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

LISBURN AND CASTLEREAGH LOCAL TRANSPORT STUDY

Version V3

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1. Introduction

Note: This Study is part of the Belfast Metropolitan Transport Plan Local Transport Study (BMTS). The BMTS has yet to be completed and therefore this study is provided in draft form. It will remain as a draft until the BMTS is finalised and until then it is subject to change. The Department has agreed that the Lisburn and Castlereagh City Council (LCCC) may use the Draft LCCC LTS as a technical supplement to the LCCC LDP Plan Strategy.

1.1. Purpose of Local Transport Study

1.1.1. The Department for Infrastructure (DfI) is working co-operatively with Councils across Northern Ireland to produce a new family of Local Transport Plans (LTP) to integrate with their Local Development Plans (LDP). These plans move through different stages, and increase in detail from an overall strategic direction, through to specific local policies and schemes.

1.1.2. The Belfast Metropolitan Transport Plan (BMTP) will be prepared by DfI in collaboration with the Councils that fall, at least in part within the Belfast Metropolitan Urban Area (BMUA) to inform their LDP – Local Policies Plan (LPP). An initial BMTP Local Transport Study (BMTS) has been developed by DfI in collaboration with the BMTP Councils to inform their LDP – Draft Plan Strategy stage.

1.1.3. As Lisburn and Castlereagh City Council (LCCC) falls within the BMTP area, the draft Lisburn and Castlereagh Local Transport Study (LTS) has been prepared by the Department for Infrastructure (DfI) as part of the BMTS. The section of the LCCC area that falls within the BMUA is considered in more detail within the main body of the BMTS.

1.1.4. Throughout the development of the study, DfI has shared the evidence and drafts of the study at the earliest possible opportunity so that consideration of the emerging study could inform the Lisburn and Castlereagh Council Local Development Plan (LDP) – Draft Plan Strategy stage.

1.1.5. The purpose of the BMTS is to set out an objective evidence-based assessment in relation to current and future transport issues in the context of the strategic direction set for transport in the draft PfG, the Councils' growth ambitions and future indicative transport measures required to facilitate Council growth ambitions during the LDP period to 2032 in the BMTP area. It will also ensure that the transport network and transport needs of the 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.

1.1.6. The purpose of the LCCC LTS is to provide clarity on the transport measures that DfI expect to deliver during the LDP period to 2032 in the Lisburn and Castlereagh area and to ensure that the transport network and transport needs of the Lisburn and Castlereagh area are taken into account in planning for its future development.

1.1.7. These transport measures are developed in the LTS in line with the draft Programme for Government, current government policies and with the direction of the Lisburn and Castlereagh City Council Community Plan, LDP Preferred Options Paper and emerging Draft Plan Strategy.

1.1.8. The LTS presents the range of measures for walking, cycling, public transport and roads for the period up to 2035.

1.1.9. At this point, in line with the LDP Plan Strategy stage, the location of the transport measures are not described in detail. Rather, the detail and specific schemes will be added at the later LDP Local Policies Plan stage, when land use zonings are identified. However in this LTS, it should be noted that the **measures are illustrative only and do not represent a commitment to any particular scheme by the Department**. In general terms the measures have been selected in order to ascertain the likely strengths and weaknesses of the modes of transport.

1.2. Study Approach and Document Structure

Approach

1.2.1. The methodology approach adopted by the BMTS is summarised in Figure 1.1 as a sequence of tasks.

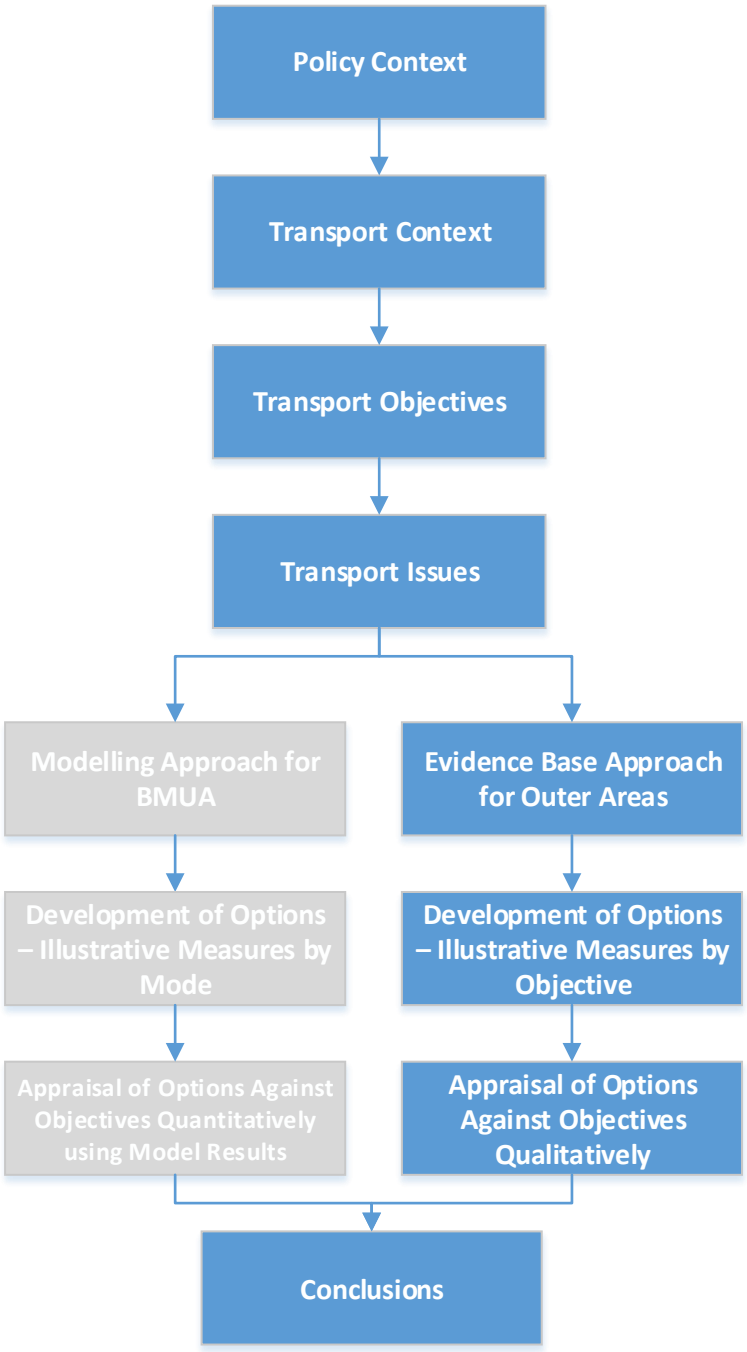


Figure 1-1 – BMTS Study Methodology Showing Approaches for BMUA and Outer Areas

1.2.2. The BMTP study area encompasses five councils that fall, at least in part within the BMUA. The councils that make up the BMTP area are:

- Antrim and Newtownabbey Borough Council (ANBC);
- Ards and North Down Borough Council (ANDBC);
- Belfast City Council (BCC);
- Lisburn and Castlereagh City Council (LCCC); and,
- Mid and East Antrim Borough Council (MEABC).

1.2.3. Two separate approaches have been used in the BMTS depending on where the transport measures occur. Within the BMUA, a modelling approach has been taken as shown in grey in

Figure 1.1. As this LTS relates primarily outside the BMUA, a transport evidence base has been produced and an objective review of the evidence provides a qualitative narrative on the potential transport options.

Technical Annex

1.2.4. This document includes by a technical annex which includes detail relating to the towns within the Council area.

1.2.5. The remainder of this chapter considers the general characteristics of the council area before outlining the structure of the report.

1.3. The Study Area

Lisburn & Castlereagh City Council

1.3.1. The Lisburn & Castlereagh City Council LTS is aligned to the Lisburn & Castlereagh City Council area, as shown in Figure 1.2.

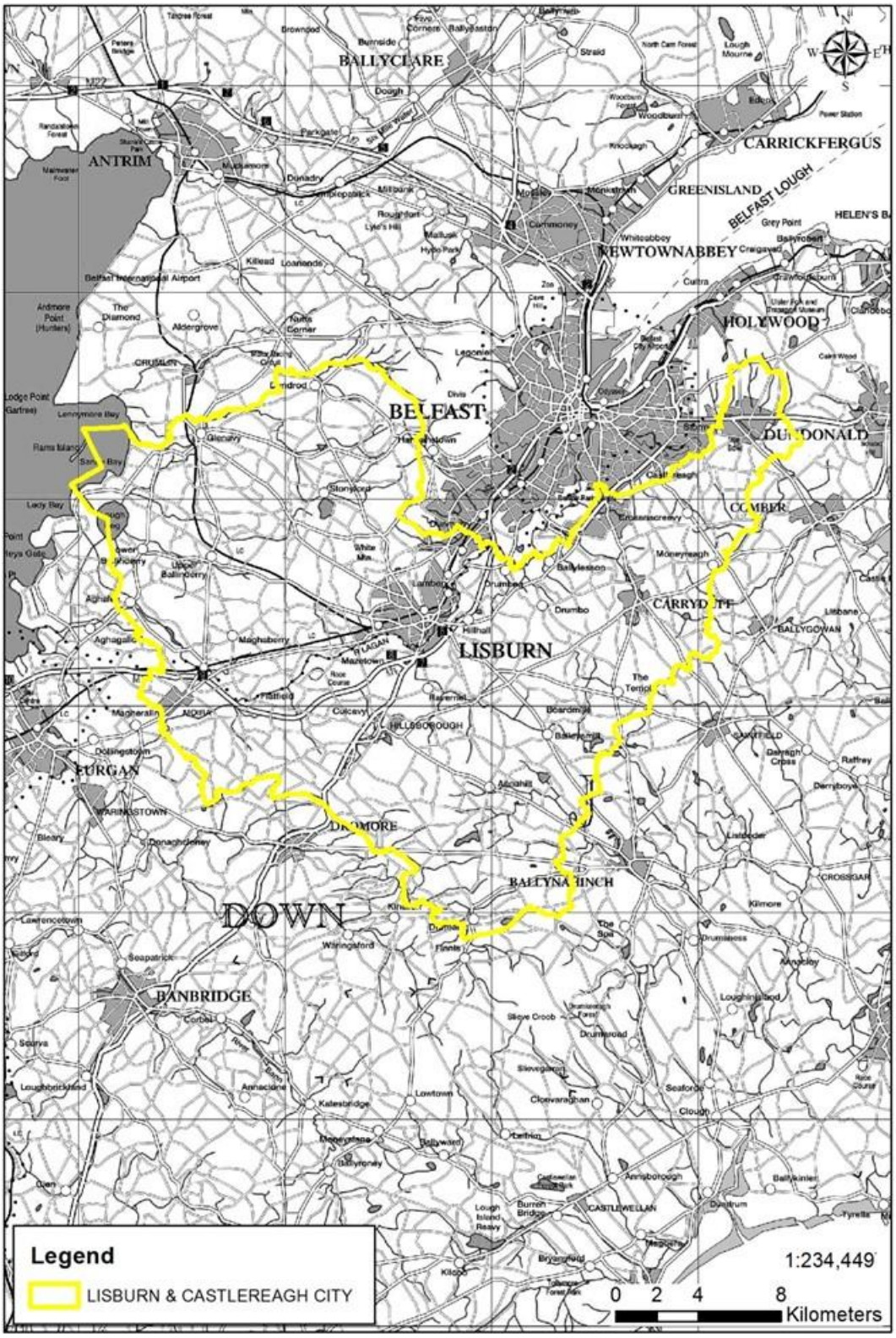


Figure 1-2 – Lisburn & Castlereagh City Council Area

1.3.2. Lisburn & Castlereagh City Council has several settlements with Castlereagh Greater Urban Area[1], Lisburn City and Lisburn Greater Urban Area comfortably the largest among them. The

[1] Castlereagh Greater Urban Area refers to the former Metropolitan area south east of Belfast City Council area stretching from Dundonald to Newtownbreda.

next largest settlements of Carryduff, Moira and Hillsborough and Culcavy are much smaller. Further detail on the settlements within the council area are summarised in Table 1.1.

Table 1-1 - Lisburn & Castlereagh City Council Settlements and 2011

SETTLEMENT	USUAL RESIDENTS 2011
Castlereagh Greater Urban Area	55,857
Lisburn City	45,370
Lisburn Greater Urban Area	31,186
Carryduff	6,961
Moira	4,591
Hillsborough and Culcavy	3,952
Maghaberry	2,450
Glenavy	1,784
Milltown	1,499
Moneyreagh	1,384
Annahilt	1,051
Dromara	1,006
Lower Ballinderry	917
Aghalee	873
Drumbeg	817
Stoneyford	605
Ravernet	554
Other	26016
Total	**134841**

1.3.3. Figure 1.3 summarises a number of the area's key demographic and transport- related characteristics and expresses these in terms of their percentage variation from Northern Ireland (NI) average. The full details are provided in Table 1.2.

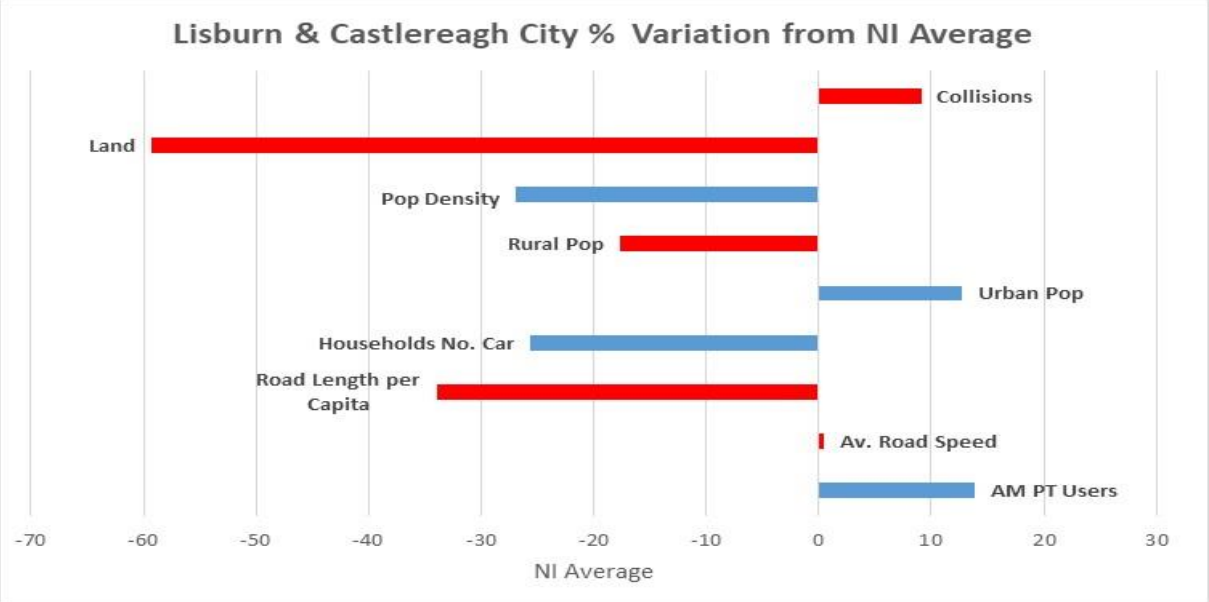


Figure 1-3 – Lisburn and Castlereagh City Council Key Characteristics Compared to NI Average

Table 1-2 – Lisburn and Castlereagh City Council Key Characteristics Compared to NI Average

	Council	NI Average	% Variation from Average
Pop 30 mins of Town AM PT (%)	78	68	14
Average Road speed (km per hr)	62.09	61.79	0
Road length per capita (km)	0.01	0.02	-34
Households No Car (%)	15.26	20.51	-26
Urban Population (%)	65.41	58.01	13
Rural Population (%)	34.59	41.99	-18
Pop Density	2.68	3.66	-27
Land in Hectares	50279	123,294	-59
Fatal and Serious Collision Rate Per 100k	48.9	44.8	9

1.3.4. Lisburn & Castlereagh City Council is a geographically small council as measured by area and measures 50,279 ha in area compared to the NI average of 123,294 ha. Its population density is approximately 2.7 persons per hectare compared to the NI average of 3.7 and 65% of the population live in towns of 5,000 or more compared to the NI average of 58%. The Council area has therefore a predominately urban population and as a result only 35% of the population live in rural areas. The small area is related to the low road length per capita which is 0.01km compared the NI average of 0.02km. The urban nature of the roads leads to road speeds which are in line with the NI average. Settlements within the Council area are highly accessible by public transport, with 78% of the population within a 30 minute bus/rail journey, compared to the NI average of 68%. Only 15% of households in the Council area do not own a car compared to the NI average of 21%.

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 and local LCCC issues and direction as set by the Community Plan, the Preferred Option Paper and the emerging Draft Plan Strategy;

- Chapter 7 commences with a discussion of transport options and assesses their merits before presenting the recommended Transport Measures.

- Chapter 8 summarises the conclusions of the Transport Study and the recommended measures.

2. Policy Context

2.1. Introduction

2.1.1. The LCCC Council's Community Plans set out the Council's ambitions and the LDP process aims to map out the delivery of these ambitions. The Council has published a Preferred Options Paper (POP), an initial plan preparation consultation paper designed to stimulate debate and encourage feedback on key issues of strategic significance which are likely to influence the direction of the LDP.

2.1.2. The LDP Plan Strategies (LDP PS) will set out a vision and strategic objectives of the councils with the expectation of being achieved by 2032, for the benefit of the entire community. The LDP PS will go through Independent Examination by the Planning Appeals Commission (PAC).

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

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

- The Regional Development Strategy 2035 – Building a Better Future;
- Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation; and
- Northern Ireland Changing Gear – A Bicycle Strategy for Northern Ireland.

2.1.5. These strategic documents are NI-wide and all Council areas are required to take full cognisance of their content and to plan accordingly.

2.1.6. This LTS has been developed to support the achievement of both the objectives set out in the above documents, and also the objectives of the Council's Community Plan.

2.2. Planning Policy Context

Reform of local government & development planning

2.2.1. Reform of the Northern Ireland planning system came into operation on 1st April 2015. The unitary system where all planning powers rested with the Department of the Environment was replaced by a new two-tier systems model of delivery, with Local Government District Councils being made responsible for a number of planning functions including local plan-making, development management and planning enforcement.

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

Strategic Planning Policy Statement for Northern Ireland – Planning for Sustainable Development (SPPS)

2.2.3. The SPPS was published in September 2015 and is a statement of the government's policy on important planning matters that should be addressed across Northern Ireland. It reflects expectations for delivery of the planning system.

2.2.4. The document consolidates the 20 separate Planning Policy Statements (PPSs) into one document, and sets out strategic subject 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.

2.2.5. 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.

2.2.6. Transport 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 local 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) such as new transport schemes, walking, cycling and car parking.

2.2.7. This approach is in accordance with the stated aim of the SPPS contained within the Regional Development Strategy 2035 (RDS 2035) 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 (the Act) 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)).

Local Development Plans

2.2.8. Part 2 of the Act 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:

- a Plan Strategy (PS) which will set out the council's vision, objectives and growth strategy for the area along with strategic policies; and
- a Local Policies Plan (LPP) which will set out the council's detailed policies in relation to the development and use of land in its district.

2.2.9. The PS is produced first with scrutiny at the independent examination stage. The LPP is prepared subsequently to be consistent with the PS. As an initial task, each council is also required to prepare and publish a Preferred Options Paper (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.

2.2.10. The BMTP councils have all completed this initial task by publishing their POPs. Each of the POPs include direct references to transport in the documents' objectives. The objective can be categorised as economic, social or environmental.

2.2.11. Common transport themes run through the five POPs including the promotion of sustainable transport including public transport and active travel as well as forms of management the city/town centre demand for private vehicles such as parking restraints. In addition, there is an acceptance within the documents that growth should be focused within the existing cities/towns where levels of sustainable transport provision is infrastructure is generally higher.

2.2.12. In terms of sustainability, the growth aspirations across the BMTP area have the potential to produce a greater number of trips and careful mitigation will be needed to reduce the number undertaken by private car. The complementary investment in green transport and Active Travel would be critical in ensuring sustainable long-term development.

2.3. Draft Programme for Government[2]

2.3.1. The Draft PfG framework of the former NI Executive 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 PfG will only be realised through sustained collaboration, across organisational and sectoral boundaries.

[2] Outgoing Ministers have given cover to proceed with the policy direction set by the last Executive in the draft PfG, consequently, Departments are continuing to deliver public services in line with the policy direction in the draft PfG..

2.3.2. The PfG identifies 12 strategic outcomes of societal wellbeing, supported by 49 indicators. Outcomes Delivery Plans have been developed for each of these, setting out the key actions to support delivery of PfG outcomes.

2.3.3. In respect of transport infrastructure and connectivity the DfI's main contribution to the PfG is through:

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

2.3.4. The key focus of Outcome 11 is the importance of physical connectivity as a key enabler of economic growth and social cohesion. Outcome 2 has a focus on protecting the environment while supporting wider economic growth and social cohesion objectives. Under this framework DfI is directly responsible for delivery of two transport related PfG indicators: DfI's key priorities and the focus of delivery plans under this outcome is improving journey time on key economic corridors and increasing use of public transport, walking and cycling.

2.3.5. In delivering progress towards this PfG outcome DfI seeks to ensure that investment in our transport infrastructure supports economic and social progress while seeking to minimise the harmful effects generated by motorised traffic through congestion and pollution on the environment and on health. Enhancing the flow of traffic on key routes between population centres is a key enabler of economic growth, reduces environmental hotspots as result of traffic congestion and benefits individual road users. In isolation, however, road improvements will also drive an increase in road traffic, generating further congestion and poorer air quality. Incentivising more sustainable and efficient ways of travelling such as walking, cycling and public transport will reduce traffic congestion and encourage healthier, more environmentally sustainable lifestyles which will be of wider benefit.

2.3.6. It is understood that variations in the rural / urban settlement balance across NI will provide variations in the challenges and opportunities for Councils in delivering progress towards PfG outcomes. Nevertheless, the ability of DfI to contribute to the successful delivery of PfG will be reliant on the concerted and collaborative efforts of delivery partners working in partnership with DfI.

2.4. The Regional Development Strategy 2035 – Building a better Future (RDS 2035)

2.4.1. The RDS 2035, published March 2012, is a long-term plan to deliver the spatial aspects of the PfG. The RDS 2035 recognises the need for balanced sub-regional growth and importance of key settlements as centres for growth and investment.

2.4.2. The RDS 2035 includes Regional Guidance (RG) to "deliver a balanced approach to transport infrastructure" and Regional Guidance 2 (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.

2.4.3. In particular, the RDS 2035 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 reduces where possible, unsuitable traffic into towns.

2.4.4. The RDS 2035 contains a Spatial Framework and Strategic Planning Guidelines based on focusing development in gateways (such as ports and airports), hubs and clusters (such as key towns and cities), and prioritising the improvement of the main transport corridors that form the regional transportation network. . The RDS identifies Lisburn City as part of the Belfast Metropolitan Urban area. It recognises the benefits Lisburn gains from its geographical location at the meeting point of the Belfast/Dublin economic corridor and the East/West transport corridor.

2.5. Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation (New Approach)

2.5.1. The New Approach, published April 2012, sets out proposals for regional transportation beyond 2015. It was developed to complement the RDS 2035.

2.5.2. 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

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

2.6.1. The bicycle strategy, published August 2015, outlines the ambition to transform cycling in Northern Ireland over a 25 year period. The strategy's vision for cycling in Northern Ireland is for;

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

2.6.2. 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.

2.6.3. The bicycle 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) and quiet routes should be developed to form a comprehensive hierarchical network. The bicycle strategy also highlights the role that greenways can play in a comprehensive network.

2.6.4. The Bicycle Strategy outlines a 3 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).

2.7. Exercise Explore Enjoy: A Strategic Plan for Greenways

2.7.1. In November 2016 DfI published it greenways strategy entitled "*Exercise Explore Enjoy: A Strategic Plan for Greenways*". The documents provides a vison for "A region where people have ready access to a safe traffic free environment for health, active travel and leisure".

2.7.2. 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.

2.7.3. The document identifies 3 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.

2.8. Belfast Metropolitan Area Plan 2015

2.8.1. The Belfast Metropolitan Area Plan 2015 (BMAP) remains unadopted. The Draft Belfast Metropolitan Area Plan is therefore referred to here as the most relevant land use plan. The Draft BMAP was prepared in parallel with the (non-statutory) Belfast Metropolitan Transport Plan (BMTP) to ensure that as far as possible the plans are mutually supportive. In this respect the land use locations in the Plan were closely linked with the priorities and proposed transport investment in BMTP, outlined separately below.

2.8.2. In developing BMTP attention was paid to improving accessibility to key strategic sites and regeneration areas identified by the RDS and progressed by the draft Plan. In addition the Plan took into account the land use requirements of transportation infrastructure by identifying protection lines for planned transport schemes and abandoning protection for schemes which were no longer to be implemented

2.8.3. The Draft Plan includes two Transport Policies:

- TRAN 1 – Parking Standards within Areas of Parking Restraint. These standards were expected to be varied only in appropriate circumstances and on the basis of empirical evidence.
- TRAN 2 – Publicly Owned Off-street Surface Car Parks within City and Town Centres. This effectively required parking supply levels to be maintained following the re-use of existing central car parks.

2.9. Belfast Metropolitan Transport Plan 2015

2.9.1. The Belfast Metropolitan Transport Plan 2015 (BMTP 2015) is non statutory and was prepared by the then Department for Regional Development as a technical supplement for the Draft BMAP and unadopted BMAP 2015. The BMTP 2015 includes a phased and costed implementation programme of transport schemes to 2015. The implementation of these proposals was subject to detailed economic appraisal, funding availability and statutory processes.

2.9.2. BMTP included schemes arranged along four modal themes:

- Walking and Cycling – such as walking corridors and cycle routes;
- Public Transport – such as bus and rail schemes;

- Highway – such as road schemes; and
- Management measures – such as parking controls or traffic management used to control traffic and influence travel demands and patterns.

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

2.10. Interim Belfast Metropolitan Transport Plan

2.10.1. The Interim Belfast Metropolitan Transport Plan set out a short term framework for the planning and delivery of transport infrastructure in and providing access to Belfast City Centre covering the period from 2017 to 2020. The framework was prepared by the Department in consultation with Belfast City Council with the aim of ensuring an integrated approach in the development of transport infrastructure and services supporting the regeneration of Belfast City Centre in line with wider strategic objectives as set out in the draft PfG and supported by the Belfast Agenda. In this context, the framework presented a 'refresh' of the policies and schemes set out in the BMTP.

2.10.2. The Framework aimed to ensure a joined-up approach between the Department as the transport authority and Belfast City Council as the planning authority in the development of Belfast City Centre. In particular it seeked to ensure clarity as to both the major transport priorities and the strategic focus of transport policy and investment.

2.10.3. While the Interim BMTP was concerned with developments and transport infrastructure within Belfast City Centre, in order to influence travel choices to the city centre, the framework also commented on the balance of commuter priorities on the major radial corridors which deliver commuters to and from the City Centre.

2.11. Lisburn and Castlereagh City Council Context

POP

2.11.1. Lisburn & Castlereagh City Council published their Preferred Options Paper (POP) in March 2017. The Council proposed a concise vision, shared with the Community Plan:
"*An empowered, prosperous, healthy and inclusive community*."

2.11.2. The POP identifies six Strategic Objectives that clearly encompass the areas of economy, environment and social advancements:

- Enabling Sustainable Communities & Delivery of New Homes;
- Driving Sustainable Economic Growth;
- Growing our City, Town Centres, Retailing & Offices;
- Promoting Sustainable Tourism, Open Space & Recreation;

- Supporting Sustainable Transport and Other Infrastructure; and,
- Protecting and Enhancing Built and Natural Environment.

2.11.3. The objective, **Supporting Sustainable Transport and Other Infrastructure** includes direct support for specific road schemes such as the Knockmore to M1 link and the M1 to A1 link. It also states that the LDP should provide the means to promote, influence and deliver a shift to more sustainable travel modes. The objective gives rise to a number of specific Preferred Options:

- Retain a number of key transportation infrastructure schemes;
- Retain a number of Key Park & Ride and identify new Park & Ride / Park & Share sites;
- Promote Active Travel in new development; and,
- Protect and develop safe, shared and accessible Greenways.

2.11.4. Other transport-related options are found within the other Strategic objectives:

- **Enabling Sustainable Communities & Delivery of New Homes**
  - Focus future housing growth in Lisburn City and retain the existing settlement hierarchy – hence maximising the use of existing transport infrastructure
- **Driving Sustainable Economic Growth**
  - Redesignate the Blaris Major Employment Zoning as a Mixed Use site – potentially providing short distance journeys but also creating significant additional commuting traffic on the M1 to Belfast; and,
  - Retain designation of the Maze Lands as a Strategic Land Reserve of Regional Importance – providing the potential for significant additional commuting and goods vehicle flows on the M1.
- **Growing our City, Town Centres, Retailing and Offices**
  - Extend the existing City Centre Boundary of Lisburn City Centre – providing additional potential for growth in the most accessible locations; and,
  - Extend District and Local Centre Boundaries of Forestside and Dundonald - providing additional potential for growth in currently accessible locations.
- **Enhancing the Built & Natural Environment**
  - Retain the existing policy-led approach with regards to the protection and enhancement of Built Heritage Assets and Natural Assets and identify new Assets and designations – possibly impacting on the assessment of new physical infrastructure.

Community Plan

2.11.5. The Lisburn & Castlereagh City Council 2030 Community Plan sets out the vision for "an empowered, prosperous, healthy, safe and inclusive community."

2.11.6. The shared values and principles which underpin this vision are **sustainable development, equality and participation**. These themes are fundamental in guiding the emerging vision and strategic objectives of the Local Development Plan and the Local Transport Study.

Figure 2-1 - Community Planning Vision, Themes and aims (Source: Lisburn and Castlereagh City Council – Community Plan)

3. Transport Evidence Baseline

3.1. Transport Evidence Baseline

3.1.1. Figure 1.3 and Table 1.2 in Section 1 – Introduction, have provided a demographic and transport context for the Lisburn & Castlereagh City Council area, noting in particular its mix of urban and rural areas. This section introduces a more detailed transport evidence baseline for the Lisburn & Castlereagh City Council area.

3.1.2. The evidence is presented in the form of maps, diagrams and tables provided in Annex 1. The evidence has been gathered from a range of standard published sources including the 2011 Census, Translink public transport timetables, and Police Service 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.

3.1.3. Annex 1 presents the following in turn:

- Regional connectivity from Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough by road and public transport – what time is required to travel to the economic centres and travel gateways of Northern Ireland?
- Accessibility to health services by public transport from across the Council area – to what degree do current rural bus services allow residents of the rural areas to reach essential health facilities?
- Urban walking and cycling infrastructure in Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough – how well developed are the current networks?
- Local urban bus services in Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough – to what degree do they provide coverage for urban residents?
- Travel to work journeys – where do residents of Lisburn & Castlereagh City Council 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 Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough – how many people are injured or killed on roads and streets in the towns and which modes are most vulnerable?
- Parking provision in Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough – how many parking spaces are there in the town centres, where are they located, whether they are in public or private ownership, what tariffs are in place and how many spaces are designated for disabled use?

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

3.2. Integrated Land Use and Transport Planning

3.2.1. 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 PfG and also in the Community Plan and LDP.

3.2.2. The integration of land use and transport planning has the potential to reduce the need for travel, make better use of existing transport infrastructure and ensure that new transport infrastructure and services are effective, efficient and minimise their impacts on the environment.

3.2.3. Integration is especially important in urban areas where there are practical choices to be made in terms of the location and type of development that may have substantial knock-on impacts on local environments and hence travel behaviour. In general terms, stronger city centres and greater development densities along public transport corridors can increase the use of sustainable and active travel modes. Conversely, dispersed development and low densities, whilst generally not adding to city centre traffic congestion, tend to further increase car dependency.

4. Growth and Development proposals

4.1. The LCCC POP foresees a population increase of 18,413 and approximately 13,300 new houses required over the period 2015 – 2030. The proposed allocation of housing would locate the majority of the new houses in the main settlement of Lisburn City, with the remainder allocated between the smaller towns, villages, small settlements and the countryside. 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. Our 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 within 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 control process may be more difficult to achieve.

- Outside Lisburn City and Castlereagh Greater Urban Area, most settlements are located on the public transport network. Those that have frequent and direct bus services to Lisburn City or Belfast offer the best locations for sustainable transport opportunities, offering people an alternative to the private car. These should be the focus of most new housing (and taking into account the Housing Evaluation Framework, RDS) outside Lisburn City and Castlereagh Greater Urban Area.

- 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.

4.2. 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 22% by 2030.

4.3. The Preferred Options Paper proposes that 6,500 new jobs may be required over the Plan period. Employment land would be allocated primarily to Lisburn with the balance in the urban centres of Castlereagh Greater Urban Area and Carryduff.

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

- Service industry, such as a business park, would generate a relatively high number of people movements and a primary concern should be its accessibility by public transport, walking and cycling.

- 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.

4.5. 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. Transport Issues and Opportunities

5.1. Introduction

5.1.1. This section provides an interpretation of the Evidence Baseline and proposes issues and opportunities for transport measures to be considered for inclusion in the Draft Transport Study.

5.1.2. The following are dealt with in turn:

- Regional connectivity from Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough 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 Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough
- 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 Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough
- Parking provision in Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough
- Legacy Road Alignments

5.2. Regional Connectivity

5.2.1 Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira, Carryduff and Hillsborough are well connected by road to Belfast, Newry, Larne and Warrenpoint by the Key Transport Corridors. The settlements are also relatively well connected by road to western transport gateways such as Enniskillen and Londonderry. Journey times are reasonable on account of the settlements' locations and the provision of dual carriageway roads.

5.2.2 Widening and an upgrade to the A26 between Moira and Nutts Corner would improve travel times from Moira and other settlements to Belfast International Airport.

5.2.3 Public transport travel times are dependent on the bus network coverage and timetable integration. The Goldline 'limited-stop' bus network is important in providing attractive travel times across the Council area. The M1, A1 (Belfast – Newry) and A3 (Lisburn – Moira) corridors improve connectivity to Lisburn City and Belfast. The A24 (Saintfield Road) and A55 (Knock Dual Carriageway) corridors improve connectivity to Castlereagh Greater Urban Area and Belfast. The A3 corridor improves connectivity to Moira and the A7 and A24 corridors improve connectivity to Carryduff. Unlike car travel times, the pattern of public transport travel times are unevenly distributed. Journey times to northerly and westerly locations in Northern Ireland are relatively long due to the need for interchange in central Belfast.

5.2.4 From Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira, Carryduff and Hillsborough, journeys of up to 1 hour extend throughout the Council area and also to neighbouring Council areas. Travel times to Belfast from each of these settlements are up to 1 hour. By comparison, travel times to Londonderry are 2.5 – 3.0 hrs hours, as shown in Figures A.8 - A.13 (Annex 1).

5.2.5 In Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira, Carryduff and Hillsborough, and at strategic locations along the routes, park and ride facilities have a role to play in encouraging the use of Goldline bus services for longer journeys into Belfast. These facilities may be especially important for residents of smaller towns and villages and outlying rural areas.

5.3. Accessibility to Essential Local Services

5.3.1 Figure A.14 shows accessibility by public transport to health facilities. The maps show that there is reasonably good accessibility to health services in the morning peak period.

5.3.2 Figure A.14 shows that people living on the bus and rail routes have travel times of less than 20 minutes. Accessibility is provided by bus services scheduled to provide access to work and education in Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough settlement centres, and to a lesser degree, the smaller settlements.

5.3.3 The frequency of bus and rail services from towns/villages to the main urban centres of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough varies. Bus services from some settlements are good and operate throughout the day on a regular basis, whereas services to other smaller or outlying settlements are generally limited to peak periods and the midday. In addition, the public transport catchment area is reasonably good, with only the more outlying areas of the Council having no access to health services.

5.3.4 Any rationalisation of health facilities could result in substantial increases in journey time 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 DfI and other statutory transport providers and is the subject of separate current work. The findings and recommendations will be fed back to the Local Transport Plan and LDP processes.

5.4. Urban Sustainable Transport Infrastructure in Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough

Lisburn City

5.4.1 Figure A.15 shows details of the pedestrian infrastructure in Lisburn. The length of radial road within the development limit in Lisburn totals 47.3 km. A length totalling 4.2 km does not have footways. There is consistent provision of dropped kerbs at breakpoints and approximately half of the footway exceeds 2.5 m in width.

5.4.2 Within Lisburn town centre there are 177 crossing facilities for pedestrians and cyclists. The most common form of provision are pedestrian signals (50%) followed by pedestrian refuges islands (23%).

5.4.3 Figure A.19 shows cycling infrastructure in Lisburn. 13.9 km of cycle network is provided, of which 5.1 km is traffic free cycle route. There are 41 advance cycle stop lines and 44 cycle parking spaces.

5.4.4 There would appear to be gaps in the provision of sustainable transport infrastructure in Lisburn, particularly a lack of cycle network.

5.4.5 There are 9 town centre bus services operating in Lisburn as shown in Figure A.23. They operate on a frequency of 2-6 per weekday and 1-2 per day at the weekend.

Moira

5.4.6 Figure A.16 shows details of the pedestrian infrastructure in Moira. The length of radial road within the development limit in Moira totals 2.8 km. A length totalling 0.3 km does not have footways. Whilst there is consistent provision of dropped kerbs at breakpoints, only a small length of footway exceeds 2.5 m in width.

5.4.7 Within Moira town centre there are 11 crossing facilities for pedestrians and cyclists. The most common form of provision are pedestrian refuges. There are also 3 signalised pedestrian crossings.

5.4.8 Figure A.20 shows cycling infrastructure in Moira. No cycle network is provided, however 4 cycle parking facilities provide a total of 8 cycle parking spaces.

5.4.9 There would appear to be significant gaps in the provision of sustainable transport infrastructure in Moira including missing footway sections and a lack of cycle network.

Carryduff

5.4.10 Figure A.17 shows details of the pedestrian infrastructure in Carryduff. The length of radial road within the development limit in Carryduff totals 19.2 km. A length totalling 11.1 km does not provide footways. The provision of dropped kerbs at breakpoints is largely consistent, and only a small length of footway does not exceed 2.5 m in width.

5.4.11 Within Carryduff town centre there are over 11 crossing facilities for pedestrians and cyclists. The most common form of provision is at signal controlled traffic junctions. There are also 5 pedestrian refuges.

5.4.12 Figure A.21 shows details of the cycling infrastructure in Carryduff. There is 3.44 km of cycle network infrastructure in Carryduff as follows:

- 3.3 km shared cycleway / pedestrian footway
- 0.14 km advisory cycle lane.

5.4.13 There would appear to be gaps in the provision of sustainable transport infrastructure in Carryduff, particularly in terms of the lack of footways provided for pedestrians. Also the cycle network provided is predominantly (96%) shared cycle way / pedestrian footway.

Hillsborough

5.4.14 Figure A.18 shows details of the pedestrian infrastructure in Hillsborough. The length of radial road within the development limit in Hillsborough totals 11.4 km. A length totalling 3.1 km does not have footways. Whilst there is consistent provision of dropped kerbs at breakpoints, only 2.5 km of footway exceeds 2.5 m in width.

5.4.15 Within Hillsborough town centre there are only 2 crossing facilities for pedestrians and cyclists. Both of which take the form of pedestrian refuges.

5.4.16 Figure A.22 shows cycling infrastructure in Hillsborough. No cycle network is provided, however 6 cycle parking facilities provide a total of 12 cycle parking spaces.

5.4.17 There would appear to be significant gaps in the provision of sustainable transport infrastructure in Hillsborough including missing footway sections and a lack of cycle network.

5.4.18 One town centre bus service operates in Hillsborough as shown in Figure A.24. The service operates 3 times per weekday and once per day at the weekend

5.5. Modal Choice for Journeys to Work and Education

Introduction

5.5.1 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 old Lisburn and Castlereagh Council areas separately, as shown in Figures A.25 and A.26 respectively. These show that a high proportion of employed residents in both Lisburn (40.8%) and Castlereagh (58.9%) work in Belfast. Whilst Castlereagh is a relatively small employment centre, a high proportion of Lisburn residents (40.2%) work within the Lisburn area.

5.5.2 The 2011 census results also allow contrasts to be drawn between Lisburn & Castlereagh City Council and Northern Ireland (NI) in terms of travel behaviour, differentiating between working adults and school children and students.

Results

5.5.3 Figure A.27 shows that the use of sustainable modes in Lisburn & Castlereagh is below the NI average for journeys to work with 14% walking, cycling or using public transport compared to 16% across NI. It is notable that the number of short journeys (less than 2km) in Lisburn & Castlereagh that use active modes (walking and cycling) matches the NI average of 36%, as shown in Figure A.28.

5.5.4 As shown in Figure A.29, Lisburn & Castlereagh the use of sustainable modes for journeys to education is below the NI average with 43% walking, cycling or using public transport compared to 52% across NI. It was notable that the number of short journeys completed using active travel was 43% which is almost the same as the NI average of 44%, as shown in Figure A.30. This differential is repeated for the next shortest journeys (2km to less than 5km) where 7% use active modes compared to 9% in NI. This may be explained in part by the area's urban nature having a higher proportion of shorter journeys.

5.5.5 Comparing journeys to education and work presents a stark contrast in terms of use of public transport. Public transport accounts for 27% of journeys to education, but only 7% to work. It is notable that 43% of the shortest (less than 2km) education journeys are made by active travel whilst the greatest share is car passenger (48%). This suggested that there is potential for a significant reduction in car "drop-off" journeys to school.

Conclusions

5.5.6 The 2011 census concludes that Lisburn & Castlereagh has similar levels of active travel modes compared to NI averages and these apply even when comparisons are limited to short journeys to education. In Lisburn & Castlereagh 45% 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 to work. This may require new 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 convenient to existing radial routes and existing walking and cycling infrastructure.

5.5.7 The 2011 census for Lisburn & Castlereagh also shows that public transport is popular for children and student journeys to place of education, presumably where it is provided on a statutory and subsidised basis to a small number of largely centralised locations. However, public transport is low for adult journeys to work which tend to be more widely distributed and where fares are generally not subsidised. Therefore there appears to be potential for additional use of buses 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

Introduction

5.6.1 An investigation of road network efficiency has been undertaken by inspection of estimates of actual vehicular speeds calculated from global positioning system data sourced by commercial telematics sources (INRIX). The data was collected between October 2013 and 2015 and is available for peak (7 – 9am and 4 – 7pm) and offpeak (9am – 4pm) periods.

Results

5.6.2 The off-peak speeds have been inspected for the road network which extends over the Lisburn & Castlereagh City Council area as this is considered most appropriate for most inter-urban journeys including commercial traffic. Figure A.31 shows that in general terms the A road network, consisting of the A3 Lisburn Road, A24 Saintfield Road, A7 Belfast Road between the principal towns operates at speeds between 31 and 50mph except where it passes through settlements.

5.6.3 Peak period speeds have been considered in the urban areas of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough as this will highlight congestion on journeys to and from work.

5.6.4 Speeds in the urban area of Lisburn City, in Figure A.32, show speeds along some sections of the main radials exceed 31mph and generally reflect the 40mph or 50mph speed restrictions which are in place along each radial while some other sections of the main radial routes are less than 30mph. Speeds decrease to 30pmh or less along the inner lengths of the radial routes. Speeds at the principal junctions within the development limit then decrease to 20mph or less.

5.6.5 Figure A.33 shows peak speeds in the urban area of Castlereagh. Within the development limit, speeds along the A55 corridor generally between 31 and 51mph and reflect the 50mph speed restriction in place along this dual carriageway. Speeds along the outer length of the A20 are 35 - 40mph and then decrease to less than 30mph towards in the inner lengths of the radial route in line with the speed restrictions. Speeds at the principal junctions are 20mph or less. Speeds along the A20 at the primary accesses to the Ulster Hospital are 20mph or less.

5.6.6 Speeds in the urban area of Moira, in Figure A.34, show a general pattern of decreasing speed toward the centre of the town. Speeds along the A3 corridor approaching Moira exceed 30mph and speeds along the A3 corridor to the north are less than 30mph. In general terms, speeds drop to less than 30mph on the inner lengths relating approximately to the 30mph speed restricted area and drop further to 20mph or less at the principal junction in the town centre. There is only one radial route in Moira connecting the north east and south west of the town centre.

5.6.7 Speeds in the urban area of Carryduff, in Figure A.35, show a general pattern of decreasing speed toward the centre of the town. Speeds on the main radials are less than 51mph. Also speeds along some sections of the A24 Saintfield Road exceed 40mph and this mirrors the 50mph speed restriction along the northern portion of the A24 Saintfield Road. In general terms, speeds drop to less than 30mph in the 30mph speed restricted zone. At the principal junctions in the town centre, speeds drop further to 20mph or less.

5.6.8 Speeds in the urban area of Hillsborough, in Figure A.36, show a general pattern of decreasing speed toward the centre of the town. In general terms, speeds within the Hillsborough area are fall between 16 – 30mph which reflects the 30mph speed restriction. At some junctions in the town centre, speeds drop further to 20mph or less.

Conclusions

5.6.9 In general terms traffic speeds are consistent with the road class and level of development. On the principal inter-urban network roads are generally either dual or single-carriageways. Recorded average speeds typically exceed 51mph, except where roads pass through settlement centres. In these instances average road speeds generally reflect the speed restrictions in place.

5.6.10 In the urban areas of Moira and Carryduff speeds reduce in line with the urban restrictions of 30mph. Traffic progression is controlled by the throughput of the principal junctions in the town centre which reduces peak speeds to less than 20mph. The A3 in Moira and the convergence of the A7, A24 and B178 in Carryduff are a focus for traffic in both settlements.

5.7. Urban Road Collision History

Introduction

5.7.1 An investigation of road collision history has been undertaken of the urban areas of Lisburn City, Castlereagh Greater Urban Area, Moira and Carryduff 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 Table A.1 – A.4 for the four settlements.

Results

5.7.2 In Lisburn City between 2012 and 2016, there were a total of 62 people seriously injured of which 22 were pedestrians and 4 were cyclists. Of the 6 Lisburn City fatalities, 1 was a pedestrian and 1 was a cyclist. The pattern is similar in Castlereagh Greater Urban Area, where a total of 51 people were seriously injured of which 15 were pedestrians and 6 were cyclists. Of the 3 Castlereagh Greater Urban Area fatalities, 1 was a pedestrian. The pattern is similar in Moira, where a total of 2 people were seriously injured of which 1 was a cyclist. The 1 fatality in Moira was a pedestrian. By comparison in Carryduff, where a total of 14 people were seriously injured only 1 was a pedestrian. The 1 fatality in Carryduff was neither a pedestrian nor a cyclist but rather a motor vehicle user.

5.7.3 The collisions are predominately distributed on the rural road network in Lisburn City, Castlereagh Greater Urban Area, Moira and Carryduff. There is also a focus at the road junctions where conflicts between traffic flows and with crossing pedestrians and cyclists naturally occur.

Conclusions

5.7.4 Collisions in Lisburn City, Castlereagh Greater Urban Area, Moira and Carryduff predominately involve motor vehicles. In general, these collisions result in slight injuries to the driver or passengers.

5.7.5 The application of engineering, enforcement and education methods all have a role in minimising urban road casualties. It is of particular importance that there is mutual respect between all road users.

5.8. Parking provision in Lisburn City, Moira, Carryduff and Hillsborough

Introduction

5.8.1 An investigation of existing public car parking provision has been undertaken by surveying and recording the location of all on-street and off-street spaces in the town centres of Lisburn City, Moira and Carryduff in 2017.

Results

5.8.2 The results for Lisburn City are shown in Figure A.37 and Tables A.5 and A.9. The surveys show that Lisburn City centre provides a total of 3,680 off-street parking spaces of which 1,324 spaces are publicly owned and 2,356 spaces are privately managed. Of the 13 public car parks, 6 are free and 7 require payment. Of the 11 privately operated car parks, 6 are free and 5 require payment. Overall in Lisburn City, 44 - 47% of all off-street spaces are occupied during the weekday and 35% during the weekend (Saturday). A number of public and privately operated car parks are typically full during the weekday which shows there are a lack of available spaces for parking users in these car parks.

5.8.3 The results for Moira are presented in Figure A.38 and Tables A.6 and A.10. The town centre of Moira has a total of 92 public on-street parking spaces. All of the on-street spaces are free, however 48 have day time restrictions (generally 1 hour no return in 1 or 2 hours) and 44 are unrestricted. The on-street spaces are generally the most conveniently located to town centre services. A total of 59 free off-street parking spaces are provided at 1 publicly owned car park in Moira. A further 185 off-street spaces are provided at 2 privately operated car parks near to Moira rail station. Occupancy surveys showed that overall 98 - 102% of all off-street spaces in Moira are occupied during the weekday.

5.8.4 The results for Carryduff are presented in Figure A.39 and Table A.7. The town centre of Carryduff has a total of 404 privately owned off-street parking spaces; it was noted no on-street parking is provided in the town centre. Of the off-street spaces, all are free.

5.8.5 The results for Hillsborough are presented in Figure A.40 and Tables A.8 and A.11. The town centre of Hillsborough has a total of 174 public on-street parking spaces. All of the on-street

spaces are free, however 65 have day time restrictions (generally 1 hour no return in 1 or 2 hours) and 109 are unrestricted. The on-street spaces are generally the most conveniently located to town centre services. A total of 48 free off-street parking spaces are provided at 1 publicly owned car park in Hillsborough. A further 56 off-street spaces are provided at 1 privately operated car parks at Ballynahinch Street.

Conclusions

5.8.6 In Lisburn City, short stay car parks are located in the city centre with long stay car parks situated towards the periphery of the city centre. This encourages all day/long stay parkers to park in peripheral sites, whilst maintaining space availability in central parking areas for retail users, visitors etc.

5.8.7 Public parking provision in Moira is typically full during the weekday. Parking provision at the rail station is also full. There are proposals to expand parking provision at the rail station which would increase space availability at the station and potentially reduce parking problems experienced in the town centre.

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 Local Development Plans within the study area. They are regarded as undeveloped alignments/areas identified in previous Local Development Plans 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 Local Policy Plan/Local Transport Plan 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 Local Policies Plan 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. Location Scheme

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

- Knockmore Link
- North Lisburn Feeder Road
- A1 Link
- A24 Saintfield Relief Road
- Quarry Corner

6. Transport Objectives

6.1. Introduction

6.1.1 This chapter sets out the transport objectives. This has been undertaken following careful consideration of the existing strategic policy context and the preferred options identified in the LCCC POP, as outlined in Chapter 2.

6.1.2 It is important that Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira, Carryduff and Hillsborough are developed in a way which enables people to have options, other than driving, to access key services such as work, education, health or leisure. This requires a rebalancing of transport provision in conjunction with the new Local Development Plan to ensure that all modes of transport play their part.

6.1.3 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 walk and cycle 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 hence reduce vital place-making opportunities.

6.2. Objectives

6.2.1 The development of the Transport Objectives has considered strategic policy documents (PfG, RDS, RTS and NI Changing Gear) whilst also reflecting LCCC's themes emerging from the POP and Community Plan.

Draft Transport Study Objectives

Objective 1	
Enhance accessibility by road and public transport from the urban centres of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough to Belfast, Londonderry, gateways and hubs.	**Link to POP** **Social** (i), (iv) **Economic** (ii), (iii) **Environment** (v)

6.2.2 One of the Programme for Government high level indicators for transport is to improve travel times on key inter-urban economic corridors. The outworking of this will be to provide attractive limited-stop bus services focused on inter-urban journeys made on the key

economic corridors linking the gateways and hubs identified in the Regional Development Strategy. Further identification of these services will be developed as part of the Local Policies Plan.

Objective 2	
Ensure viable public transport accessibility to essential services for people living in the Lisburn & Castlereagh Council Area.	**Link to POP** **Social** (i) **Economic** (ii), (iii) **Environment** (v)

6.2.3 It is important that everyone can access essential services such as work, education, health or food shops. Whilst private car may be the preferred mode of travel for those people who own one, 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 Transport Study and subsequent Transport Plan will therefore seek to establish a viable public transport network for the Area that will be supported by statutory bodies, such as Translink, Department for Infrastructure and Mid and East Antrim Borough Council. 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) linking all existing and new residential, employment, retail and leisure developments in the urban areas of Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira and Carryduff.	**Link to POP** **Social** (i), (iv) **Economic** (ii), (iii) **Environment** (v), (vi)

6.2.4 Creating higher density, mixed use places will require transport investment to be fully aligned with the Growth Strategy set out by Lisburn & Castlereagh City Council.

6.2.5 Although still in the development stages, by working closely with the Council it is intended that growth will focus on the large urban centres of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough. This will effectively maximise the capacity of the existing urban bus services and enhance the development of active travel networks and will facilitate the improvement of these networks.

6.2.6 It is considered that 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 Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough are such that the full development area is within a convenient cycling distance (approximately 2 miles or 10 minutes) to the respective urban centre. Similarly almost all residential areas within the development limits are within walking range of the centre of the town (approximately 1 mile or 20 minutes).

6.2.7 In finalising planning permission for all new development it will remain a requirement to ensure the provision of safe transport infrastructure for all users.

Objective 4	
Deliver high quality public realm in the centres of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough, 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** (i), (iv) **Economic** (ii), (iii) **Environment** (v), (vi)

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

Objective 5	
Enhance accessibility by sustainable modes of transport to the centres of Lisburn City, Castlereagh Greater Urban Area, Moira and Carryduff and Hillsborough to safeguard their viability.	**Link to POP** **Social** (i), (iv) **Economic** (ii), (iii) **Environment** (v), (vi)

6.2.9 Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira, Carryduff and Hillsborough settlement centres offer a broad range of services such as health, banking, shopping and leisure which meet the needs of their residents and the Lisburn & Castlereagh City Council area. By improving transport infrastructure and hence accessibility between and within our 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 walking and cycling networks and public transport, reducing the need for car use and contributing to the place making responsibilities placed on the council.

Objective 6	
Enhance safety for all modes of transport and reduce the number and severity of casualties.	**Link to POP** **Social** (i) **Environment** (v)

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

Objective 7	
Ensure our transport systems are resilient to climate change and are well maintained.	**Link to POP** **Social** (i) **Economic** (iii) **Environment** (v), (vi)

6.2.11 The Programme for Government focuses on improving transport connections for people, goods and services whilst protecting our natural environment. This will require a shift to more sustainable modes of transport such as walking, cycling and public transport, particularly for longer journeys, and a reduction in private car usage. Reduced demand on the road network will improve journey times, reduce emissions, increase efficiency and improve the health of residents living in the Council area through increased levels of exercise.

6.3. Alignment with Wider Strategy Aims and Objectives

6.3.1 Table 6.1 shows how the LTS Objectives align with with Wider Strategy Aims and Objectives of the following documents;

- Draft Programme for Government (PfG)
- The Regional Development Strategy 2035 – Building a better Future (RDS)
- Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation (New Approach)
- Northern Ireland Changing Gear – A Bicycle Strategy for Northern Ireland (NI Bicycle Strategy)
- The Lisburn & Castlereagh City Council 2030 Community Plan (LCCC Community Plan)
- Lisburn & Castlereagh City Council published their Preferred Options Paper (LCCC POP)

Table 6-1 - Alignment with Wider Strategy Aims and Objectives

LTS Objective	PfG	RDS	New Approach	NI Bicycle Strategy	LCCC Community Plan	LCCC POP
Objective 1: Enhance accessibility by road and public transport from the centre of **Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough** to Belfast, Londonderry, 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	Objective 2	Objective 1 Objective 2 Objective 3 Objective 4 Objective 5
Objective 2: Ensure viable public transport accessibility to essential services for people living in Lisburn & Castlereagh Council Area.	Outcome 13 Indicator 23 Indicator 25	RG2	Objective 1 Objective 5 Objective 8 Objective 9	Objective 2 Objective 3	Objective 1 Objective 2 Objective 3	Objective 1 Objective 2 Objective 3 Objective 5
Objective 3: Ensure there are attractive and safe active travel networks (walking and cycling) linking all existing and new residential, employment, retail and	Outcome 2 Indicator 25		Objective 1 Objective 4 Objective 6 Objective 7	Objective 1 Objective 2 Objective 3 Objective 4	Objective 1 Objective 3 Objective 4 Objective 5	Objective 1 Objective 2 Objective 3 Objective 4

leisure developments in the urban areas of Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira, Carryduff and Hillsborough.			Objective 8 Objective 9 Objective 10 Objective 11 Objective 12			Objective 5 Objective 6
Objective 4: Deliver high quality public realm in the centres of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough, with reduced vehicle dominance, to make the towns attractive places to live and work and improve safety for active 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	Objective 1 Objective 2 Objective 3 Objective 4 Objective 5	Objective 1 Objective 2 Objective 3 Objective 4 Objective 5 Objective 6
Objective 5: Enhance accessibility by sustainable modes of transport to the centres of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough 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	Objective 1 Objective 2 Objective 4 Objective 5	Objective 1 Objective 2 Objective 3 Objective 4 Objective 5
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	Objective 6	Objective 1 Objective 5
Objective 7: Ensure our transport systems are resilient to Climate Change and are well maintained.	Outcome 2 Indicator 23 Indicator 25	RG2 RG9	Objective 2 Objective 3 Objective 10 Objective 11 Objective 12		Objective 2 Objective 4	Objective 1 Objective 3 Objective 5 Objective 6

7. Assembly of the Transport Study

7.1. Introduction

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

- General approach to assessment
- Development of options
- Assessment of options and selection of Indicative Transport Measures
- Confirmation of Transport Measures Assessment against the objectives

7.2. General approach to assessment

7.2.1 The previous sections have presented the context and provided a set of objectives for local transport development in Lisburn & Castlereagh City consistent with the Community Planning and LDP processes. These objectives are used to assess alternative options and recommend a set of Indicative Transport Measures.

7.2.2 This objectives-based approach is considered consistent with the "New Approach to Regional Transportation" 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 **Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough** to Belfast, Londonderry, gateways and hubs.
- **Objective 2:** Ensure viable public transport accessibility to essential services for people living in the Lisburn & Castlereagh Council Area.
- **Objective 3:** Ensure there are attractive and safe active travel networks (walking and cycling) linking all existing and new residential, employment, retail and leisure developments in the urban areas of **Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough.**

- **Objective 4:** Deliver high quality public realm in the centres of **Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough**, with reduced vehicle dominance, to make the towns attractive places to live and work and to improve safety for active modes.
- **Objective 5:** Enhance accessibility by sustainable modes of transport to the centres of **Lisburn City, Castlereagh Greater Urban Area, Moira and Carryduff** to safeguard their viability.
- **Objective 6:** Enhance safety for all modes of transport and reduce the number and severity of casualties.
- **Objective 7:** Ensure our transport systems are resilient to climate Change and are well maintained.

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 (KTC). The potential options appear to be:

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

7.3.3 **Objective 2 summarised as Public Transport Accessibility,** essentially focuses on rural bus services and connections to essential services such as, for example, health, food shops and banks. The potential options deliverable within the lifetime of the plan appear to be:

- Maintained or improved Ulsterbus rural services
- Alternative Ulsterbus rural operations including integration with 'limited-stop' services
- Integrated public transport services including innovative transport models such as 'ride-share'
- Land-use policy changes which focus residential development in towns
- New or improved public transport serving new developments funded by the developer
- Alternative models of delivery of essential services including mobile services and use of the internet which will improve access to services while removing the requirement to make a journey.

7.3.4 **Objective 3 summarised as Urban Active Travel Networks,** focuses on safe and attractive walking and cycling connections to areas of residential, employment, retail and leisure uses. The potential options appear to be:

- 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
    - Focus on radial routes
    - Local improvements which together provide longer routes

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

- For new developments, walk and cycle infrastructure both within the development and linking to existing or planned networks are provided by the developer
- Improvements to existing greenways and the provision of new greenways between towns as outlined in the DfI Exercise Explore Enjoy: A Strategic Plan for Greenways document.

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

- Measures to reduce the volume of traffic, including strategic through traffic, in Lisburn City Centre and the Town Centres
- City/Town Centre Parking Strategies for each urban centre that reduce circulating traffic searching for parking spaces
- Traffic management schemes that remove traffic routes through the town centre
- Priority to be given to pedestrians in moving to and around town centre streets
- Pedestrianisation of town centres

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

- Measures to reduce the volume of traffic, including strategic through traffic, in Lisburn City Centre and the Town Centres
- Traffic management measures to reduce travel times to town centres by all sustainable modes
- Public Transport improvements options and identified against Objective 2
- Improved walking and cycling options identified against Objective 3
- City/Town Centre Parking Strategies that encourage short stay parking in central areas
- New urban road links (and supporting sustainable transport infrastructure) to facilitate key development funded by developer

7.3.8 **Objective 6 summarised as Safety.** The potential options appear to be:

- Implement road safety measures to reduce collisions
- Improved walking and cycling options identified against Objective 3
- Priority to be given to pedestrians in moving to and around town centre streets
- The provision of strategic and community greenways
- Traffic management schemes that remove traffic routes through the town centre

7.3.9 **Objective 7 summarised as Resilience.** The potential options appear to be:

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

- Application of modern technology to provide passengers with increased service standards; real time information, integrated ticketing systems, integrated timetable information

7.4 Assessment of options and selection of recommended Transport Measures

Objective 1: External Accessibility

7.4.1 The following options **are progressed** as feasible within the LTS time frame of 2032 and consistent with the objectives.

- Improved inter-urban roads on KTC with complementary Park and Share
    - Capacity improvements on inter-urban trunk roads have the potential to induce further commuting flows by private car which would operate against wider objectives to encourage modal shift to public transport. Therefore these are not currently progressed but will be considered as part of the RSTN Transport Plan and / or using the transport model as part of the wider Belfast Metropolitan Transport Plan.
- Improved 'limited-stop' bus services to key hubs with complementary Park and Ride
- Maintained and improved rail connections
    - The Knockmore rail line would appear to have the potential to offer substantial additional transport capacity. However, the rail network has a number of capacity 'bottlenecks' which arise from a combination of infrastructure and operational issues. Consideration of the re-opening and subsequent use of the Knockmore line will therefore be undertaken in the wider Belfast Metropolitan Transport Plan.

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 DfI and other statutory 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 Local Transport Plan and LDP processes as and when the next steps for the wider public transport network are identified and agreed.

7.4.3 It is also recommended however that the options for land-use policy to focus residential development in towns and to consider alternative models of delivery of essential services including mobile services and use of the internet are taken account of in the Lisburn and Castlereagh Plan Strategy and during the subsequent Plan Policies stage.

Objective 3: Urban Active Travel Networks

7.4.4 It is proposed that in general all of the options are **progressed** as feasible within the LTS time frame of 2032 as follows:

- Provision of improved walking facilities in towns
- Provision of improved cycle parking provision in towns
- Improvements to existing cycle network and provision of a new network of attractive radial cycling routes in towns and strategic and community greenways between towns

- For new developments, walk and cycle infrastructure both within the development and linking to existing or planned networks are provided by the developer

7.4.5 It is recommended that there is a focus on radial routes in cities/towns in order to deliver 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 It is proposed that a number of the options are **progressed** as feasible within the LTS time frame of 2032 as follows:

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

7.4.7 Further options are for consideration:

- Measures to reduce the volume of traffic, including strategic through traffic, in Lisburn and the town centres will be explored as part of the wider Belfast Metropolitan Transport Plan which will consider improved public transport provision for commuting journeys to Belfast City Centre. In addition consideration will be given to the improvement of road linkages between the A3 and the M1 motorway.

7.4.8 The exceptions which are not progressed are outlined below with reasons:

- Pedestrianisation of town centres – this measure is considered outmoded 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

7.4.9 It is proposed that a number of the options are progressed as feasible within the LTS time frame of 2032 as follows:

- Public Transport improvements options and identified against Objective 2
- Improved walking and cycling options identified against Objective 3
- City/Town Centre Parking Strategies that encourage short stay parking in central areas
- Traffic management measures to reduce travel times to town centres by all sustainable modes

7.4.10 Further options for consideration are:

'Measures to reduce the volume of traffic, including strategic through traffic, in Lisburn City Centre and the Town Centres' will be explored as part of the wider Belfast Metropolitan Transport Plan which will consider improved public transport provision for commuting journeys to Belfast City Centre.

7.4.11 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 developer. Therefore the following option is progressed:

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

Objective 6 Safety

7.4.12 All options are **progressed** as feasible within the LTS time frame of 2032 and 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 moving to and around town centre streets identified against Objective 4
- The provision of strategic and community greenways between towns identified against Objective 3
- Traffic management schemes that give priority to pedestrian, cycling and public transport movements to the town centre identified against Objective 4

Objective 7 Resilience

7.4.13 All options are **progressed** as feasible within the LTS time frame of 2032 and 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. This should include the use of information technology to improve user information and ease of use.

7.5 Confirmation of Transport Measures Assessment against the Objectives

7.5.1 The Transport Study for Lisburn & Castlereagh is primarily focused on the principal urban centres of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough where there are opportunities to deliver the most significant impact on the greatest number of residents and employees in conjunction with the Local Development Plan. However the Transport Study also includes two inter-urban measures that also link to the Regional Strategic Network Transport Plan. The Transport Study 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 plan policies stage of the Local Development Plan. Schemes will be identifies in the BMTP.

7.5.2 The Transport Study is proposed as comprising the following 10 measures:

1: Improved inter-urban roads on KTC

2: Improved 'limited-stop' bus services to key hubs (as defined in the RDS 2035)

3: Maintained and improved rail services and connections

4: New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developer

5: Town Centre Parking Strategies including integrated management of long and short-stay spaces

6: Provision of improved walking facilities in towns

7: Improvements to existing cycle network and provision of a new network of attractive radial cycling routes in towns and greenways between towns

8: Traffic management schemes in urban areas to re-balance modal hierarchy

9: Implement safety measures to reduce collisions

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

7.5.3 Each of the measures are confirmed against the transport objectives below. The table summarises how each of the 10 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.

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: New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developer		√	√√		√√	√	
5: Town Centre Parking Strategies including integrated management of long and short-stay spaces		√		√√	√√		
6: Provision of improved walking facilities in towns		√	√√	√	√√	√√	
7: Improvements to existing cycle network and provision of a new network of attractive radial cycling routes in towns and greenways between towns			√√	√	√√	√√	
8: Traffic management schemes in urban areas to re-balance modal hierarchy		√	√√	√	√√	√	
				√		√√	

9: Implement road safety measures to reduce collisions							
10: Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times.							√√

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
Improved inter-urban roads	√√				√√	√	

1: Improved inter-urban roads

7.5.4 New inter-urban road schemes will be identified and prioritised on the Key Transport Corridors to improve external accessibility from the Lisburn and Castlereagh City Council area. These schemes will include the A26 Moira to Nutts Corner scheme and other schemes to be listed in the Regional Strategic Transport Plan which will be prepared in 2019.

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

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

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
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 are expected to be identified and prioritised on the Key Transport Corridors to improve external accessibility from the Lisburn and Castlereagh City area. These services will build upon the existing Goldline route network to be listed in the Regional Strategic Transport Network Transport Plan (RSTNTP) to be prepared in 2019. The bus services will capitalise on continued road improvements.

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

7.5.9 These services will indirectly improve public transport accessibility from the wider rural area as this objective is primarily met by local Ulsterbus services.

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.

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
Maintained and improved rail services and connections	√√	√√			√		

3. Maintained and improved rail services and connections

7.5.11 The Portadown rail line is located within the Lisburn & Castlereagh City Council area and serves Lisburn, Moira, Lambeg and Derriaghy rail stations. It is recommended that service enhancements to the Portadown line should be prioritised in order to enhance the current attractiveness of the line.

7.5.12 The Knockmore rail line operating from the Knockmore junction to Antrim serving Glenavy and Crumlin would appear to have the potential to offer substantial additional transport capacity. However, the rail network has a number of capacity 'bottlenecks' which arise from a combination of infrastructure and operational issues. Consideration of the re-opening and subsequent use of the Knockmore line will therefore be undertaken in the wider Belfast Metropolitan Transport Plan.

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 developer		√	√√		√√	√	

4. New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developer

7.5.13 It is highly likely that the LDP Local Policies Plan stage will 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 walking cycling and public transport infrastructure and services are also likely to be needed. This infrastructure will need to be funded by the developer, with the planning and delivery of such infrastructure provided in conjunction with the transport authority.

7.5.14 The new infrastructure will impact directly on the objective to improve urban active travel networks.

7.5.15 It is also anticipated that the new infrastructure will improve accessibility to the town centres.

7.5.16 Where new public transport services are secured, these should focus on improving public transport access to key town centre services.

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
Town Centre Parking Strategies including integrated management of long and short-stay spaces		√		√√	√√		

5. Town Centre Parking Strategies including integrated management of long and short-stay spaces

7.5.17 Town Centre Parking Strategies will be required in Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough as stipulated in the SPPS. At this stage it is clear that the 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 strategy at the Local Plan Policies stage.

7.5.18 In Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough parking strategies will 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.

7.5.19 The parking strategies will have a direct impact on accessibility to the town centres. It will be important that the strategies improve turnover of parking spaces, and reduce traffic searching for spaces, to improve travel times and safety and to encourage walking and cycling.

7.5.20 The parking strategies will have an indirect impact on public transport accessibility as parking management will increase the turnover of spaces and also encourage the use of public transport by making it a financially viable option.

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
Provision of improved walking facilities in towns		√	√√	√	√√	√√	

6. Provision of improved walking facilities in towns

7.5.21 The provision of improved walking facilities in Lisburn City, Castlereagh Greater Urban Area, Dundonald, Moira, Carryduff and Hillsborough will be a key measure of the Transport Study. Evidence has shown that the pedestrian networks and local levels of walking could be improved. Whilst improvements to the walking facilities may require retro-fitting work and may impact on traffic capacity, it is clear that the measure has a role in delivering greater walking activity and hence a number of objectives. In addition, attractive local and town-centre routes must be an integral part of any development plan strategy or subsequent plan policy.

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

7.5.23 Improved walking facilities will 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 without cars to travel 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 all residential areas within the development area of Lisburn City Centre, Moira, and Hillsborough and the majority of residential areas in Carryduff. 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.

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

7.5.25 Improved walking facilities will 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 town centres	5: Accessibility to Town Centres	6: Safety	7: Resilience
Improvements to existing cycle network and provision of a new network of attractive radial cycling routes in towns and greenways between towns			√√	√	√√	√√	

7. Improvements to existing cycle network and provision of a new network of attractive radial cycling routes in towns and strategic and community greenways between towns

7.5.26 The provision of improved cycling facilities in Lisburn City Centre, Castlereagh Greater Urban Area, Dundonald and the 3 towns of Hillsborough, Moira and Carryduff will be a central measure of the Transport Study. Evidence has shown that the cycle networks are far from complete in these locations and serve only a small proportion of the residential areas. Opportunity also exists to improve and expand the existing cycle networks in Carryduff. Whilst the provision of a network of radial cycling routes in the towns 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 must be an integral part of any LDP Plan Strategy and subsequent Local Policies Plan such that the network can be delivered in co-ordination with development proposals.

7.5.27 Attractive cycle routes will 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.

7.5.28 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.

7.5.29 Improved cycle routes will 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.

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
Traffic management schemes in urban areas to re-balance modal hierarchy		√	√√	√	√√	√	

8. Traffic management schemes in urban areas to re-balance modal hierarchy

7.5.30 It is inevitable that the imposition of sustainable transport measures, as proposed in the Transport Study, will involve an impact on traffic capacity and on traffic flows. Consequently there will be a requirement for DfI as the transport authority 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.

7.5.31 Traffic management schemes will 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.

7.5.32 Traffic management schemes will be required to ensure that accessibility to the town centre is maintained or improved for all users. Consideration will be given to re-balancing priority to pedestrians and public transport in town centre shopping streets whilst directing drivers to designated parking locations as identified in the parking strategy.

7.5.33 Traffic management will 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.

7.5.34 Traffic management will 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.

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
Implement road safety measures to reduce collisions				√		√√	

9. Implement road safety measures to reduce collisions.

7.5.35 As referred to under Measure 8, the provision of greenways between the main hubs of Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough will provide safe routes for pedestrians and cyclists.

7.5.36 Similarly, the provision of improved walking and cycling routes in these settlements will improve safety for pedestrians and cyclists. The provision of designated crossing points for both pedestrians and cyclists will reduce collisions by providing safe crossing points for these users.

7.5.37 By implementing traffic management schemes that give greater priority to pedestrians, cyclists and public transport vehicles in the town centres, driver frustration is reduced which in turn reduces the risk of collisions occurring.

7.5.38 These schemes will be identified through the revised BMTP in conjunction with the Local Policies Plan.

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

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

7.5.39 The provision of transport infrastructure designed, provided and maintained to 'best practice' standards to maximise performance at all times relates directly to the objective to be resilient to climate change and be well maintained.

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

7.5.41 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 never occur on 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 Conclusion – the Transport Study

8.1. The Transport Study for Lisburn and Castlereagh has identified that the area faces a number of challenges in ensuring transport infrastructure and services facilitate government policies and the Council's growth ambitions.

8.2. The study has therefore developed specific transport objectives and assessed a range of alternative options to address these. The assessment has confirmed 11 Transport Measures.

8.3. The Draft Transport Study for Lisburn and Castlereagh concludes that the following 11 measures should assist in the future development of the Council areas:

1: Improved inter-urban roads on KTC
New inter-urban road schemes will be identified and prioritised on the Key Transport Corridors. These schemes will include A26 Moira to Nutts Corner scheme and other schemes that will be listed in the Regional Strategic Transport Network Transport Plan. These schemes will improve accessibility to the town centres by reducing journey times and improving journey time reliability.

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 Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough. These services will build upon the existing Goldline route network to be listed in the Regional Strategic Transport Plan which will be prepared in 2019. The bus services will capitalise on continued road improvements.

3: Maintained and improved rail services and connections
Ongoing enhancements to the Portadown rail line will be required to maintain a good level of rail service provision in Lisburn & Castlereagh.
Consideration of the re-opening and subsequent use of the Knockmore line will therefore be undertaken in the wider Belfast Metropolitan Transport Plan.

4: New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developer
The LDP Local Policies Plan stage will 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 walking cycling and public transport infrastructure and services are also likely to be needed. That infrastructure will need to be funded by the developer and planned and delivered in conjunction with the transport authority.

5: Town Centre Parking Strategies including integrated management of long and short-stay spaces
Town Centre Parking Strategies will be required in **Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough**. The location of public parking and its designation as long or short-stay using payment controls will be identified in the strategy at the LDP Local Policies Plan

stage. The strategies should remove extraneous traffic which dominates the town centres and improve the turnover of parking spaces.

6: Provision of improved walking facilities in towns

The provision of improved walking facilities in Lisburn City, Castlereagh Greater Urban Area, Dundonald, **Moira, Carryduff** and Hillsborough will be a key measure of the Transport Study. The current pedestrian networks are incomplete and local levels of walking could be improved. Improvements to the walking facilities may require retro-fitting work and may impact on traffic capacity.

7: Provision of a network of attractive radial cycling routes in towns and greenways between towns

The provision of improved cycling facilities in Moira, Carryduff and Hillsborough will be a central measure of the Transport Study. The current cycle network in these areas is far from complete and opportunity exists to expand the existing cycle network. The provision of a network of radial cycling routes may impact on traffic capacity. The designation and identification of a network of routes will allow its delivery in co-ordination with development proposals.

8: 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 Lisburn City, Castlereagh Greater Urban Area, Moira, Carryduff and Hillsborough. 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.

9: Safety measures to reduce collisions

Implementing a range of road safety measures is necessary to reduce collisions in the main hubs. This can be achieved by developing and improving the network of strategic and community greenways between towns, walking and cycling routes, and crossing points within settlements to provide safe routes and crossing locations for pedestrians and cyclists. Driver frustration can also contribute to collisions and can be addressed through the implementation of traffic management schemes.

10: 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 – Transport Evidence Base

Contents:

Regional Connectivity by Road and Public Transport

Urban Walking and Cycling Infrastructure and Bus Services

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

Parking Provision

Section 1 – Regional Connectivity by Road and Public Transport

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

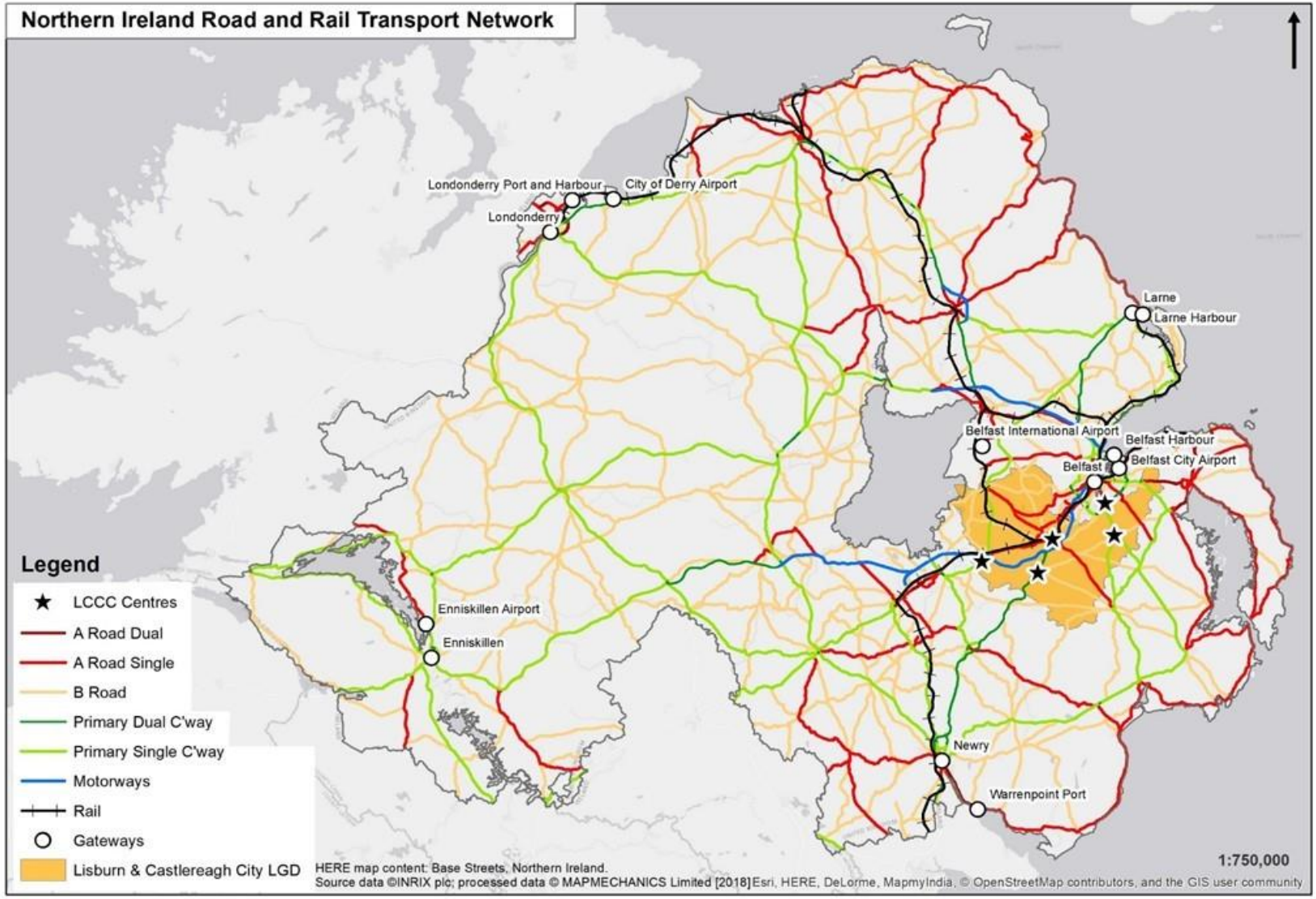


Figure A-2– Travel Time by Car from Lisburn City at AM Peak Speed

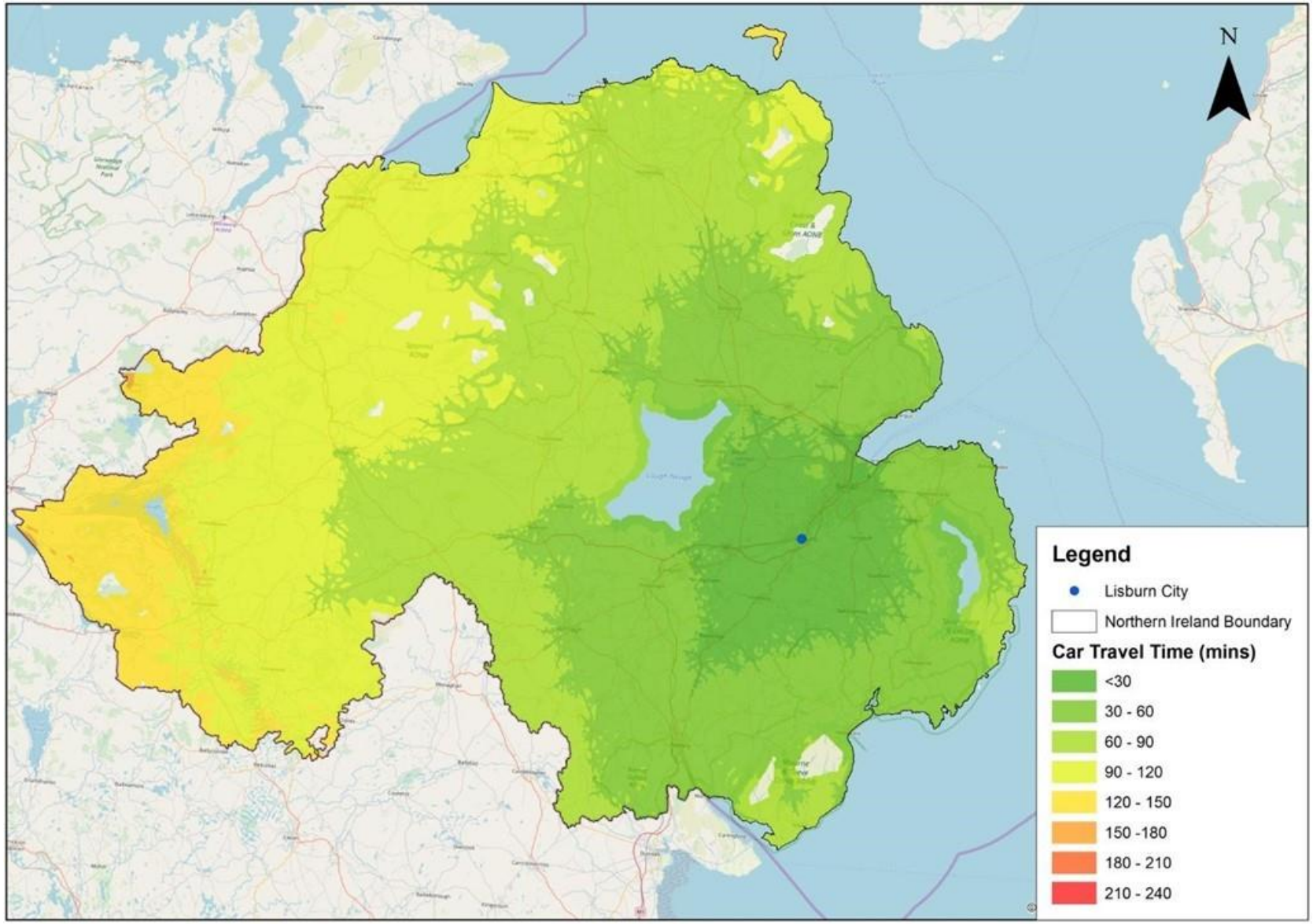


Figure A-3 – Travel Time by Car from Castlereagh Greater Urban Area at AM Peak Speed

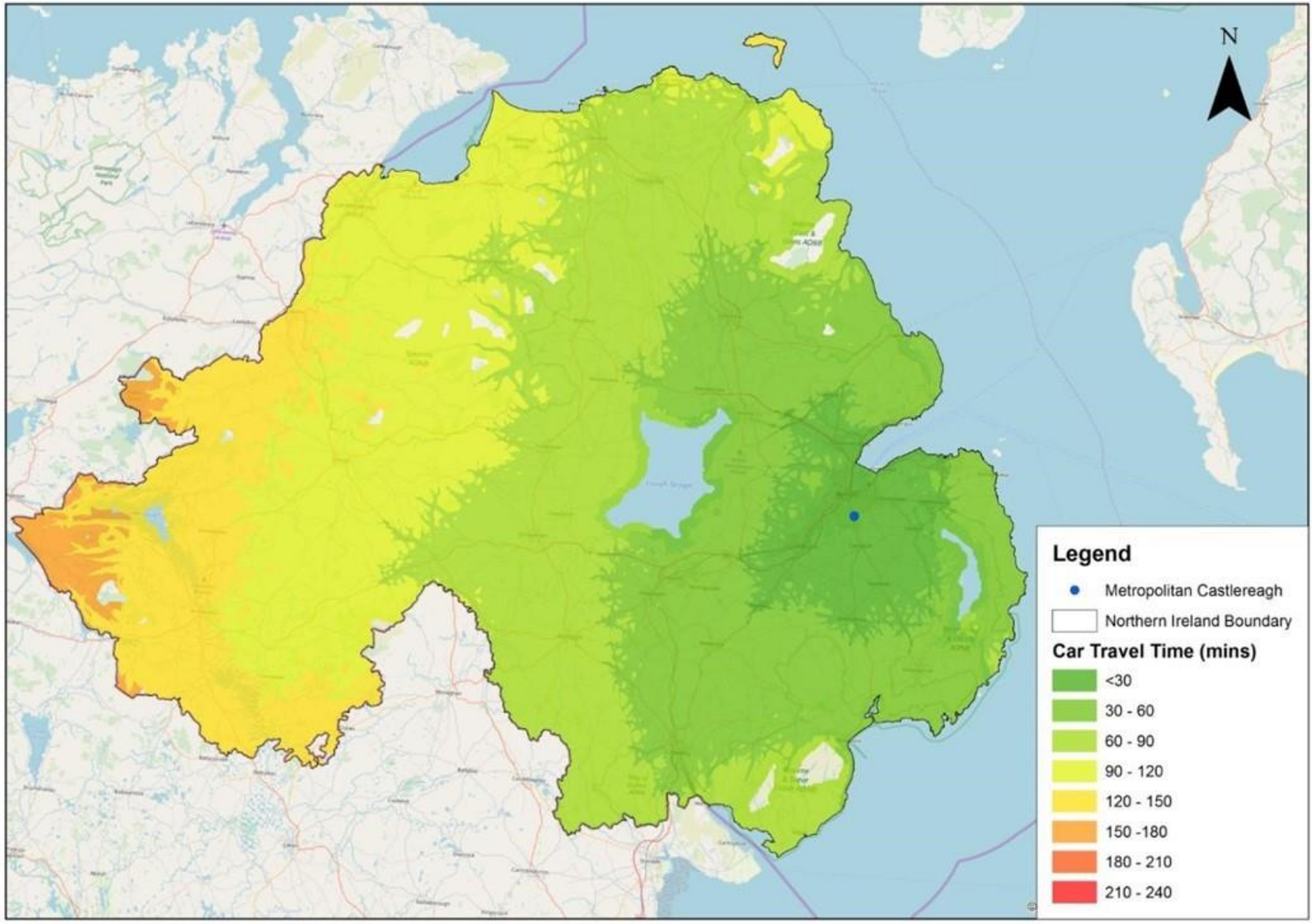


Figure A-4 – Travel Time by Car from Dundonald at AM Peak Speed

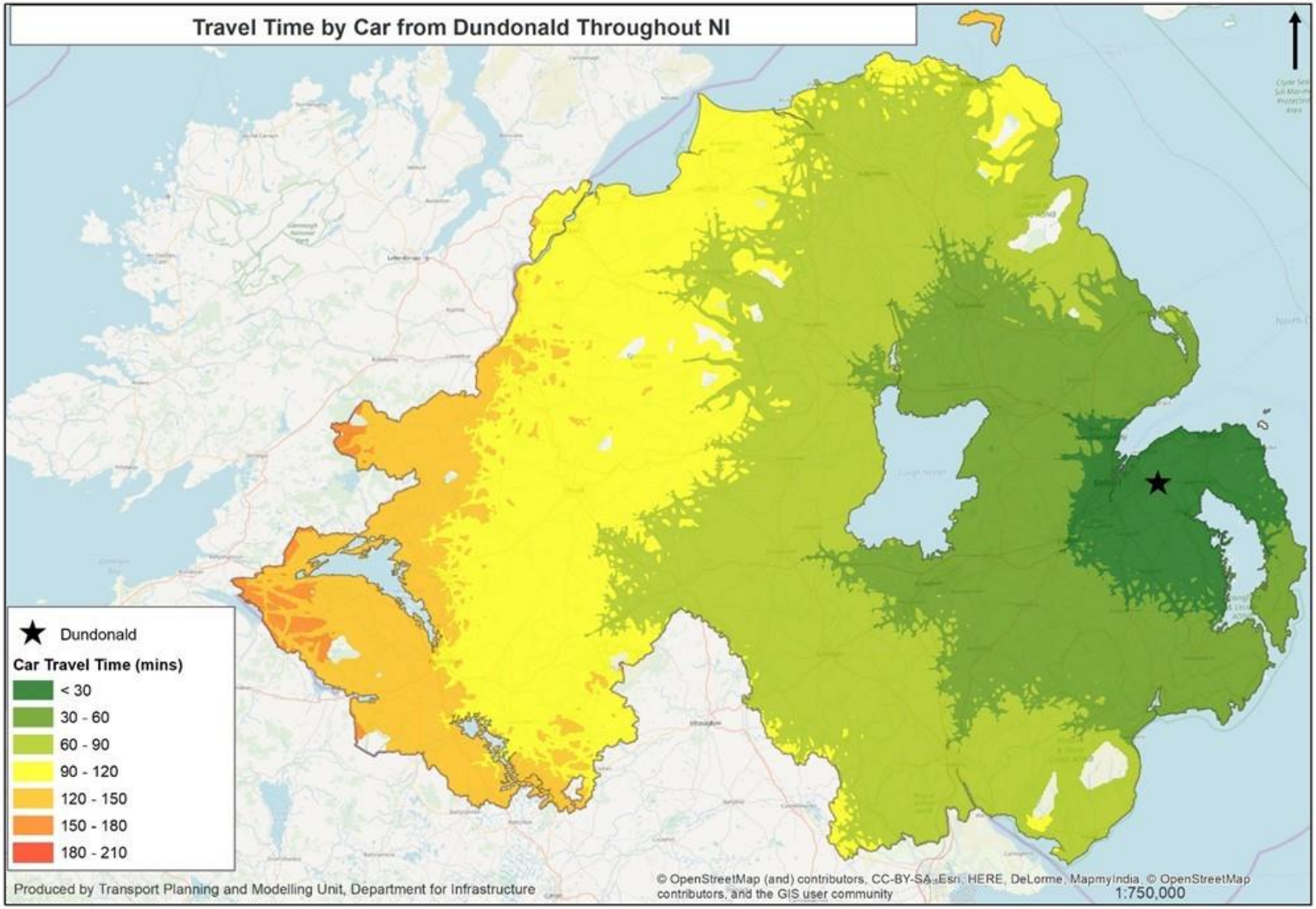


Figure A-5 – Travel Time by Car from Moira at AM Peak Speed

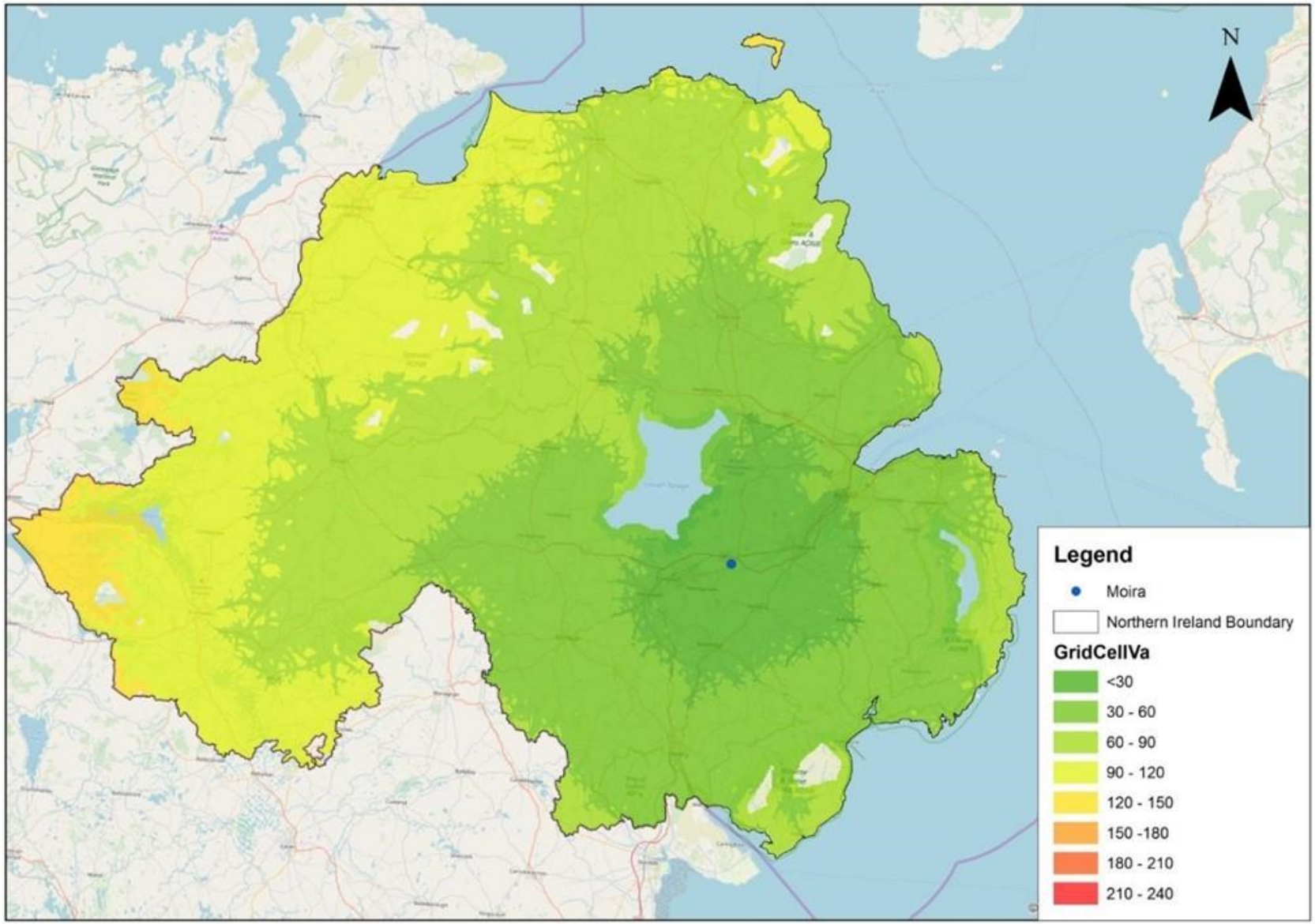


Figure A-6 – Travel Time by Car from Carryduff at AM Peak Speed

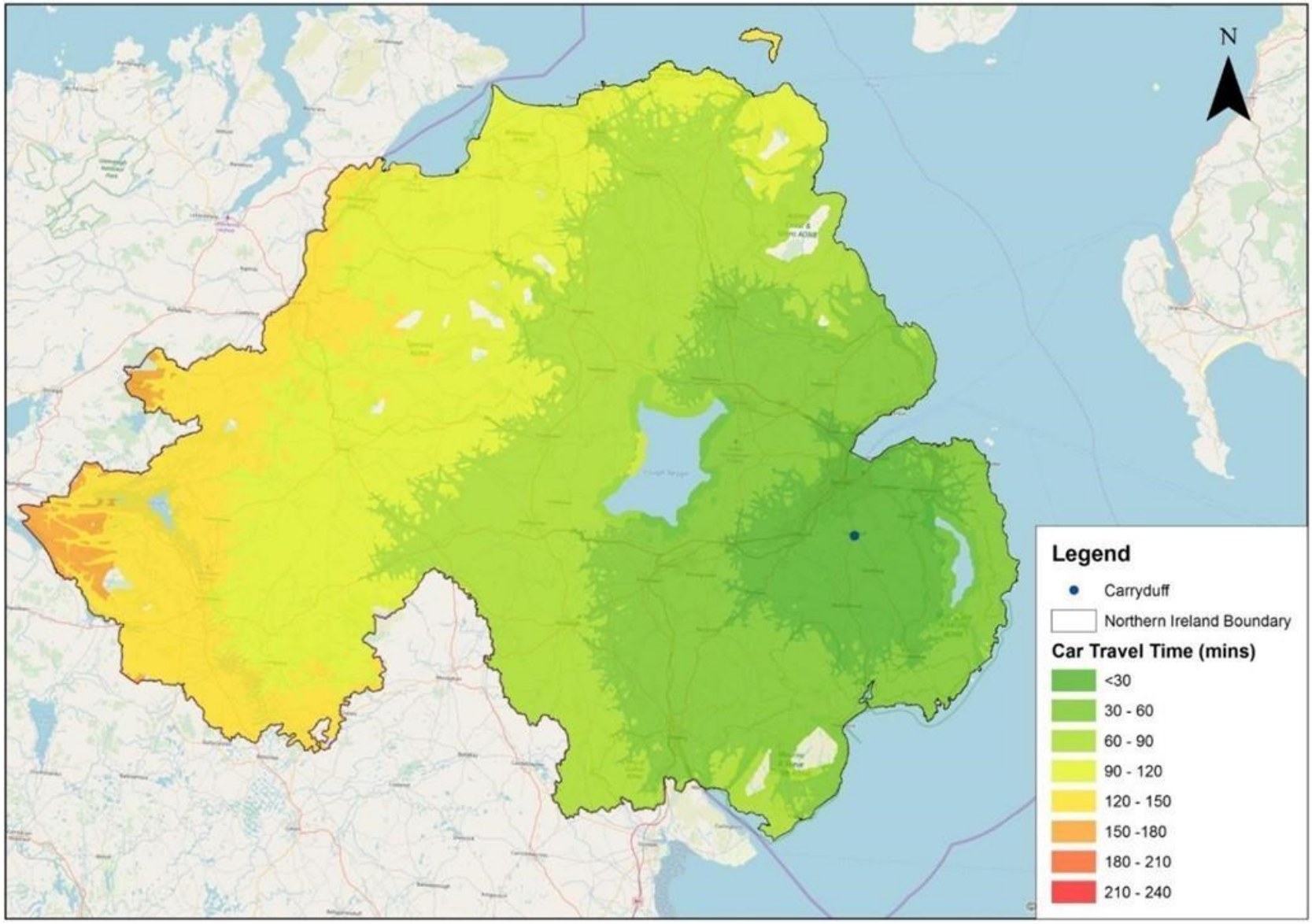


Figure A-7 – Travel Time by Car from Hillsborough at AM Peak Speed

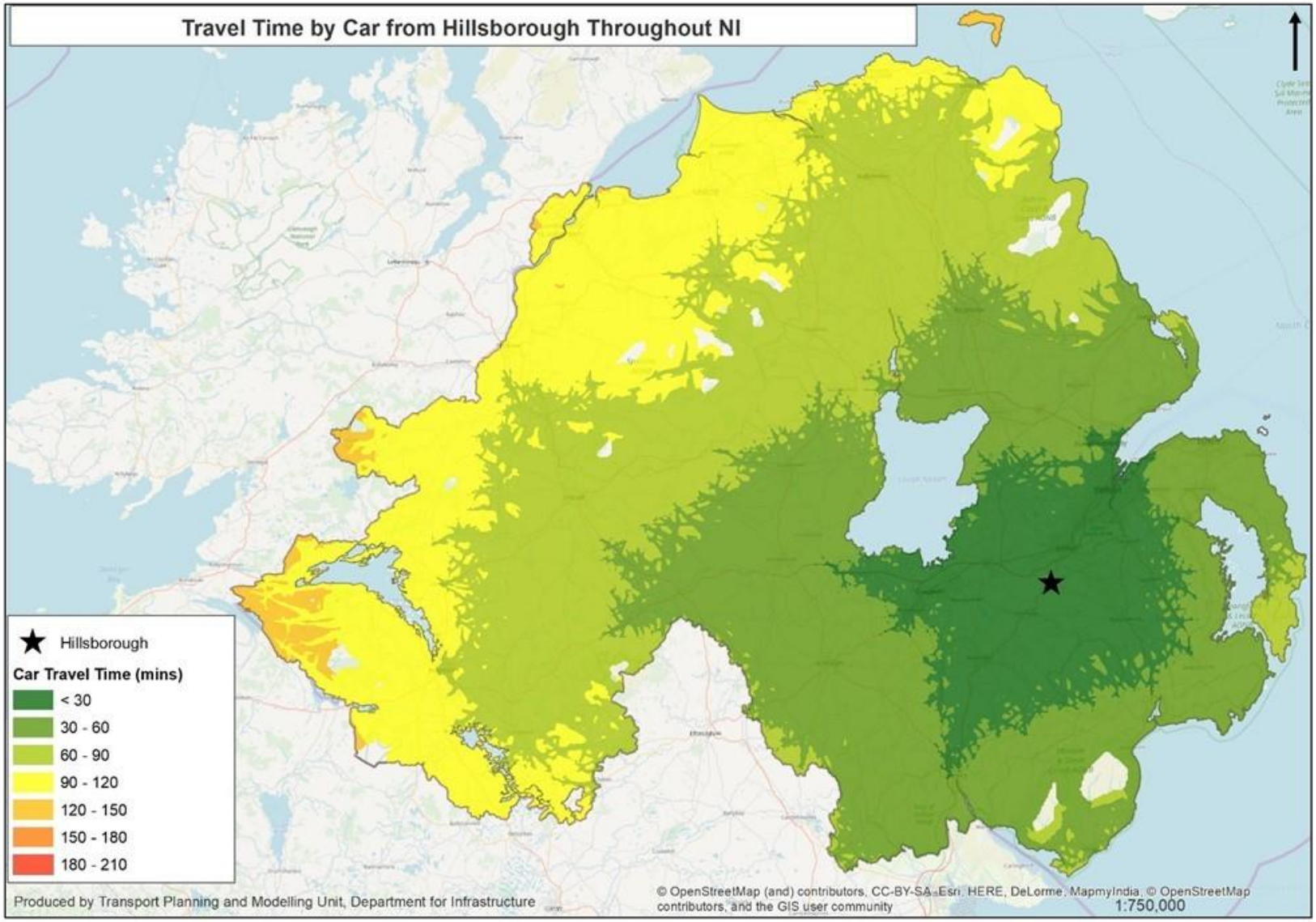


Figure A-8 – Travel Time by Public Transport from Lisburn City from 7:00am

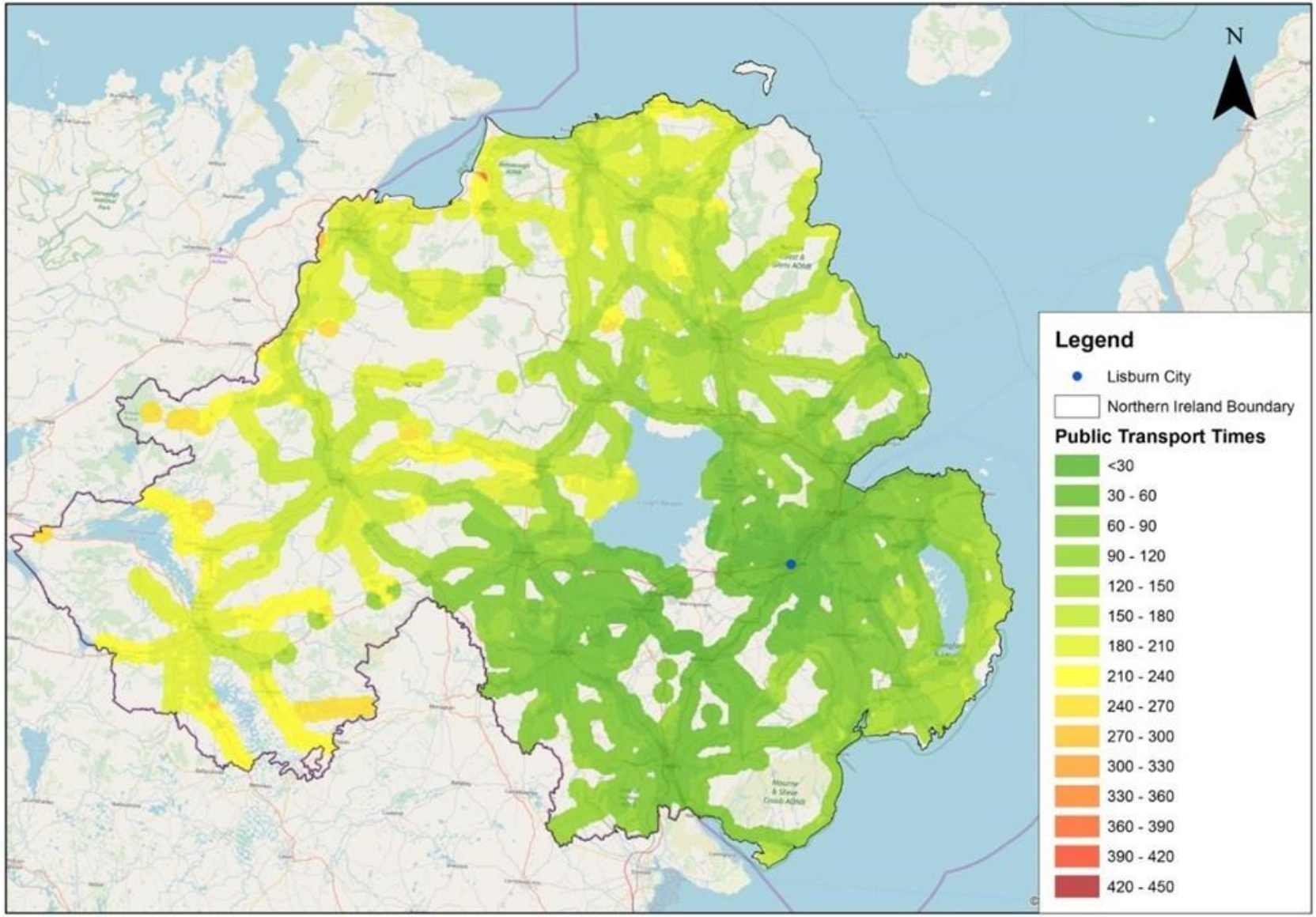


Figure A-9 – Travel Time by Public Transport from Castlereagh Greater Urban Area from 7:00am

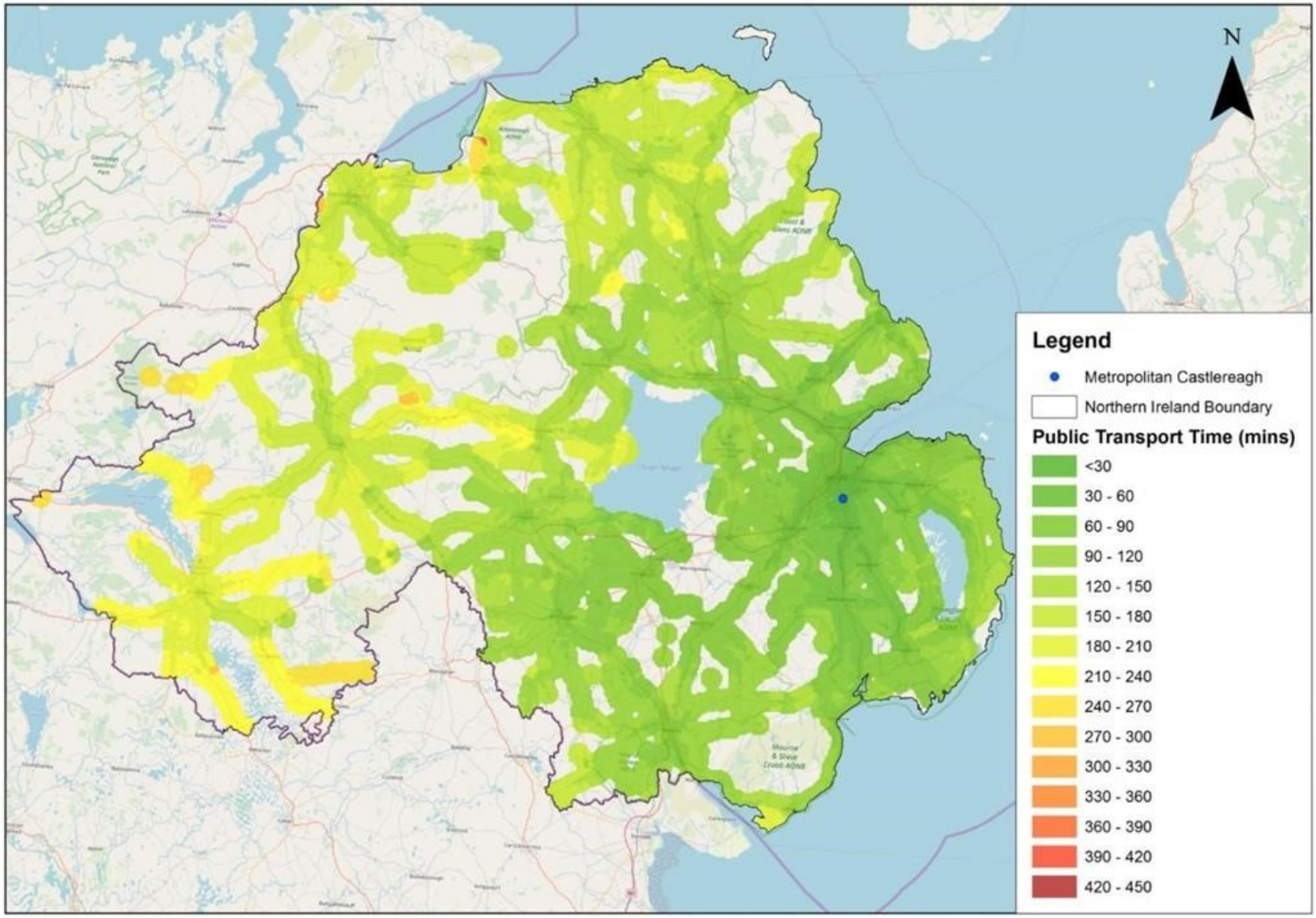


Figure A-10 – Travel Time by Public Transport from Dundonald from 7:00am

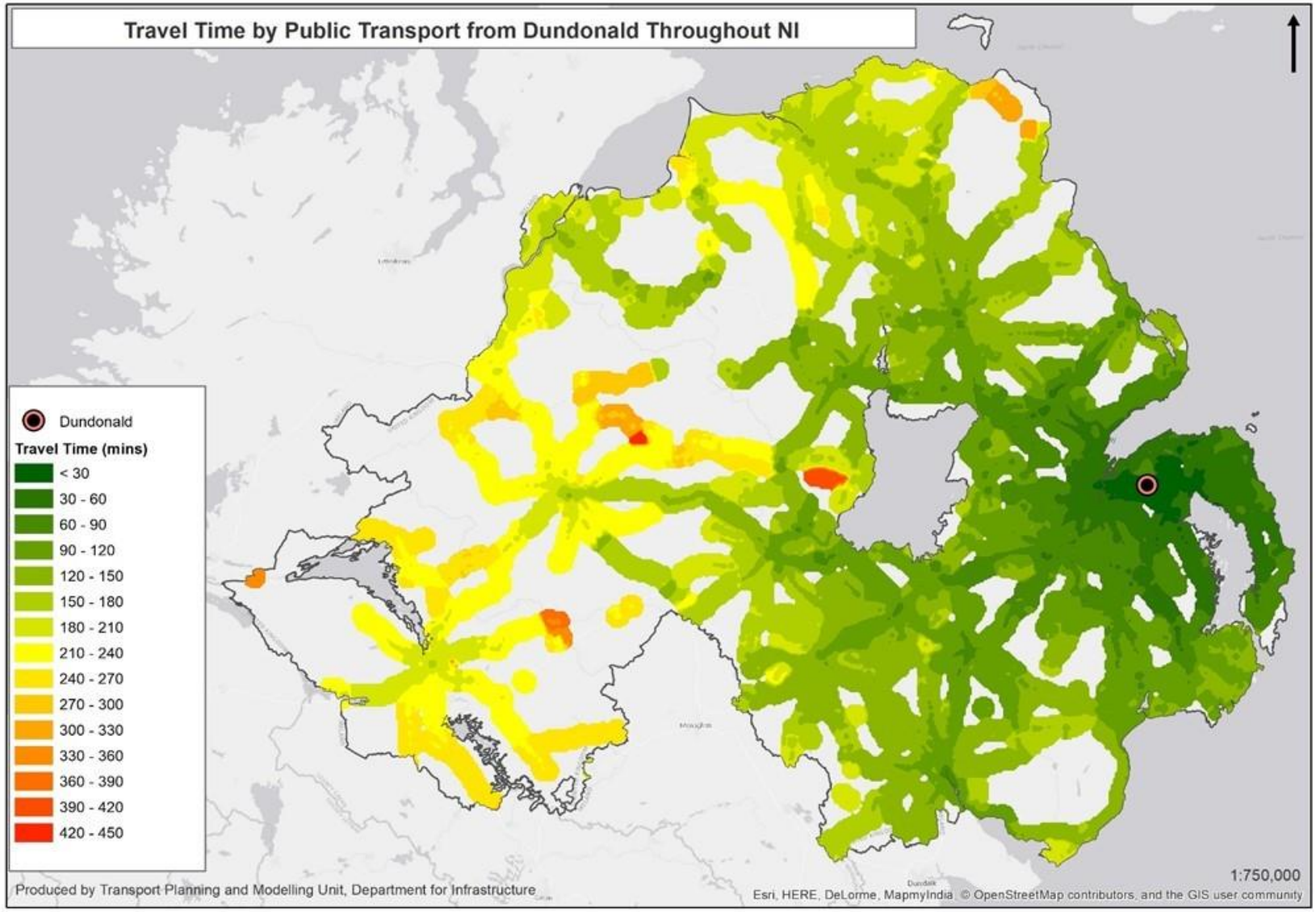


Figure A-11 – Travel Time by Public Transport from Moira from 7:00am [DN: Check map. It doesn't look right]

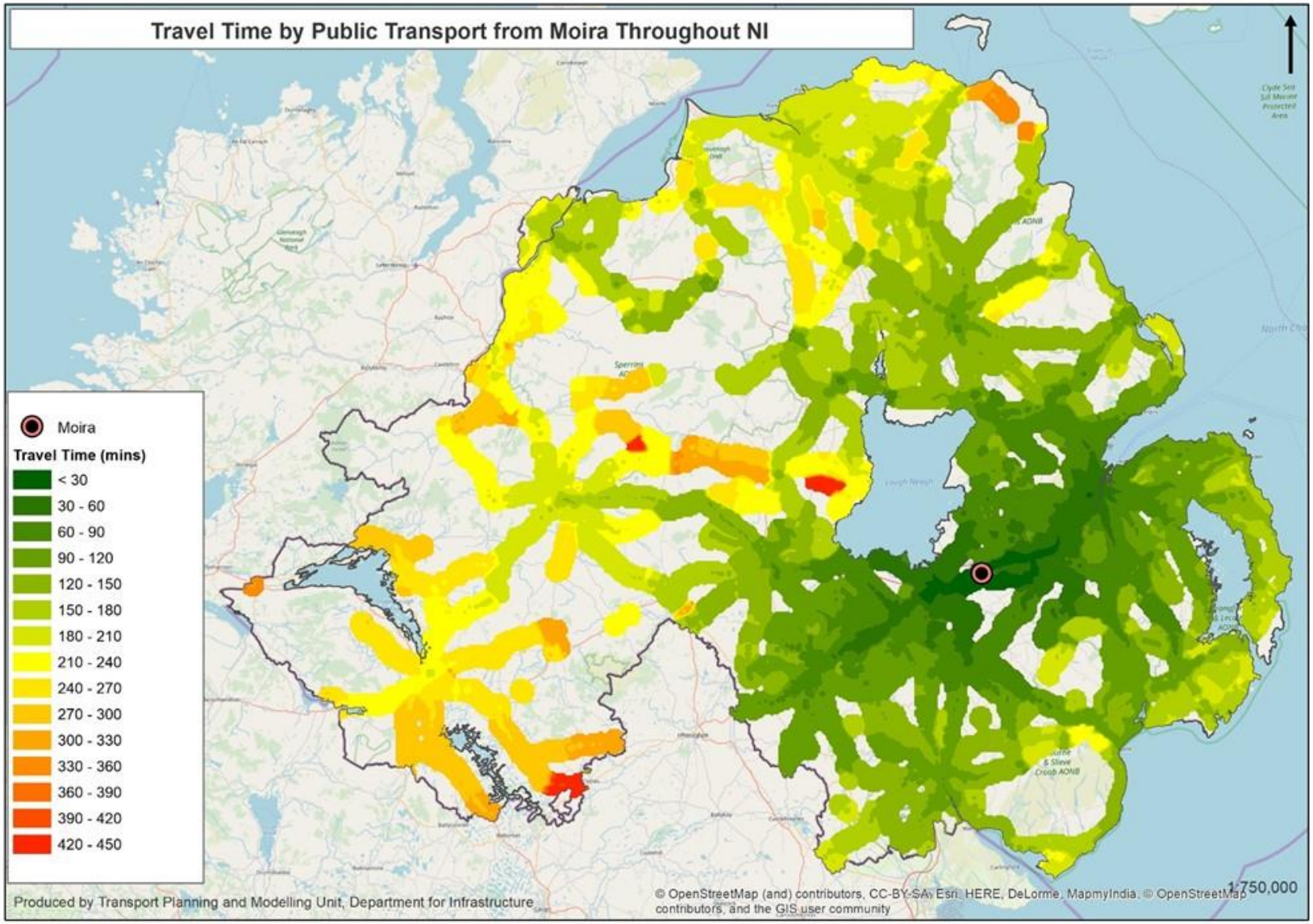


Figure A-12 – Travel Time by Public Transport from Carryduff from 7:00am

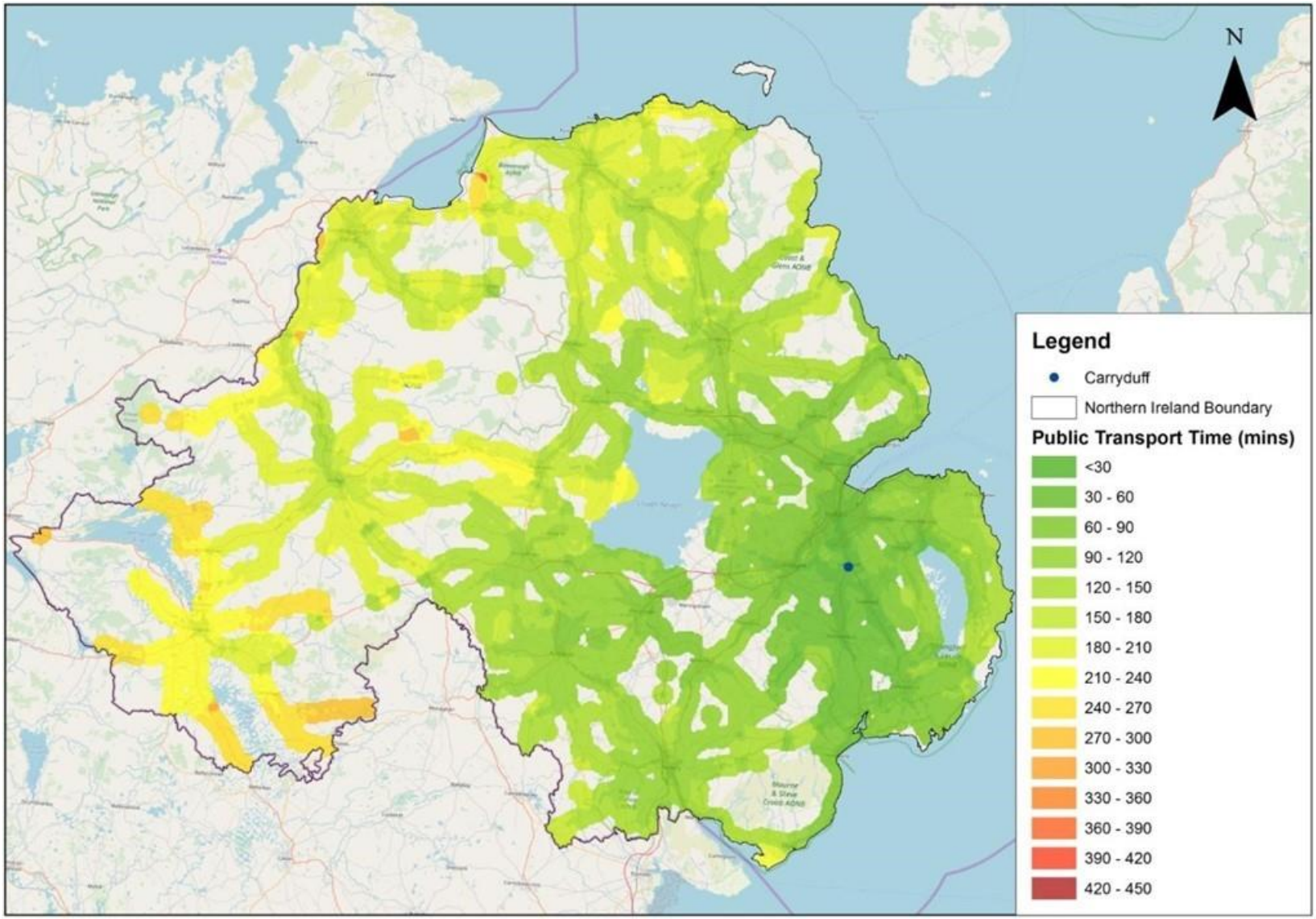


Figure A-13 – Travel Time by Public Transport from Hillsborough from 7:00am

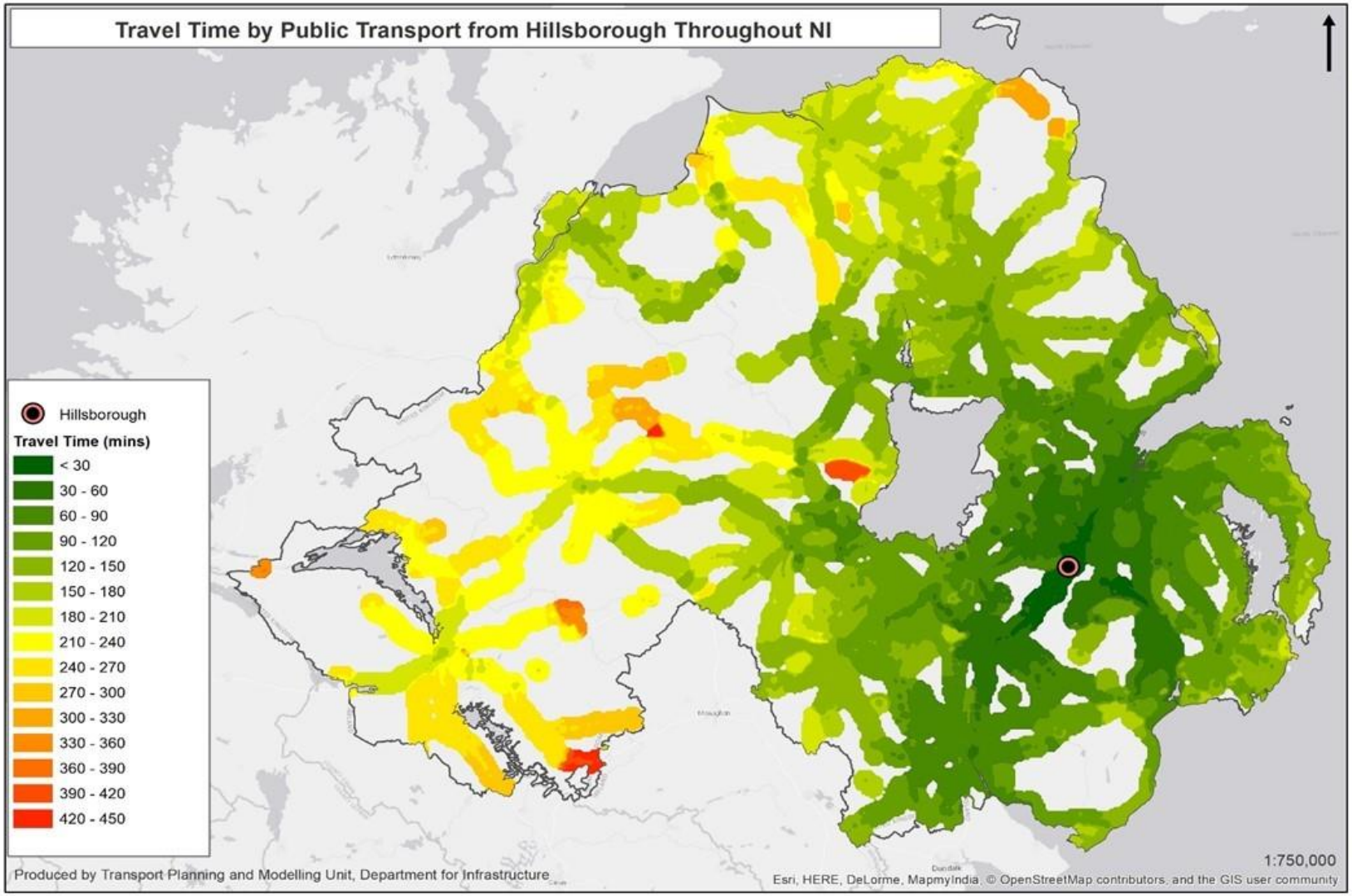
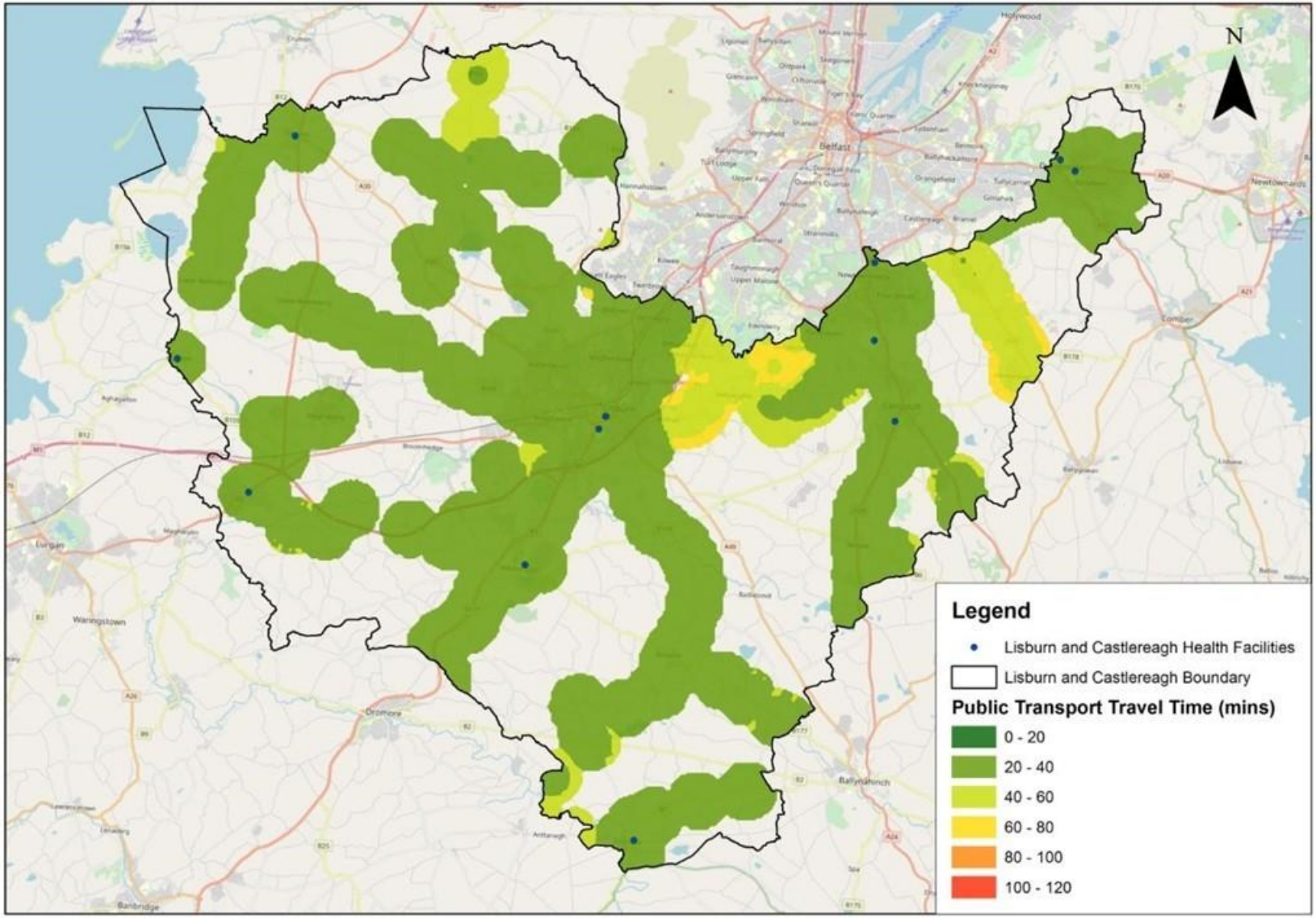


Figure A-14 – Map of Travel Time by Public Transport from Lisburn and Castlereagh City Council to Health Facilities during AM Peak



Section 2 – Urban Walking and Cycling Infrastructure and Bus Service

Figure A-15 – Pedestrian Infrastructure in Lisburn – Key Radial Footways by Width and Type

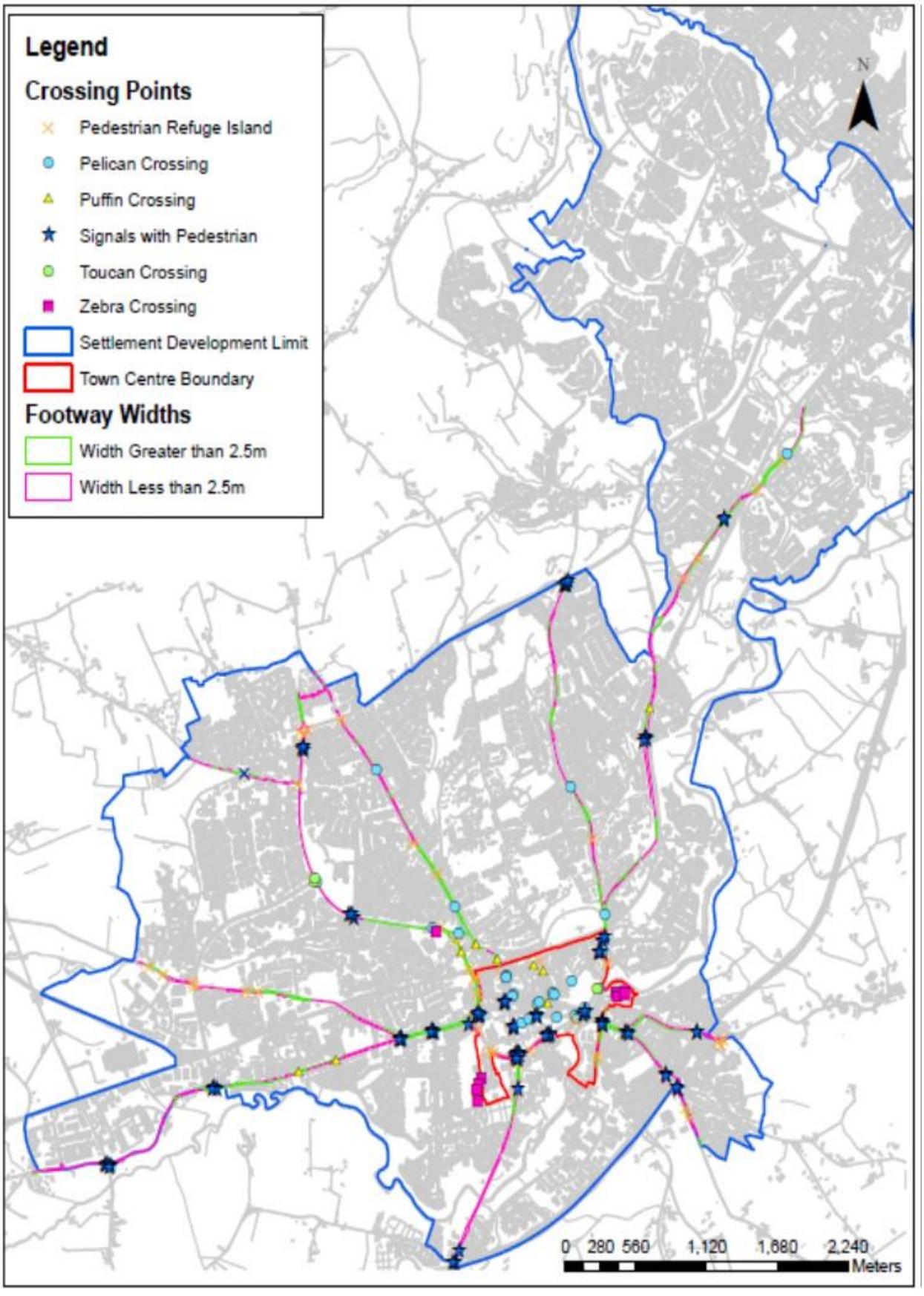


Figure A-16 – Pedestrian Infrastructure in Moira – Key Radial Footways by Width and Type

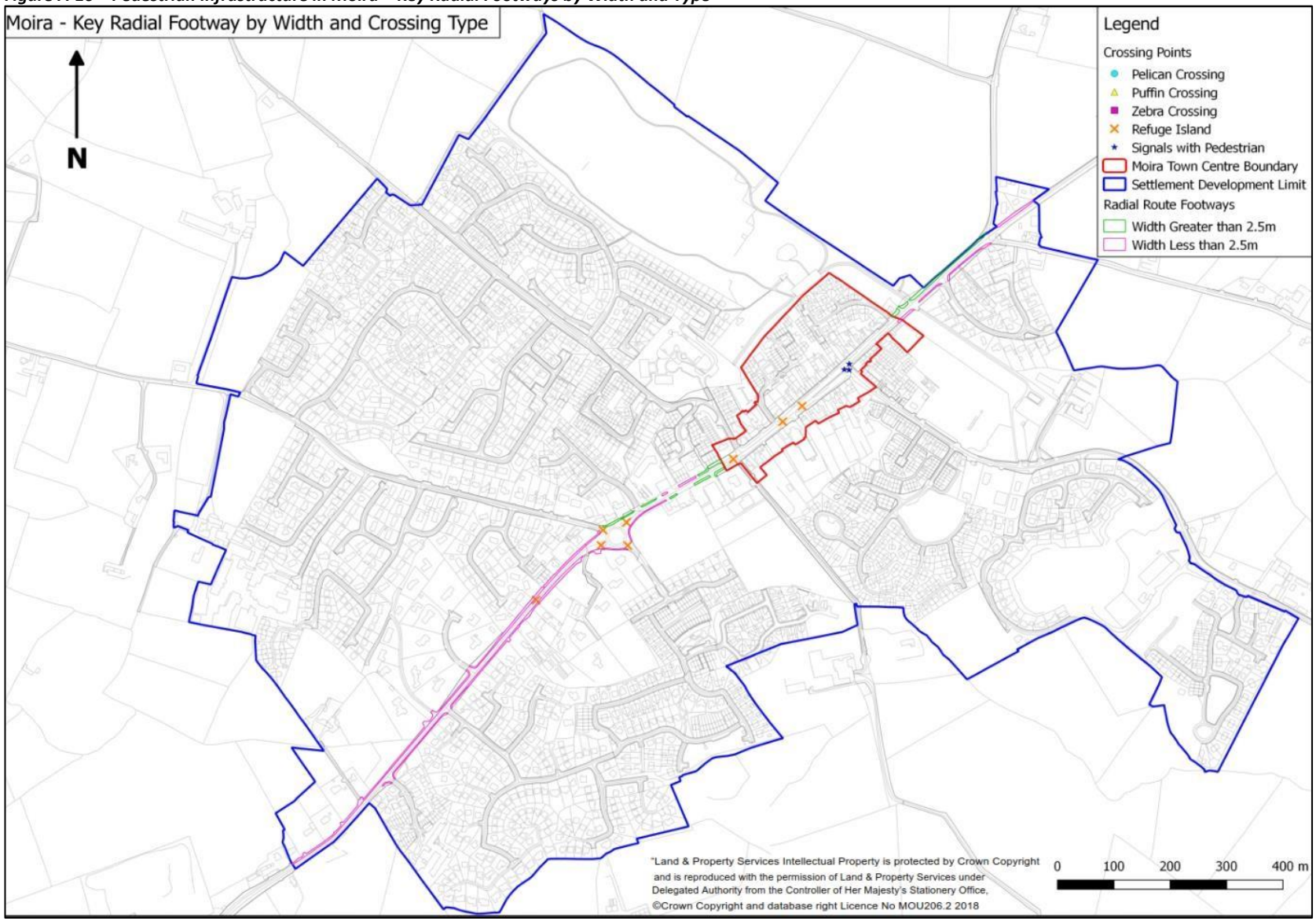


Figure A-17 – Pedestrian Infrastructure in Carryduff – Key Radial Footways by Width and Type

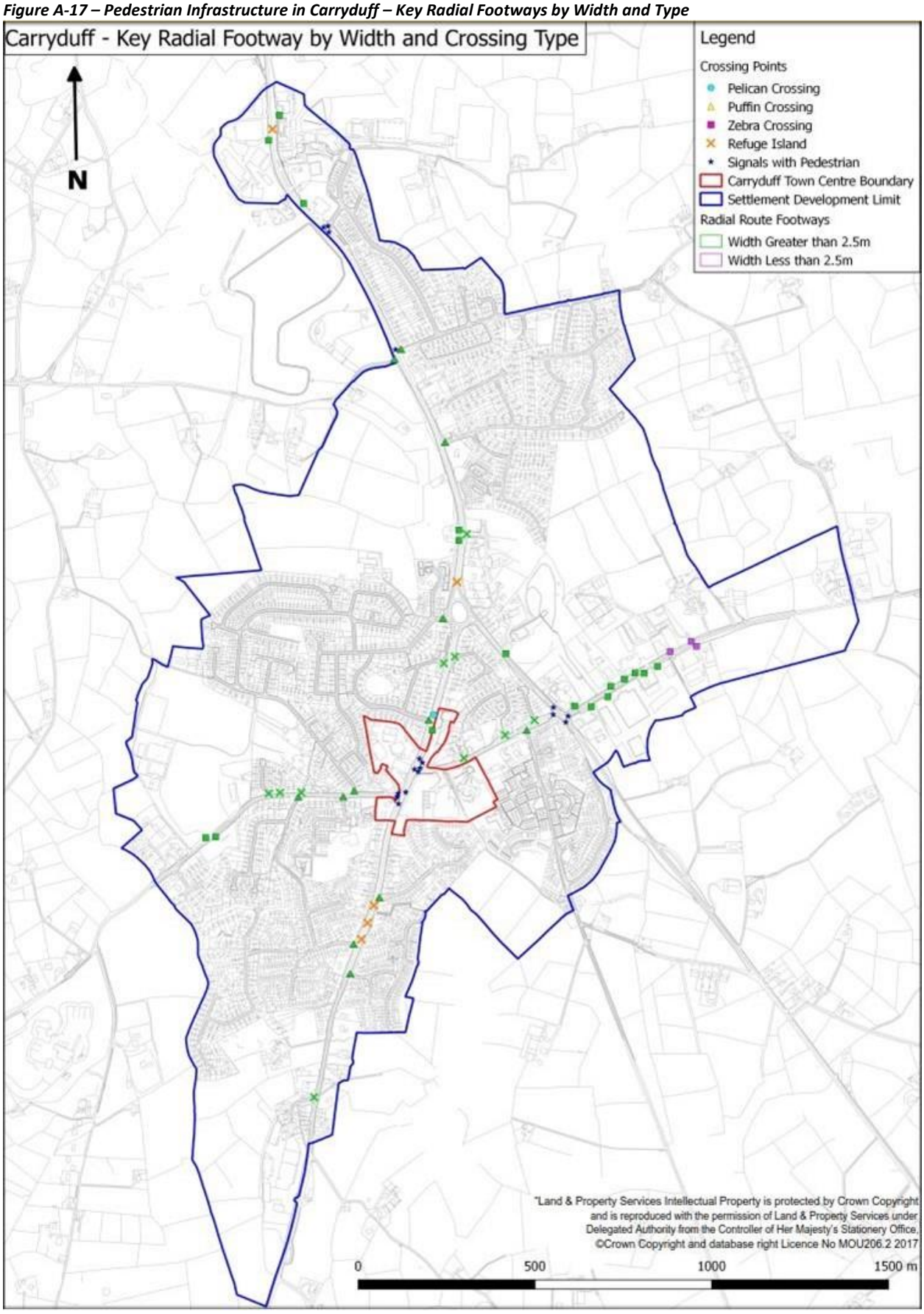


Figure A-18 – Pedestrian Infrastructure in Hillsborough – Key Radial Footways by Width and Type

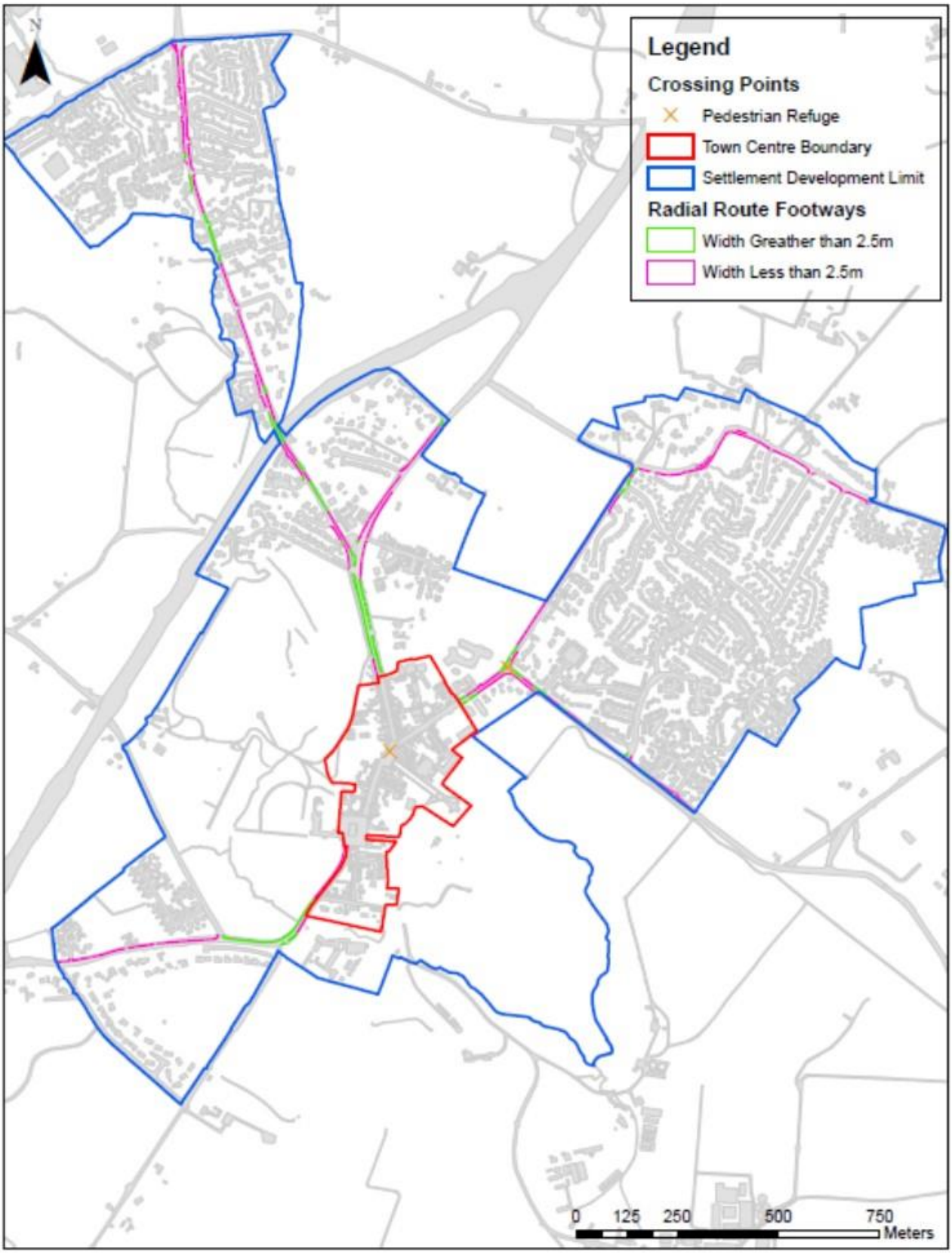


Figure A-19 – Cycling Infrastructure in Lisburn

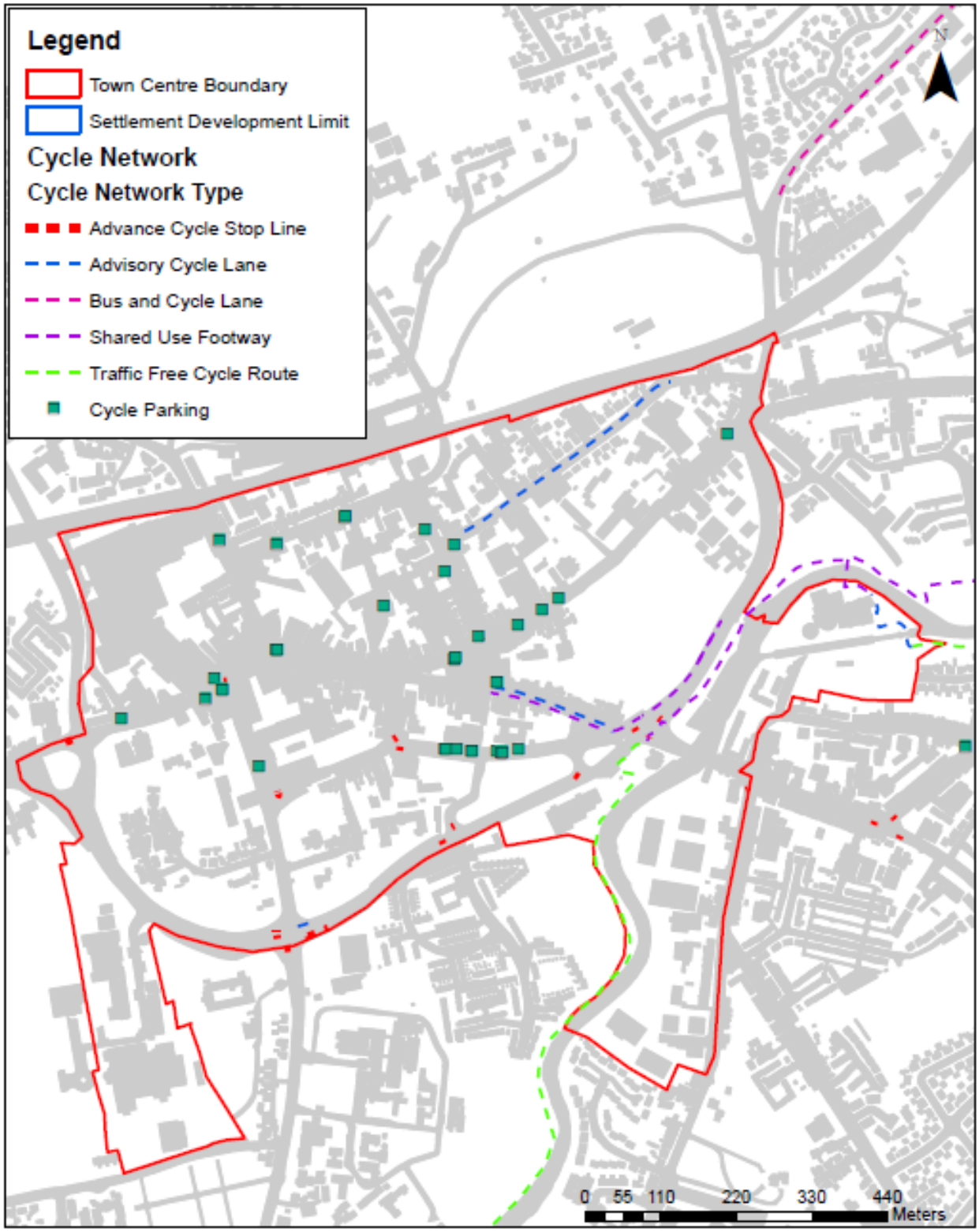


Figure A-20 – Cycling Infrastructure in Moira

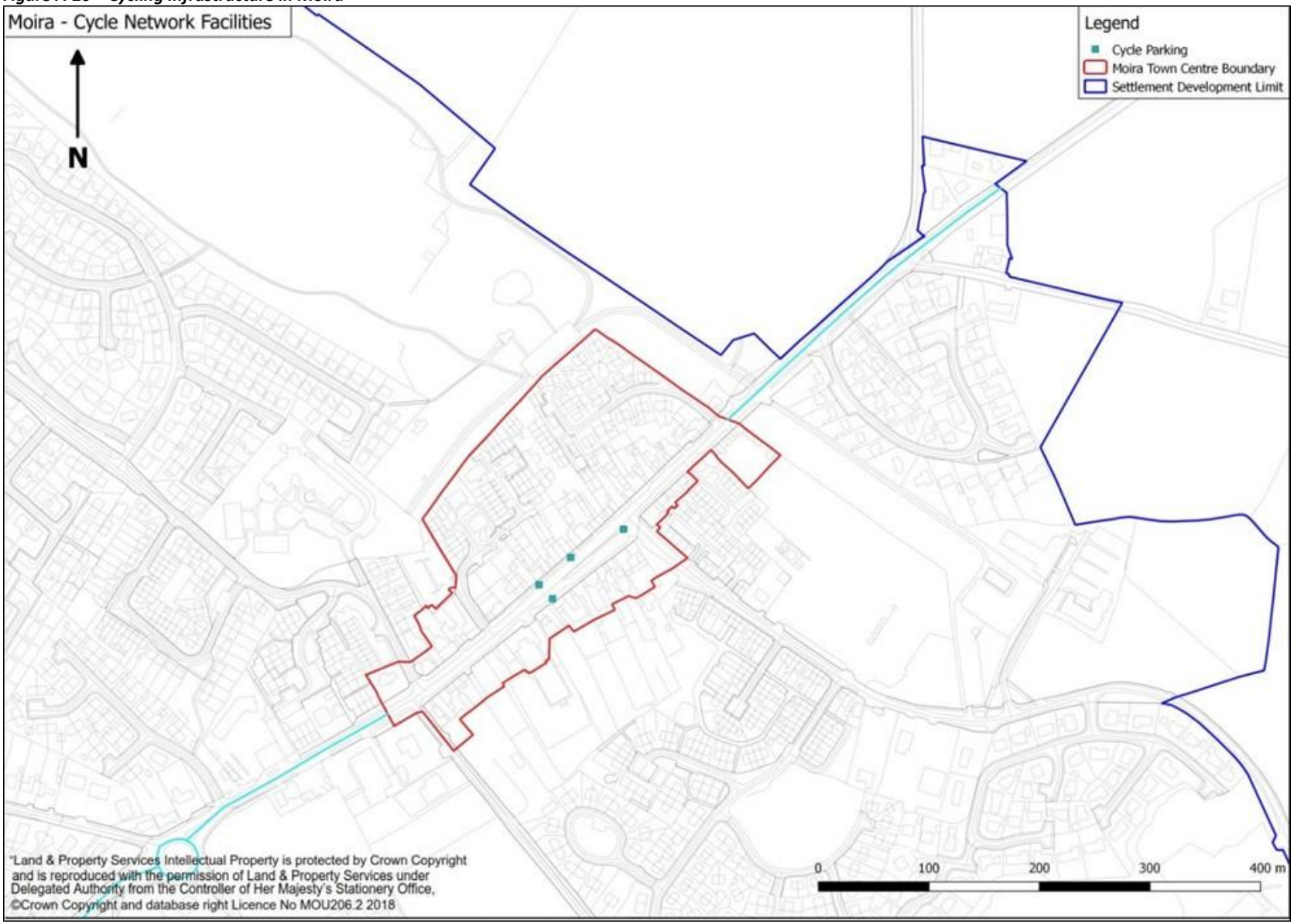


Figure A-21 – Cycling Infrastructure in Carryduff

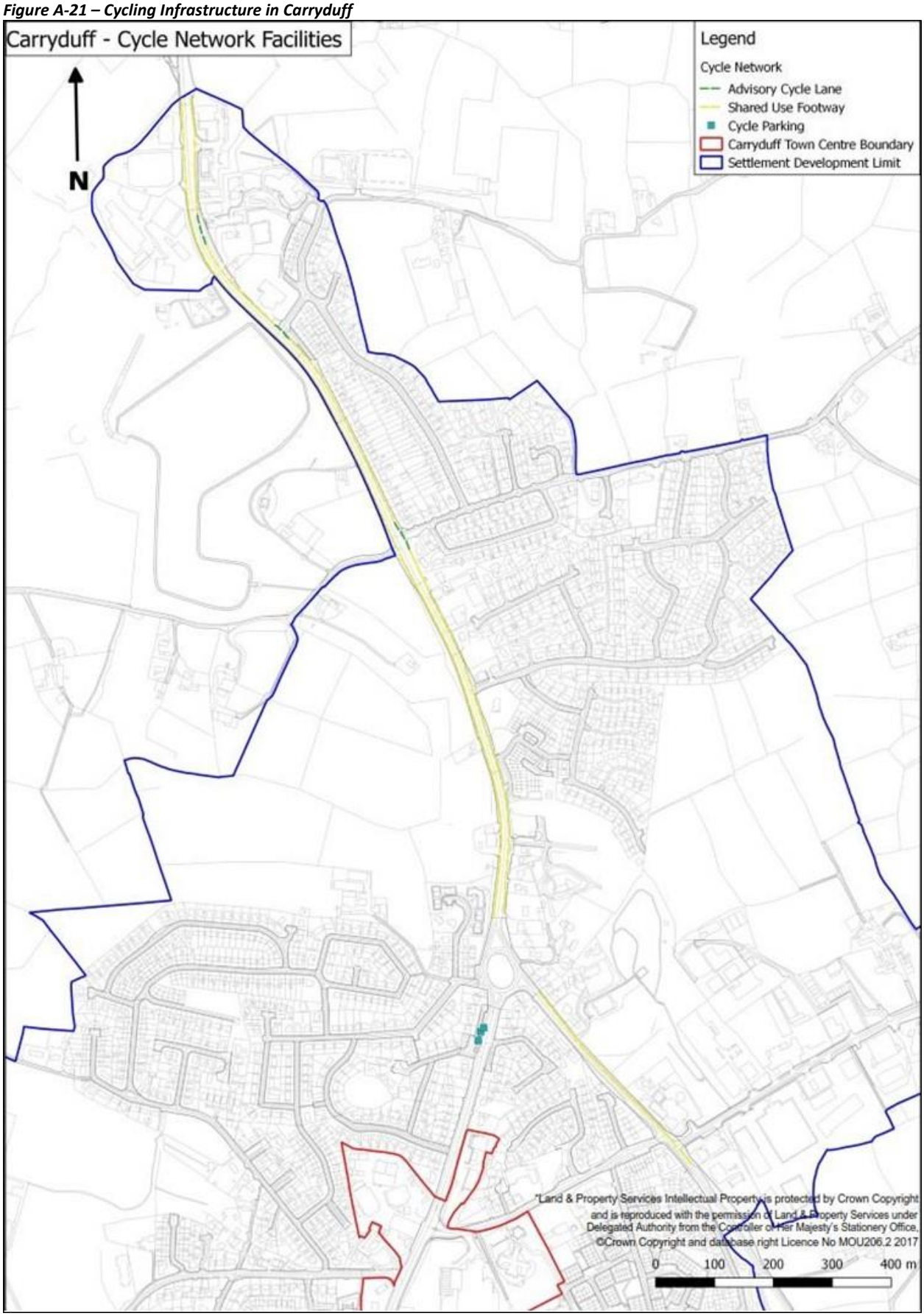


Figure A-22 – Cycling Infrastructure in Hillsborough

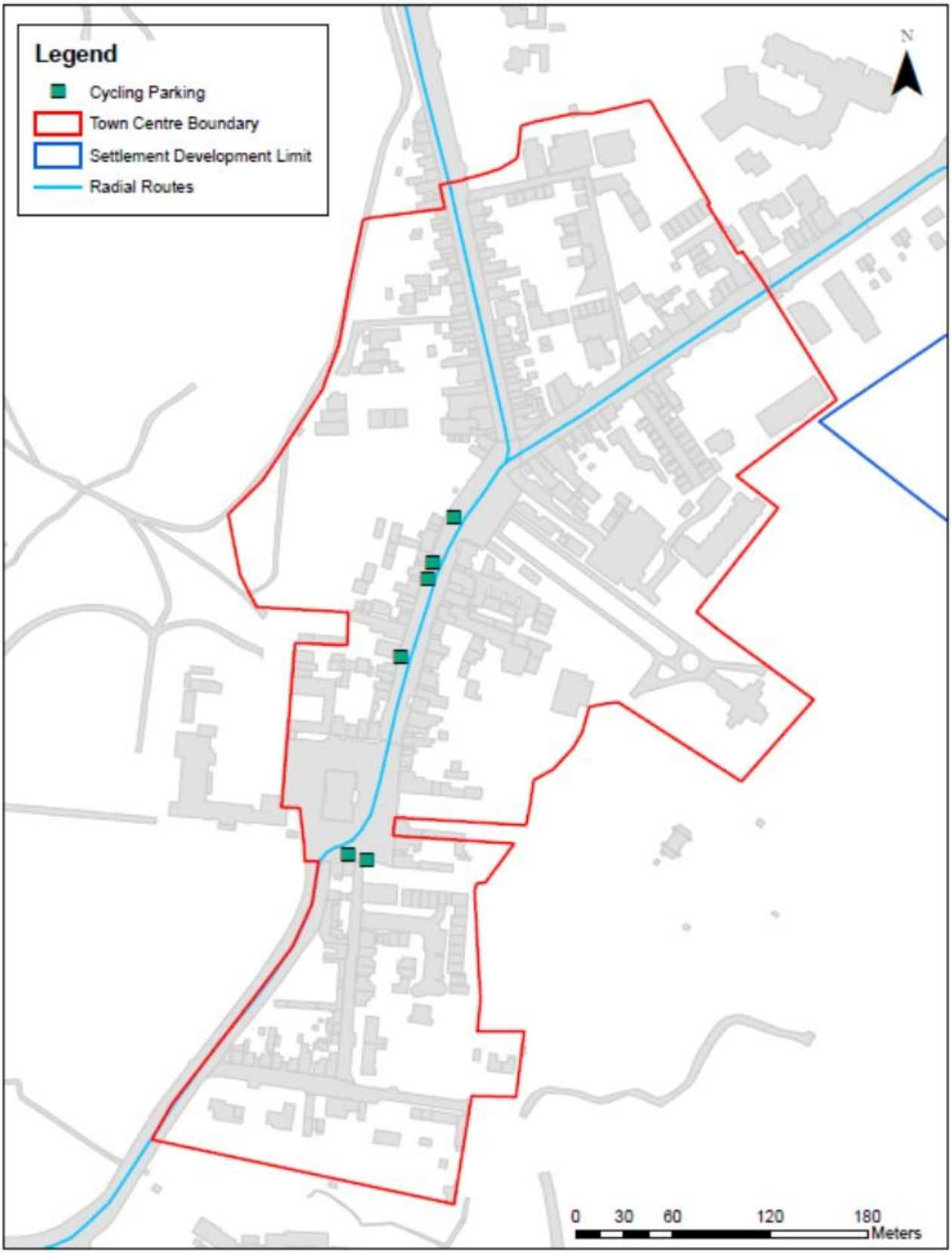


Figure A-23 – Map of Town Bus Services in Lisburn

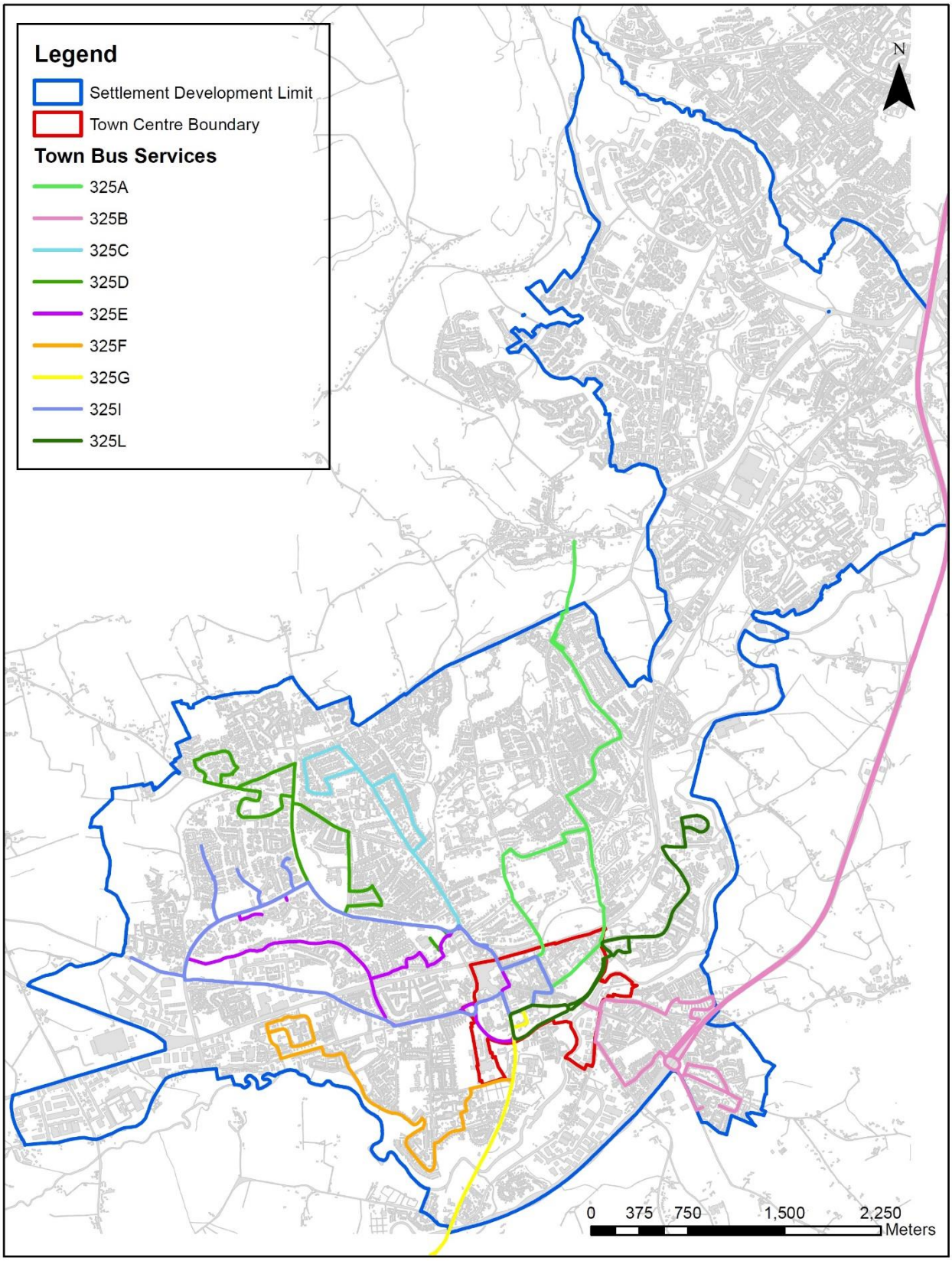
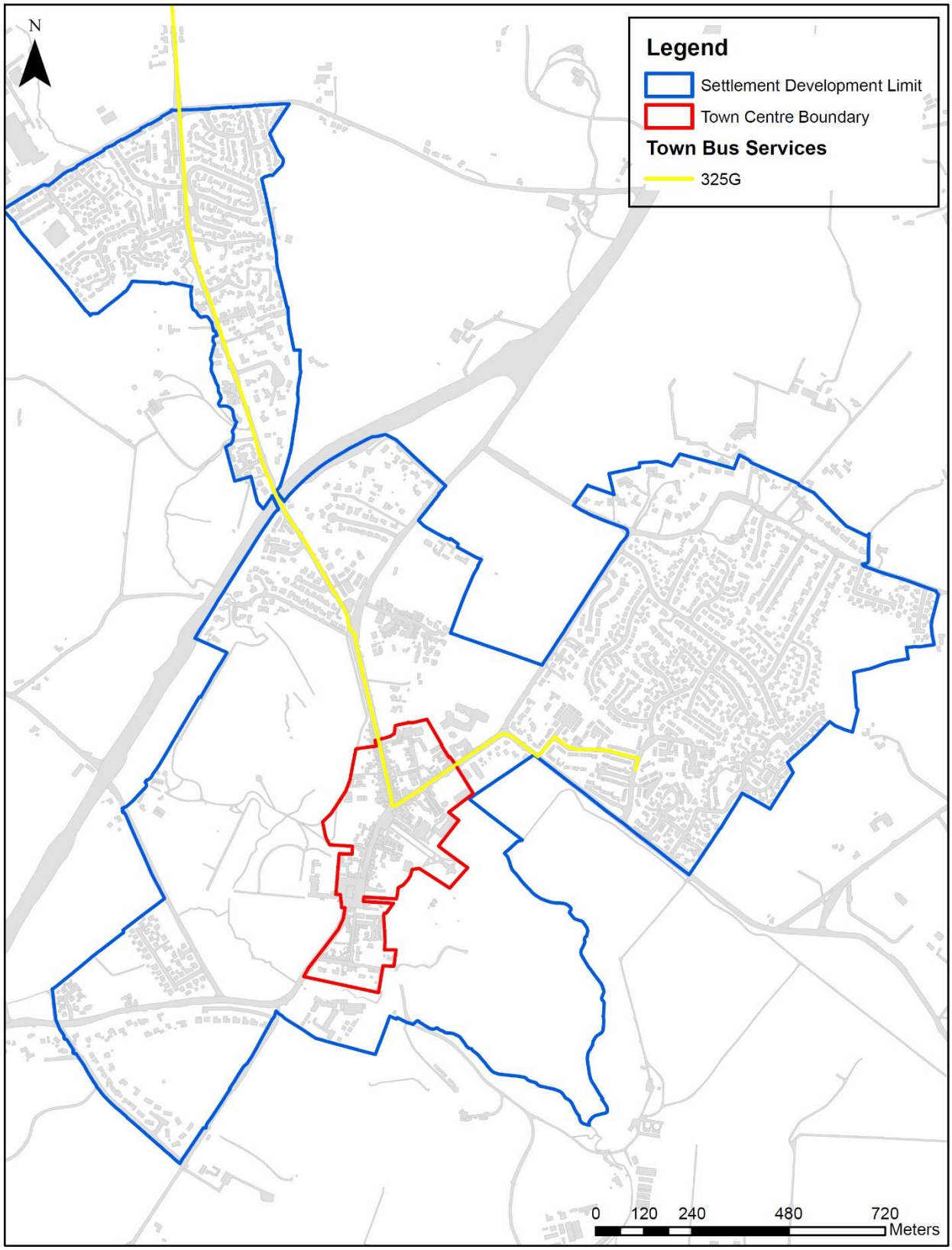


Figure A-24 – Map of Town Bus Services in Hillsborough



Section 3 – Travel to Work Destinations

Figure A-25– Percentage of Travel to Work Journeys from Lisburn City to other LGDs in 2011

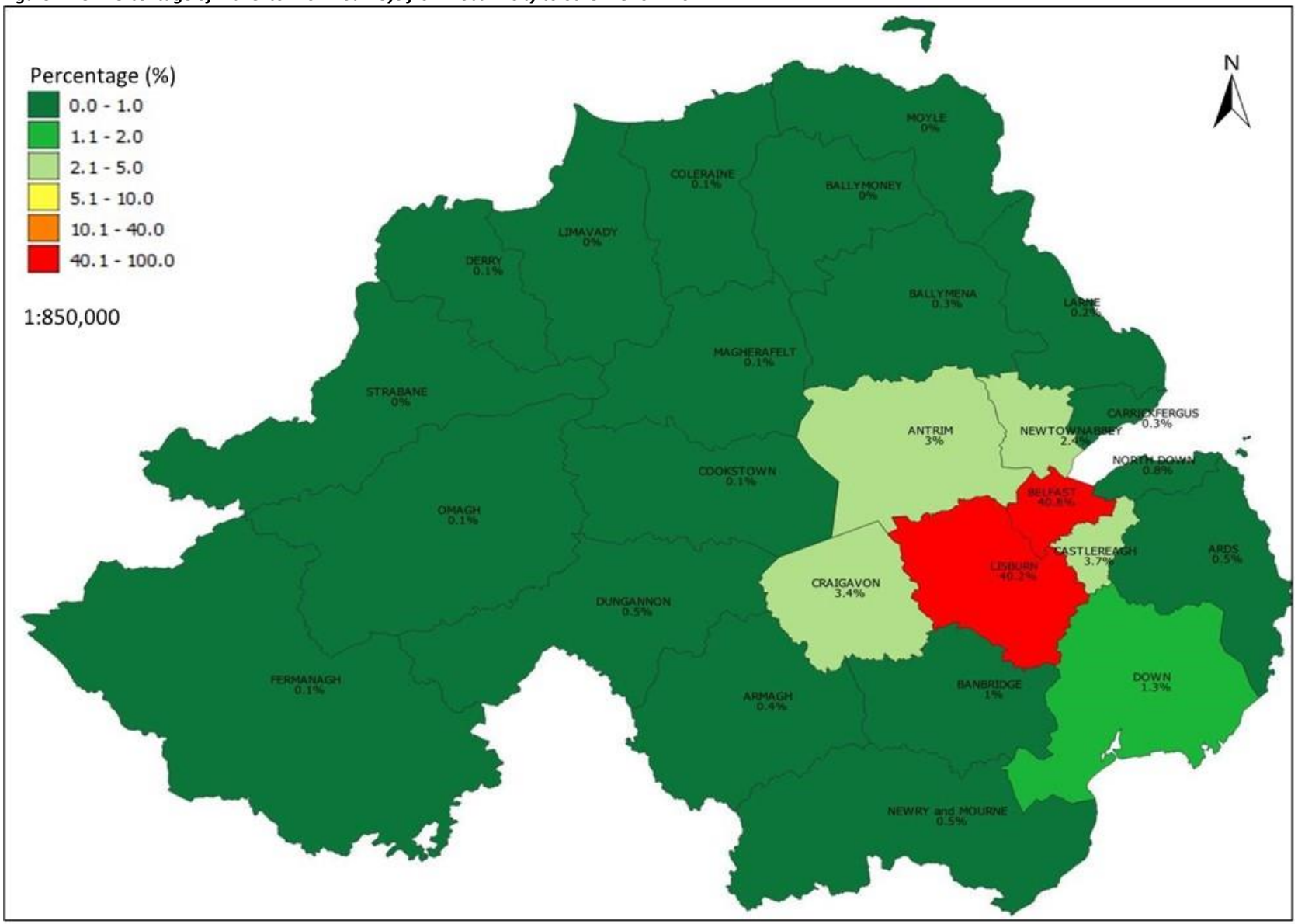
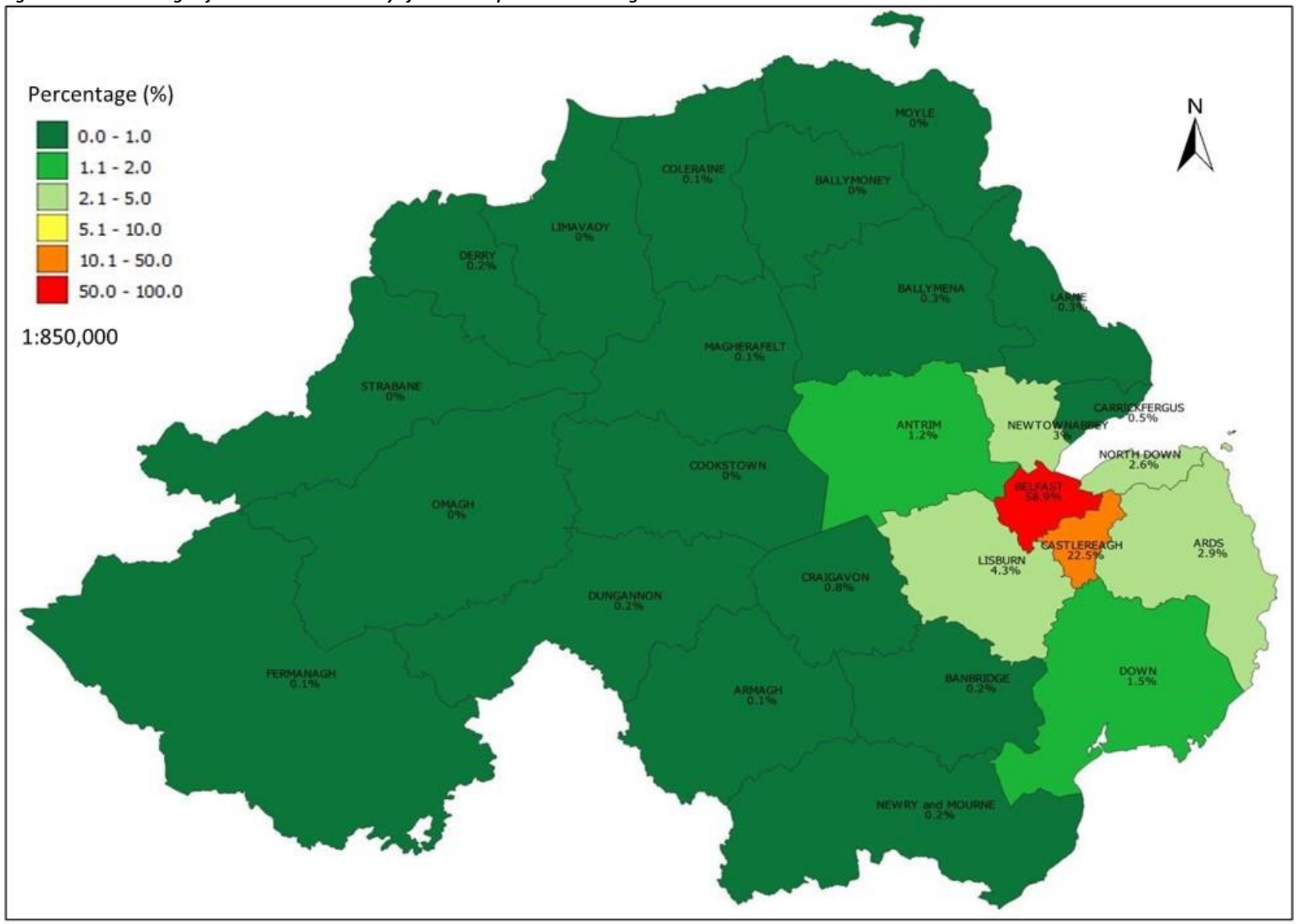


Figure A-26– Percentage of Travel to Work Journeys from Metropolitan Castlereagh to other LGDs in 2011



Section 4 – Modal Choice for Journeys to Work and Education across the Council Area

Figure A-27– Modal Choice for Journey to Work in Lisburn City and Metropolitan Castlereagh

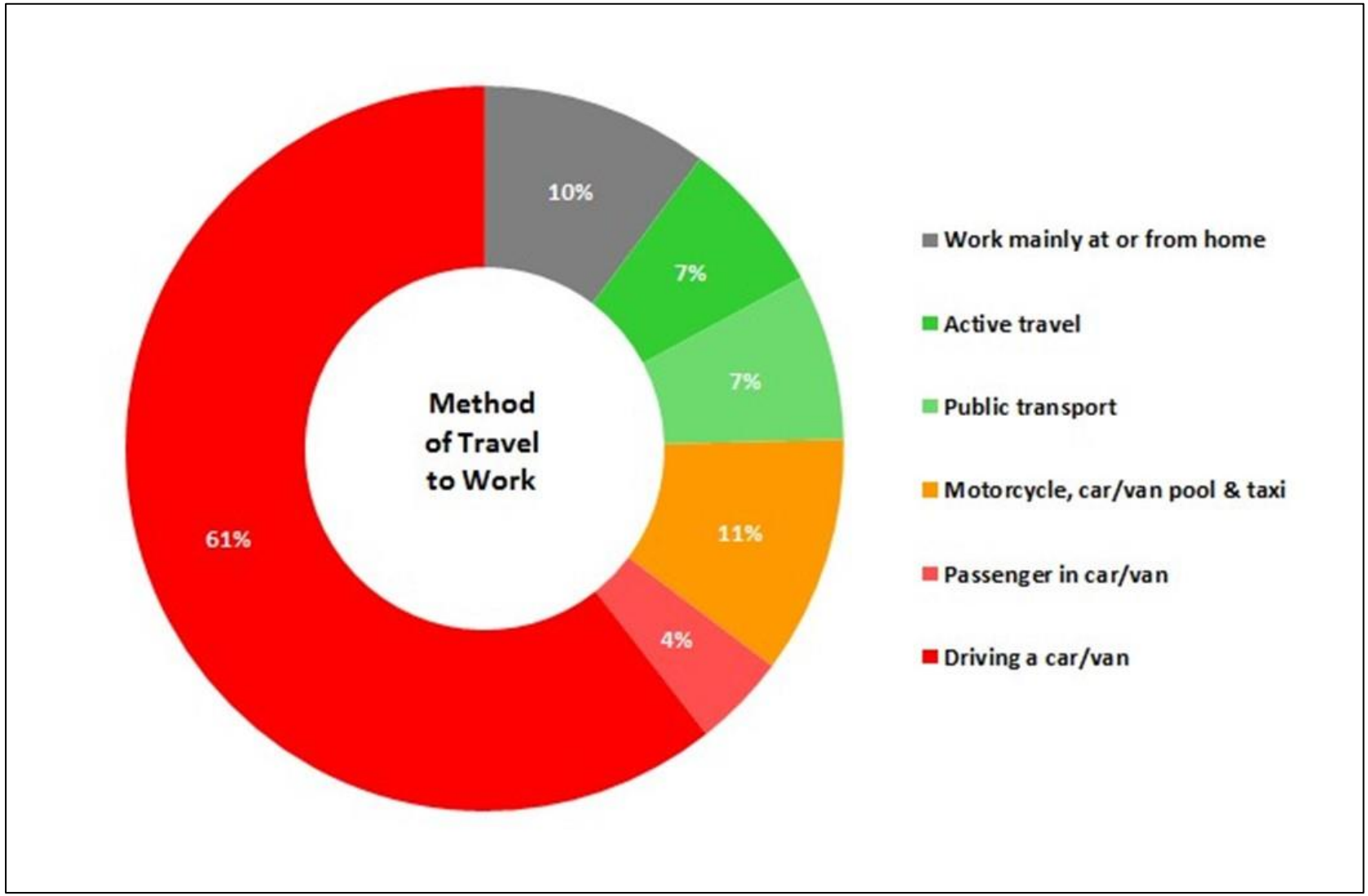


Figure A-28– Modal Choice for Journey to Work by distance in Lisburn City and Metropolitan Castlereagh

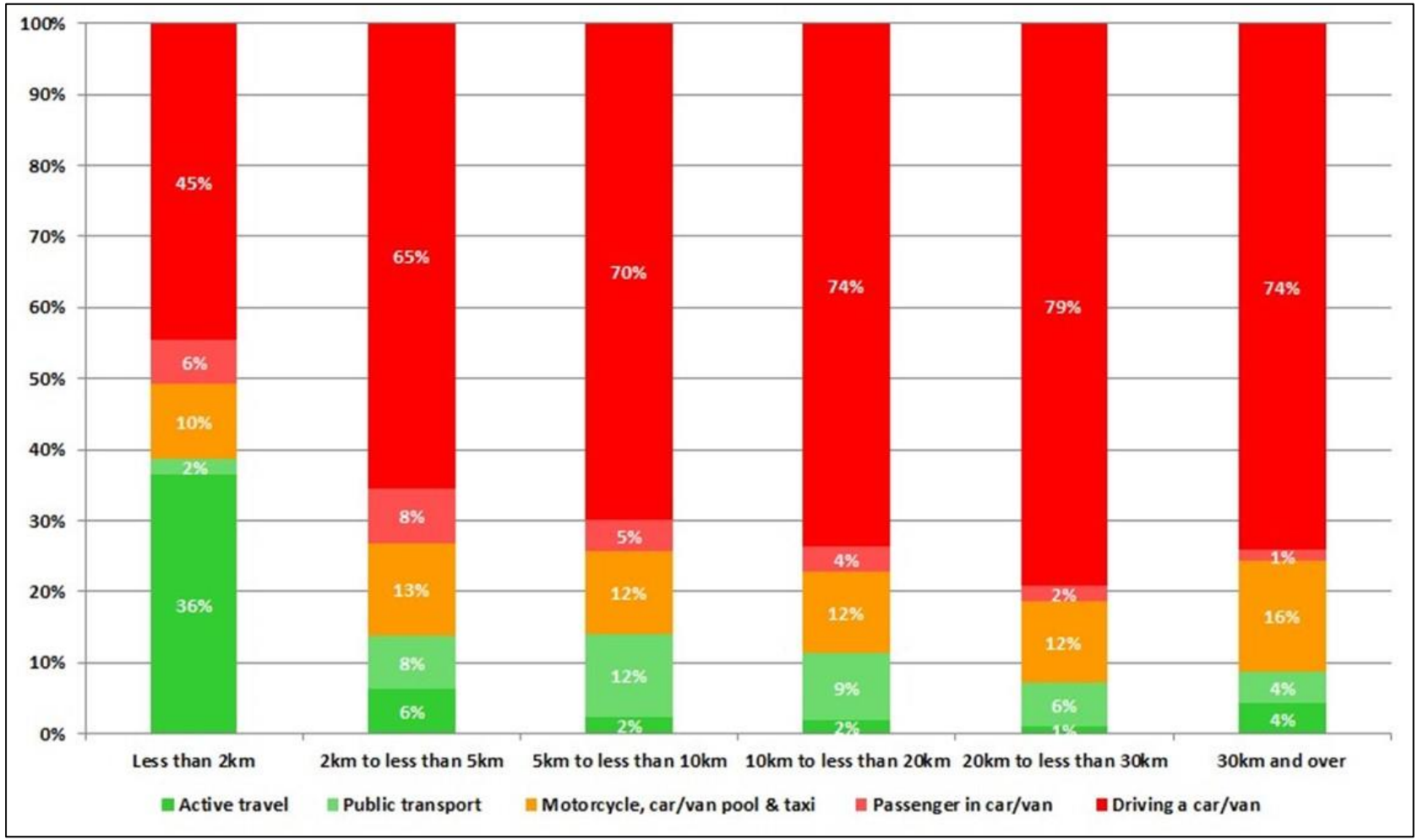


Figure A-29– Modal Choice for Journey to Education in Lisburn City and Metropolitan Castlereagh

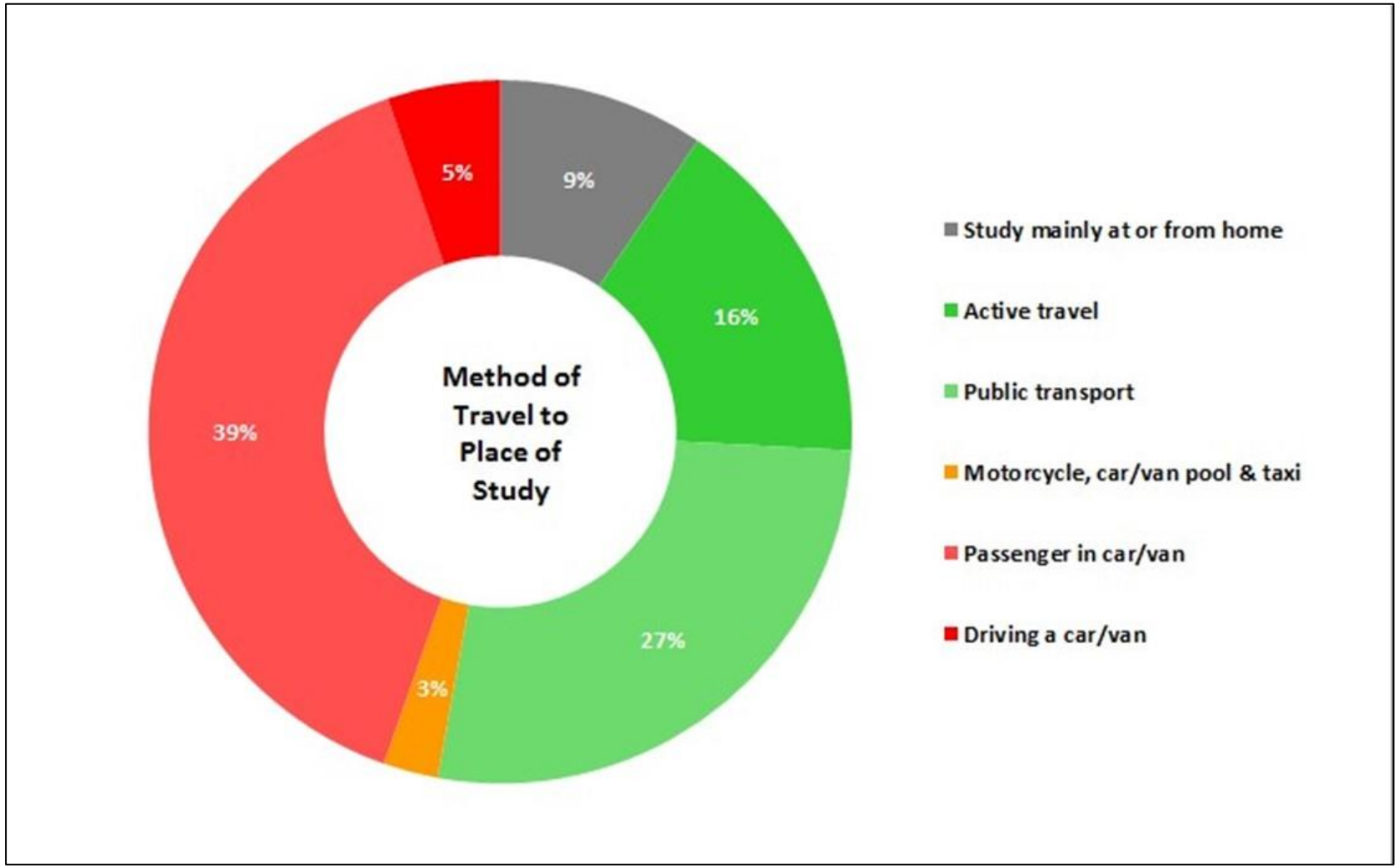
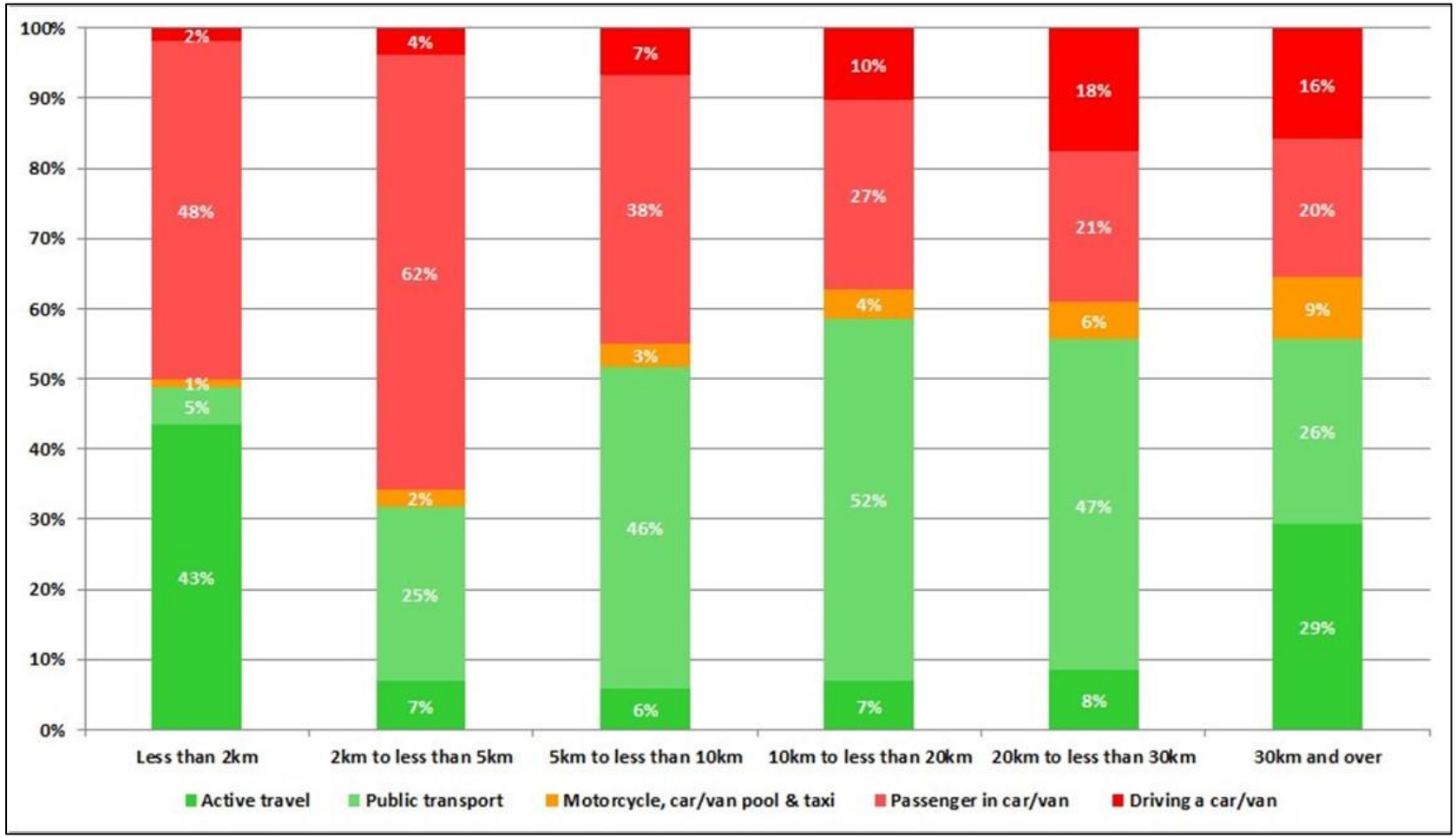


Figure A-30– Modal Choice for Journey to Education by distance in Lisburn City and Metropolitan Castlereagh



Section 5 – Road network speeds at peak and off-peak time periods

Figure A-31 –Average Off Peak Speeds (mph) for Roads in Lisburn and Castlereagh City Council

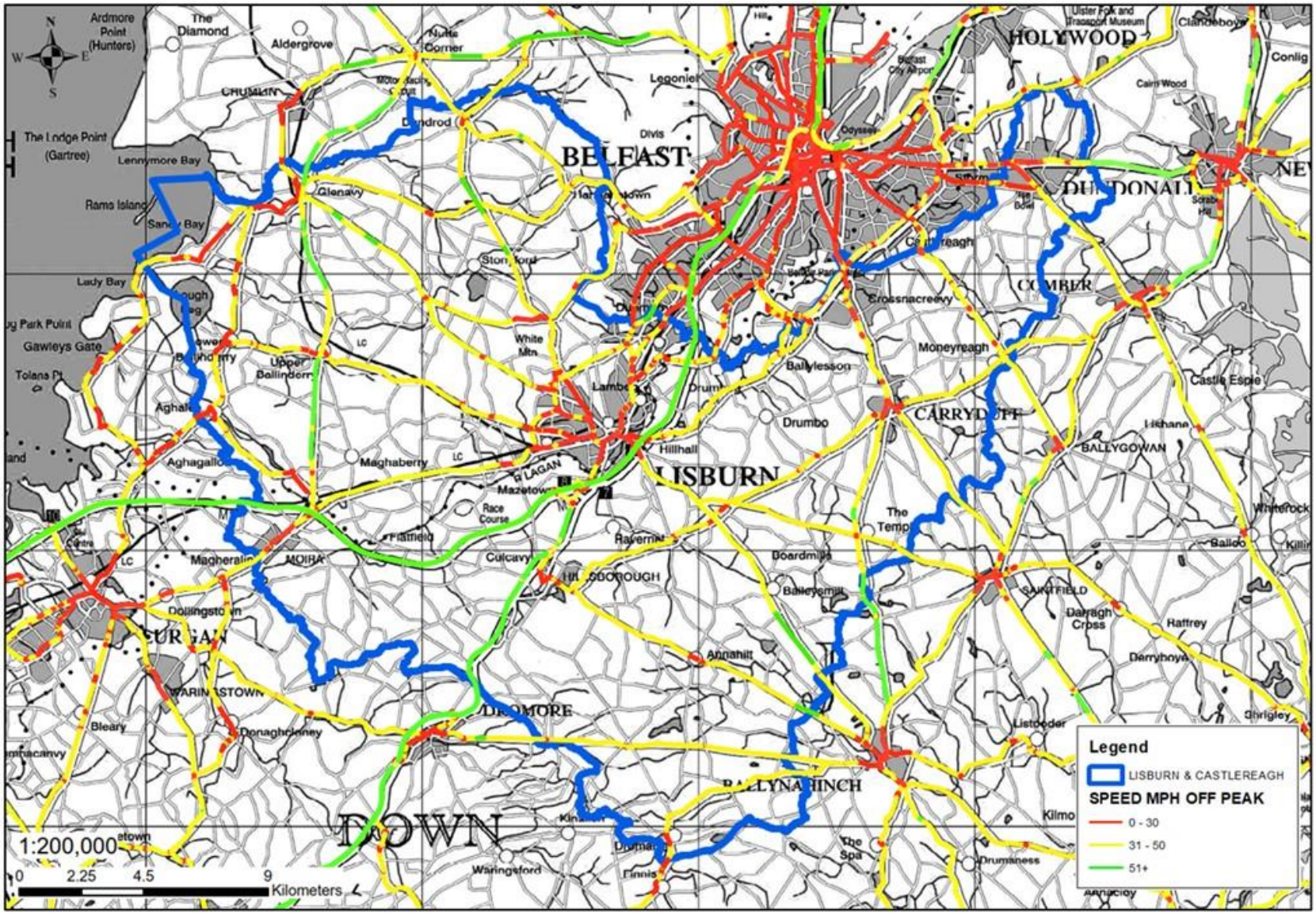


Figure A-32 – Average Peak Speeds (mph) for Road in Lisburn

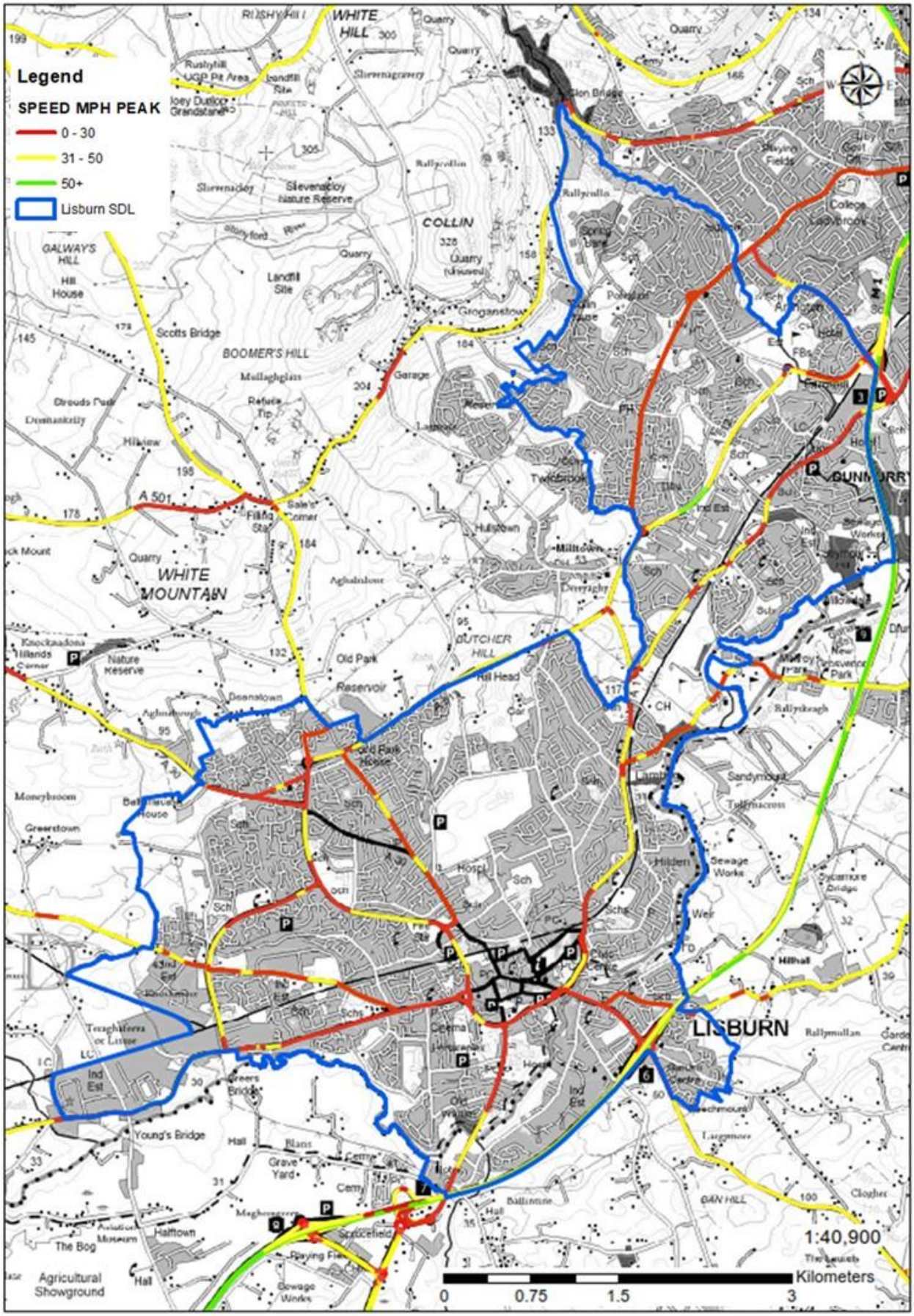


Figure A-33 – Average Peak Speeds (mph) for Road in Castlereagh Greater Urban Area

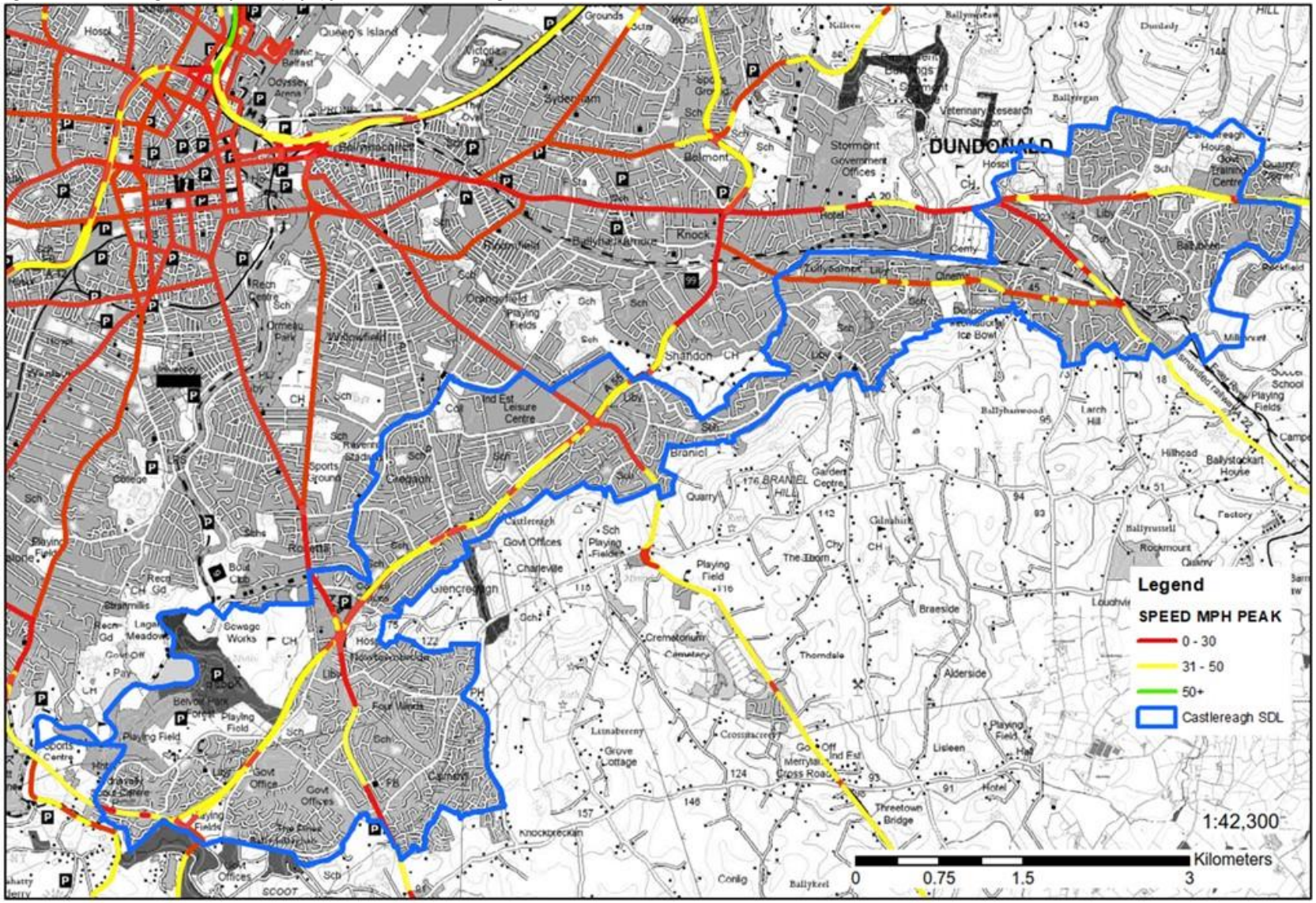


Figure A-34 – Average Peak Speeds (mph) for Road in Moira

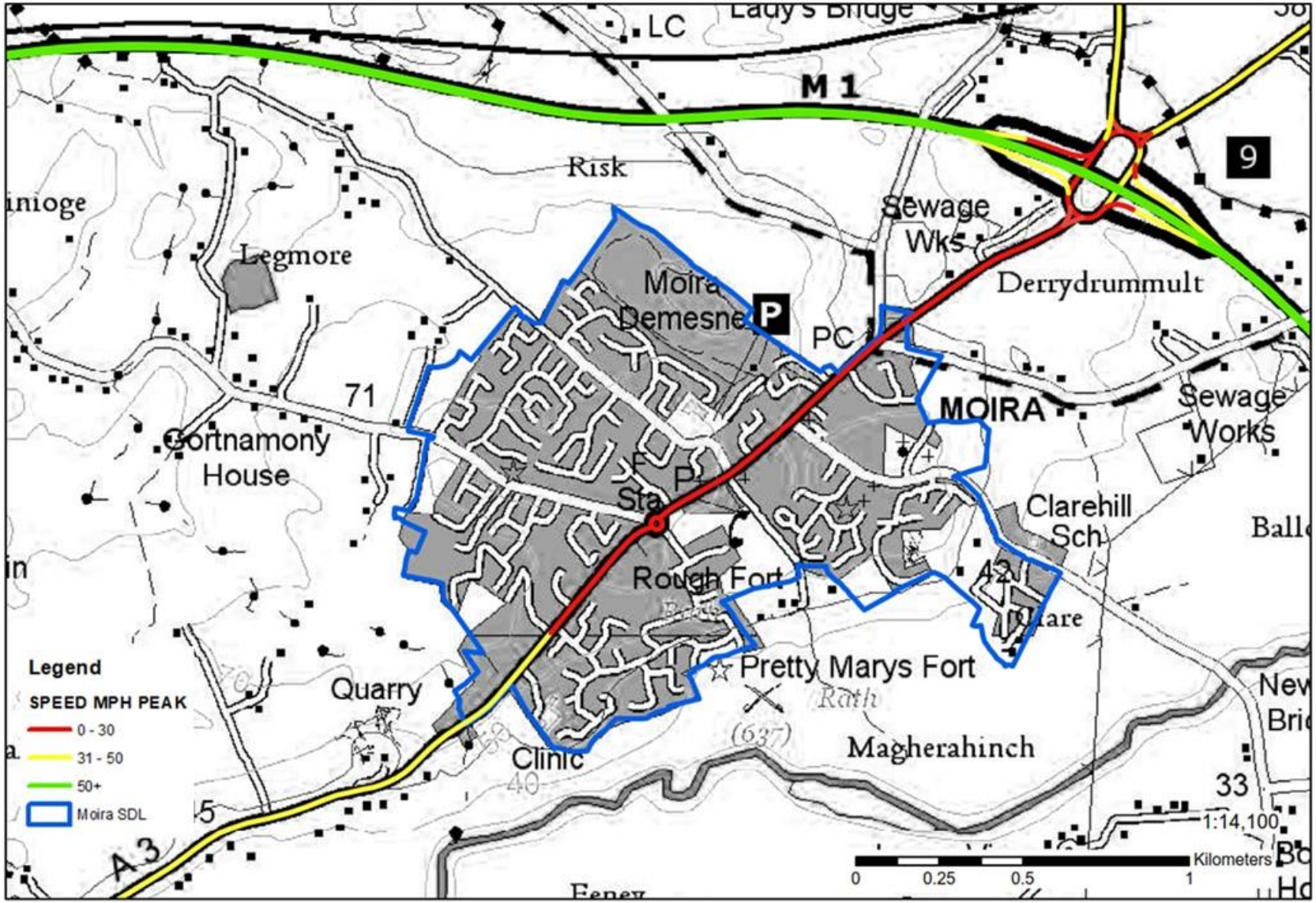


Figure A-35 – Average Peak Speeds (mph) for Road in Carryduff

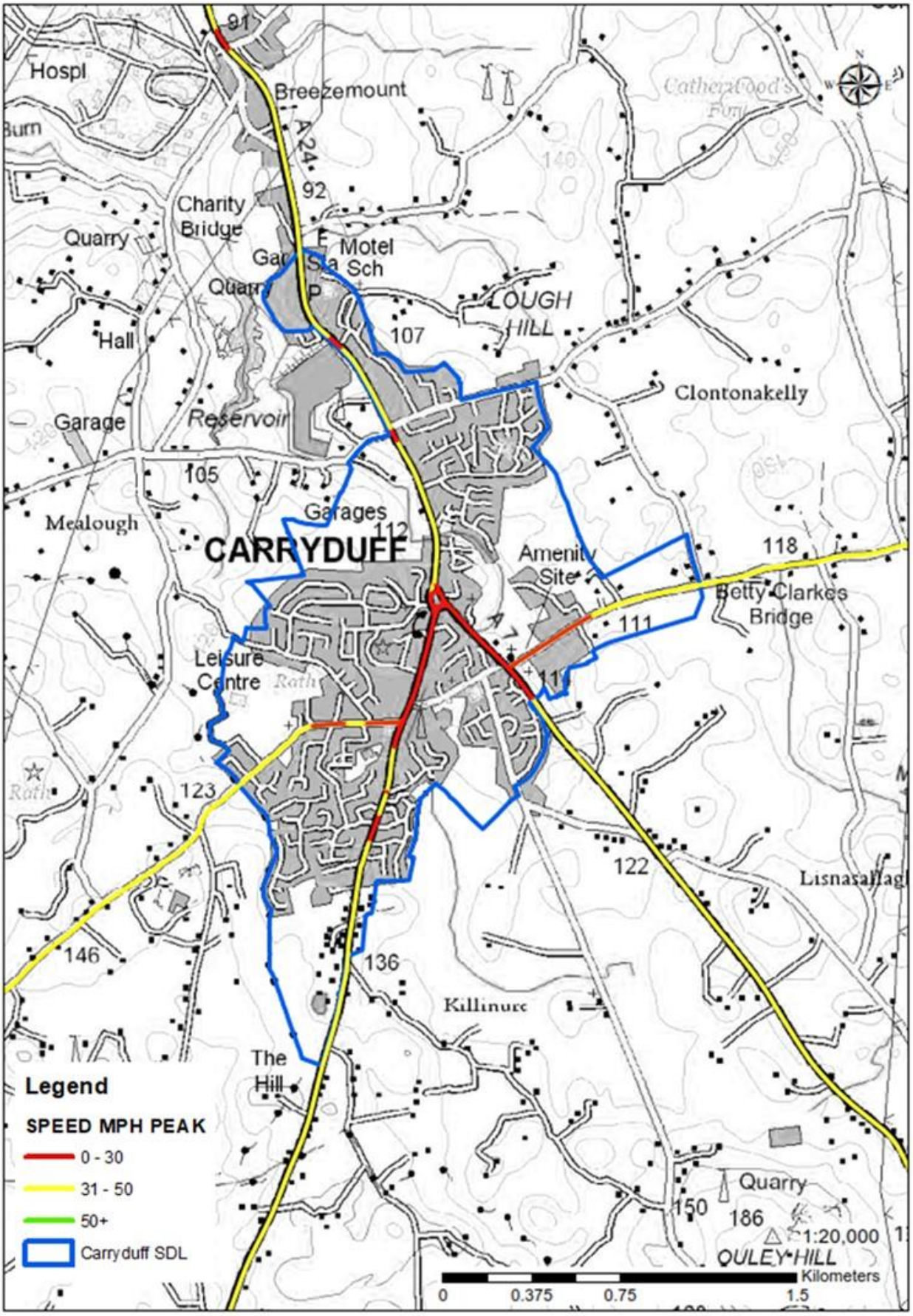
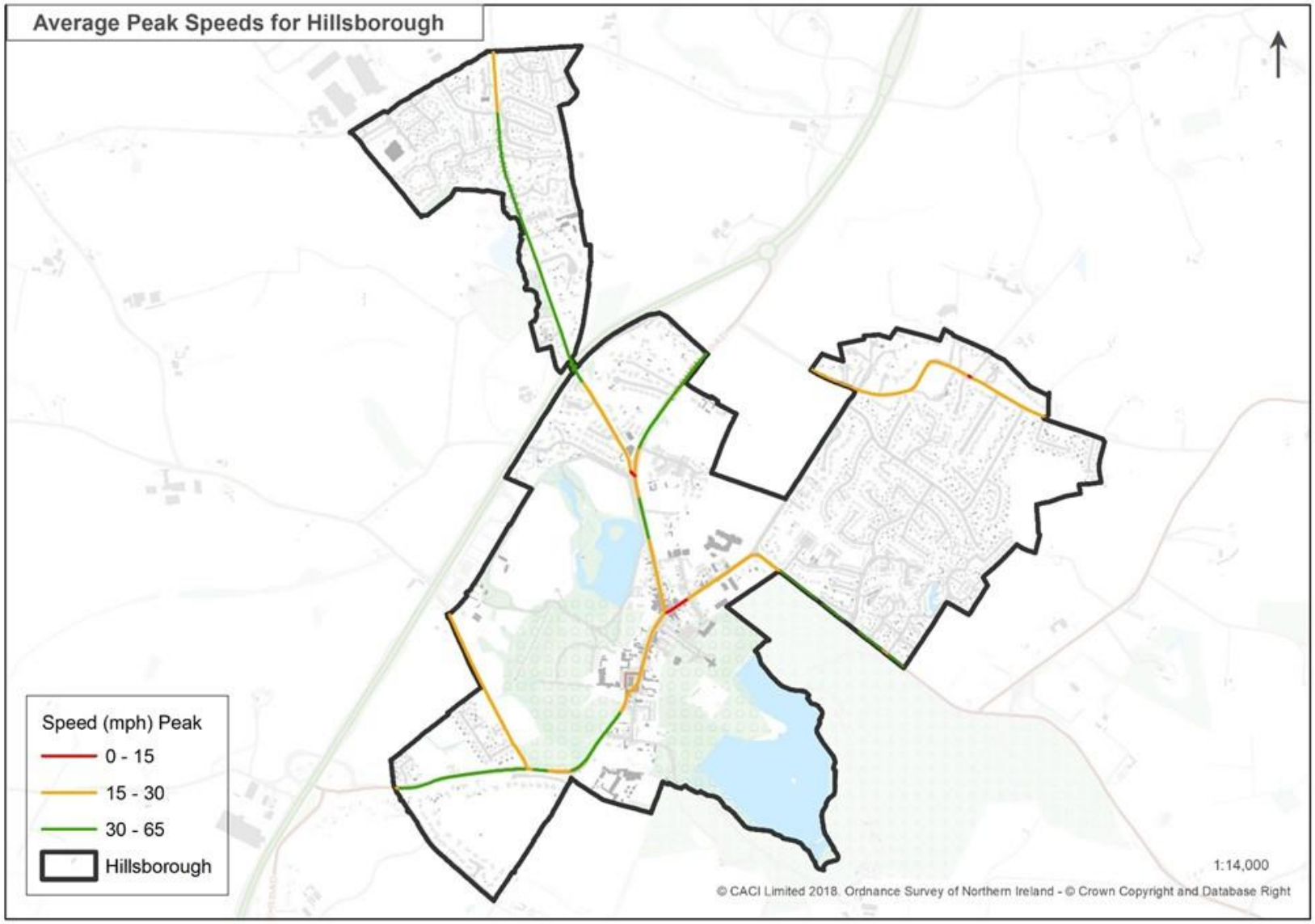


Figure A-36– Average Peak Speeds (mph) for Road in Hillsborough



Section 6 – Road Collision History

Table A-1– Number of Road Traffic Casualties by Severity and Road User Type in Lisburn City, 2007-2016

	2007-2011				2012-2016				2007-2016 (combined)			
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	920	4	80	836	1,076	6	62	1,008	1,996	10	142	1,844
Pedestrians	117	1	26	90	102	1	22	79	219	2	48	169
Motor Vehicle Users (inc passengers)	716	2	31	683	896	2	24	870	1,612	4	55	1,553
Motorcyclists (inc pillion passengers)	49	1	19	29	41	2	11	28	90	3	30	57
Pedal Cyclists	33	0	4	29	33	1	4	28	66	1	8	57
Other Road Users	5	0	0	5	4	0	1	3	9	0	1	8

Casualties in Lisburn City 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	1,076	6	62	1,008
Pedestrians	9.5%	16.7%	35.5%	7.8%
Motor Vehicle Users (inc passengers)	83.3%	33.3%	38.7%	86.3%
Motorcyclists (inc pillion passengers)	3.8%	33.3%	17.7%	2.8%
Pedal Cyclists	3.1%	16.7%	6.5%	2.8%
Other Road Users	0.4%	0.0%	1.6%	0.3%

Casualties in Lisburn City 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	1,076	0.6%	5.8%	93.7%
Pedestrians	102	1.0%	21.6%	77.5%
Motor Vehicle Users (inc passengers)	896	0.2%	2.7%	97.1%
Motorcyclists (inc pillion passengers)	41	4.9%	26.8%	68.3%
Pedal Cyclists	33	3.0%	12.1%	84.8%
Other Road Users	4	0.0%	25.0%	75.0%

Table A-2– Number of Road Traffic Casualties by Severity and Road User Type in Metropolitan Castlereagh, 2007-2016

	2007-2011				2012-2016				2007-2016 (combined)			
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	907	3	60	844	1,082	3	51	1,028	1,989	6	111	1,872
Pedestrians	63	0	13	50	76	1	15	60	139	1	28	110
Motor Vehicle Users (inc passengers)	734	1	23	710	918	1	17	900	1,652	2	40	1,610
Motorcyclists (inc pillion passengers)	75	2	19	54	36	1	13	22	111	3	32	76
Pedal Cyclists	34	0	5	29	46	0	6	40	80	0	11	69
Other Road Users	1	0	0	1	6	0	0	6	7	0	0	7

Casualties in Metropolitan Castlereagh 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	1,082	3	51	1,028
Pedestrians	7.0%	33.3%	29.4%	5.8%
Motor Vehicle Users (inc passengers)	84.8%	33.3%	33.3%	87.5%
Motorcyclists (inc pillion passengers)	3.3%	33.3%	25.5%	2.1%
Pedal Cyclists	4.3%	0.0%	11.8%	3.9%
Other Road Users	0.6%	0.0%	0.0%	0.6%

Casualties in Metropolitan Castlereagh 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	1,082	0.3%	4.7%	95.0%
Pedestrians	76	1.3%	19.7%	78.9%
Motor Vehicle Users (inc passengers)	918	0.1%	1.9%	98.0%
Motorcyclists (inc pillion passengers)	36	2.8%	36.1%	61.1%
Pedal Cyclists	46	0.0%	13.0%	87.0%
Other Road Users	6	0.0%	0.0%	100.0%

Table A-3– Number of Road Traffic Casualties by Severity and Road User Type in Moira, 2007-2016

	2007-2011				2012-2016				2007-2016 (combined)			
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	44	0	2	42	45	1	2	42	89	1	4	84
Pedestrians	7	0	1	6	7	1	0	6	14	1	1	12
Motor Vehicle Users (inc passengers)	32	0	0	32	32	0	1	31	64	0	1	63
Motorcyclists (inc pillion passengers)	3	0	1	2	3	0	0	3	6	0	1	5
Pedal Cyclists	2	0	0	2	3	0	1	2	5	0	1	4
Other Road Users	0	0	0	0	0	0	0	0	0	0	0	0

Casualties in Moira 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	45	1	2	42
Pedestrians	15.6%	100.0%	0.0%	14.3%
Motor Vehicle Users (inc passengers)	71.1%	0.0%	50.0%	73.8%
Motorcyclists (inc pillion passengers)	6.7%	0.0%	0.0%	7.1%
Pedal Cyclists	6.7%	0.0%	50.0%	4.8%
Other Road Users	0.0%	0.0%	0.0%	0.0%

Casualties in Moira 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	45	2.2%	4.4%	93.3%
Pedestrians	7	14.3%	0.0%	85.7%
Motor Vehicle Users (inc passengers)	32	0.0%	3.1%	96.9%
Motorcyclists (inc pillion passengers)	3	0.0%	0.0%	100.0%
Pedal Cyclists	3	0.0%	33.3%	66.7%
Other Road Users	0	0.0%	0.0%	0.0%

Table A-4– Number of Road Traffic Casualties by Severity and Road User Type in Carryduff, 2007-2016

	2007-2011				2012-2016				2007-2016 (combined)			
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	139	0	7	132	159	1	14	144	298	1	21	276
Pedestrians	10	0	2	8	3	0	1	2	13	0	3	10
Motor Vehicle Users (inc passengers)	120	0	3	117	147	1	12	134	267	1	15	251
Motorcyclists (inc pillion passengers)	4	0	1	3	6	0	1	5	10	0	2	8
Pedal Cyclists	5	0	1	4	3	0	0	3	8	0	1	7
Other Road Users	0	0	0	0	0	0	0	0	0	0	0	0

Casualties in Carryduff 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	159	1	14	144
Pedestrians	1.9%	0.0%	7.1%	1.4%
Motor Vehicle Users (inc passengers)	92.5%	100.0%	85.7%	93.1%
Motorcyclists (inc pillion passengers)	3.8%	0.0%	7.1%	3.5%
Pedal Cyclists	1.9%	0.0%	0.0%	2.1%
Other Road Users	0.0%	0.0%	0.0%	0.0%

Casualties in Carryduff 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	159	0.6%	8.8%	90.6%
Pedestrians	3	0.0%	33.3%	66.7%
Motor Vehicle Users (inc passengers)	147	0.7%	8.2%	91.2%
Motorcyclists (inc pillion passengers)	6	0.0%	16.7%	83.3%
Pedal Cyclists	3	0.0%	0.0%	100.0%
Other Road Users	0	0.0%	0.0%	0.0%

Section 7 – Parking Provision

Figure A-37 – Parking Provision Locations in Lisburn

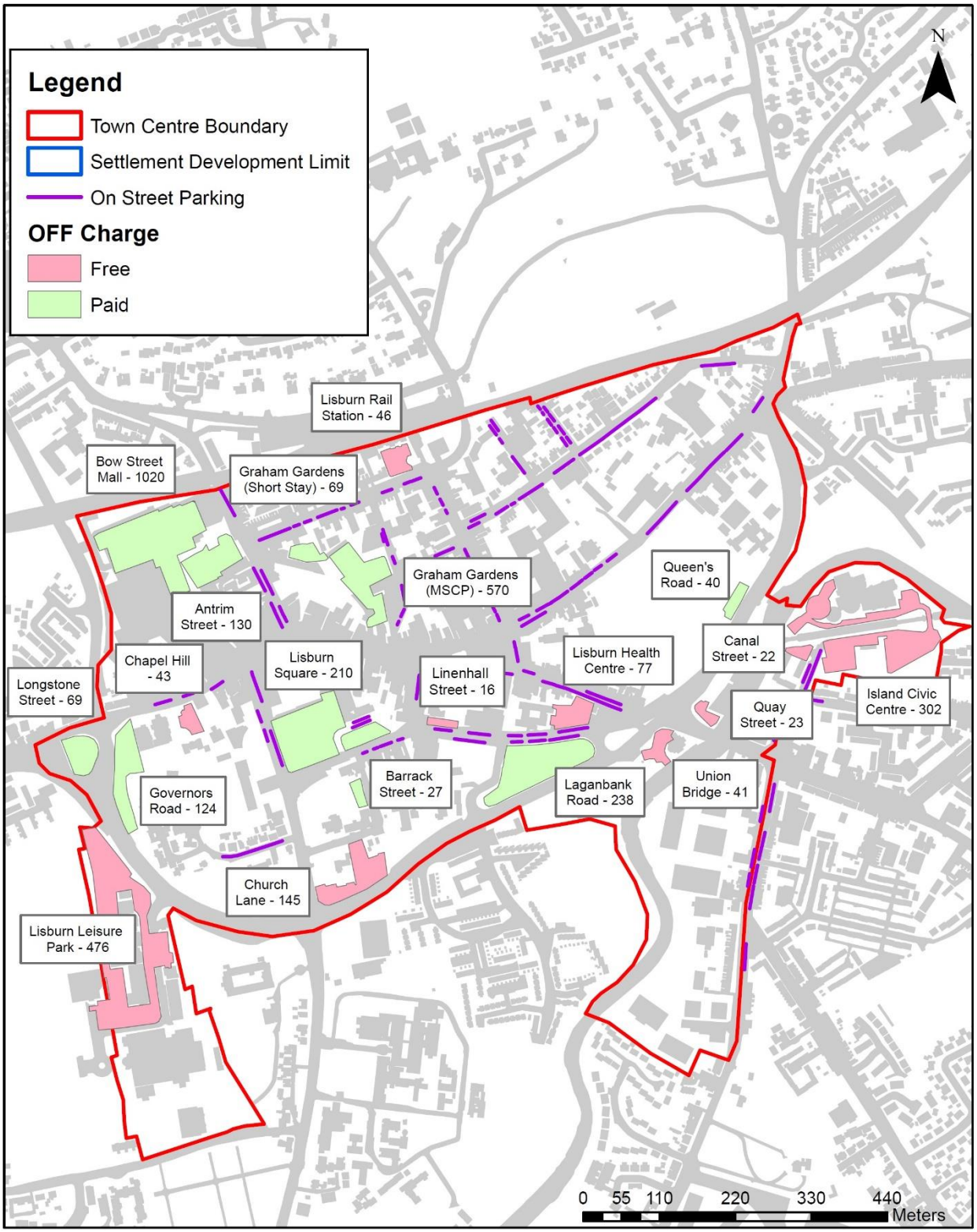


Figure A-38 – Parking Provision Locations in Moira

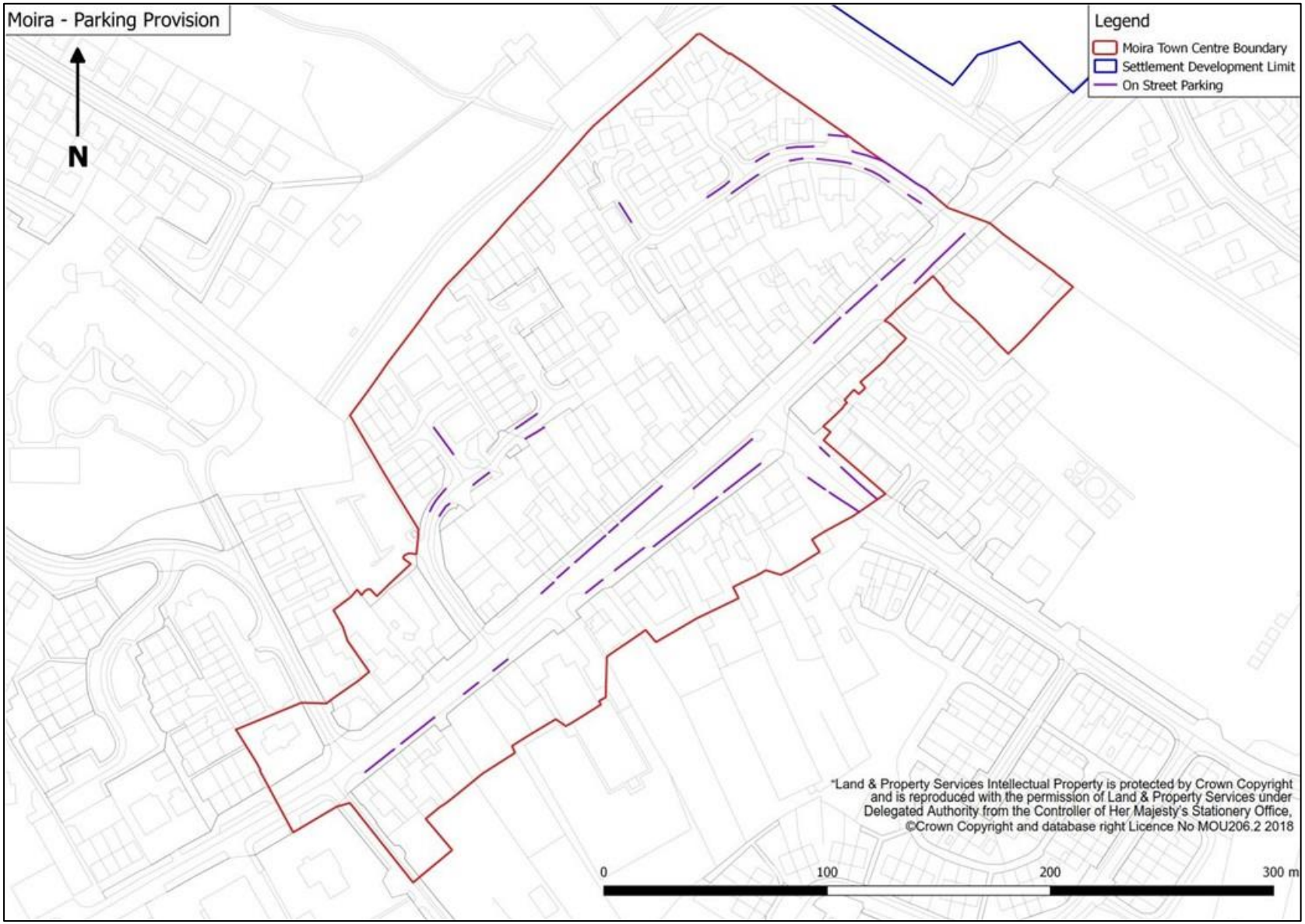


Figure A-39 – Parking Provision Locations in Carryduff

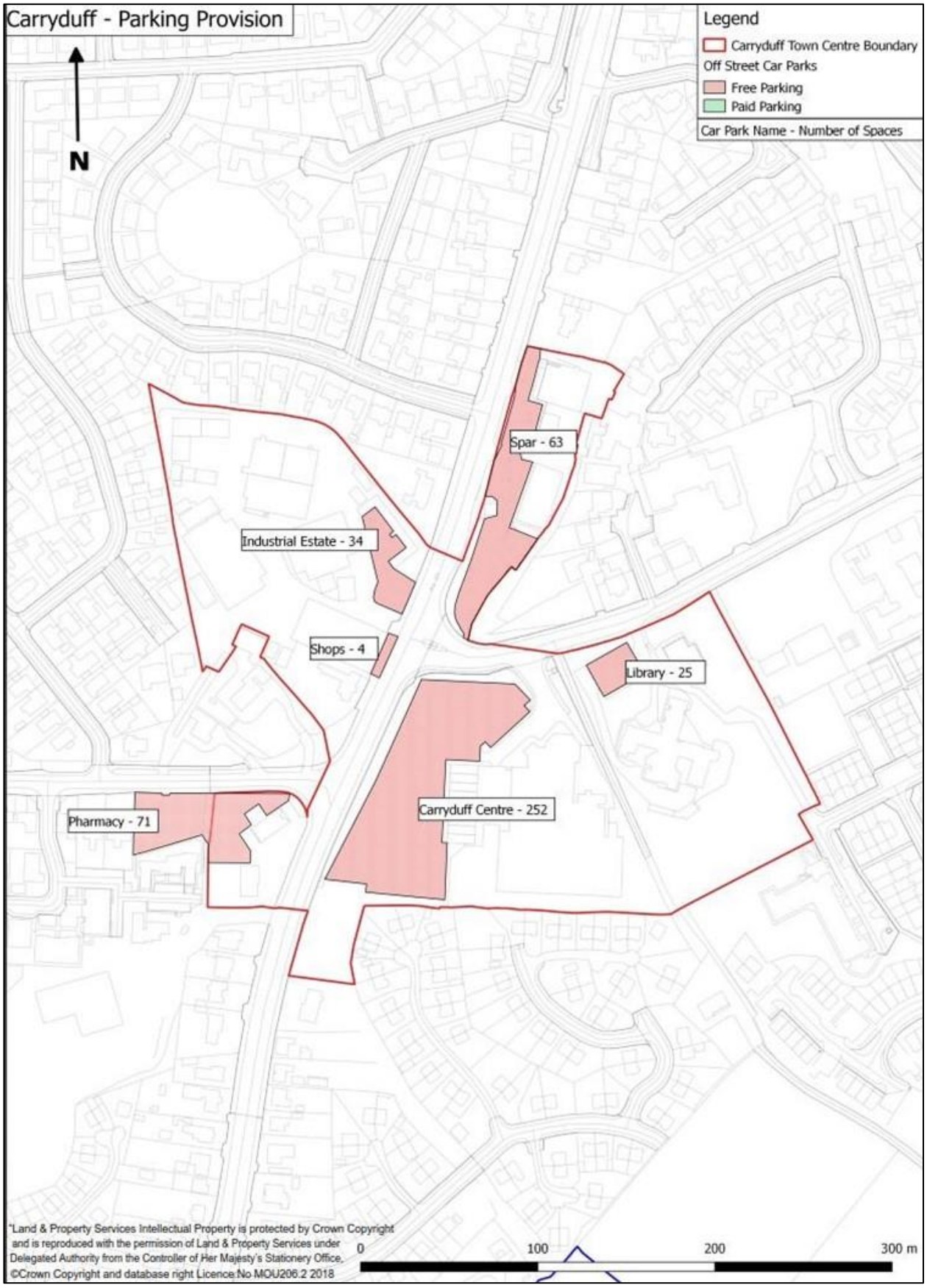


Figure A-40 – Parking Provision Locations in Hillsborough

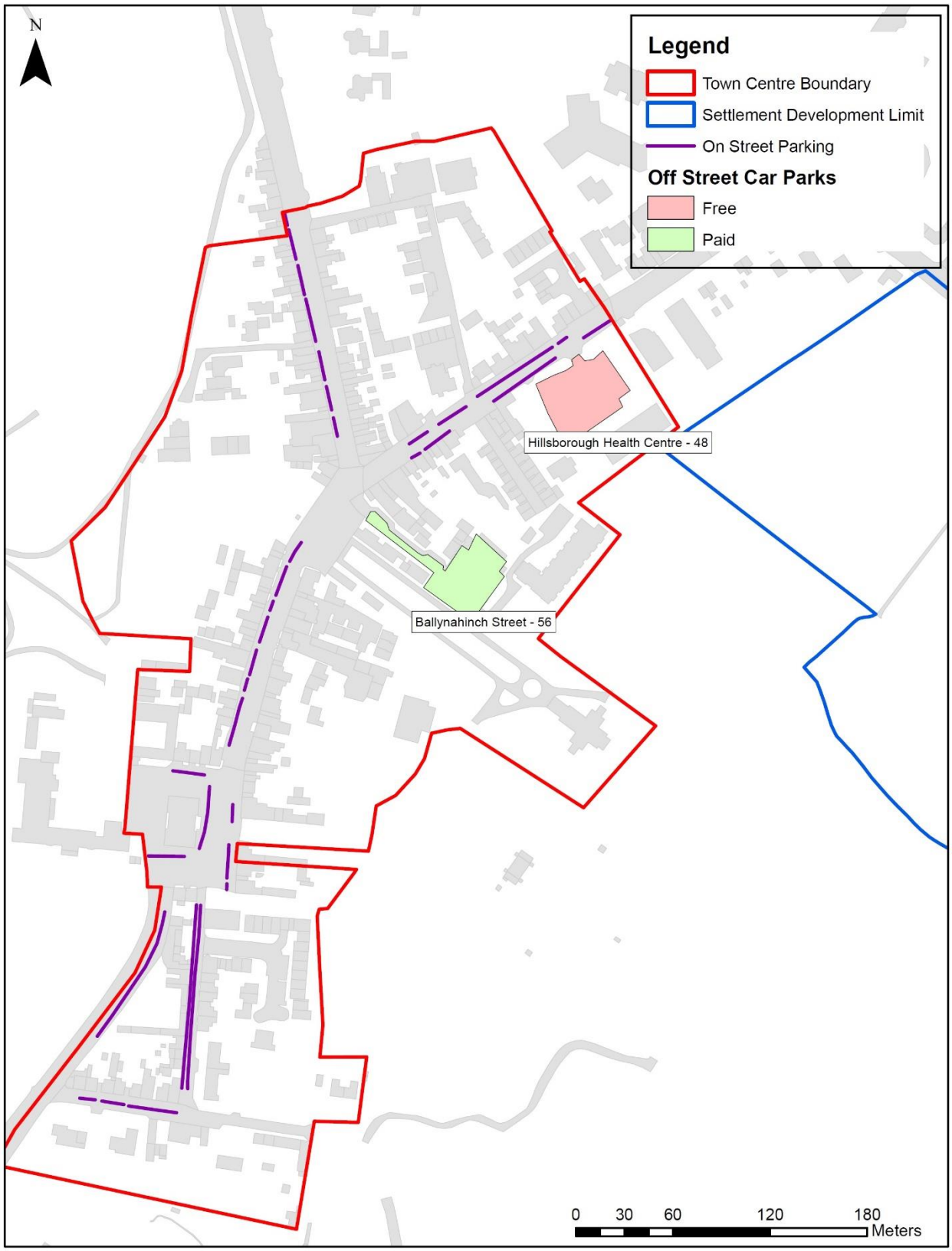


Table A-5 – Off-street Parking Provision by Spaces and Type in Lisburn City

Reference	Car Park Name	Free/Paid	Tariff Reference	Ownership	Total Number of Spaces	Number of Disabled Spaces
L1_CP_01	Antrim Street	Paid	£0.70 per hour	Council	130	2
L1_CP_02	Laganbank Road	Paid	£0.70 per hour	Council	238	6
L1_CP_03	Smithfield Square East	Paid	£0.70 per hour	Council	52	3
L1_CP_04	Quay Street	Free	N/A	Council	23	0
L1_CP_05	Queen's Road	Paid	£0.30 per hour	Council	40	2
L1_CP_06	Union Bridge	Free	N/A	Council	41	3
L1_CP_07	Barrack Street	Paid	£0.50 per hour	Council	27	0
L1_CP_09	Governor's Road	Paid	£0.40 per hour	Council	124	1
L1_CP_10	Longstone Street	Paid	£0.40 per hour	Council	69	0
L1_CP_11	Island Civic Centre	Free	N/A	Council	302	15
L1_CP_13	Linenhall Street	Free	N/A	Private	16	2
L1_CP_14	Graham Gardens (MSCP + McKeown St)	Paid	£0.90 per hour	Private	570	6
L1_CP_15	Graham Gardens (Short Stay)	Paid	£0.90 per hour	Private	69	0
L1_CP_16	Church Lane	Free	N/A	Private	145	0
L1_CP_17	Lisburn Square	Paid	£0.80 per hour	Private	210	4
L1_CP_18	Bow Street Mall	Paid	£0.90 per hour	Private	1020	20

L1_CP_19	Chapel Hill	Free	N/A	Private	43	0
L1_CP_20	Lisburn Train Station	Free	N/A	Private	46	2
L1_CP_21	Lisburn Health Centre	Free	N/A	Private	77	7
L1_CP_22	Canal Street	Free	N/A	Private	22	0
L1_CP_24	Lisburn Leisure Park	Free	N/A	Private	476	19
Total					**3,740**	**75**

Table A-6 – Off-street Parking Provision by Spaces and Type in Moira

Off Street Parking – Moira								
Site Name	Free/Paid	Tariff Reference	Ownership	Total Number of Spaces	Includes Number of Disabled Spaces	Weekday AM Parking Occupancy	Weekday PM Parking Occupancy	Weekend Parking Occupancy
Moira Park and Ride	Free	N/A	Private	91	5	107%	109%	-
Moira Park and Ride Overflow	Free	N/A	Private	94	0	103%	87%	-
Main Street	Free	N/A	Council	59	5	92%	97%	-
			TOTAL	244	10			

This table has been augmented with parking occupancy data collected by AECOM throughout October and November 2017. The AM and PM weekday data was surveyed between 10:00-12:00 and 13:30-15:00 respectively. The weekend data was recorded on a Saturday around midday.

Table A-7 – Off-street Parking Provision by Spaces and Type in Carryduff

Off Street Parking - Carryduff						
Ref	Site Name	Free/Paid	Tariff Reference	Ownership	Total Number of Spaces	Includes Number of Disabled Spaces
D2 CP 01	Carryduff Centre	Free	N/A	Private	252	8
	Estate					
D2_CP_05	Shops	Free	N/A	Private	4	0
D2_CP_06	Pharmacy	Free	N/A	Private	71	0
				TOTAL	404	10

Table A-8 – Off-street Parking Provision by Spaces and Type in Hillsborough

Reference	Car Park Name	Free/Paid	Tariff Reference	Ownership	Total Number of Spaces	Number of Disabled Spaces
H1_CP_01	Ballynahinch Street	Paid	1	Council	56	3
H1_CP_02	Hillsborough Health Centre	Free	N/A	Private	48	2
Total					**104**	**5**

Table A-9 – On-street Parking Provision by Spaces and Type in Lisburn City

Parking Length Description	Number of Parking Spaces	% of Total Spaces
Unrestricted Kerb	120	28%
Unrestricted Disabled Persons Bay	4	1%
Pay & Display 8am-6pm Monday-Saturday 1 hour no return within 1 hour	62	15%
Pay & Display 8am-6pm Monday-Saturday 2 hours no return within 1 hour	166	39%
Disabled persons bay limited waiting 8am-6.30pm Monday-Saturday max stay 2 hours no return within 1 hour	19	4%
Limited waiting 8am-6.30pm Monday-Saturday 1 hour no return within 1 hour	12	3%
Limited waiting 8am-6.30pm Monday-Saturday 2 hour no return within 1 hours	10	2%
Limited waiting 8am-6pm Monday-Saturday 2 hour no return within 1 hours	5	1%
Loading only	2	0%
Loading only Monday-Saturday 8am-6pm	10	2%
No Waiting except Taxis	3	1%
Coaches	2	0%
Electric Vehicles	0	0%
Other – No designation	10	2%
Total	**425**	**100%**

Table A-10 – On-street Parking Provision by Spaces and Type in Moira

On-street car parking - Moira		
Parking Length Description	Number of Parking Spaces	Percentage of Total Spaces
Disabled Bay- 8:30am-6pm Mon-Sat 1 hour no return within 1 hour	1	1.1%
Disabled Bay- 8am-6:30pm Mon-Sat 1 hour no return within 2 hours	2	2.2%
Limited Waiting 8:30am-6pm Monday-Saturday 1 hour no return within 1 hour	21	22.8%
Limited Waiting 8am-6:30pm Monday-Saturday 1 hour no return within 2 hours	23	25.0%
Limited Waiting 8am-6pm Monday-Saturday 1 hour no return within 1 hour	1	1.1%
Unrestricted Kerb	44	47.8%
Total	**92**	100%

Table A-11 – On-street Parking Provision by Spaces and Type in Hillsborough

Parking Length Description	Number of Parking Spaces	% of Total Spaces
Unrestricted Kerb	108	62%
Unrestricted Disabled Persons Bay	1	1%
Limited waiting 8am-6pm Monday-Saturday 1 hour no return within 1 hour	27	16%
Limited waiting 8am-6.30pm Monday-Saturday 1 hour no return within 1 hour	5	3%
Limited waiting 8:30am-6:30pm Monday-Saturday 1 hour no return within 1 hour	33	19%
Total	**174**	**100%**