.			Objective 7 Objective 8 Objective 9 Objective 10 Objective 11 Objective 12	Objective 4	Outcome 10 Outcome 11	
Objective 4: *Deliver high quality public realm in the centres of Coleraine, Limavady, Ballymoney and Ballycastle, with reduced vehicle dominance, to make the towns attractive places to live and work, and to improve safety for active travel modes.*	Outcome 2 Indicator 25	RG2	Objective 2 Objective 6 Objective 7 Objective 8 Objective 9 Objective 10 Objective 11 Objective 12	Objective 1 Objective 2 Objective 3 Objective 4	Outcome 4 Outcome 7 Outcome 8 Outcome 9 Outcome 10 Outcome 11	Outcome 1, 4, 6, 7, 8, 9 & 10

LTS Objective	PfG	RDS	New Approach	NI Changing Gear	CCGBC Community Plan	CCGBC POP
Objective 5: *Enhance transport accessibility by sustainable modes of transport to Coleraine, Limavady, Ballymoney and Ballycastle to safeguard their viability.*	Outcome 13 Indicator 23 Indicator 25	RG2	Objective 1 Objective 2 Objective 4 Objective 6 Objective 10	Objective 1 Objective 2	Outcome 7 Outcome 9 Outcome 10 Outcome 11	Outcome 1, 2, 3, 4, 6, 7, 8, 9, 10 & 12.
Objective 6: *Enhance safety for all modes of transport and reduce the number and severity of casualties.*	Outcome 7 Indicator 23		Objective 7	Objective 4	Outcome 4 Outcome 7	Outcome 1, 2, 3, 4, 6, 7, 8, 9 & 10.
Objective 7: *Protect and ensure our transport systems are resilient to climate change.*	Outcome 2 Indicator 23 Indicator 25	RG2 RG9	Objective 2 Objective 3 Objective 10 Objective 11 Objective 12		Outcome 8 Outcome 9 Outcome 10 Outcome 11	Outcome 2 & 3

7.0 Assembly of the Transport Study

7.1. Introduction

7.1.1. This section presents the assessment of transport options and conclusions of the Transport Study for CCGBC. The conclusions have been reached by comparing of a number of different Transport Measures using an objectives-based approach. Alternative transport options are assessed against the objectives identified earlier; in order to identify a recommended set of potential Transport Measures. The following sequence of processes are described in turn:

- general approach to assessment;
- development of options;
- assessment of options and selection of recommended Transport Measures; and
- confirmation of Transport Measures Assessment against the objectives.

7.1.2. The options are indicative only and will be subject to further consideration in the LTP. The LDP may also identify other options for the CCGBC area.

7.2. General Approach to Assessment

7.2.1. The previous report sections have presented the context and provided a set of objectives for local transport development in CCGBC, consistent with the Community Planning and LDP processes. These objectives are used to assess alternative options and recommend a set of Transport Measures that, along with other evidence sources, will help inform the development of the LTP.

7.2.2. This objectives-based approach is considered consistent with The New Approach and suited to the outcome-based approach being applied across policy making in NI, particularly as the objectives have been formulated to take account of the draft PfG Outcomes. The approach is also preferred to a "problems- based" approach that might tend to simply replicate past strategies and measures and make the achievement of new objectives and outcomes particularly difficult.

7.3. Development of Options

7.3.1. The development of options is initiated by the consideration of the objectives:

- **Objective 1*:*** Enhance accessibility by road and public transport from the centres of Coleraine, Limavady, Ballymoney and Ballycastle to Belfast, Derry, gateways and hubs.
- **Objective 2**: Ensure viable public transport accessibility to essential services for people living in the CCGBC area.

- **Objective 3:** Ensure there are attractive and safe active travel networks connecting all new and existing residential, employment, retail and leisure uses in the urban areas of Coleraine, Limavady, Ballymoney and Ballycastle**.**
- **Objective 4:** Deliver high quality public realm in the centres of Coleraine, Limavady, Ballymoney and Ballycastle, with reduced vehicle dominance, to make the towns attractive places to live and work, and to improve safety for active travel modes.
- **Objective 5:** Enhance transport accessibility by sustainable modes to Coleraine, Limavady, Ballymoney and Ballycastle to safeguard their viability.
- **Objective 6:** Enhance safety for all modes of transport and reduce the number and severity of casualties.
- **Objective 7:** Protect and ensure our transport systems are resilient to climate change.

7.3.2. **Objective 1 summarised as External Accessibility,** is specific in requiring improvements in both road and public transport and in identifying the precise locations which focus improvements on the Key Transport Corridors. The potential options include:

- Improved inter-urban roads on Key Transport Corridors;
- Maintained and improved rail connections;
- Improved 'limited-stop' bus services to key hubs; and
- Park & Ride and Park & Share also have complementary roles in improving local access or increasing vehicle occupancy respectively.

7.3.3. **Objective 2 summarised as Public Transport Accessibility,** focuses on rural bus services and connections to employment, education and essential goods and services such as, health care, food shops and banks. The potential options include:

- Maintained or improved Ulsterbus rural services;
- Alternative Ulsterbus rural operations including integration with 'limited-stop' services;
- Maintained and improved rail connections;
- Integrated public transport services including innovative transport models such as 'ride-share[5]';
- Land-use policy continuing to focus residential development in towns;
- New or improved public transport, serving new developments funded by the developers; and
- Alternative models of delivery of essential services including mobile services and use of the internet.

7.3.4. **Objective 3 summarised as Attractive and Safe Active Travel Networks,** focuses on safe and attractive walking and cycling connections within Coleraine, Limavady, Ballymoney and Ballycastle. The potential options include:

- Provision of improved walking facilities in towns;
- Provision of improved cycle parking provision in towns;

[5] Ride-share definition is to participate in an arrangement in which a passenger travels in a private vehicle driven by its owner, for free or for a fee, especially as arranged by means of a website or app.

- Provision of a network of attractive cycling routes in towns with a
  - focus on radial routes;
  - Local improvements which together provide longer routes; and
- Identification and implementation of measures to address road user behaviour related to active travel.

7.3.5. There are other options which relate to how this infrastructure is provided and at additional locations such as:

- For new developments, active travel infrastructure both within the development and linking to existing or planned networks are to be provided by developers or through developer contribution; and
- Improvements to existing greenways and the provision of new greenways between towns.

7.3.6. **Objective 4 summarised as High Quality Public Realm in town centres,** generates a number of largely complementary transport options:

- Town Centre Parking Strategies that reduce circulating traffic searching for parking spaces;
- Traffic management schemes that remove traffic routes through town centres;
- Priority to be given to pedestrians in and around town centre streets; and
- Pedestrianisation of town centres.

7.3.7. **Objective 5 summarised as Accessibility to Town Centres,** generates a number of quite different transport options:

- Traffic management measures to reduce travel times to town centres by all sustainable modes;
- Public transport improvement options identified against Objective 2;
- Improved walking and cycling options identified against Objective 3;
- Town Centre Parking Strategies that provide for demand for long and short stay parking at locations that reduce town centre congestion; and
- Traffic management schemes that give priority to pedestrian movements to the town centre.

7.3.8. **Objective 6 summarised as Safety** and the options include:

- Implement road safety measures to reduce collisions;
- Improved walking and cycling options identified against Objective 3;
- Priority to be given to pedestrians in and around town centre streets;
- Improvements to existing greenways and provision of new greenways between towns; and
- Traffic management schemes that remove traffic routes through the town centre.

7.3.9. **Objective 7 summarised as Resilience,** is quite specific**.** The potential options include:

- Ensure transport infrastructure is designed and provided to current 'best practice' standards regarding extreme weather events; and
- Ensure transport infrastructure is maintained to 'best practice' standards to maximise performance at all times and that whole life costs are minimised.

7.4. Assessment of Options and Selection of Recommended Transport Measures

Objective 1: External Accessibility

7.4.1. The following options have the potential to be progressed as feasible within the LTS time frame of 2030 and are consistent with the objectives.

- Improved inter-urban roads on KTC;
- Maintained and improved rail connections;
- Improved 'limited-stop' bus services to key hubs; and
- Park & Ride and Park & Share facilities also have complementary roles in improving local access or increasing vehicle occupancy respectively.

Objective 2: Public Transport Accessibility

7.4.2. It is proposed that these transport options are considered in the context of NI-wide policy issues for the Department and transport providers and would be the subject of separate work. It is the intention that the findings and recommendations will be fed back to the LTP and LDP processes as and when the next steps for the wider public transport network are identified and agreed. In outline, the proposal is to develop innovative integrated public transport services, using for example transport models such as 'ride-share'.

7.4.3. It is also recommended that the options for land-use policy should focus on residential development in towns and that service providers consider alternative models of delivery of essential services such as mobile services and use of the internet outside of these areas.

Objective 3: Urban Active Travel Networks.

7.4.4. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives:

- Provision of improved walking facilities in towns;
- Provision of improved cycle parking provision in towns;
- Provision of a network of attractive cycling routes in towns;
- Improvements to the existing greenway network and provision of a new greenway network between towns; and
- For new developments, walk and cycle infrastructure both within the development and linking to existing or planned networks are provided by the developers.

7.4.5. Radial routes in towns would reinforce the expectation for direct high-quality cycle routes which can provide a realistic option for journeys to and through the town centre. The designation of routes also facilitates the proposal to seek developer contributions for infrastructure over and beyond the development site.

Objective 4 High Quality Public Realm in Town Centres

7.4.6. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives:

- Town Centre Parking Strategies that reduce circulating traffic searching for parking spaces;
- Traffic management schemes that remove traffic routes through the town centre; and
- Priority to be given to pedestrians in and around town centre streets.

7.4.7. The following option is unlikely to be feasible within the LTP time period or would not meet the objectives:

- Pedestrianisation of town centres – this measure is considered out-moded and likely to fail by removing key servicing access and after-hours animation. The other options seek to deliver the positive points of pedestrianisation relating to reducing vehicle dominance.

Objective 5 Accessibility to Town Centres

7.4.8. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives:

- Traffic management measures to reduce travel times to town centres by all sustainable modes;
- Public Transport improvement options identified against Objective 2;
- Improved walking and cycling options identified against Objective 3;
- Town Centre Parking Strategies that provide for the demand for long and short stay parking at locations that reduce town centre congestion; and
- Traffic management schemes that give priority to pedestrian, cycling and public transport movements to the town centre

7.4.9. However it is noted that there are likely to be instances when key development will require essential new urban road infrastructure simply to access and service the development and to facilitate active travel modes. In such instances the urban road infrastructure will be provided by the developers. Therefore the following option is identified as potentially feasible:

- New urban road links (and supporting sustainable transport infrastructure) to facilitate key development funded by developers.

Objective 6 Safety

7.4.10. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives as follows:

- Implement road safety measures to reduce collisions;
- Improved walking and cycling options identified against Objective 3;
- Priority to be given to pedestrians in and around town centre streets identified against Objective 4;
- Improvements to existing greenways and the provision of new greenways between towns identified against Objective 3; and
- Traffic management schemes that give priority to pedestrian, cycling and public transport movements to the town centre identified against Objective 4.

Objective 7 Resilience

7.4.11. Both options are feasible within the LTS time frame of 2030 and are consistent with the objectives. It is proposed that the options can be combined as follows:

- Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times.

7.5. Confirmation of Transport Measures Assessment against the Objectives

7.5.1. The LTS for CCGBC is primarily focused on the principal urban centres of Coleraine, Limavady, Ballymoney and Ballycastle where there are opportunities to deliver the most significant impact on the greatest number of residents and employees in conjunction with the LDP. However the LTS also includes two inter-urban measures that also link to the RSTNTP. This LTS is purposely composed of measures rather than schemes as this provides flexibility in the definition and design of schemes in order to integrate with land-use opportunities that arise in the LPP stage of the LDP.

7.5.2. This LTS is proposed as comprising the following 11 potential measures:

1. Improved inter-urban roads on KTCs
2. Improved 'limited-stop' bus services to key hubs
3. Maintained and improved rail services and connections
4. Integration of passenger transport services including innovative transport models such as 'ride-share'
5. New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developers
6. Town Centre Parking Strategies including integrated management of long and short-stay spaces
7. Provision of improved walking facilities in towns
8. Provision of a network of attractive radial cycling routes in towns and greenways between towns

9. Traffic management schemes in urban areas to re-balance modal hierarchy
10. Ensure that user behaviour regarding safe use of the transport network is monitored and addressed
11. Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times.

7.5.3. Each of the potential measures are confirmed against the transport objectives below. The table summarises how each of the 11 measures support the 7 Transport Objectives. A double tick (√√) designates strong or direct support for the objective whilst a single tick (√) designates lesser or indirect support. Each measure is subsequently described separately below.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in town centres	5: Accessibility to Town Centres	6: Safety	7: Resilience
1: Improved inter-urban roads on KTC	√√	√√			√√	√	
2: Improved 'limited-stop' bus services to key hubs	√√	√			√√		
3: Maintained and improved rail services and connections	√√	√√			√		
4: Integration of passenger transport services including innovative transport models such as 'ride-share'	√	√√			√		
5: New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developers		√	√√		√√	√	
6: Town Centre Parking Strategies including integrated management of long and short-stay spaces		√		√√	√√		

7: Provision of improved walking facilities in towns		√	√√	√	√√	√√	
8: Provision of a network of attractive radial cycling routes in towns and greenways between towns			√√	√	√√	√√	
9: Traffic management schemes in urban areas to re-balance modal hierarchy		√	√√	√	√√	√	
10: Ensure that user behaviour regarding safe use of the transport network is monitored and addressed.				√		√√	
11: Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times							√√

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Improved inter-urban roads on KTCs	√√	√√			√√	√	

1: Improved Inter-urban Roads on KTCs

7.5.4. New inter-urban road schemes may be identified and prioritised on the Key Transport Corridors to improve external accessibility from the CCGBC area. These schemes will be listed in the RSNTP which is currently being prepared.

7.5.5. These roads will improve external accessibility by reducing journey times or improving journey time reliability. This will impact on bus travel in addition to private car and goods travel.

7.5.6. Improvements to these roads will also directly improve accessibility to the town centres by reducing journey times from the catchment areas.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Improved 'limited-stop' bus services to key hubs	√√	√			√√		

2. Improved 'limited-stop' Bus Services to Key Hubs

7.5.7. New 'limited-stop' bus services may be identified and prioritised on the Key Transport Corridors to improve external accessibility from the CCGBC area. These services will build upon the existing Goldline route network to be listed in the RSTNTP which is currently being prepared. The bus services will capitalise on continued road improvements and new park and ride schemes.

7.5.8. These 'limited-stop' bus services will improve external accessibility by reducing public transport journey times and increasing service frequency between the key hubs.

7.5.9. These services will indirectly improve public transport accessibility from the wider rural area.

7.5.10. These services will also directly improve accessibility to the town centres by reducing journey times from the catchment areas, potentially in combination with park and ride sites.

Potential Measure	Objectives					
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in town centres	5: Accessibility to Town Centres	6: Resilience and Safety
Maintained and improved rail services and connections	√√	√√			√	

3. Maintained and improved rail services and connections

7.5.11. The Derry and Portrush rail lines is located within the CCGBC area and serves Ballymoney, Coleraine, Castlerock, Bellarena, Portrush, Dhu Varren and University stations.

7.5.12. Service enhancements to the Derry line should be prioritised in order to enhance the current attractiveness of the line. This measure will also be considered as part of the RSTNTP and SRTP.

Potential Measure	Objectives					
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in town centres	5: Accessibility to Town Centres	6: Resilience and Safety
Integration of passenger transport services including innovative transport models such as 'ride-share'	√	√√			√	

4. Integration of Passenger Transport Services Including Innovative Transport Models such as 'Ride-Share'

7.5.13. The integration of passenger transport services has the potential to increase the public transport opportunities for rural communities. These transport options will be considered in the context of NI-wide policy issues for the Department and transport providers.

7.5.14. Increased public transport opportunities for rural communities would have a direct and markedly positive impact on the public transport accessibility objective as residents living beyond the current Translink bus network would be able to use the new services, potentially on a door to door basis.

7.5.15. Increased public transport opportunities for rural communities would also have a positive impact on external accessibility as a proportion of rural residents who do not have the use of a car would now be able to travel by public transport to the local bus stations and then interchange to Goldline, inter-urban Ulsterbus and rail services.

7.5.16. Increased public transport opportunities for rural communities would also have a positive impact on accessibility to town centres as the new services, though carefully fitted to users travel needs, will invariably include a proportion of journeys to town centres where key services are centred.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in town centres	5: Accessibility to Town Centres	6: Safety	7: Resilience
New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developers		√	√√		√√	√	

5. New Urban Road Links and Supporting Sustainable Transport Infrastructure to Facilitate Key Development Funded by Developers

7.5.17. The LDP LPP stage will, in all likelihood, generate new zonings or developments that will require new infrastructure to enable their delivery. In some cases new urban road links will be needed simply to provide direct access however active travel and public transport infrastructure and services are also likely to be needed. The required infrastructure will need to be funded by the developers and planned and delivered in conjunction with the council and the Department.

7.5.18. The new infrastructure would impact directly on the objective to improve urban active travel networks.

7.5.19. The new infrastructure would improve accessibility to the town centres.

7.5.20. Where new public transport services are secured, these may improve public transport access to key town centre services.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Town Centre Parking Strategies including integrated management of long and short-stay spaces		√		√√	√√		

6. Town Centre Parking Strategies including Integrated Management of Long and Short-stay Spaces

7.5.21. Town Centre Parking Strategies will be required in Coleraine, Limavady, Ballymoney and Ballycastle as stipulated in the SPPS. Parking strategies have a key role to play in improving how the urban transport networks operate as public parking locations represent the ultimate destination for many car journeys. The location of public parking and its designation as long or short-stay using payment controls will be identified in the Parking Strategy and LDP LPP stage.

7.5.22. In Coleraine, Limavady, Ballymoney and Ballycastle parking strategies would have a direct impact on the potential to provide high quality public realm. By removing extraneous traffic which often dominates the town centres it will be possible to design and deliver public realm geared to increase social interaction and animation.

7.5.23. The parking strategies would have a direct impact on accessibility to the town centres. It will be important that the strategies improve turnover of parking spaces, and by reducing traffic searching for spaces, to improve travel times and safety by public transport and active travel.

7.5.24. The parking strategies would have an indirect impact on public transport accessibility as it is envisaged that the charges needed to increase the turnover of spaces may lead to public transport becoming a more attractive and financially viable option.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Provision of improved walking facilities in towns		√	√√	√	√√	√√	

7. Provision of Improved Walking Facilities in Towns

7.5.25. The provision of improved walking facilities in Coleraine, Limavady, Ballymoney and Ballycastle will likely be a central measure of the LTP. In these settlements the pedestrian networks are incomplete and levels of walking to work and education in the Council area are lower than the NI average. Whilst improvements to the walking facilities may require retro-fitting work and may impact on traffic capacity this measure has a role in delivering greater walking activity and hence meets a number of objectives. In addition, attractive local and town-centre walking routes must be an integral part of any LDP.

7.5.26. Improved walking facilities will have a direct impact on urban active travel networks. In particular in designing off-road walking routes, consideration should be given to their potential as shared cycle facilities.

7.5.27. Improved walking facilities would have a direct impact on accessibility to the town centres. By making it easier to cross roads and generally making walking routes to the town centre more attractive, it will be more convenient for people to travel without cars to the town centre. Walking routes can provide convenient access to the town centre from residential areas within a range of up to 1 mile (assuming a travel time of 20 minutes); this represents large residential areas within the development area of Coleraine, Limavady, Ballymoney and Ballycastle. In addition, should parking strategies displace long stay parking to the edge of town, the accessibility of the town centre for car users would be largely unaffected as the consequent longer walk access would be improved in quality.

7.5.28. Improved walking facilities would have an indirect impact on public transport accessibility as local town centre walking access is often the final component of a public transport journey.

7.5.29. Improved walking facilities would have an indirect impact on high quality public realm as they are often designed together in an integrated fashion.

Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Provision of a network of attractive radial cycling routes in towns and greenways between towns			√√	√	√√	√√	

8. Provision of a Network of Attractive Radial Cycling Routes in Towns and Greenways between Towns

7.5.30. The provision of improved cycling facilities in Coleraine, Limavady, Ballymoney and Ballycastle and between towns will likely be a central measure of the LTP. In these settlements the cycle networks are incomplete and serve only a small proportion of the residential areas. Whilst the provision of a network of radial cycling routes in Coleraine, Limavady, Ballymoney and Ballycastle may impact on traffic capacity it is clear that the measure has a role in delivering sustainable accessibility across the urban areas. The designation and identification of a network of routes should be an integral part of any LDP such that the network can be delivered in co-ordination with development proposals.

7.5.31. Attractive cycle routes would have a direct impact on urban active travel networks. In particular in designing off-road cycle routes consideration will be given to their potential as shared walking facilities. Cycle routes can provide convenient access to places of employment and education within a range of up to 3 miles (assuming a travel time of 20 minutes) which would encompass the entire development area of the towns.

7.5.32. Improved cycle routes will have a direct impact on accessibility to the town centres. By making these attractive, it will be more convenient for people without cars (including children), to travel (independently) to the town centre.

7.5.33. Improved cycle routes would have an indirect impact on high quality public realm as they are often designed together in an integrated fashion as part of local routes or longer greenways. Care will be needed to ensure that the cycle route function and use does not discourage use by pedestrians, elderly people or other people with particular impairments.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Traffic management schemes in urban areas to re-balance modal hierarchy		√	√√	√	√√	√	

9. Traffic Management Schemes in Urban Areas to Re-balance Modal Hierarchy

7.5.34. The introduction of sustainable transport measures, such as those proposed in this LTS, would involve an impact on traffic capacity and on traffic flows. Consequently there will be a requirement for the Department to consider how road-space is designated and used by a range of modes (pedestrian, cyclist, bus, goods service vehicle and general traffic) and exactly what priority is given to each. Traffic management schemes can complement physical infrastructure schemes by amending regulations, signing and lining to achieve that priority and provide safer and more coherent networks.

7.5.35. Traffic management schemes would impact directly on the objective to improve and create continuous high quality urban active travel networks where traffic capacity has to be re-assigned using amended road markings, junction layouts or phasing of signal settings.

7.5.36. Traffic management schemes would be required to ensure that accessibility to the town centre is improved. Consideration will be given to re-balancing priority to pedestrians and public transport in town centre service or retail based streets whilst private car routes to designated parking locations as identified in the parking strategy should not be unduly inconvenienced.

7.5.37. Traffic management would also indirectly impact on public transport accessibility from the wider catchment as town centre bus priority could make a significant difference in the viability of routes at off-peak periods.

7.5.38. Traffic management would also indirectly impact on public realm as traffic engineers will likely need to engage in the co-design of schemes that require changes in local traffic designations or regulations to ensure their success.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Implement road safety measures to reduce collisions				√		√√	

10. Ensure that User Behaviour Regarding Safe Use of the Transport Network is Monitored and Addressed

7.5.39. This measure focuses on the human aspects of road safety and complements the previous measure which is concerned with the physical infrastructure.

7.5.40. The consideration of user behaviour is particularly important for objectives relating active travel networks and of public realm schemes which may involve relatively innovative design features requiring supporting public information.

7.5.41. This measure is however effectively cross-cutting and has positive impacts on each of the other objectives.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in	5: Accessibility to Town Centres	6: Safety	7: Resilience
Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times.							√√

11. Transport Infrastructure to be Designed, Provided and maintained to 'Best Practice' Standards to Maximise Performance at all Times.

7.5.42. The provision of transport infrastructure designed, provided and maintained to 'best practice' standards to maximise performance at all times relates directly to the objective of resilience and safety.

7.5.43. This measure is effectively cross-cutting and has no direct bearing on any of the other objectives.

7.5.44. It may be worth noting however, that despite 'best practice' in extreme conditions such as road collisions or traffic signals failures or flooding, road infrastructure, especially urban, can reach capacity leading to grid-lock. Similar grid-lock would be rare on an active travel networks. Resilience to system failures, such as traffic signal failures, can be increased by providing 'back-up' systems whilst overall urban travel resilience can be increased by ensuring that realistic active travel options are provided.

8.0 Conclusions – The Transport Study

8.1. The Transport Study for **Causeway Coast and Glens Borough Council** is confirmed as the following 11 measures:

- **1: Improved inter-urban roads on KTCs**
  New inter-urban road schemes will be identified and prioritised on the Key Transport Corridors. These schemes will be listed in the RSTNTP which is currently being prepared.

- **2: Improved 'limited-stop' bus services to key hubs**
  New 'limited-stop' bus services are expected to be identified and prioritised on the Key Transport Corridors to and from Coleraine, Limavady, Ballymoney and Ballycastle. These services will build upon the existing Goldline and Ulsterbus route networks to be listed in the RSTP which is currently being prepared. The bus services will capitalise on continued road improvements.

- **3: Maintained and improved rail services and connections**
  It is recommended that service enhancements to the Derry line should be prioritised in order to enhance the current attractiveness of the line. This measure will also be considered as part of the RSTNTP and SRTP.

- **4: Integration of passenger transport services including innovative transport models such as 'ride-share'**
  The viability of this measure would be considered in the context of NI-wide policy issues for the Department and transport providers and will be the subject of separate work.

- **5: New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developers**
  The LDP LPP stage will likely generate new zonings or developments that would require new infrastructure to enable their delivery. In some cases new urban road links will be needed simply to provide direct access however active travel and public transport infrastructure and services are also likely to be needed. That infrastructure will need to be funded by the developers and planned and delivered in conjunction with the Council and the Department.

- **6: Town Centre Parking Strategies including integrated management of long and short-stay spaces**
  Town Centre Parking Strategies will be required in Coleraine, Limavady, Ballymoney and Ballycastle. The location of public parking and its designation as long or short-stay using payment controls will be identified in the LTS and LDP LPP stages. The strategies should remove extraneous traffic which dominates the town centres and improve the turnover of parking spaces.

- **7: Provision of improved walking facilities in towns**
  The provision of improved walking facilities in Coleraine, Limavady, Ballymoney and Ballycastle will be a central measure of the LTP. The current pedestrian networks are incomplete and local levels of walking to work and education are below NI averages. Improvements to the walking facilities may require retro-fitting work and may impact on traffic capacity.

- **8: Provision of a network of attractive radial cycling routes in towns and greenways between towns**
  The provision of improved cycling facilities in Coleraine, Limavady, Ballymoney and Ballycastle will likely be a central measure of the LTP. The current cycle networks are incomplete and serve only a small proportion of the residential areas. The provision of a network of radial cycling routes in Coleraine, Limavady, Ballymoney and Ballycastle may impact on traffic capacity. The designation and identification of a network of routes will allow its delivery in co-ordination with development proposals.

- **9: Traffic management schemes in urban areas to re-balance modal hierarchy**
  Consideration of how road-space is designated and used by a range of modes (pedestrian, cyclist, bus, goods service vehicle and general traffic) in Coleraine, Limavady, Ballymoney and Ballycastle. Traffic management schemes can complement physical infrastructure schemes by amending regulations, signing and lining to achieve appropriate priority and provide safer and more coherent networks.

- **10: Ensure that user behaviour regarding safe use of the transport network is monitored and addressed.**
  Road safety depends heavily on drivers, pedestrians and cyclists understanding how they should use the infrastructure and the risks of inattention and excessive speed etc. This is especially important for any new pedestrian and cycling facilities and for rural roads.

- **11: Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times.**
  Resilience to system failures, such as traffic signal failures, can be increased by providing 'back-up' systems whilst overall urban travel resilience can be increased by ensuring that realistic active travel options are provided.

ANNEX 1 – Transport Evidence Base

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Travel to work destinations

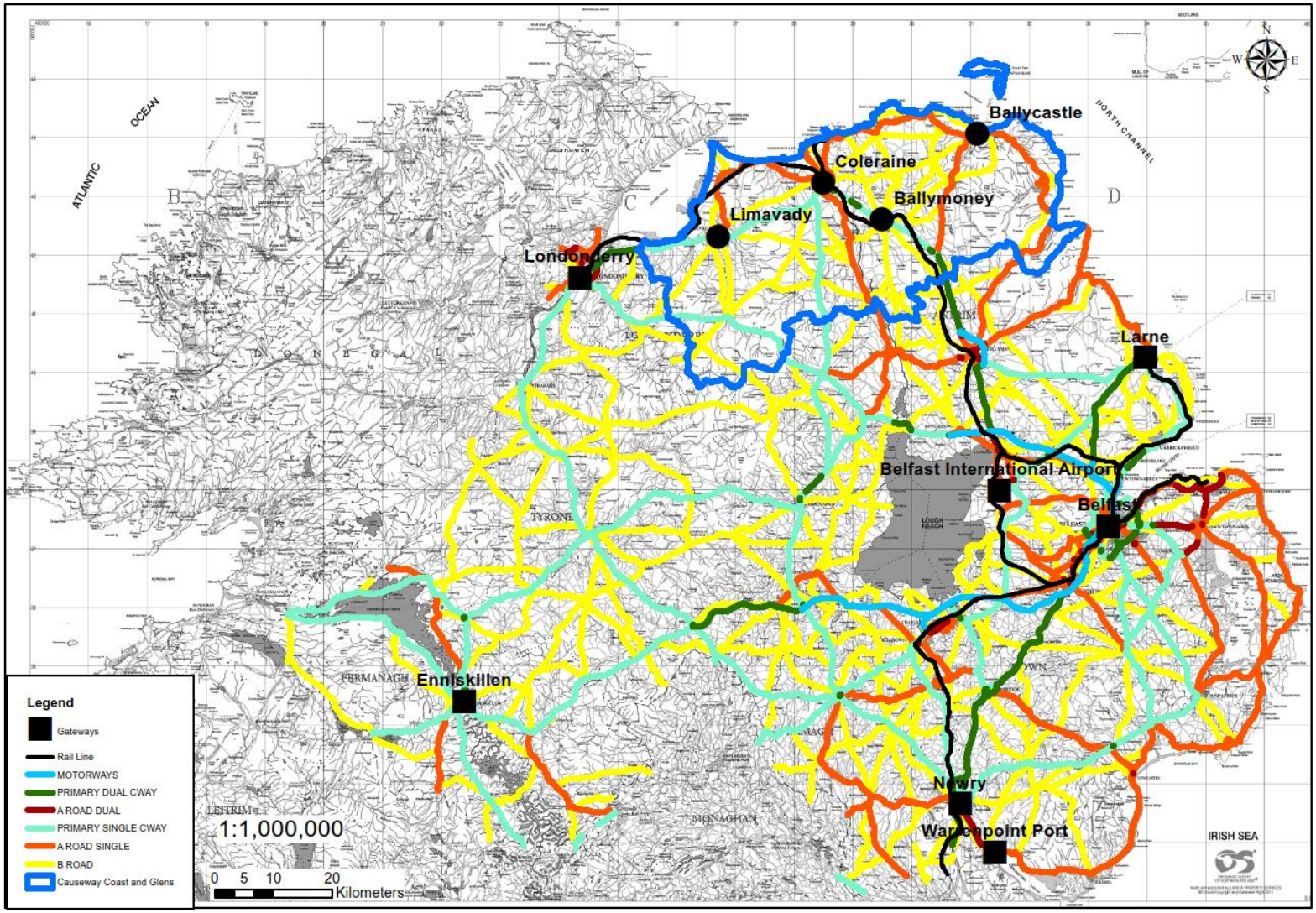
Modal choice for journeys to work and education across the Council area

Road network speeds at peak and off-peak time periods

Road collision history in Causeway Coast and Glens

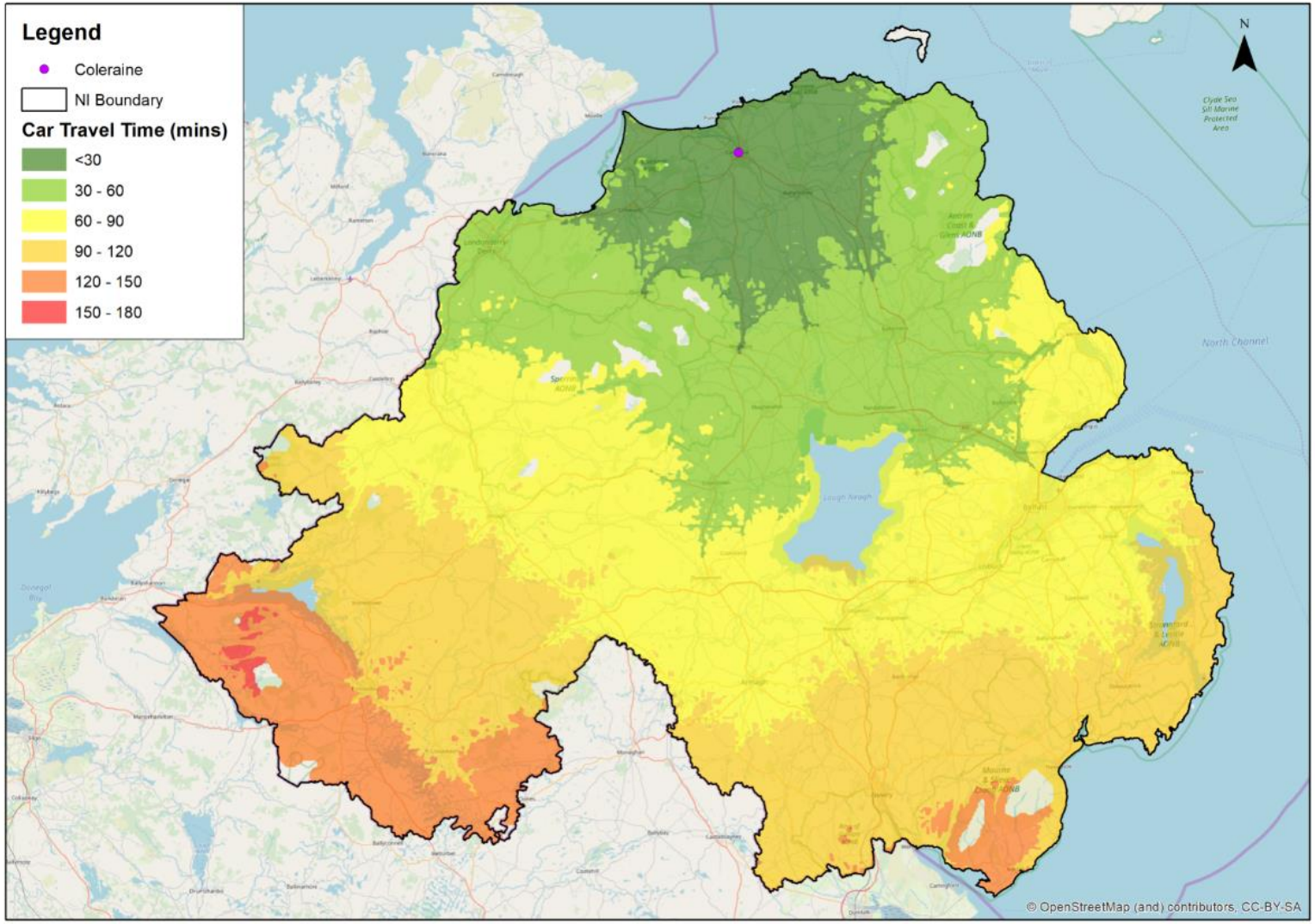
Parking provision in Causeway Coast and Glens

Figure 1 – OSNI Map of NI Road and Rail Transport Network



Regional connectivity from Coleraine, Limavady, Ballymoney and Ballycastle road and public transport

Figure 2a – Travel Time by Car from Coleraine at AM Peak Speed



Regional connectivity from Coleraine, Limavady, Ballymoney and Ballycastle by road and public transport

NOTES

Figure 2a shows the travel times by car from Coleraine to locations every 200m throughout Northern Ireland and the bordering areas.

The travel times are presented in 30 minute time bands varying from green through to red. The darkest shade of green represents a travel time of less than 30 minutes, by comparison the darkest shade of orange represents a travel time range between 120 – 150 minutes (i.e. 2 – 2.5 hours). Travel times lasting between 150 – 180 minutes (i.e. 2.5 – 3 hours) represent the smallest proportion of car travel times, and are shown in the darkest shade of red.

The same travel time bands have been used for the car and public transport accessibility maps to enable direct comparison between the maps. However the travel time maps by car have fewer time bands the maximum journey time to destinations accessible by private car is less than the maximum journey time to destinations accessible by public transport.

Average recorded AM peak road speed data acquired from INRIX has been used in the maps to determine the travel time along each road link; traffic and congestion has also been accounted for.

Some of the destinations are not located on the road and therefore the analysis allows for a walking interchange from the nearest point on the road network. The maximum interchange is 800m at a walking pace of 4.8km/hr which equals a 10 minute walk. If an area is not covered by the stated time bands, it is not within 800m of the road network.

Figure 2b – Travel Time by Car from Limavady at AM Peak Speed

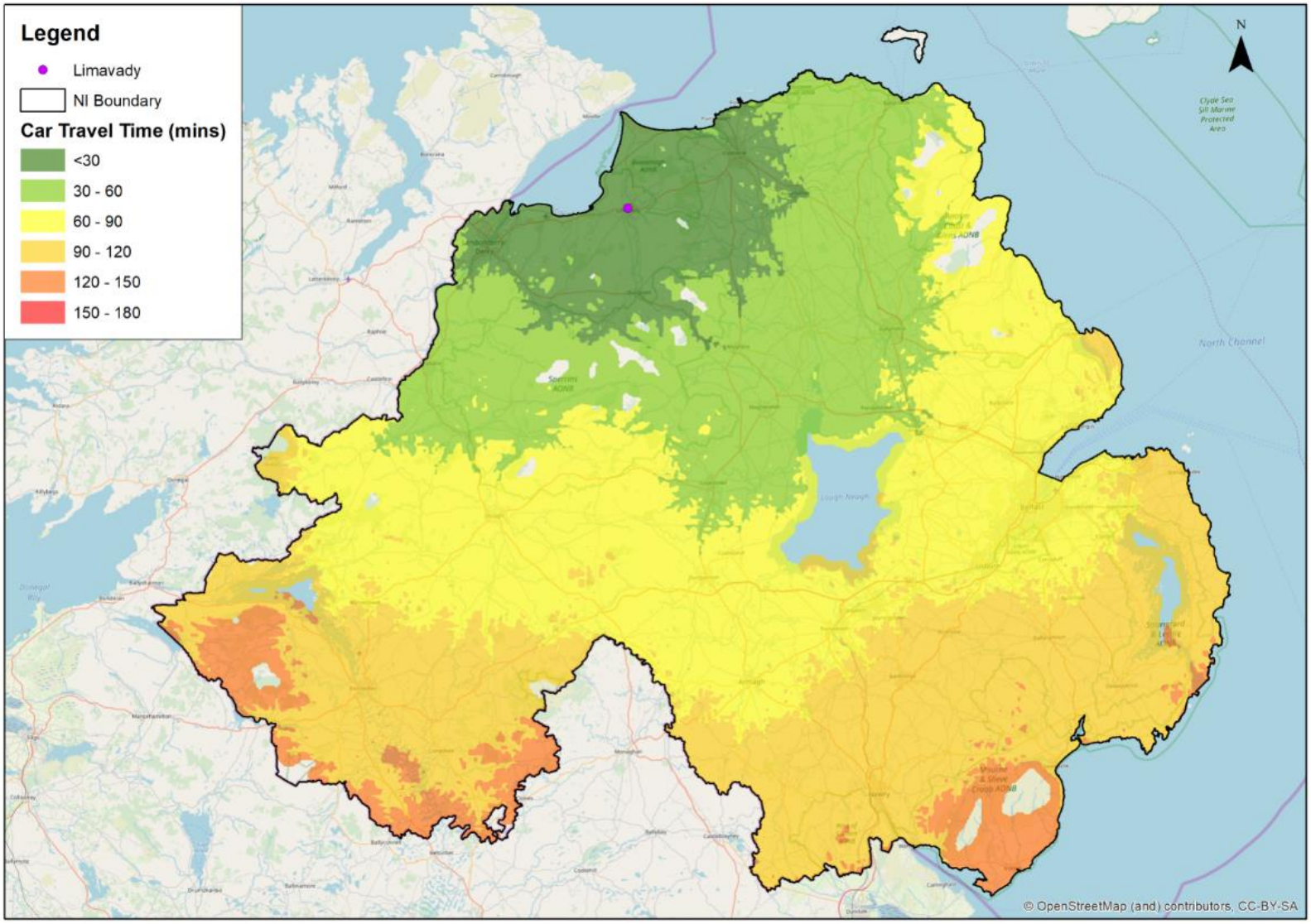


Figure 2c – Travel Time by Car from Ballymoney at AM Peak Speed

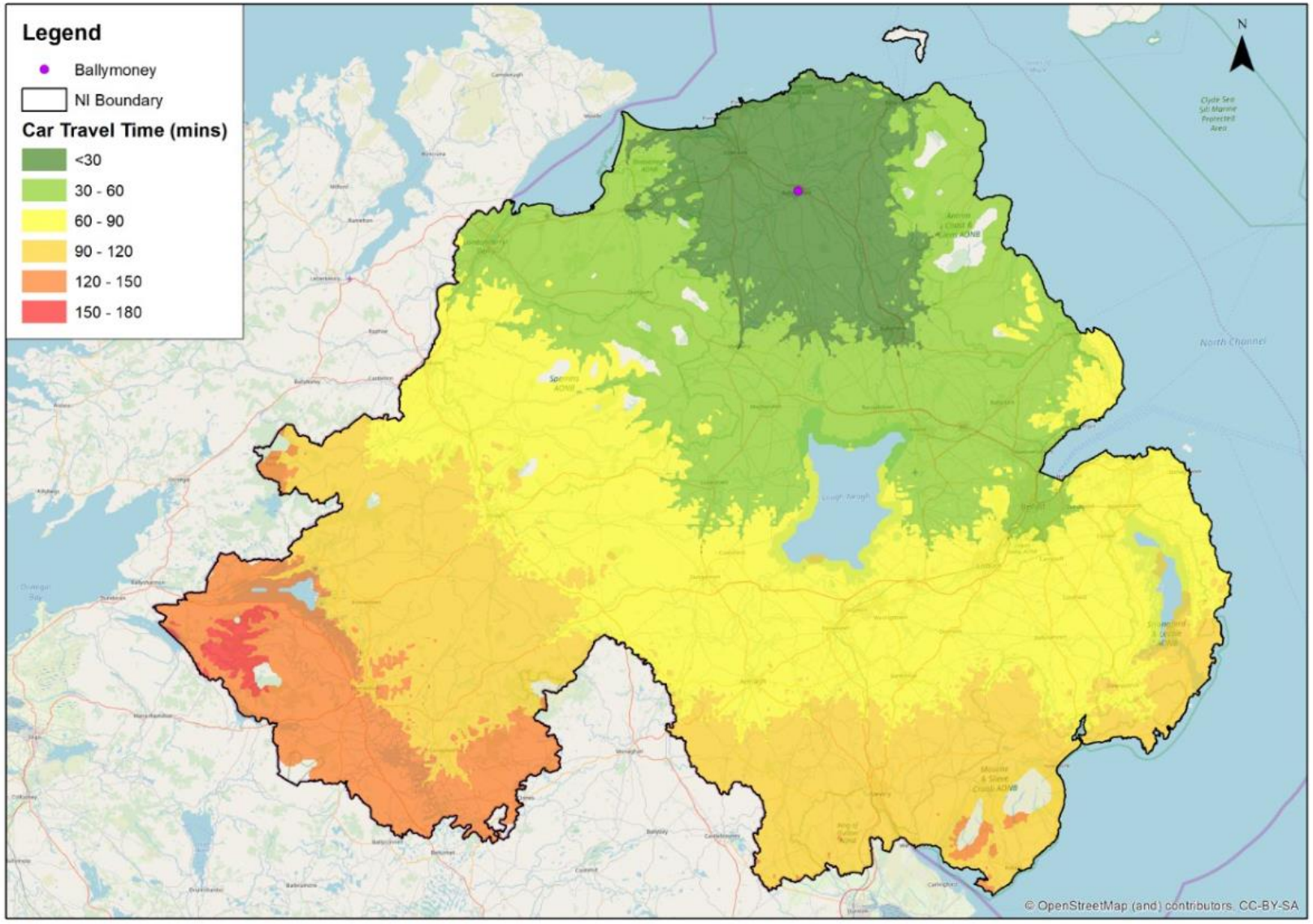


Figure 2d – Travel Time by Car from Ballycastle at AM Peak Speed

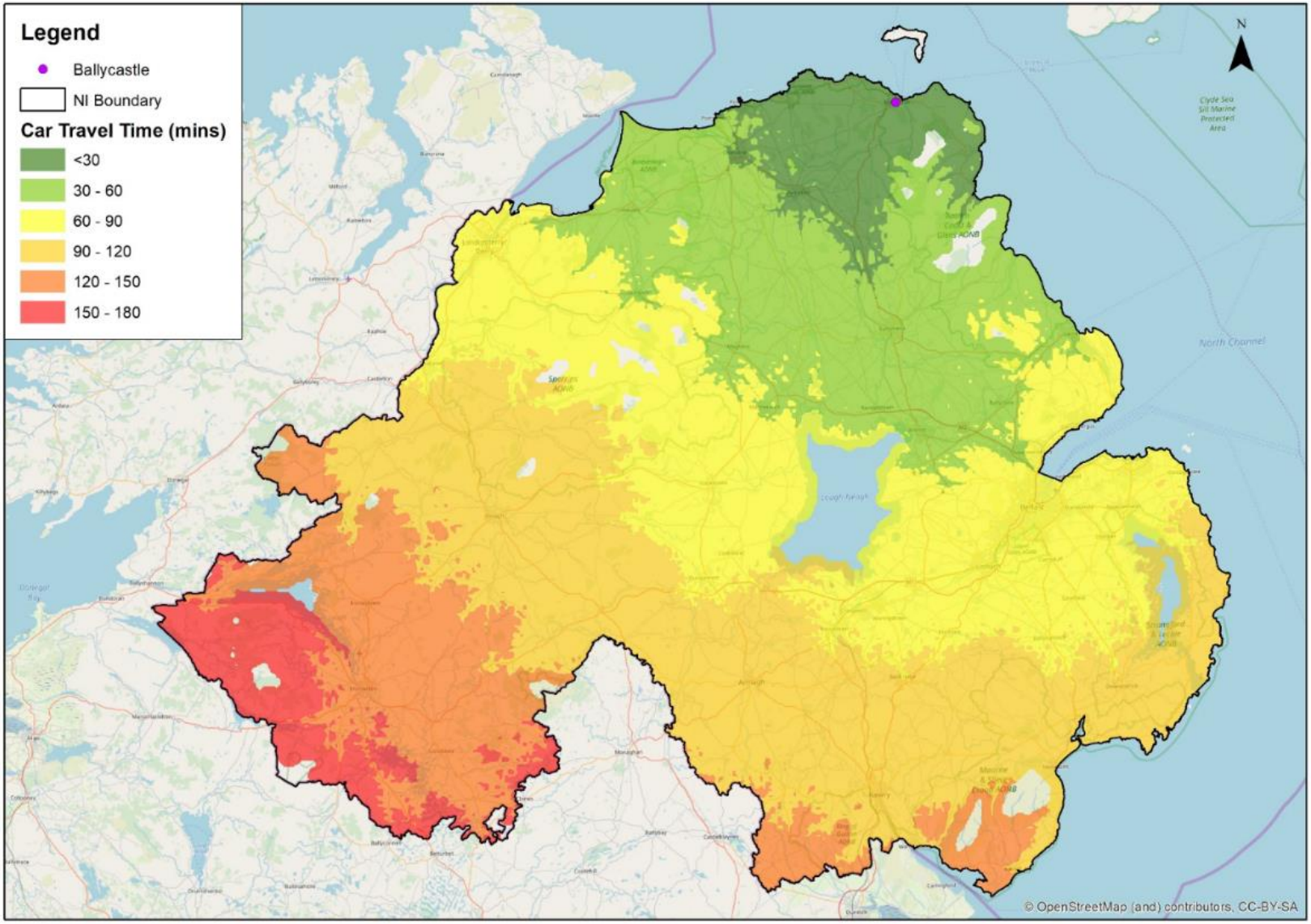
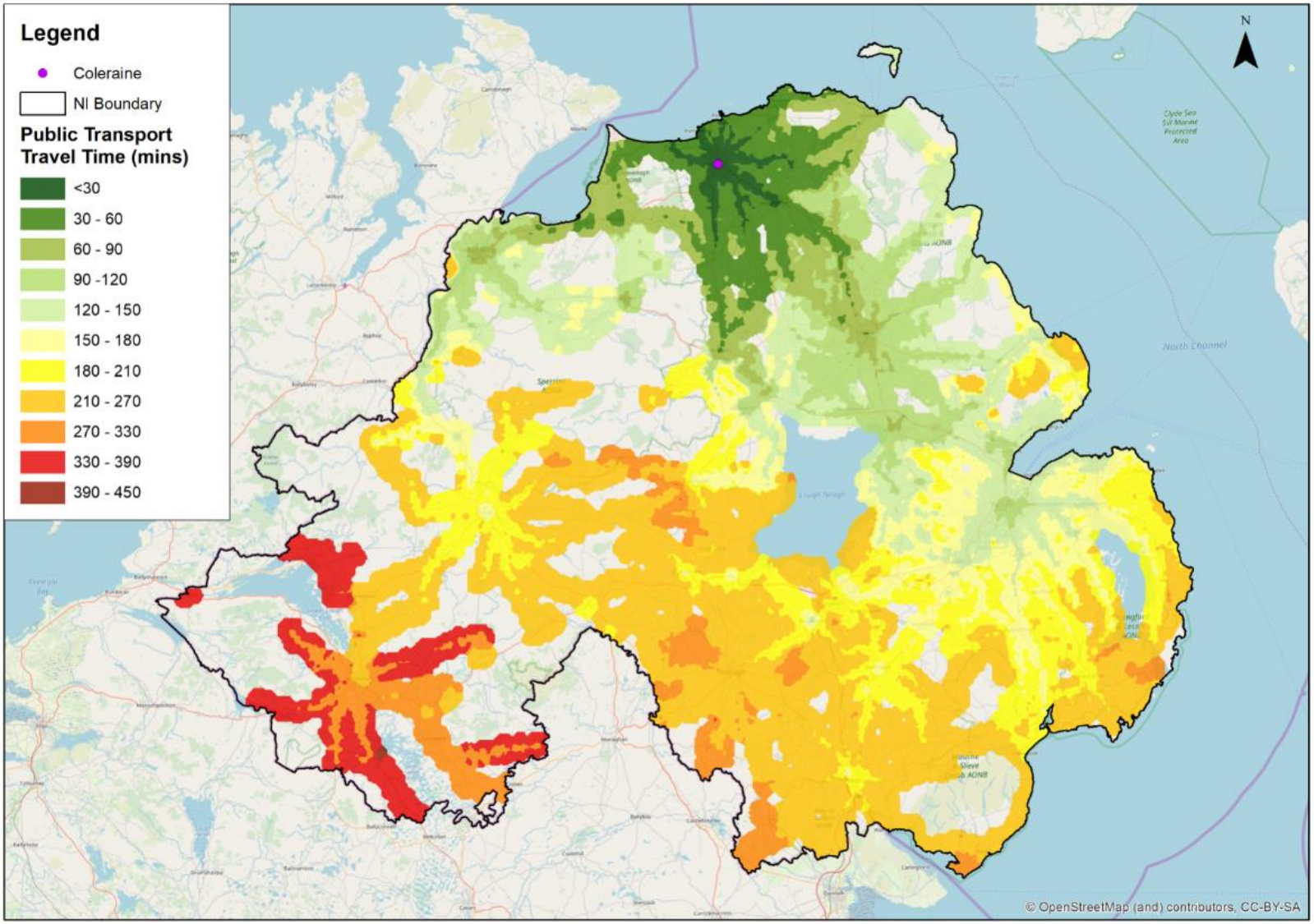


Figure 3a – Travel Time by Public Transport from Coleraine from 7:00am



Regional connectivity from Coleraine, Limavady, Ballymoney and Ballycastle by road and public transport

NOTES

Figure 3a shows the travel times by public transport from Coleraine to destinations every 200m throughout Northern Ireland and bordering areas. Actual journey start times are dependent on the availability of public transport services in the vicinity of Coleraine town centre however the earliest permitted start time is 07:00.

The public transport travel times are shown in 30 minute and 60 minute time bands in various shades of green through to red. The darkest shade of green represents a travel time less than 30 minutes, by comparison the lightest shade of green represents a travel time lasting between 120 and 150 minutes (i.e. 2 – 2.5 hours). Travel times between 150 and 180 (i.e. 2.5 - 3 hours) are represented by the lightest shade of yellow whereas the darker shade of orange indicates a travel time of 270 – 330 minutes (4.5 – 5.5 hours). The darkest shade of red indicates travel times between 390 and 450 minutes (i.e. 6.5 – 7 hours).

To enable direct comparison, the same time bands for accessibility maps by car and public transport have been used. However the travel time maps by car have fewer time bands the maximum journey time to destinations accessible by private car is less than the maximum journey time to destinations accessible by public transport.

Public transport timetable information for buses, railways and ferries were utilised in the analysis to determine journey times. It should be noted that the bus service data includes Translink, Bus Eireann and Private Operators.

Some of the destinations are not located on the public transport network and therefore the analysis allows for a walking interchange from the nearest point on the road network. The maximum interchange is 800m at a walking pace of 4.8km/hr which equals a 10 minute walk.

Interchange between public transport services is also included in the analysis; multiple interchanges are allowed. For example travel times may include the time taken to walk to a bus stop and board a service to a bus or rail station, transfer time to another service and conclude with a 800m walk to a destination. The maximum allowed interchange distance is 400m at a walking pace of 4.8km/hr which equals a 5 minute walk. Also a 5 minute interchange penalty is added so that an individual must carry out the interchange 5 minutes prior to the next service's departure time; this is to account for ticketing and boarding.

Figure 3b – Travel Time by Public Transport from Limavady from 7:00am

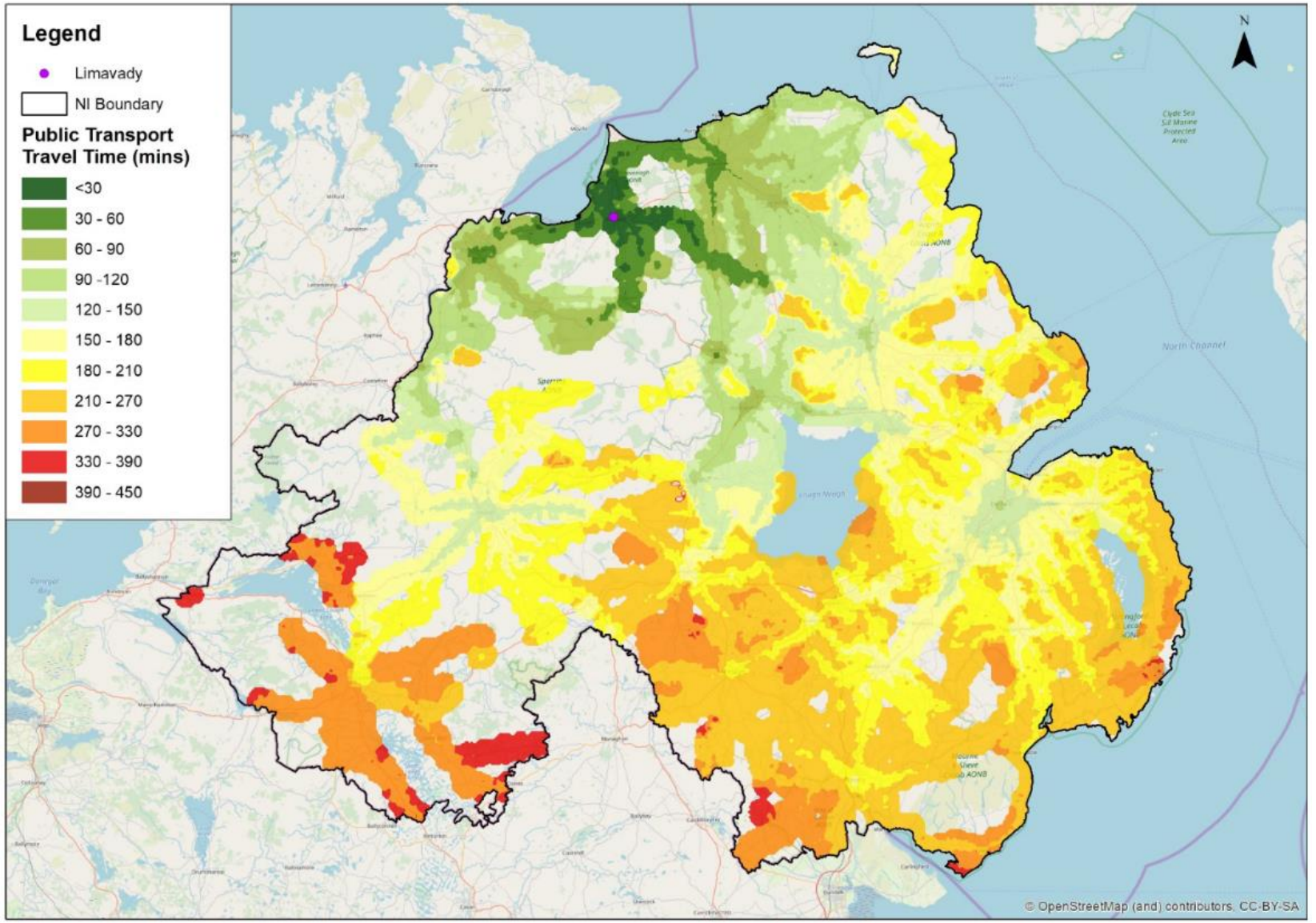


Figure 3c – Travel Time by Public Transport from Ballymoney from 7:00am

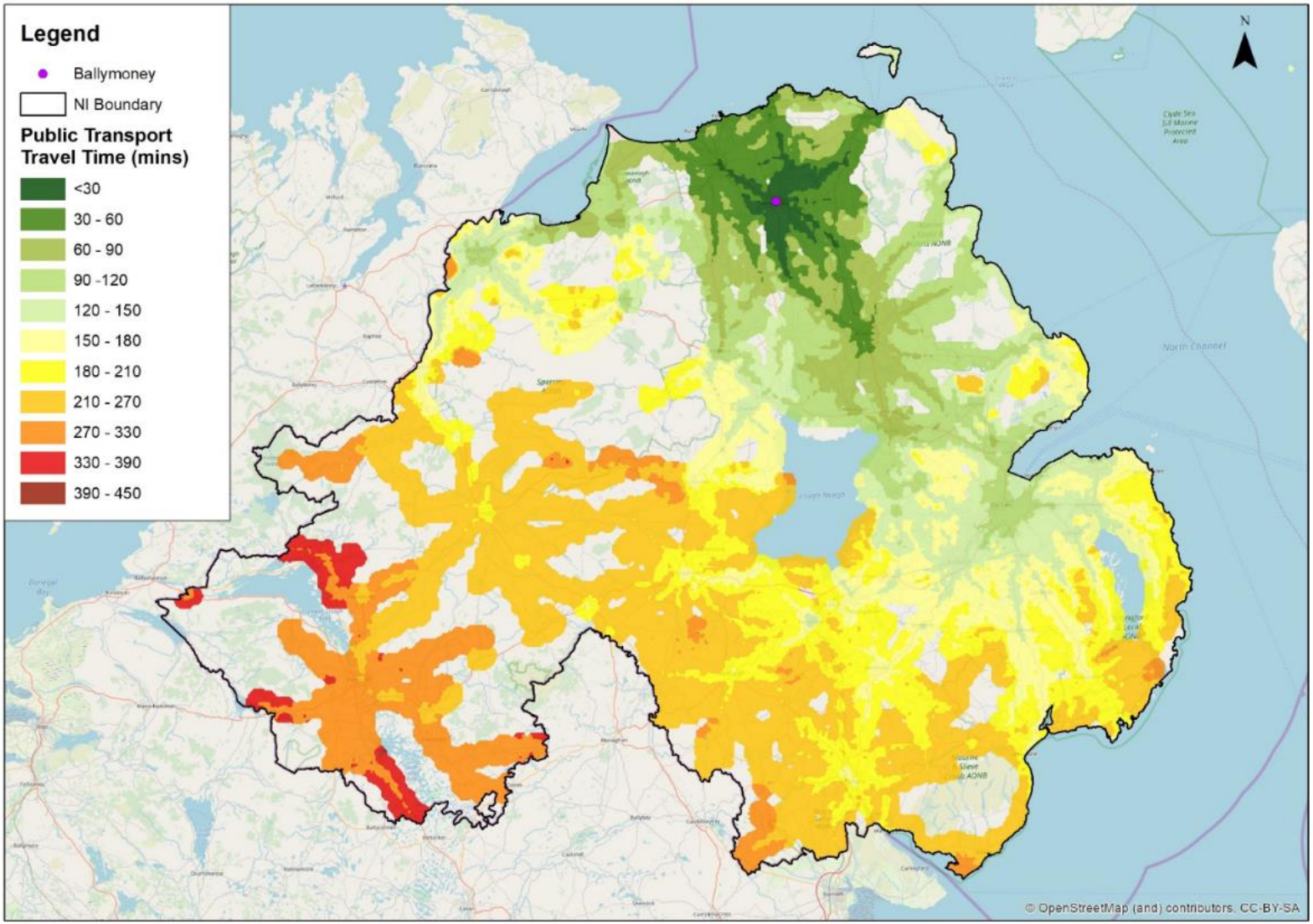
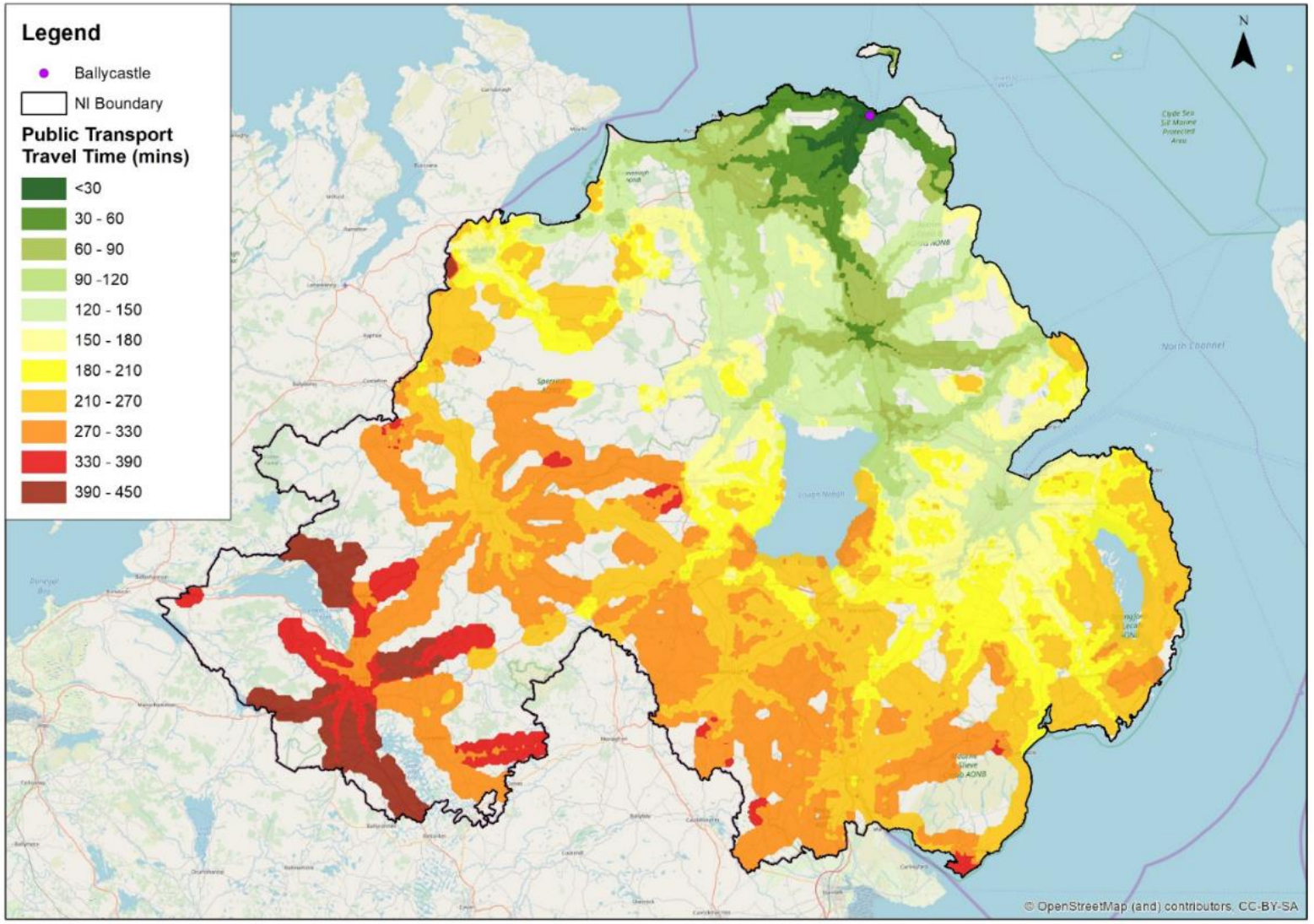
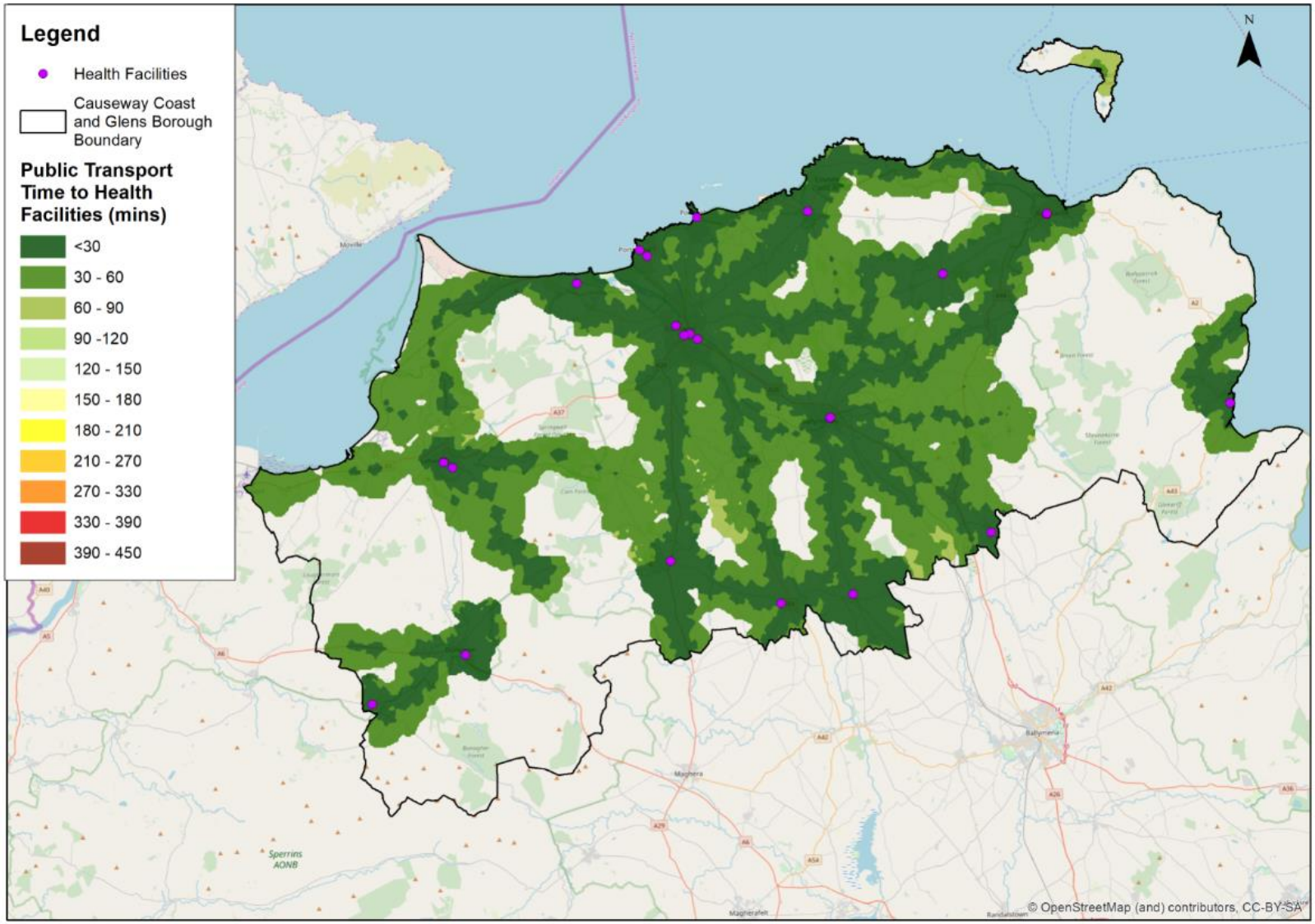


Figure 3d – Travel Time by Public Transport from Ballycastle from 7:00am



Accessibility to essential local services by public transport from across the Council area

Figure 4 – Public Transport Travel Times (AM Peak) to Health Facility



Accessibility to essential local services by public transport from across the Council area

Figure 4 shows the travel times by public transport from locations every 200m to the nearest health facility throughout Coleraine, Limavady, Ballymoney and Ballycastle Borough Council area. Actual journey start times are dependent upon the availability of public transport services in the vicinity of the starting location however the earliest permitted start time is 07:00.

The travel times are presented in 30 minute time bands in varying shades of green through to red. Travel times less than 30 minutes are indicated by the darkest shade of green and the darkest shade of red represents 390-450 minutes (i.e. 6 hours and 30 minutes and 7 hours and 30 minutes).

It should be noted that the bus service data includes Translink, Bus Eireann and Private Operators.

Some of the destinations are not located on the public transport network and therefore the analysis allows for a walking interchange from the nearest point on the road network. The maximum interchange is 800m at a walking pace of 4.8km/hr which equals a 10 minute walk.

Interchange between public transport services is also included in the analysis; multiple interchanges are allowed. For example travel times may include the time taken to walk to a bus stop and board a service to a bus or rail station, transfer time to another service and conclude with a 800m walk to a destination. The maximum allowed interchange distance is 400m at a walking pace of 4.8km/hr which equals a 5 minute walk. Also a 5 minute interchange penalty is added so that an individual must carry out the interchange 5 minutes prior to the next service's departure time; this is to account for ticketing and boarding.

Urban walking and cycling infrastructure and bus services in Coleraine, Limavady, Ballymoney and Ballycastle
Figure 5a – Pedestrian Infrastructure in Coleraine – Key Radial Footways by Width and Type

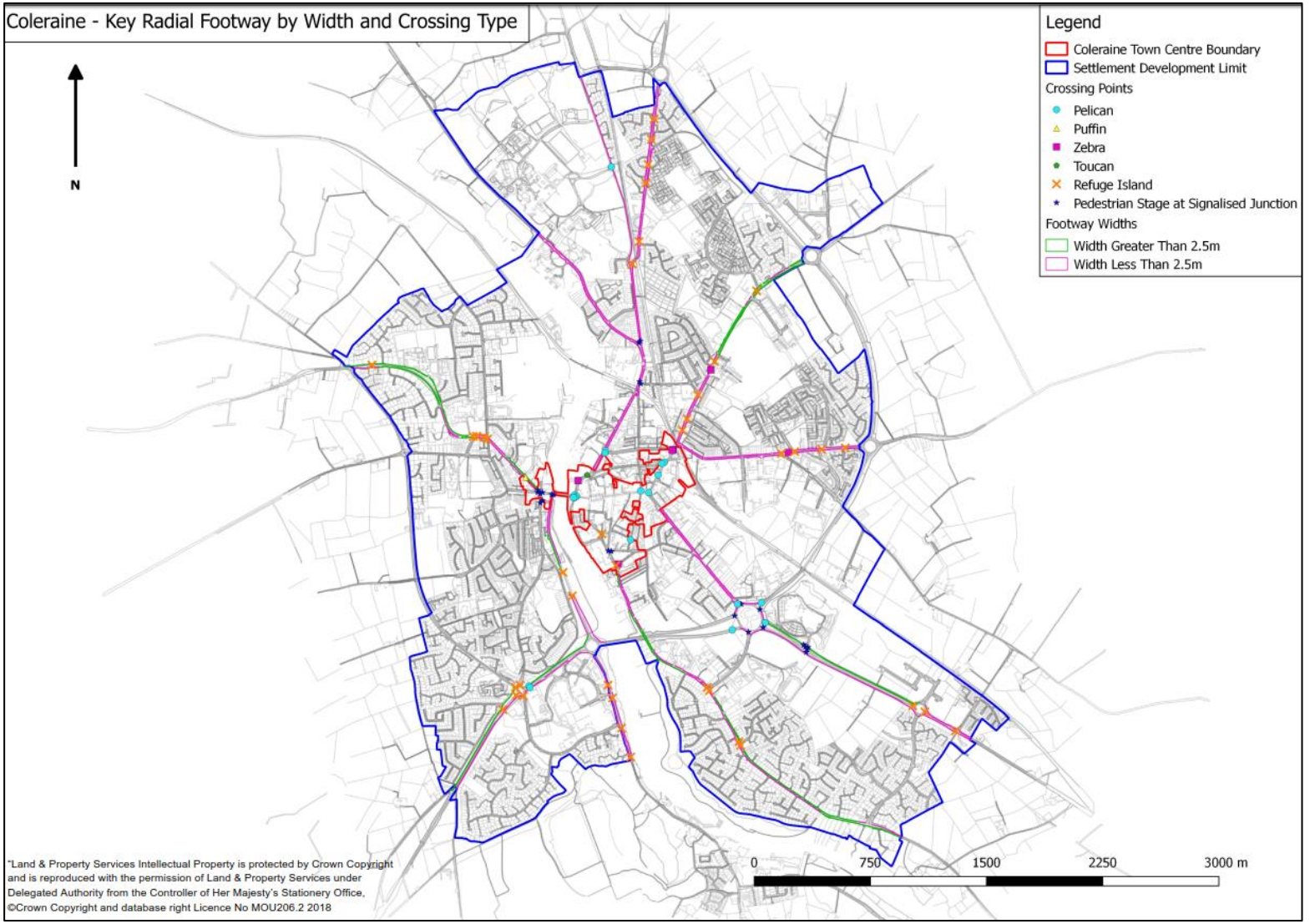


Figure 5b – Pedestrian Infrastructure in Limavady – Key Radial Footways by Width and Type

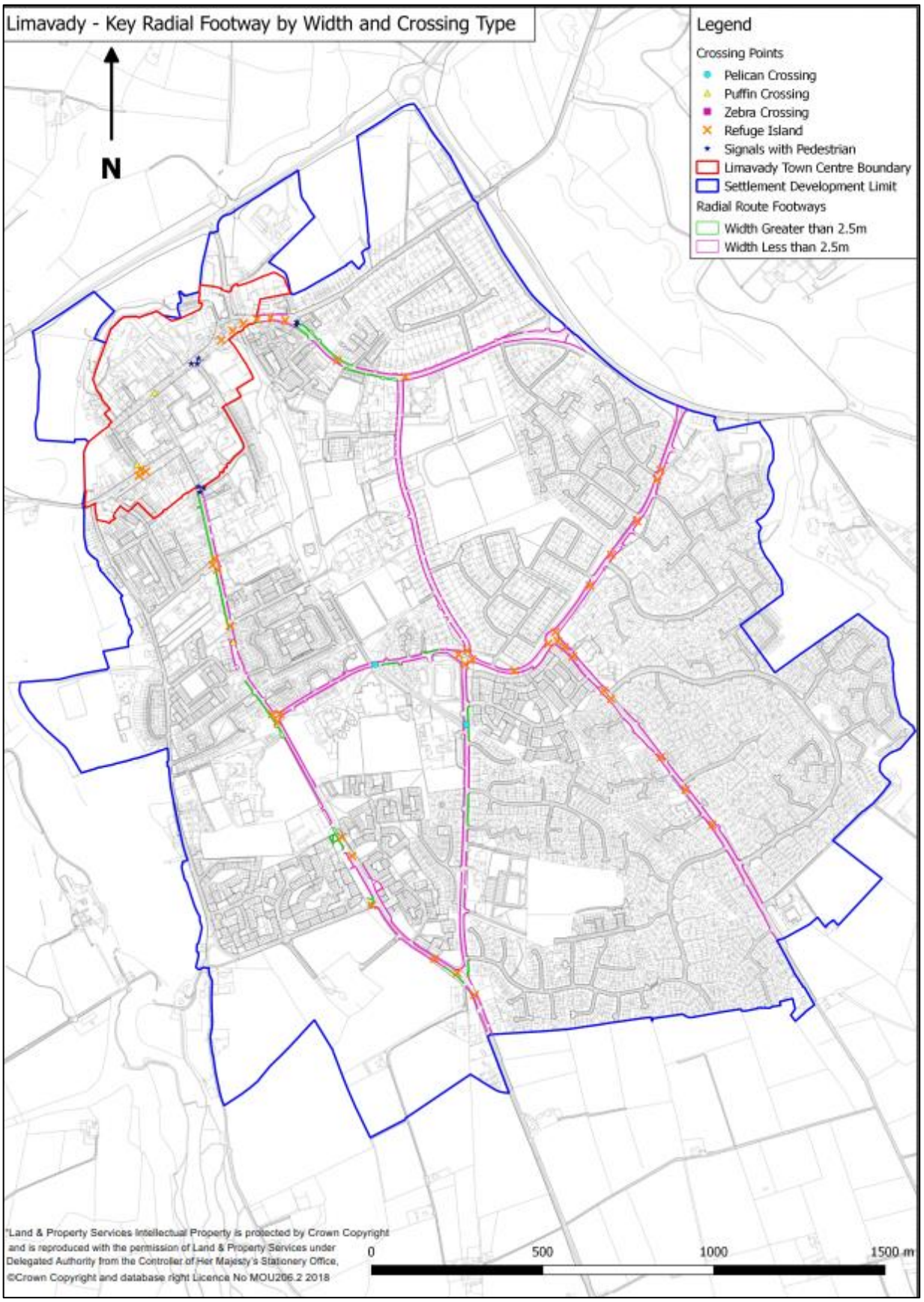


Figure 5c – Pedestrian Infrastructure in Ballymoney – Key Radial Footways by Width and Type

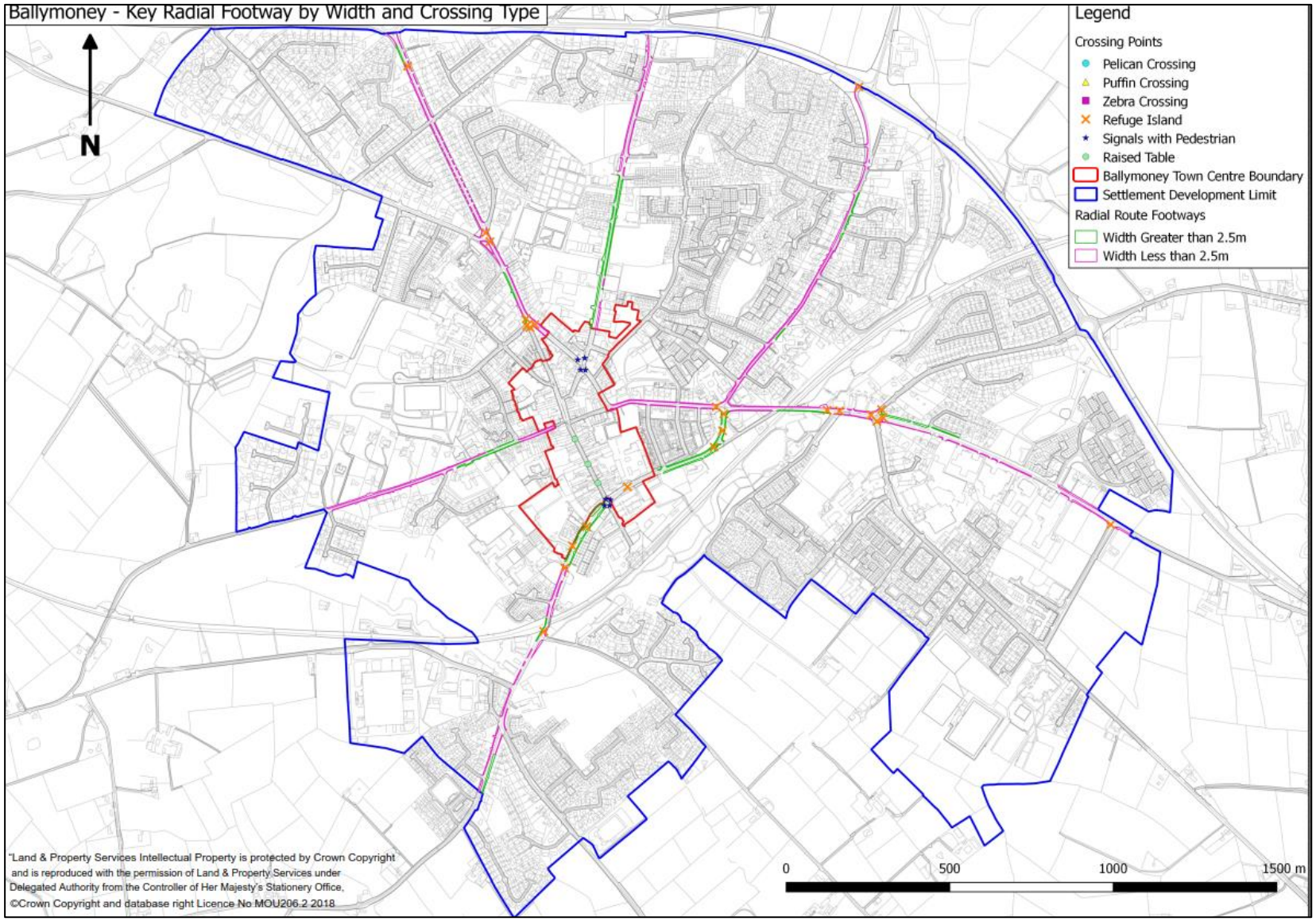


Figure 5d – Pedestrian Infrastructure in Ballycastle – Key Radial Footways by Width and Type

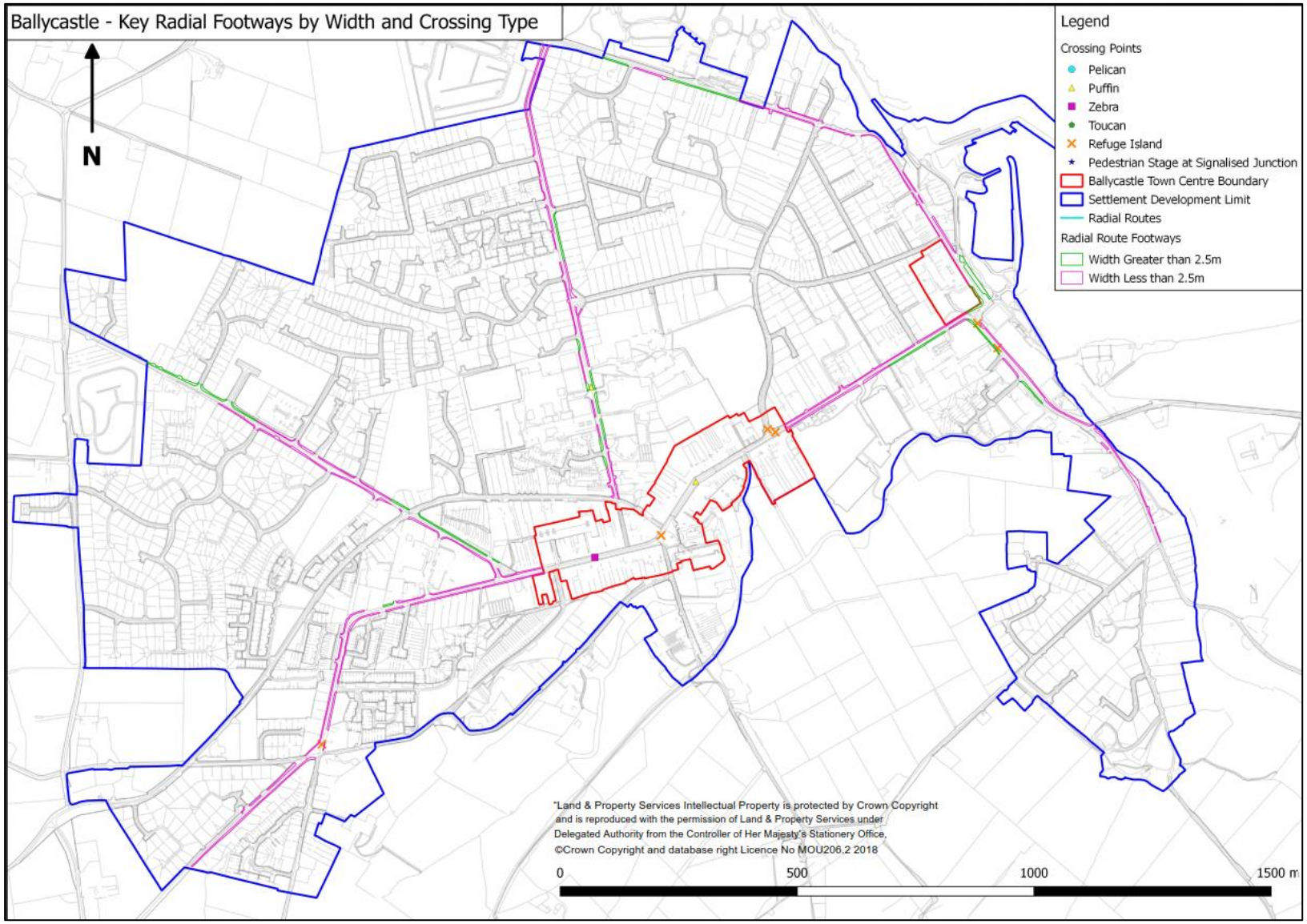


Figure 6a – Cycling Infrastructure in Coleraine

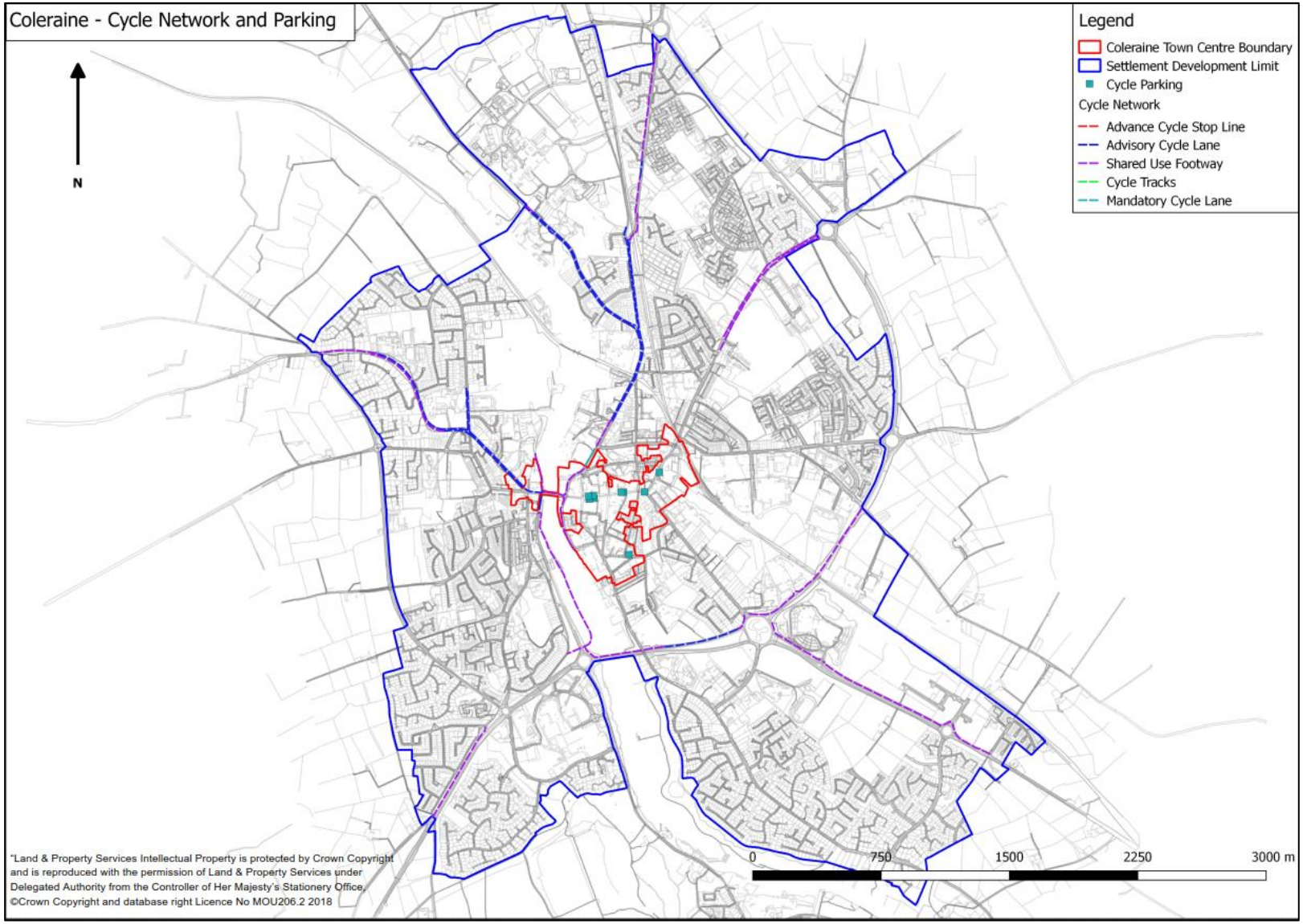


Figure 6b – Cycling Infrastructure in Limavady

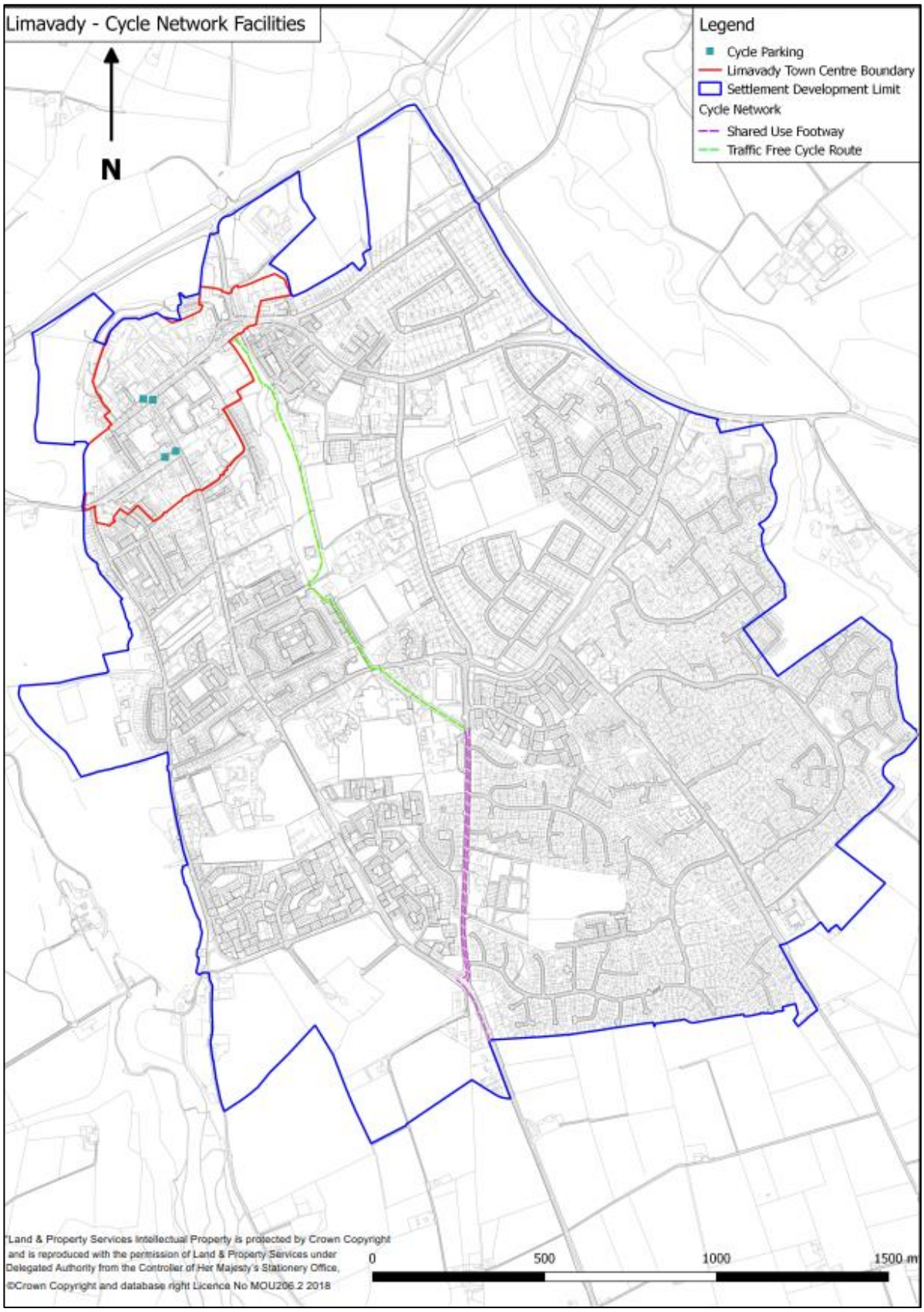


Figure 6c – Cycling Infrastructure in Ballymoney

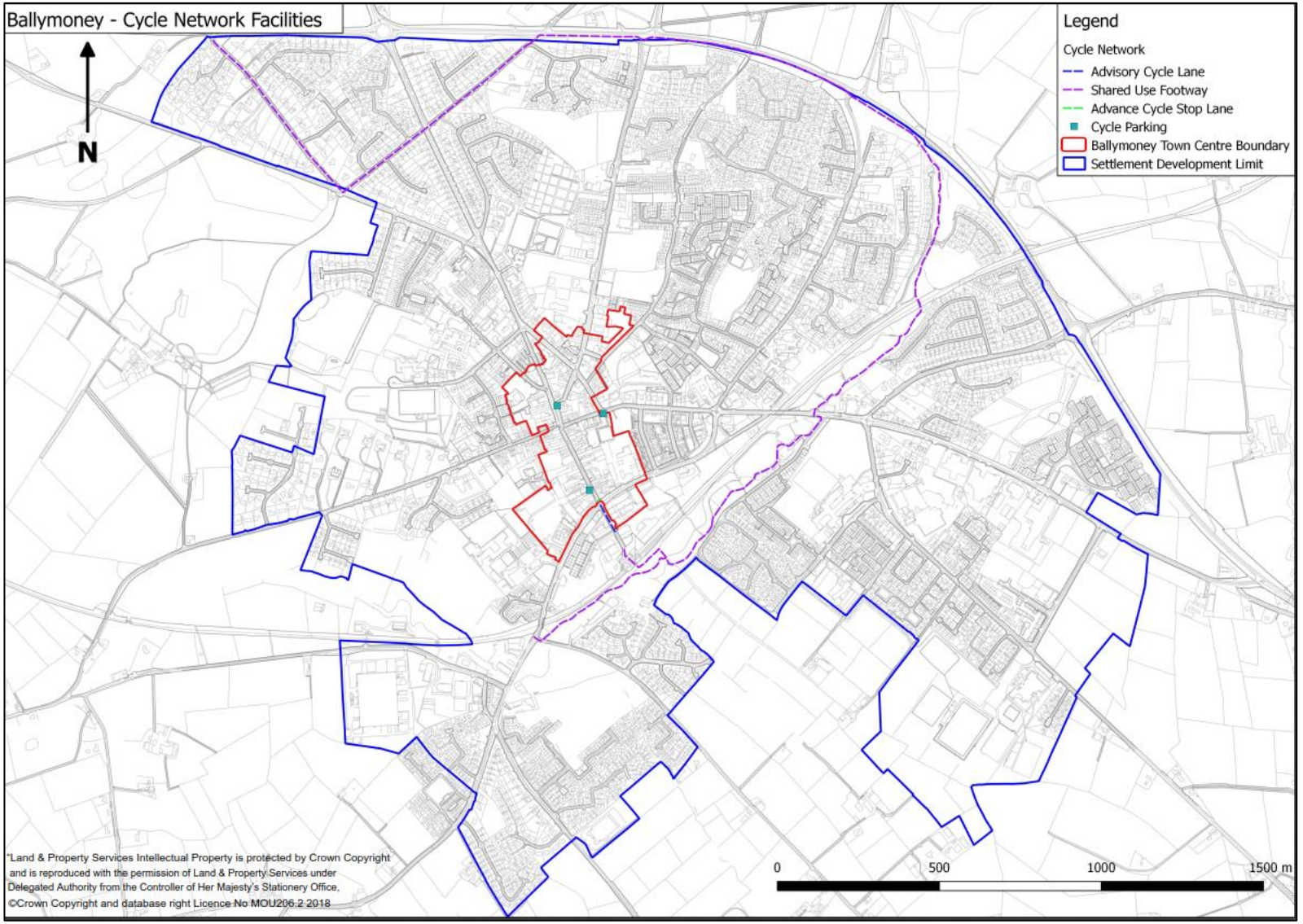


Figure 7a – Bus Service Routes in Coleraine

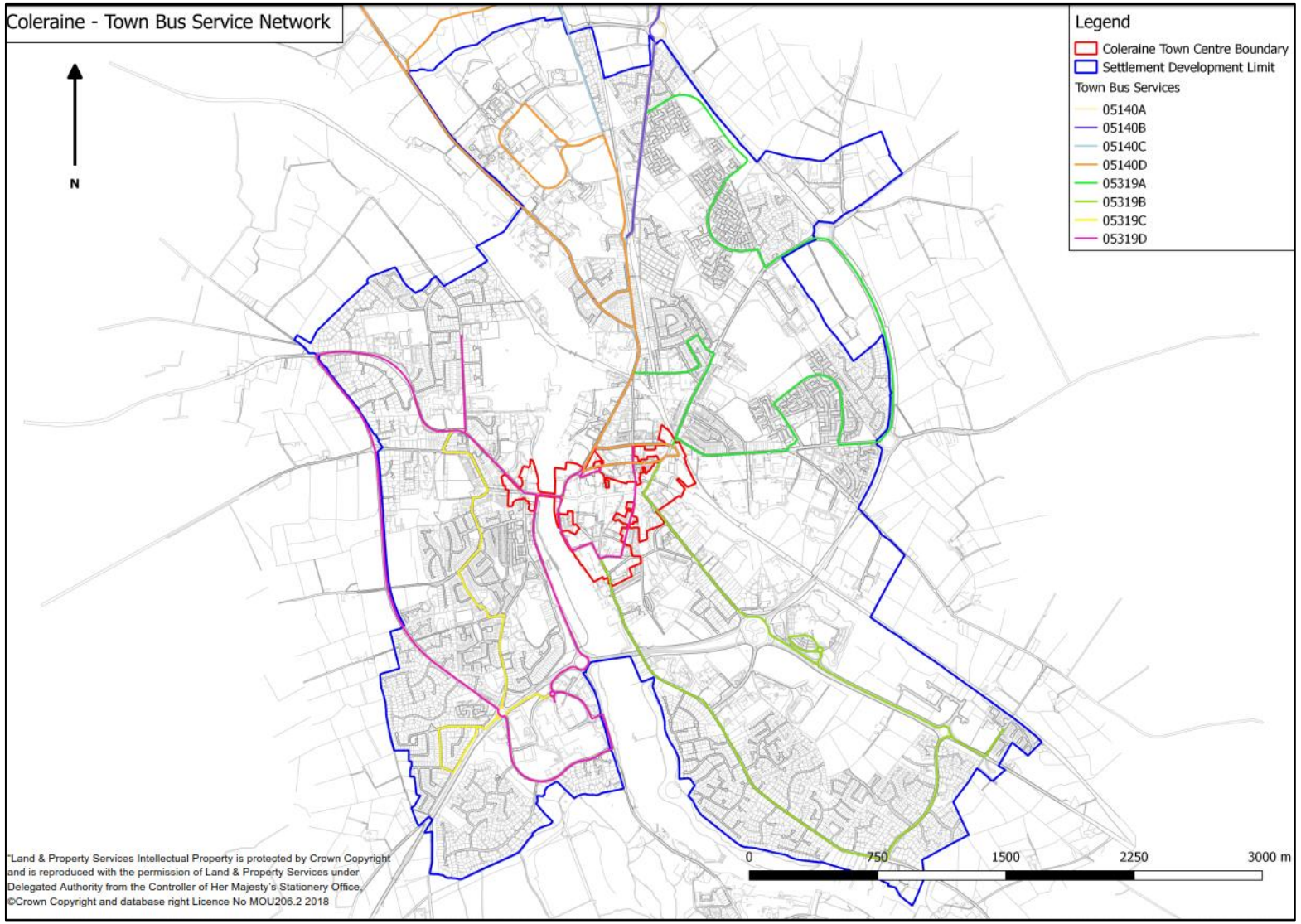


Figure 7b – Bus Service Routes in Limavady

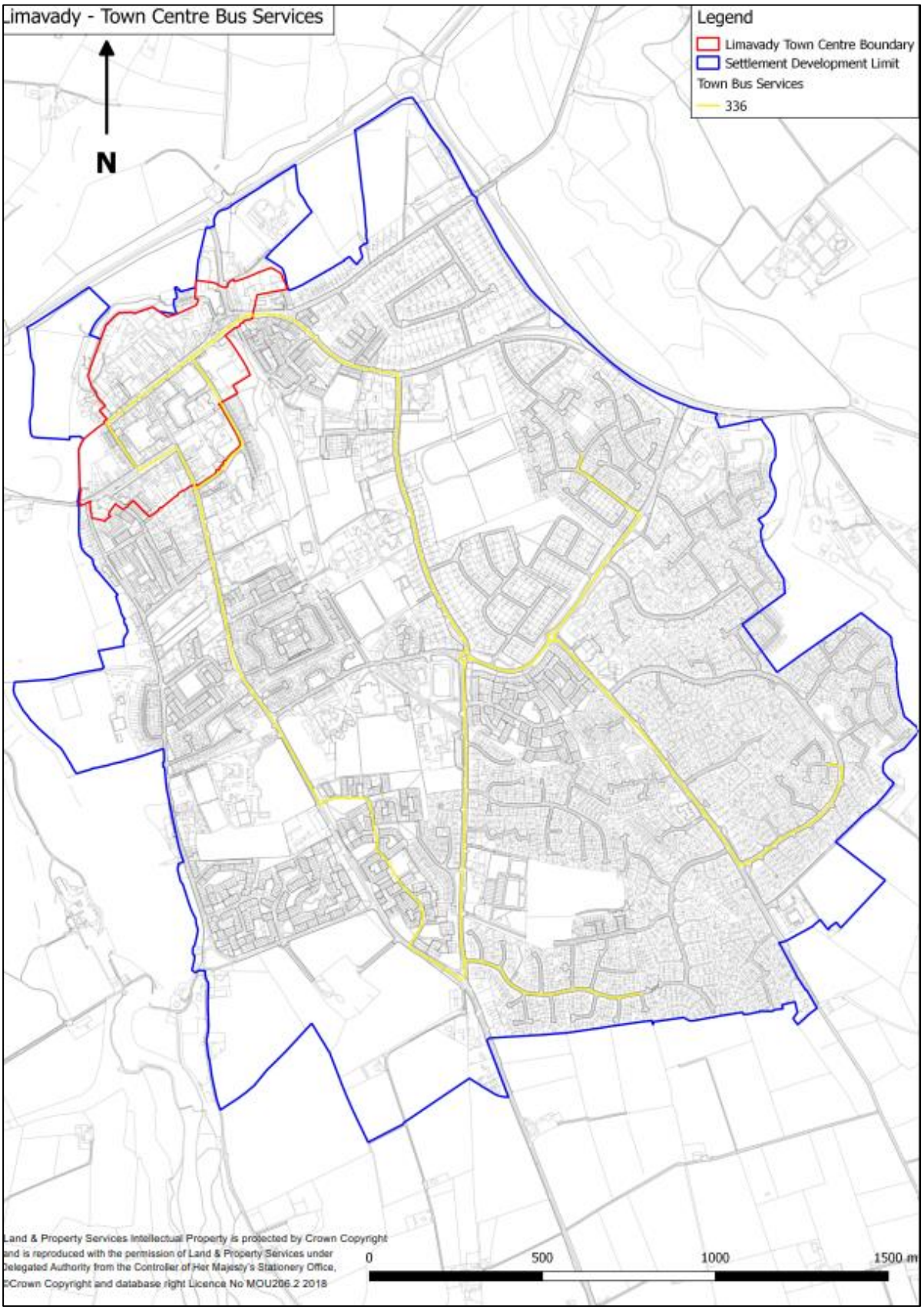
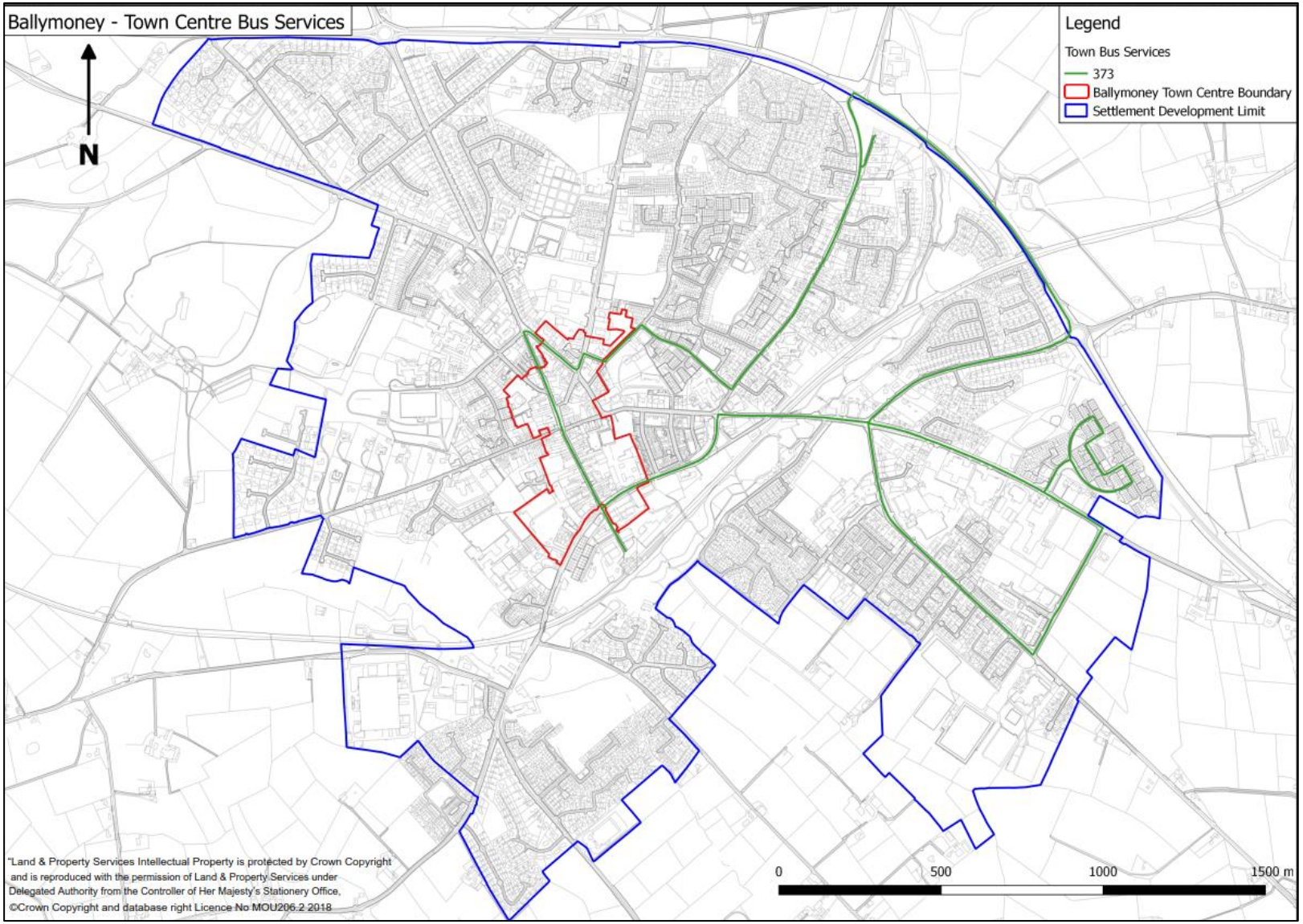


Figure 7c – Bus Service Routes in Ballymoney



Travel to work destinations

Figure 8a – Percentage of Travel to Work Journeys from Coleraine to other LGDs in 2011

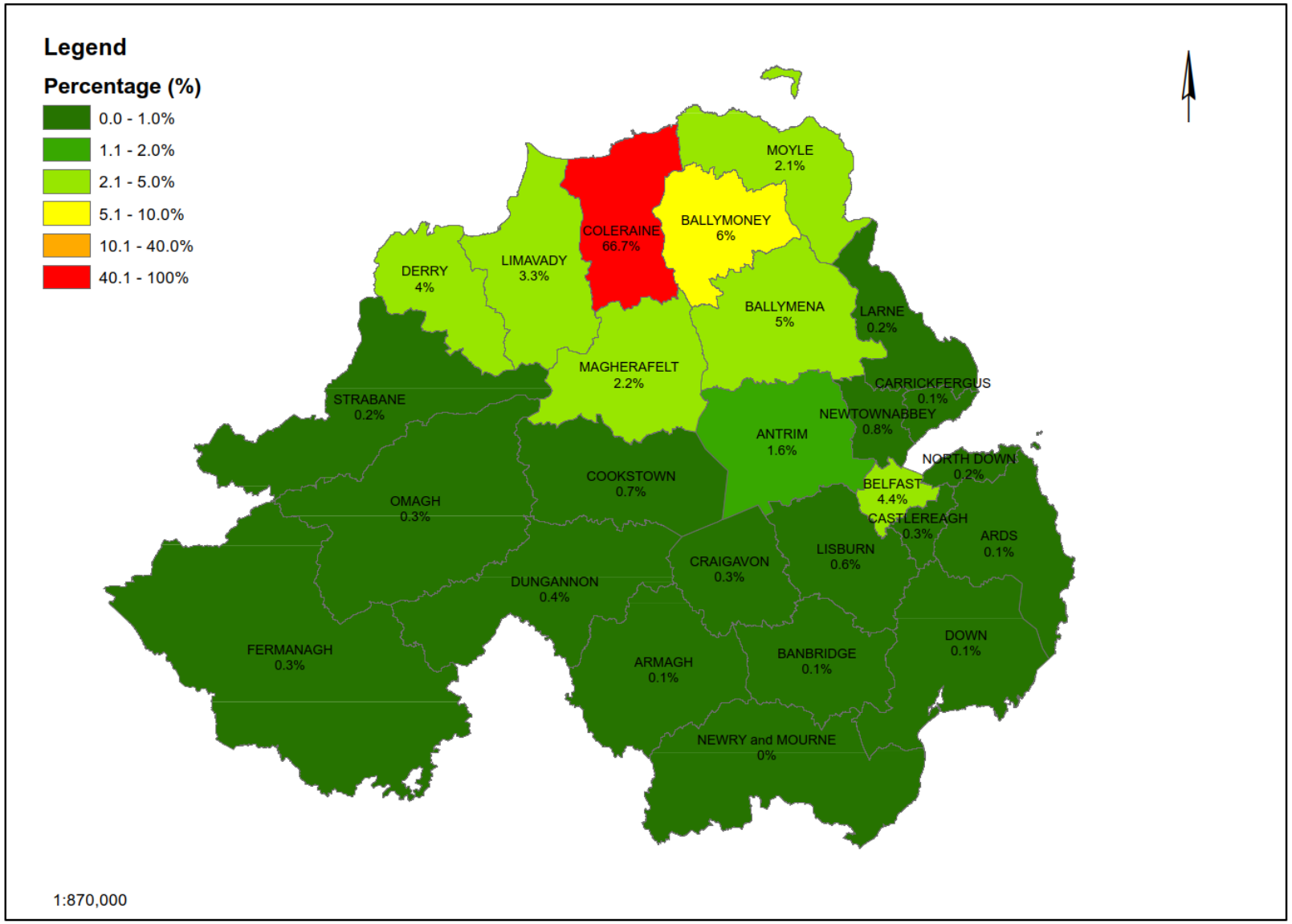


Figure 8b - Percentage of Travel to Work Journeys from Limavady to other LGDs in 2011

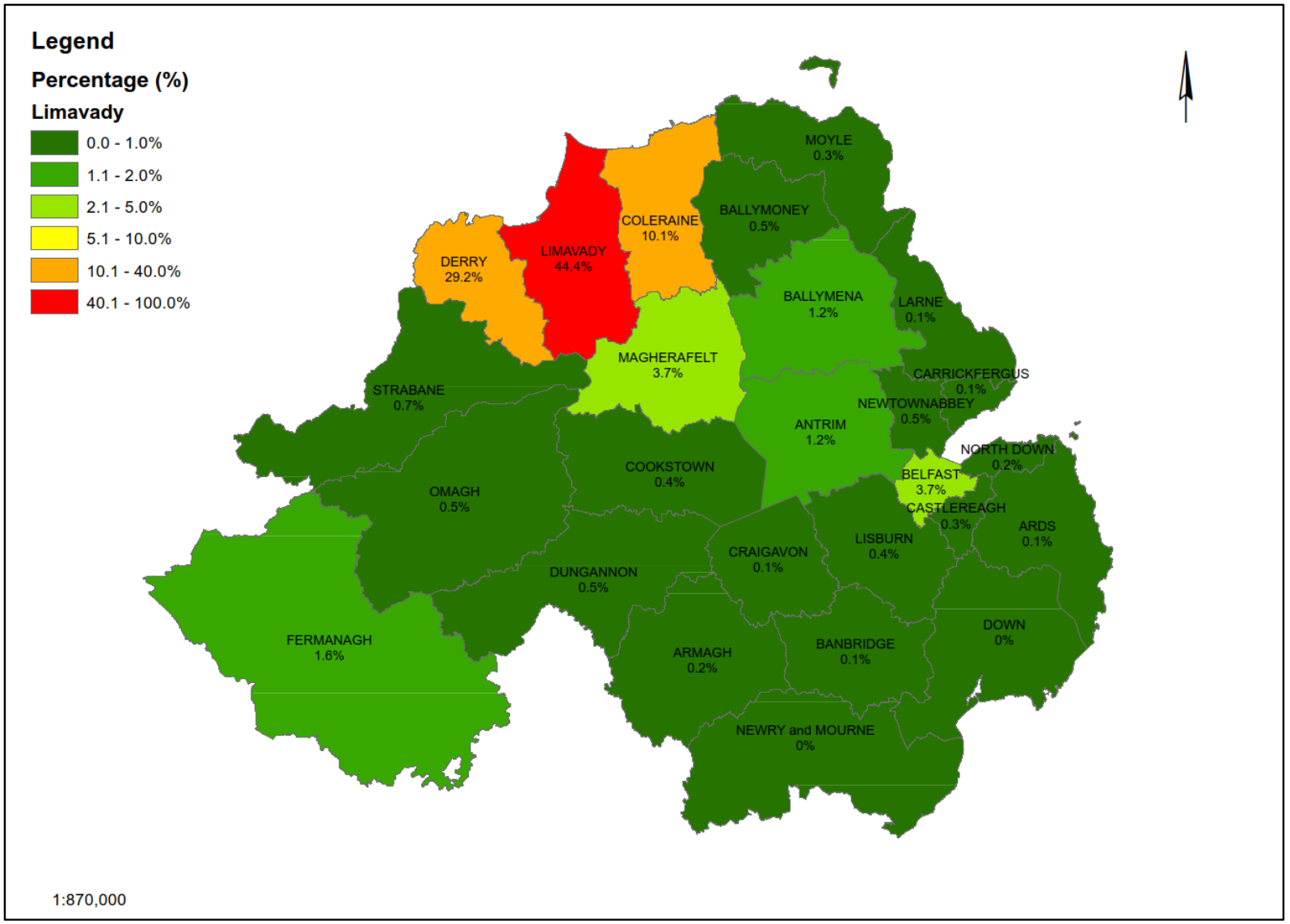


Figure 8c - Percentage of Travel to Work Journeys from Ballymoney to other LGDs in 2011

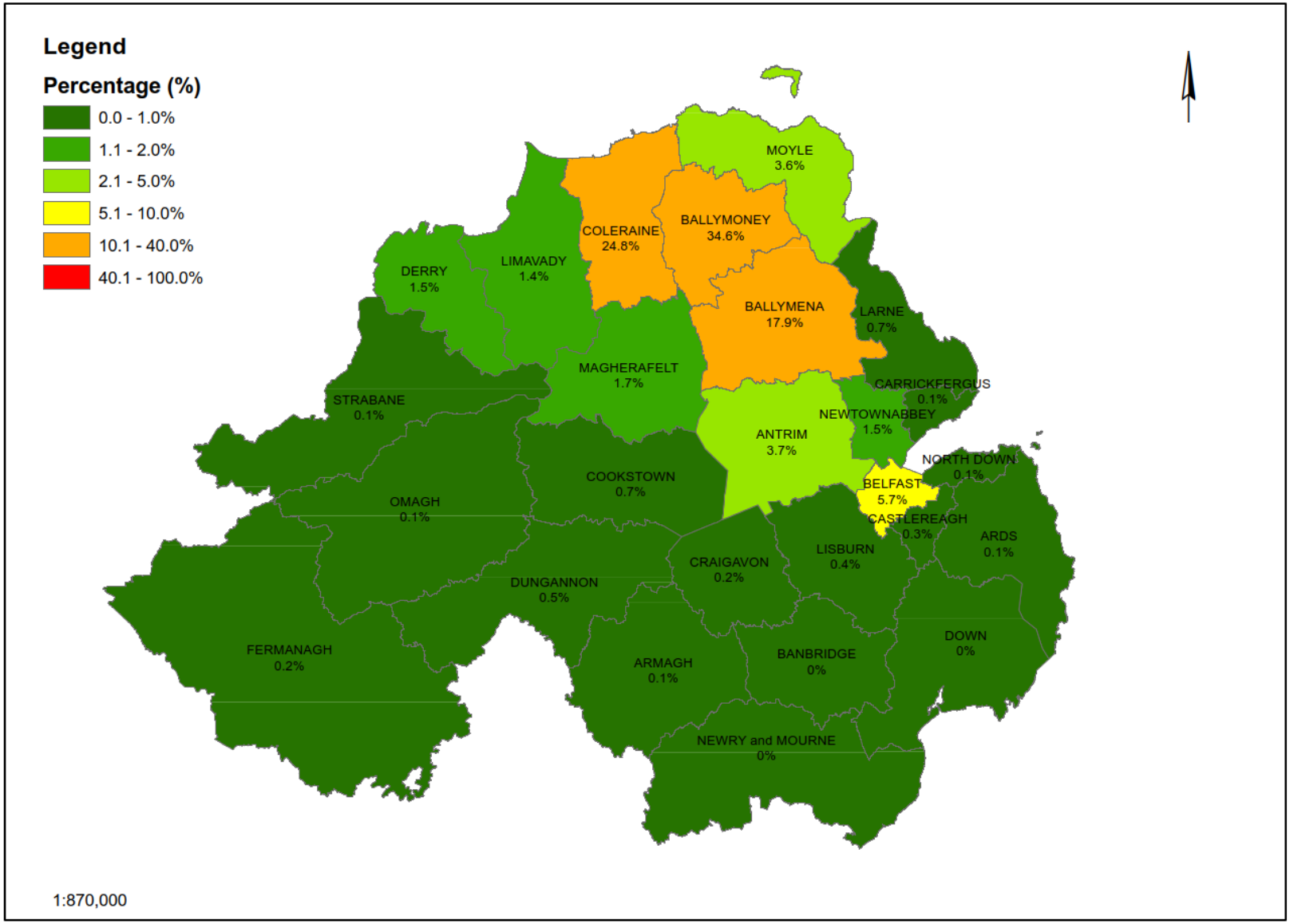
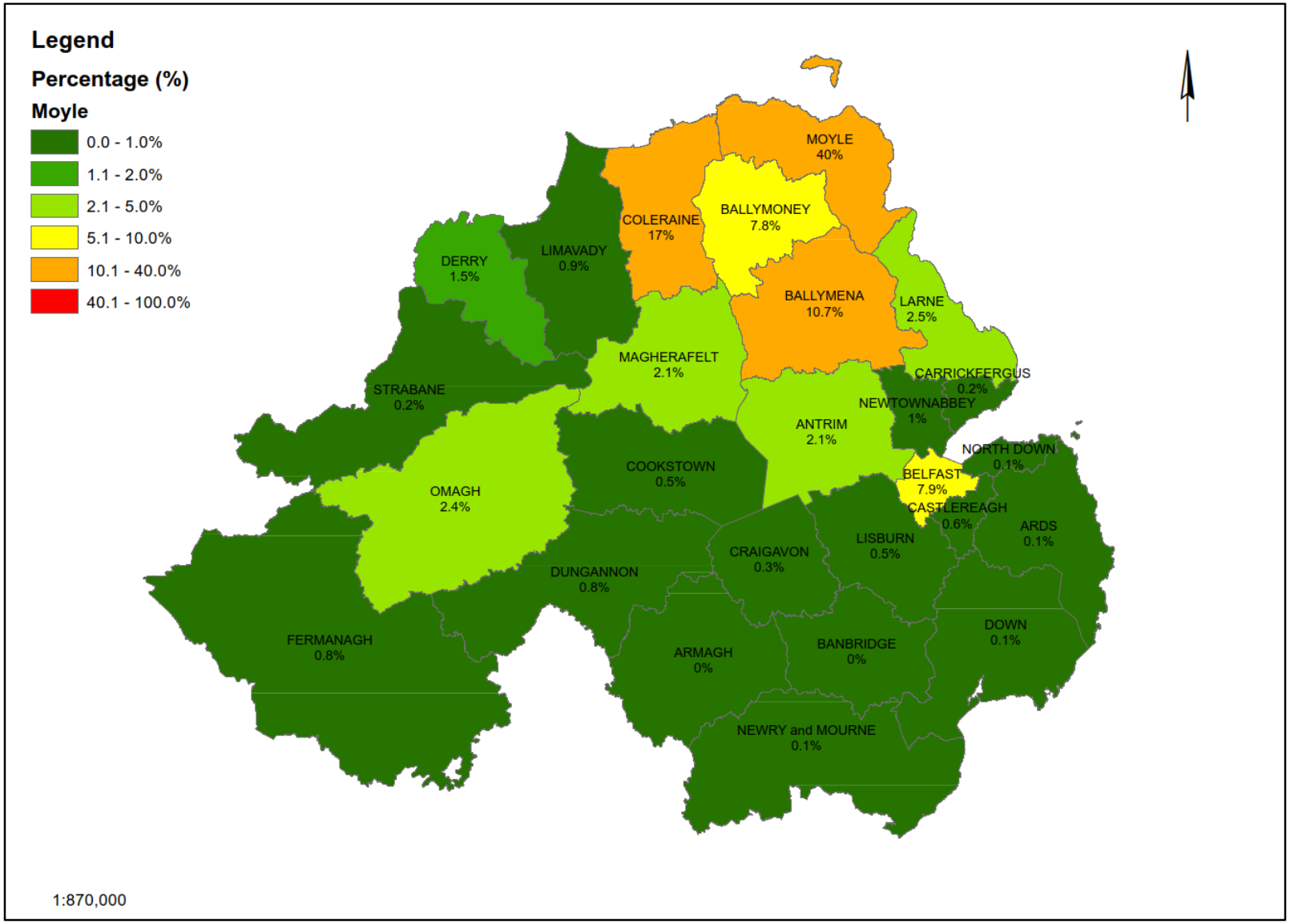


Figure 8d - Percentage of Travel to Work Journeys from Moyle to other LGDs in 2011



Modal choice for journeys to work and education across the Council area

Figure 9 – Modal Choice for Journey to Work in Causeway Coast and Glens

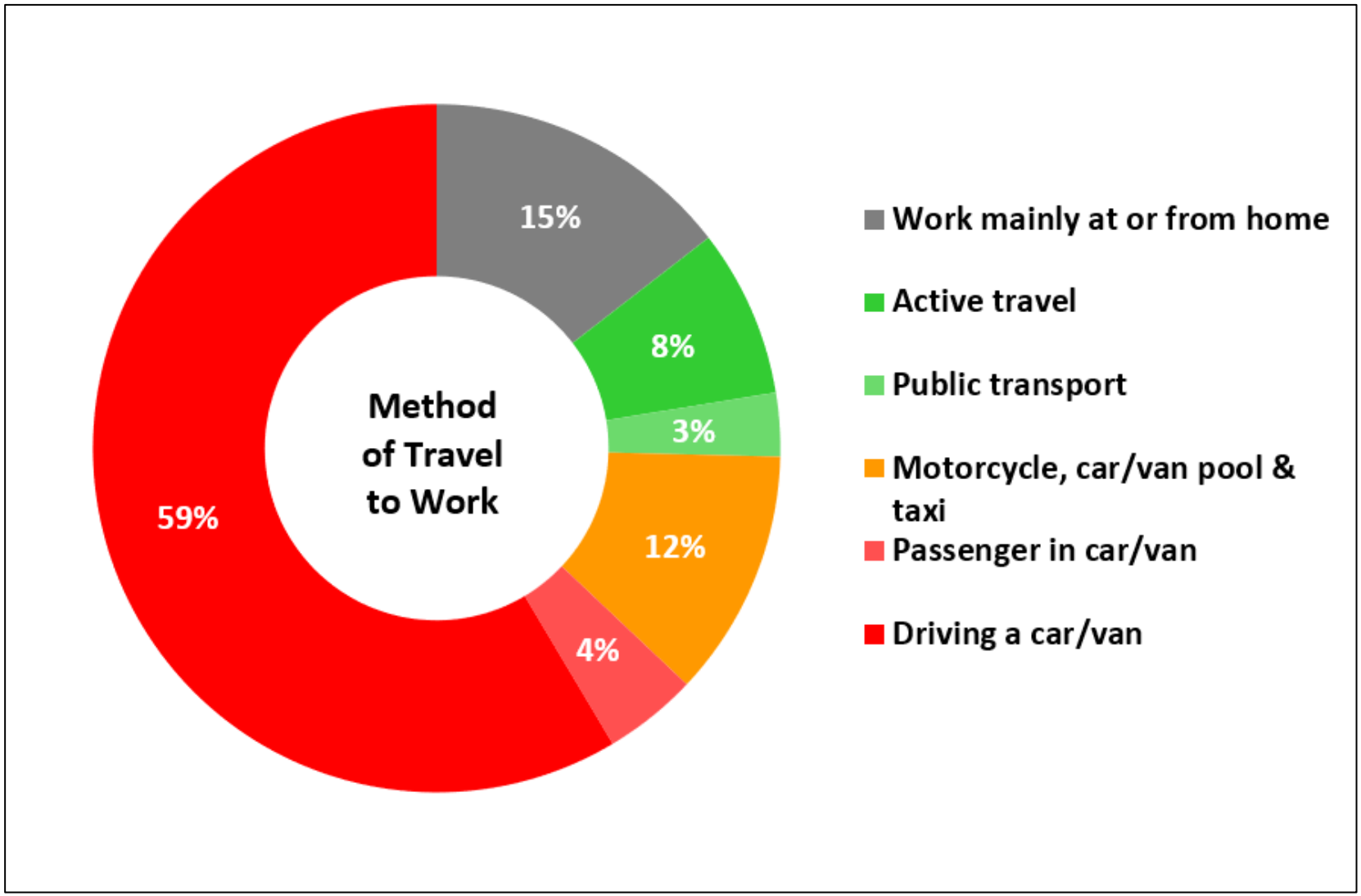


Figure 10 – Modal Choice for Journey to Work by distance in Causeway Coast and Glens

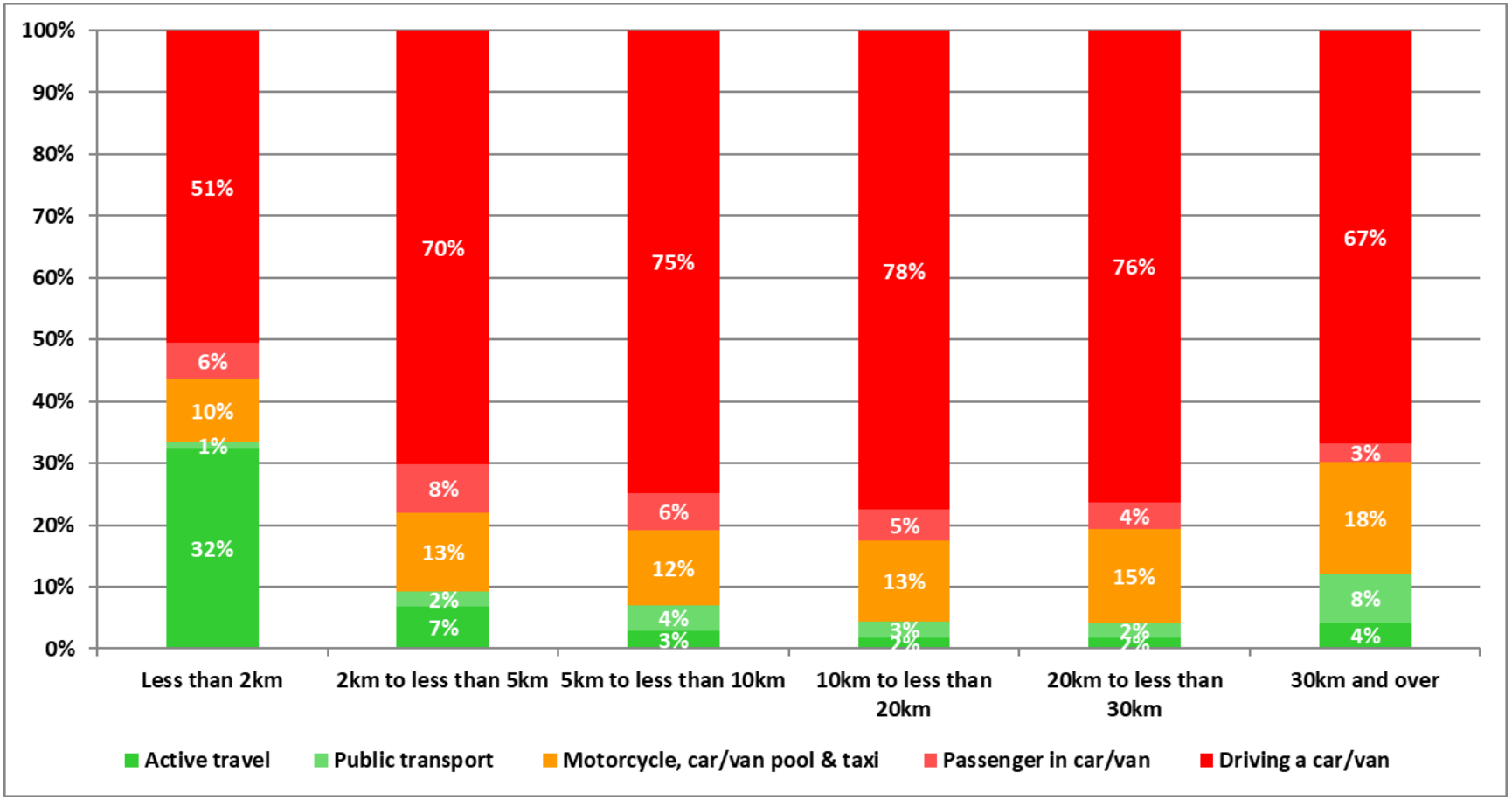


Figure 11 – Modal Choice for Journey to Education in Causeway Coast and Glens

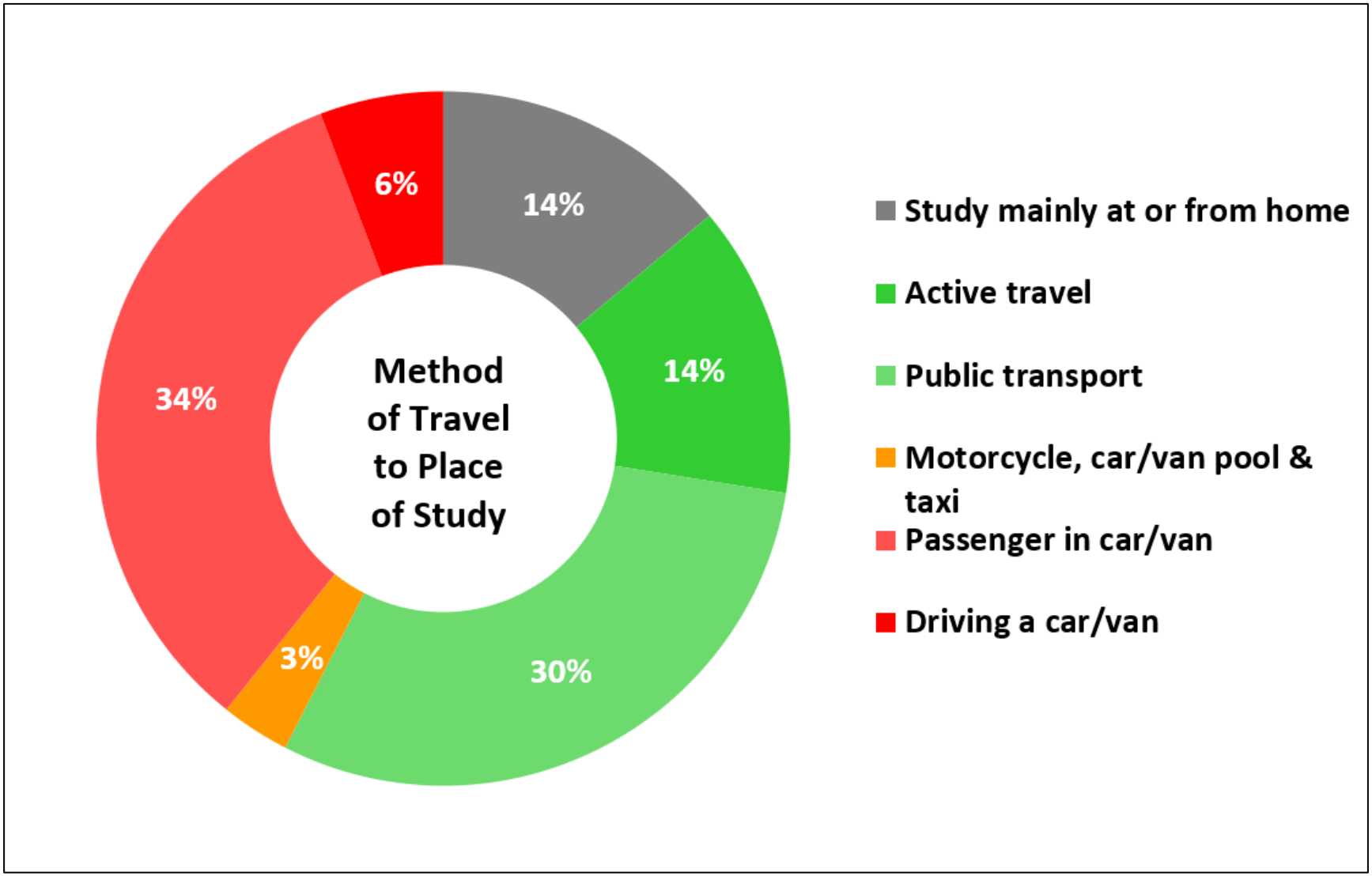
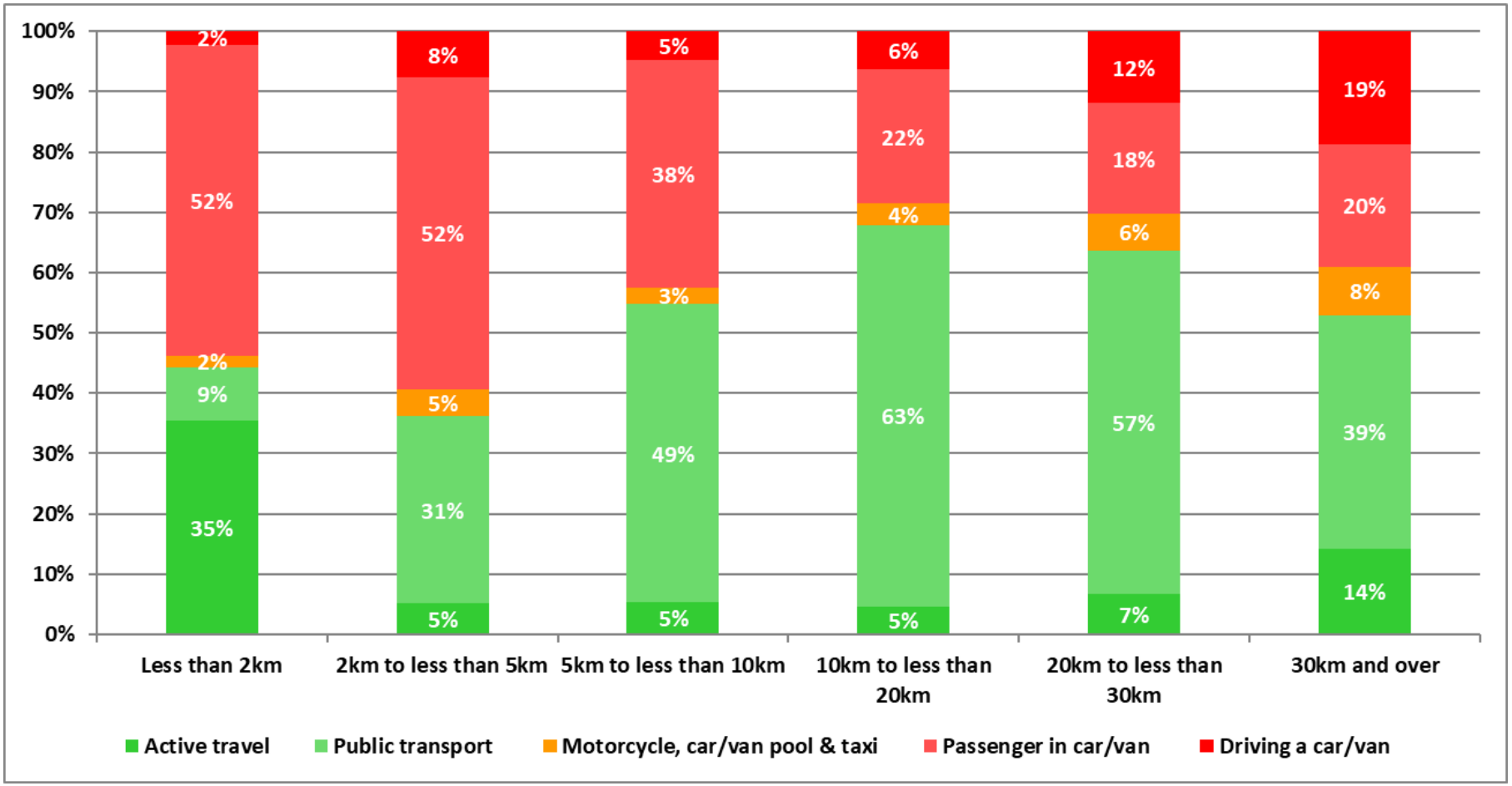


Figure 12 – Modal Choice for Journey to Education by distance in Causeway Coast and Glens



Road network speeds at peak and off peak time periods

Figure 13 – Average Off Peak Speeds (mph) in Coleraine, Limavady, Ballymoney and Ballycastle

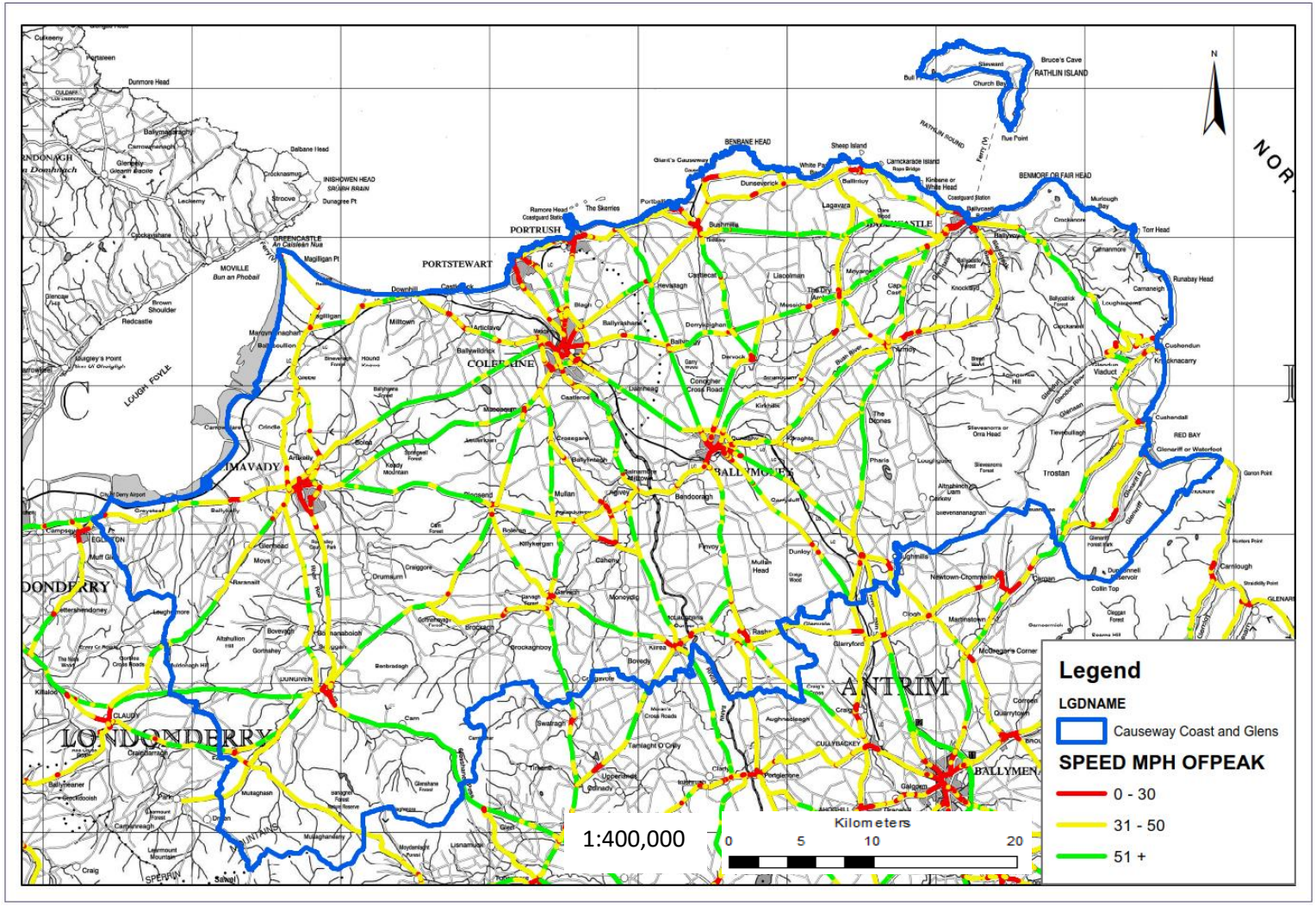


Figure 14a – Average Peak Speeds (mph) for roads in Coleraine

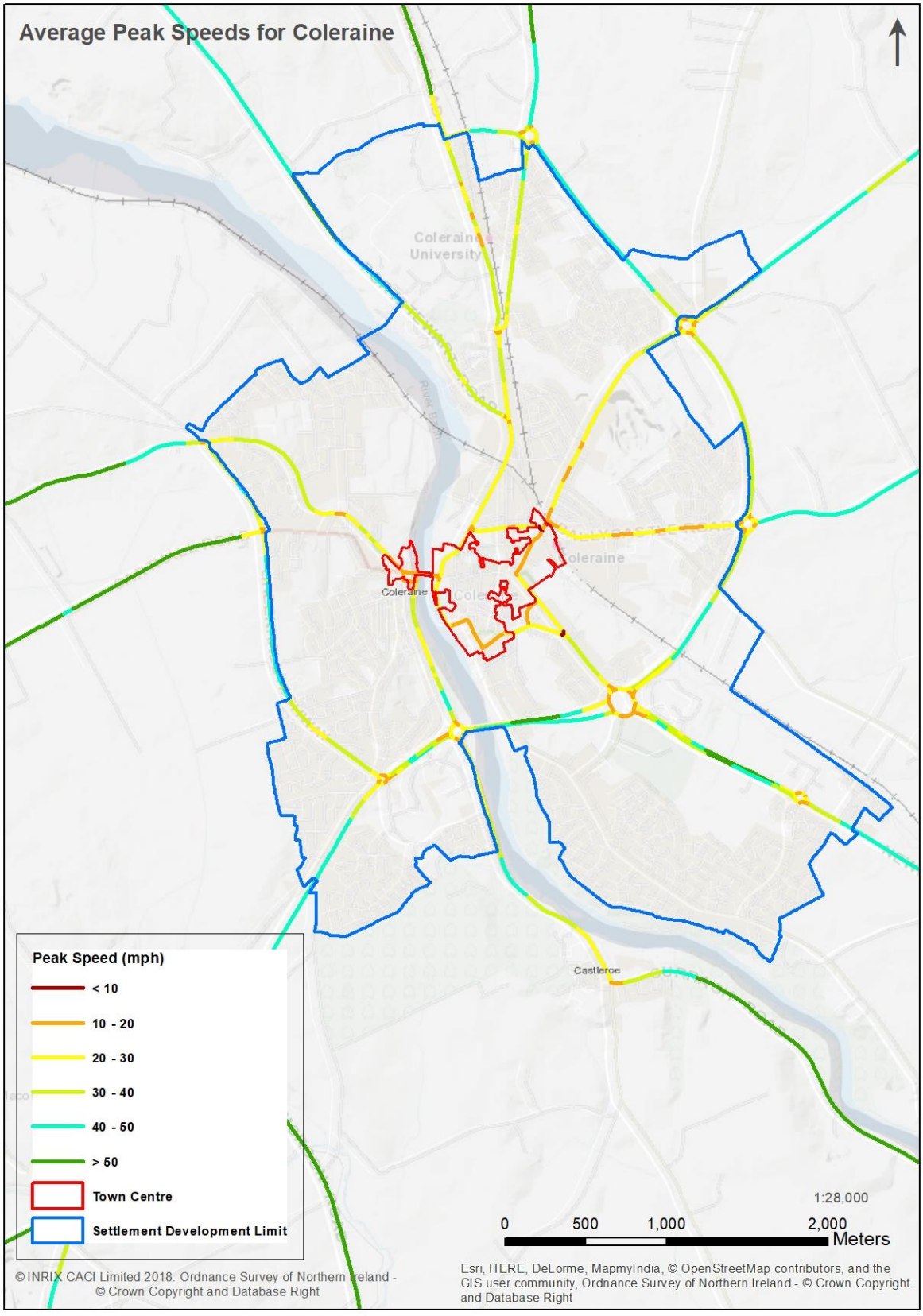


Figure 14b – Average Peak Speeds (mph) for road in Limavady

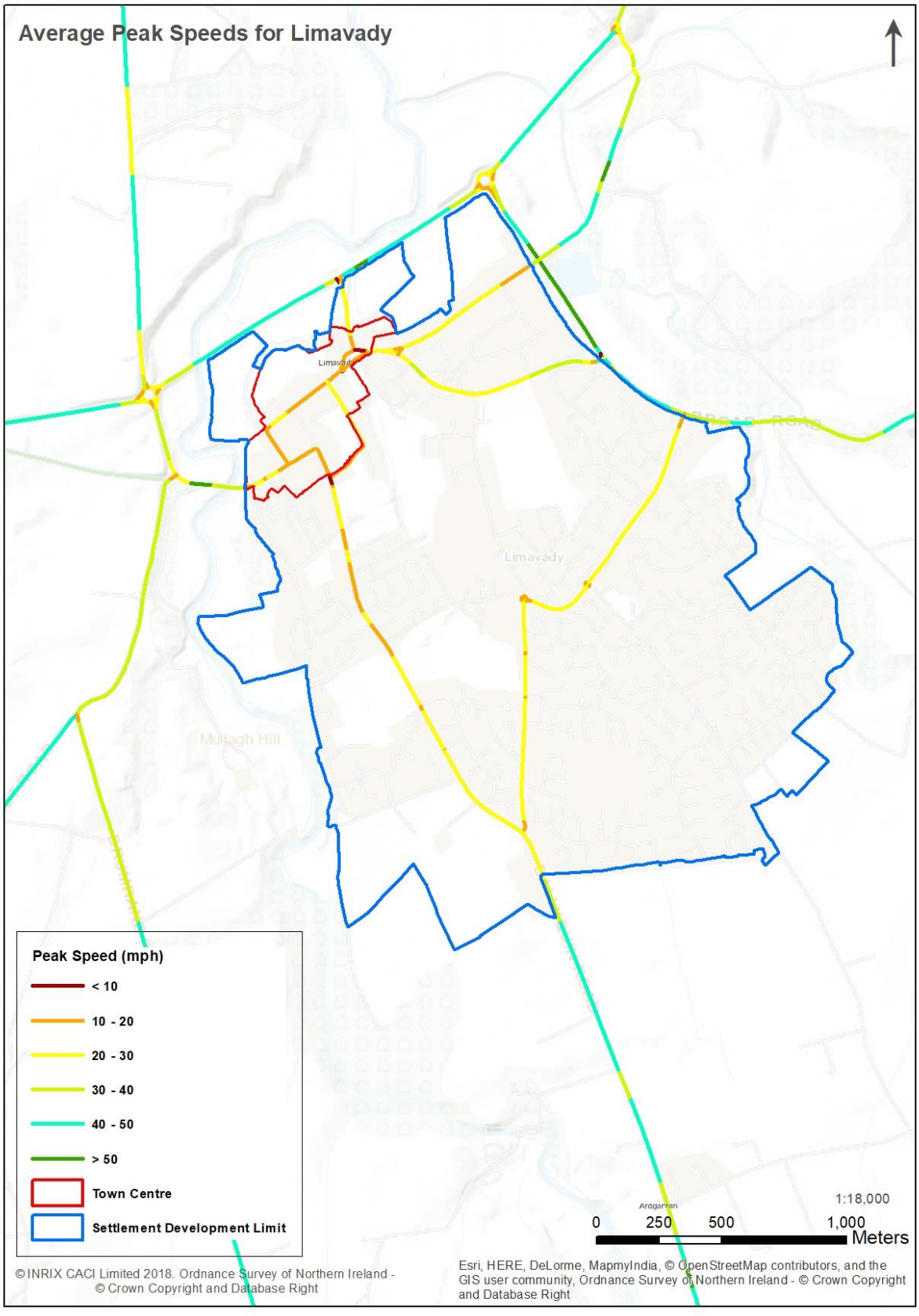


Figure 14c – Average Peak Speeds (mph) for road in Ballymoney

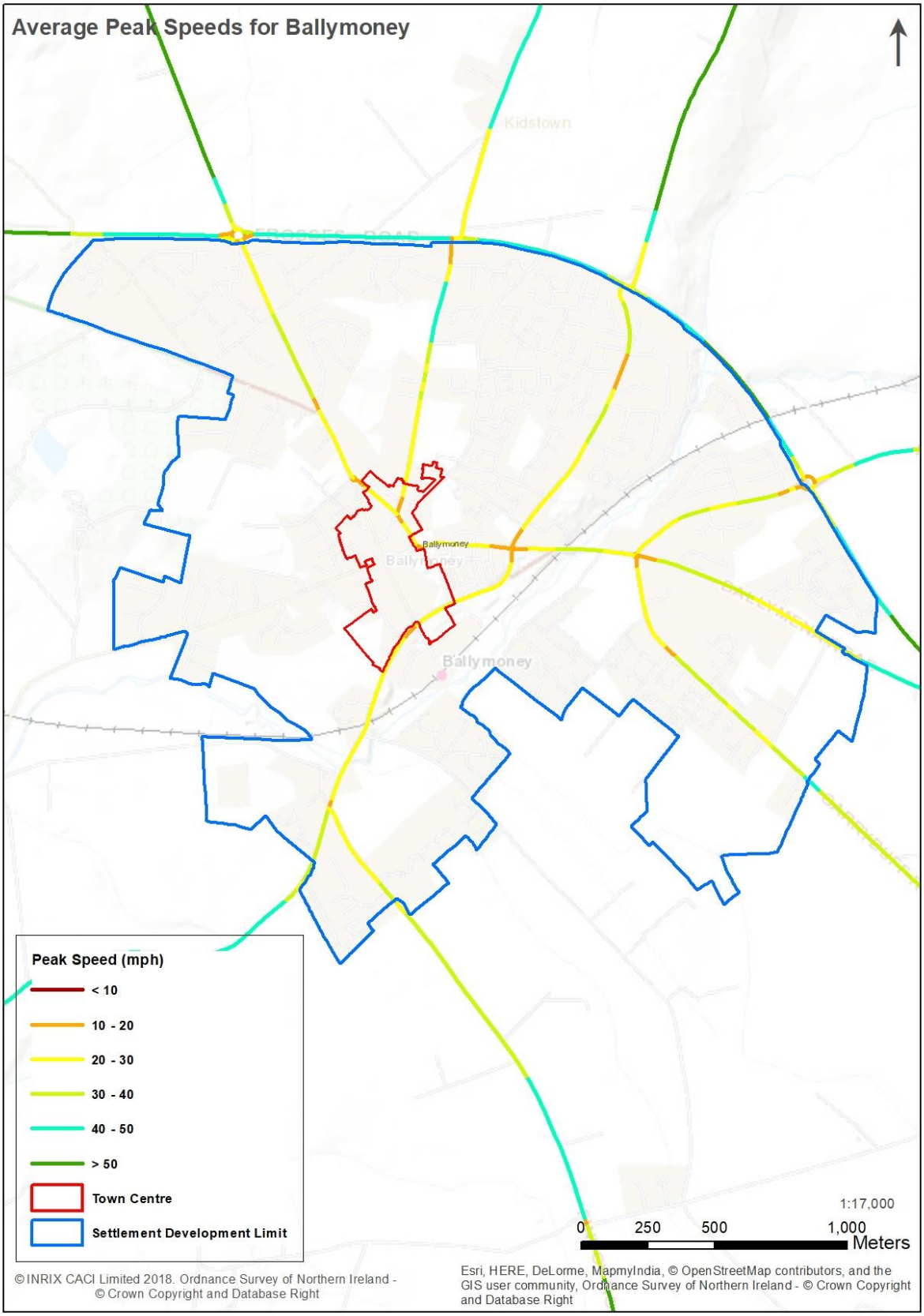
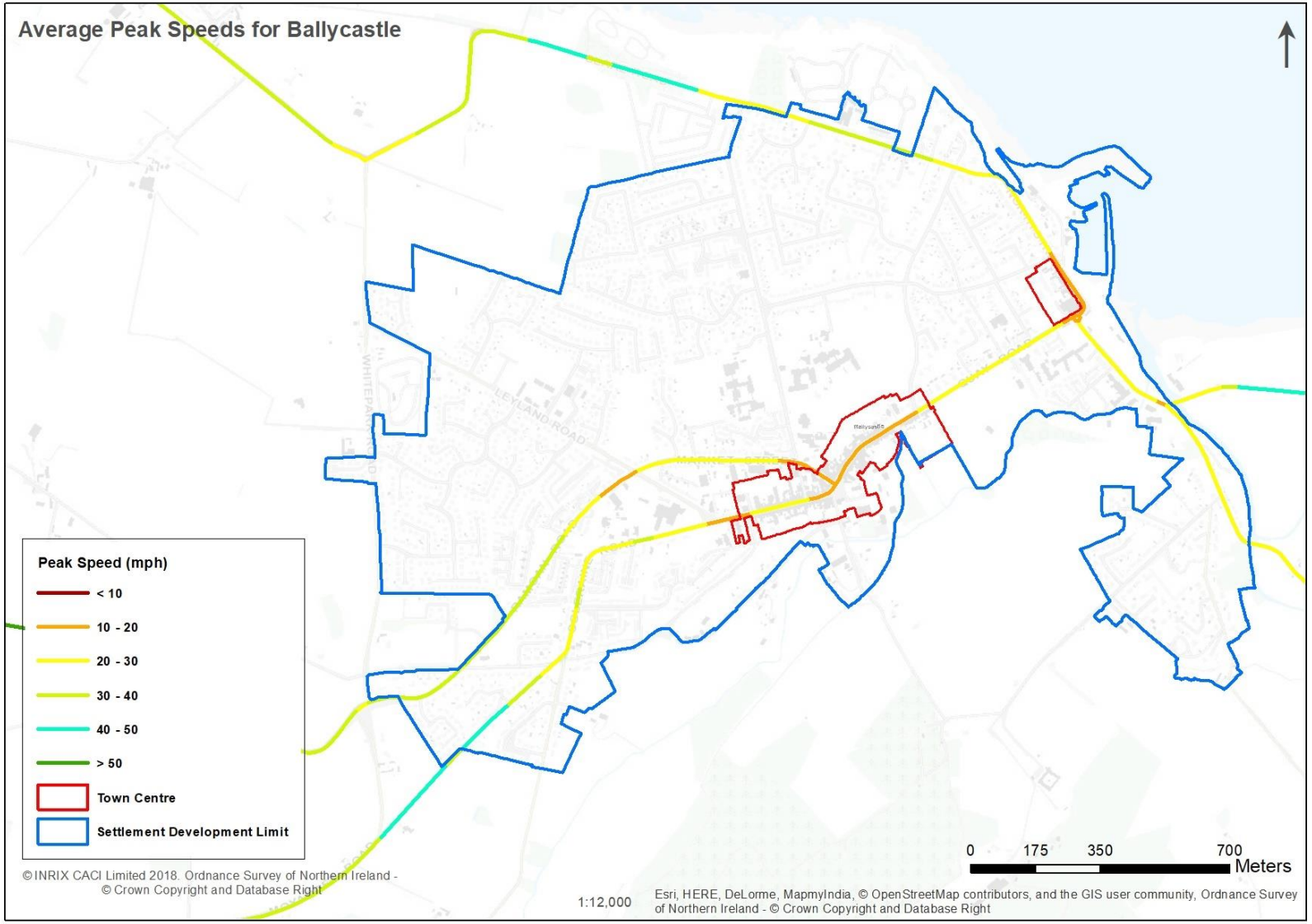


Figure 14d – Average Peak Speeds (mph) for road in Ballycastle



Road collision history in Causeway Coast and Glens

Figure 15a – Number of Road Traffic Casualties by Severity and Road User Type in Coleraine, 2007-2016

Road User Type	2007-2011				2012-2016				2007-2016 Combined			
	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	399	6	34	359	425	2	28	395	824	8	62	754
Pedestrians	65	4	17	44	78	1	15	62	143	5	32	106
Motor Vehicle Users (inc passengers)	279	0	9	270	317	1	9	307	596	1	18	577
Motorcyclists (inc pillion passengers)	35	2	7	26	12	0	2	10	47	2	9	36
Pedal Cyclists	18	0	1	17	17	0	2	15	35	0	3	32
Other Road Users	2	0	0	2	1	0	0	1	3	0	0	3

Casualties in Coleraine 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	425	2	28	395
Pedestrians	18.4%	50.0%	53.6%	15.7%
Motor Vehicle Users (inc passengers)	74.6%	50.0%	32.1%	77.7%
Motorcyclists (inc pillion passengers)	2.8%	0.0%	7.1%	2.5%
Pedal Cyclists	4.0%	0.0%	7.1%	3.8%
Other Road Users	0.2%	0.0%	0.0%	0.3%

Casualties in Coleraine 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	425	0.5%	6.6%	92.9%
Pedestrians	78	1.3%	19.2%	79.5%
Motor Vehicle Users (inc passengers)	317	0.3%	2.8%	96.8%
Motorcyclists (inc pillion passengers)	12	0.0%	16.7%	83.3%
Pedal Cyclists	17	0.0%	11.8%	88.2%
Other Road Users	1	0.0%	0.0%	100.0%

Figure 15b – Number of Road Traffic Casualties by Severity and Road User Type in Limavady, 2007-2016

Road User Type	2007-2011			
	All	Fatalities	Serious	Slight
All Road Users	157	0	16	141
Pedestrians	31	0	5	26
Motor Vehicle Users (inc passengers)	109	0	7	102
Motorcyclists (inc pillion passengers)	5	0	2	3
Pedal Cyclists	12	0	2	10
Other Road Users	0	0	0	0

2012-2016			
All	Fatalities	Serious	Slight
107	0	9	98
15	0	2	13
84	0	4	80
2	0	1	1
6	0	2	4
0	0	0	0

2007-2016 Combined			
All	Fatalities	Serious	Slight
264	0	25	239
46	0	7	39
193	0	11	182
7	0	3	4
18	0	4	14
0	0	0	0

Casualties in Limavady 2012-2016 - Modal Split (%)				
Road User Type	All	Fatalities	Serious	Slight
All Road Users	107	0	9	98
Pedestrians	14.0%	0.0%	22.2%	13.3%
Motor Vehicle Users (inc passengers)	78.5%	0.0%	44.4%	81.6%
Motorcyclists (inc pillion passengers)	1.9%	0.0%	11.1%	1.0%
Pedal Cyclists	5.6%	0.0%	22.2%	4.1%
Other Road Users	0.0%	0.0%	0.0%	0.0%

Casualties in Limavady 2012-2016 - Severity Split (%)				
Road User Type	All	Fatalities	Serious	Slight
All Road Users	107	0.0%	8.4%	91.6%
Pedestrians	15	0.0%	13.3%	86.7%
Motor Vehicle Users (inc passengers)	84	0.0%	4.8%	95.2%
Motorcyclists (inc pillion passengers)	2	0.0%	50.0%	50.0%
Pedal Cyclists	6	0.0%	33.3%	66.7%
Other Road Users	0	0.0%	0.0%	0.0%

Figure 15c – Number of Road Traffic Casualties by Severity and Road User Type in Ballymoney, 2007-2016

Road User Type	2007-2011				2012-2016				2007-2016 Combined			
	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	101	0	11	90	129	1	9	119	230	1	20	209
Pedestrians	19	0	5	14	22	0	3	19	41	0	8	33
Motor Vehicle Users (inc passengers)	71	0	2	69	94	1	5	88	165	1	7	157
Motorcyclists (inc pillion passengers)	5	0	3	2	8	0	1	7	13	0	4	9
Pedal Cyclists	6	0	1	5	5	0	0	5	11	0	1	10
Other Road Users	0	0	0	0	0	0	0	0	0	0	0	0

Casualties in Ballymoney 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	129	1	9	119
Pedestrians	17.1%	0.0%	33.3%	16.0%
Motor Vehicle Users (inc passengers)	72.9%	100.0%	55.6%	73.9%
Motorcyclists (inc pillion passengers)	6.2%	0.0%	11.1%	5.9%
Pedal Cyclists	3.9%	0.0%	0.0%	4.2%
Other Road Users	0.0%	0.0%	0.0%	0.0%

Casualties in Ballymoney 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	129	0.8%	7.0%	92.2%
Pedestrians	22	0.0%	13.6%	86.4%
Motor Vehicle Users (inc passengers)	94	1.1%	5.3%	93.6%
Motorcyclists (inc pillion passengers)	8	0.0%	12.5%	87.5%
Pedal Cyclists	5	0.0%	0.0%	100.0%
Other Road Users	0	0.0%	0.0%	0.0%

Figure 15d – Number of Road Traffic Casualties by Severity and Road User Type in Ballycastle, 2007-2016

Road User Type	2007-2011				2012-2016				2007-2016 Combined			
	All	Fatalities	Serious	Slight	All	Fatalities	Serious	Slight	All	Fatalities	Serious	Slight
All Road Users	64	0	9	55	34	1	5	28	98	1	14	83
Pedestrians	14	0	3	11	8	1	2	5	22	1	5	16
Motor Vehicle Users (inc passengers)	41	0	3	38	20	0	1	19	61	0	4	57
Motorcyclists (inc pillion passengers)	3	0	1	2	5	0	1	4	8	0	2	6
Pedal Cyclists	6	0	2	4	1	0	1	0	7	0	3	4
Other Road Users	0	0	0	0	0	0	0	0	0	0	0	0

Casualties in Ballycastle 2012-2016 - Modal Split (%)				
Road User Type	All	Fatalities	Serious	Slight
All Road Users	34	1	5	28
Pedestrians	23.5%	100.0%	40.0%	17.9%
Motor Vehicle Users (inc passengers)	58.8%	0.0%	20.0%	67.9%
Motorcyclists (inc pillion passengers)	14.7%	0.0%	20.0%	14.3%
Pedal Cyclists	2.9%	0.0%	20.0%	0.0%
Other Road Users	0.0%	0.0%	0.0%	0.0%

Casualties in Ballycastle 2012-2016 - Severity Split (%)				
Road User Type	All	Fatalities	Serious	Slight
All Road Users	34	2.9%	14.7%	82.4%
Pedestrians	8	12.5%	25.0%	62.5%
Motor Vehicle Users (inc passengers)	20	0.0%	5.0%	95.0%
Motorcyclists (inc pillion passengers)	5	0.0%	20.0%	80.0%
Pedal Cyclists	1	0.0%	100.0%	0.0%
Other Road Users	0	0.0%	0.0%	0.0%

Parking Provision in Causeway Coast and Glens

Figure 16a – Parking Provision Locations in Coleraine

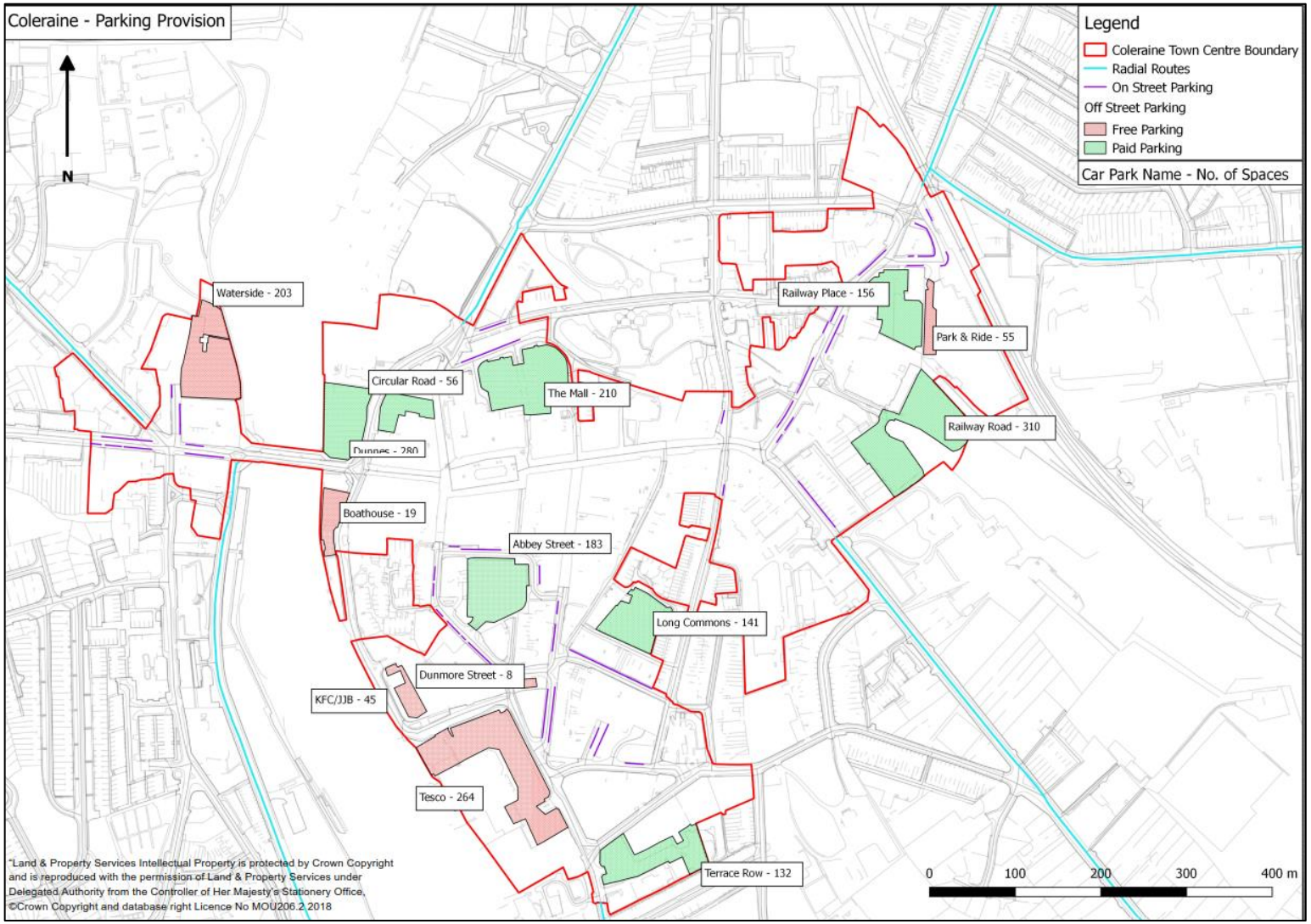


Figure 16b – Parking Provision Locations in Limavady

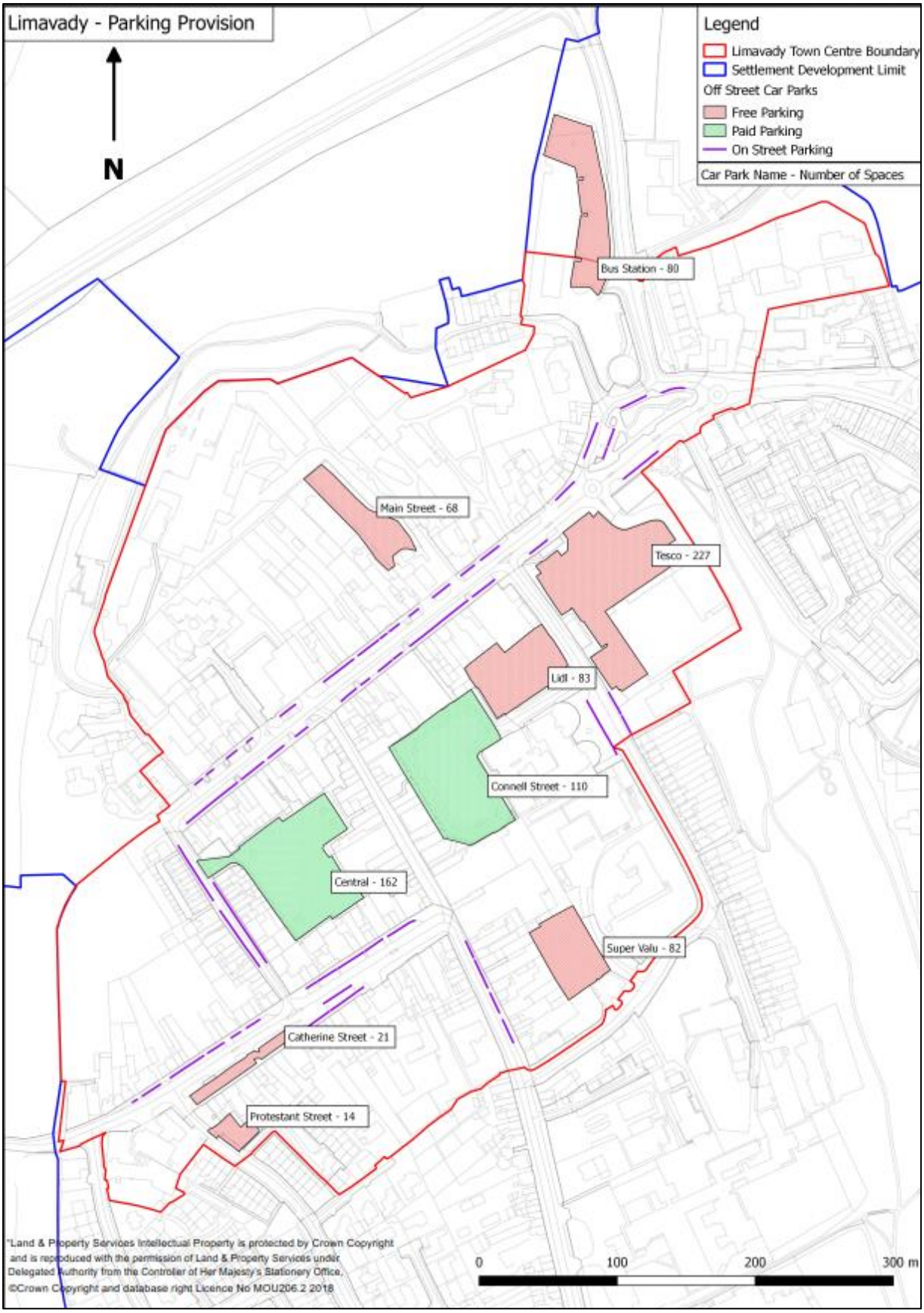


Figure 16c – Parking Provision Locations in Ballymoney

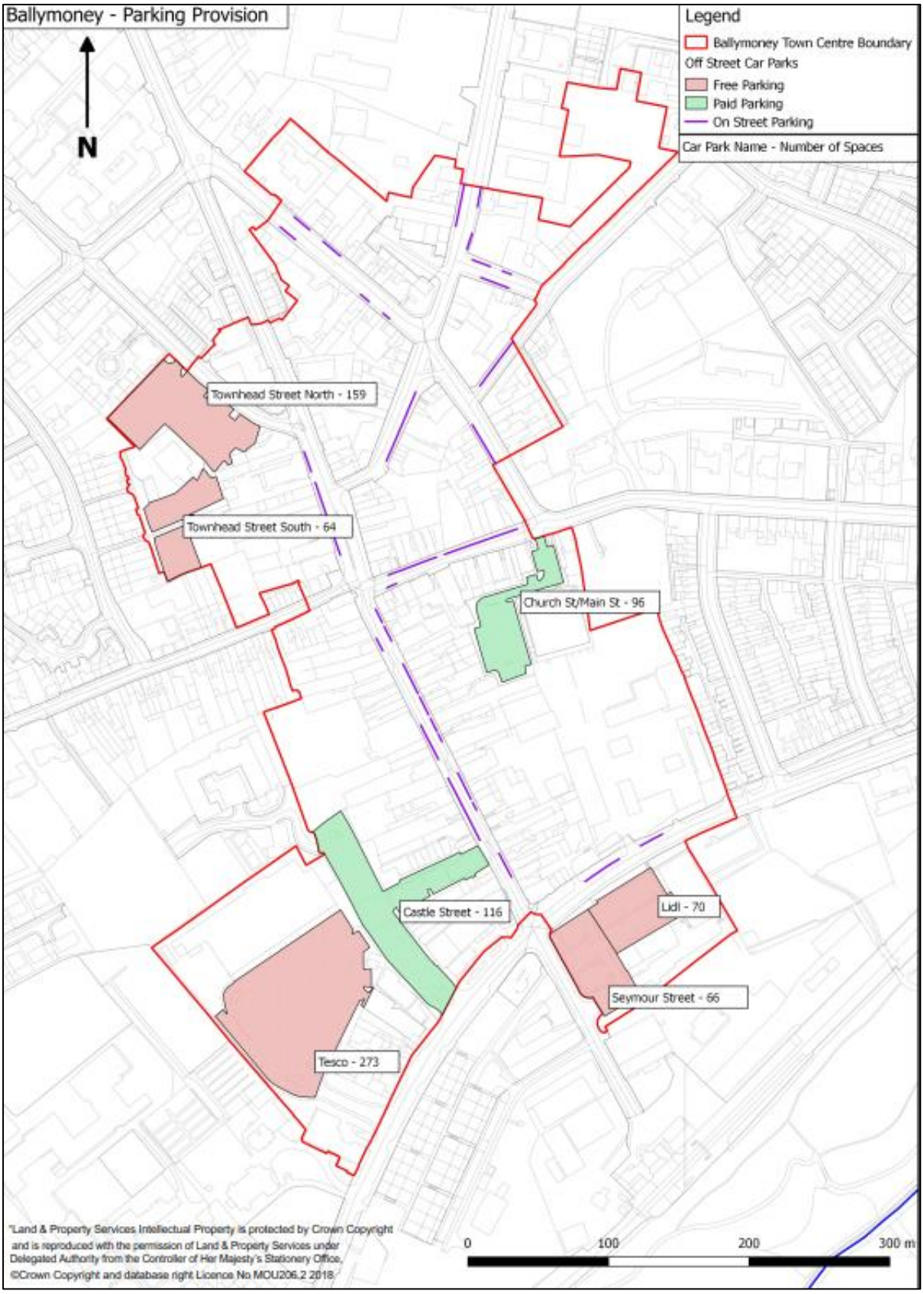


Figure 16d – Parking Provision Locations in Ballycastle

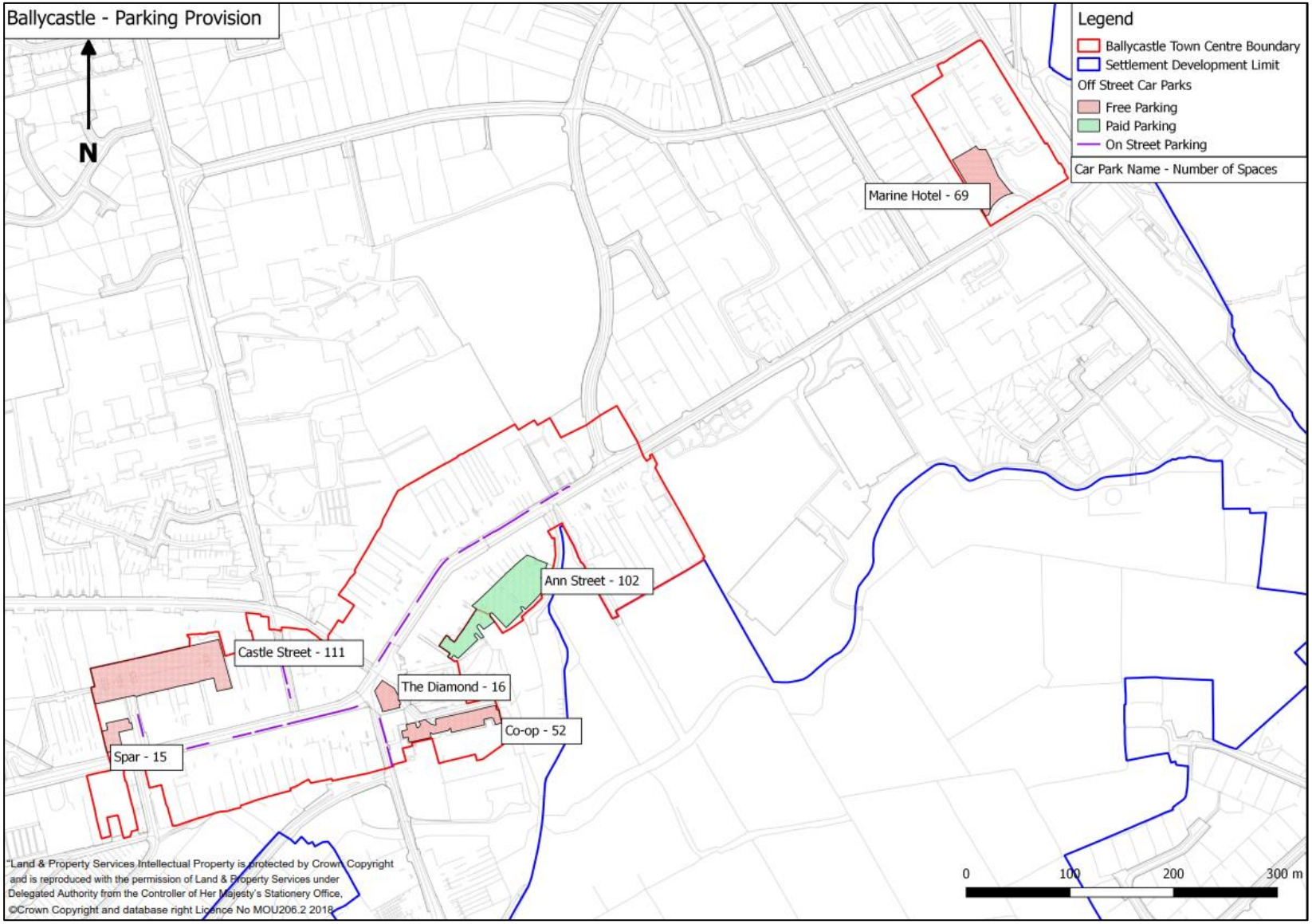


Figure 17a – Off-street Parking Provision by Spaces and Type in Coleraine

Off Street Parking - Coleraine					
Site Name	**Free/Paid**	**Tariff Reference**	**Ownership**	**Total Number of Spaces**	**Includes Number of Disabled Spaces**
A2_CP_01	Paid	£0.50	Council	183	12
A2_CP_02	Paid	£0.50	Council	141	6
A2_CP_03	Paid	£0.50	Council	210	17
A2_CP_04	Paid	£0.20	Council	156	5
A2_CP_05	Paid	£0.20	Council	310	13
A2_CP_06	Free	N/A	Council	203	4
A2_CP_07	Free	N/A	Council	8	0
A2_CP_09	Paid	£0.20	Council	132	2
A2_CP_10	Free	N/A	Private	264	13
A2_CP_11	Free	N/A	Private	45	0
A2_CP_12	Paid	£0.50	Private	280	10
A2_CP_13	Free	N/A	Private	55	3
A2_CP_14	Free	N/A	Private	19	1
A2_CP_15	Paid	£0.70	Private	56	0
			TOTAL	**2062**	**86**

Figure 17b – Off-street Parking Provision by Spaces and Type in Limavady

Off Street Parking - Limavady					
Site Name	Free/Paid	Tariff Reference	Ownership	Total Number of Spaces	Includes Number of Disabled Spaces
D7_CP_03	Paid	£0.40	Council	162	7
D7_CP_05	Paid	£0.40	Council	110	4
D7_CP_07	Free	N/A	Council	68	3
D7_CP_02	Free	N/A	Council	14	0
D7_CP_09	Free	N/A	Council	80	4
D7_CP_06	Free	N/A	Private	83	3
D7_CP_08	Free	N/A	Private	227	17
D7_CP_04	Free	N/A	Private	82	2
D7_CP_01	Free	N/A	Private	21	0
			TOTAL	**847**	**40**

Figure 17c – Off-street Parking Provision by Spaces and Type in Ballymoney

Off Street Parking - Ballymoney					
Site Name	Free/Paid	Tariff Reference	Ownership	Total Number of Spaces	Includes Number of Disabled Spaces
E2_CP_05	Council	£0.20	Council	116	4
E2_CP_03	Council	£0.40	Council	96	4
E2_CP_01	Council	N/A	Council	159	8
E2_CP_02	Council	N/A	Council	64	0
E2_CP_04	Private	N/A	Private	273	14
E2_CP_07	Council	N/A	Council	66	0
E2_CP_06	Private	N/A	Private	70	3
			TOTAL	**844**	**33**

Figure 17d – Off-street Parking Provision by Spaces and Type in Ballycastle

Off Street Parking - Ballycastle					
Site Name	**Free/Paid**	**Tariff Reference**	**Ownership**	**Total Number of Spaces**	**Includes Number of Disabled Spaces**
E1_CP_04	Council	£0.20	Council	102	6
E1_CP_01	Council	N/A	Council	111	2
E1_CP_02	Private	N/A	Private	52	3
E1_CP_05	Private	N/A	Private	69	0
E1_CP_03	Private	N/A	Private	16	2
E1_CP_06	Private	N/A	Private	15	1
			TOTAL	**365**	**14**

Figure 18a – On-street Parking Provision in Coleraine

On-street car parking – Coleraine		
Parking Length Description	**Number of Parking Spaces**	**Percentage of Total Spaces**
Limited Waiting 8am-5pm Monday-Saturday 1 hour no return within 1 hour	108	50.9%
Limited Waiting 8am-5pm Monday-Saturday 1 hour no return within 30 minutes	14	6.6%
Limited Waiting 8am-6.30pm Monday-Saturday 1 hour no return within 1 hour	49	23.1%
Disabled Person Bay – Unrestricted Kerb	3	1.4%
Disabled Persons Parking – Limited Waiting 8am-6:30pm Monday-Saturday 1 hour no return within 1 hour	3	1.4%
Loading Bay – Unrestricted Kerb	18	8.5%
No stopping at any time except taxis	17	8.0%
Total	**212**	**100%**

Figure 18b – On-street Parking Provision in Limavady

On-street car parking - Limavady		
Parking Length Description	**Number of Parking Spaces**	**Percentage of Total Spaces**
Limited Waiting 8:30am-6:00pm Monday-Saturday no return within 1 hour	226	81.6%
Loading Only Monday-Friday 8:30am-6:00pm	3	1.1%
Disabled Persons Parking	15	5.4%
Unrestricted Kerb	33	11.9%
Total	**277**	**100%**

Figure 18c – On-street Parking Provision in Ballymoney

On-street car parking – Ballymoney		
Parking Length Description	**Number of Parking Spaces**	**Percentage of Total Spaces**
Limited Waiting 8:30am-6pm Monday-Saturday 1 hour no return within 2 hours	68	60.2%
Limited Waiting 9am-5pm Monday-Saturday 1 hour no return within 1 hour	17	15.0%
Loading Only Monday-Saturday 9am-5pm	7	6.2%
Disabled Persons Parking	12	10.6%
Unrestricted Kerb	9	8.0%
Total	**113**	**100%**

Figure 18d – On-street Parking Provision in Ballycastle

On-street car parking – Ballycastle		
Parking Length Description	**Number of Parking Spaces**	**Percentage of Total Spaces**
Limited Waiting 8:30am-6pm Monday-Saturday 1 hour no return within 1 hour	55	77.5%
Disabled Persons Parking – Limited Waiting 8:30am-6pm Monday-Saturday 1 hour no return within 1 hour	2	2.8%
Unrestricted Kerb	14	19.7%
Total	**71**	**100%**