

ARMAGH CITY, BANBRIDGE AND CRAIGAVON LOCAL TRANSPORT STUDY



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1.0 Introduction

1.1. Local Development Plans

- 1.1.1. The Department for Infrastructure (the Department) is working co-operatively with the councils in Northern Ireland (NI) to produce a new family of Local Transport Plans (LTP) integrated with the councils Local Development Plans (LDPs). The four Transport Plans which are intended to set out the framework for transport policy and investment decisions up until 2035 are:
- The Belfast Metropolitan Transport Plan (BMTP);
 - The North West Transport Plan (NWTP);
 - The Sub-Regional Transport Plan (SRTP); and,
 - The Regional Strategic Transport Network Transport Plan (RSTNTP) covering all of Northern Ireland.
- 1.1.2. While the RSTNTP is concerned with strategic roads, the buses which run on them and the rail network across all of Northern Ireland, the remaining Transport Plans aim to maximise integration between Transport Planning and the LDP Local Policies Plans (LPP).
- 1.1.3. These plans move through different stages, and increase in detail from an overall strategic direction, through to specific local policies and schemes. The integration of land-use and transport planning processes provides a unique opportunity to combine the shared regional and local ambitions which are set out in the Executive's draft Programme for Government (PfG) and also in the councils' Community Plans and LDPs.
- 1.1.4. This approach is in accordance with the stated aim of the SPPS with regard to transportation "to secure improved integration with land-use planning". In addition, Section 3 of Part 2 of the Planning Act (Northern Ireland) 2011 the 2011 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)).
- 1.1.5. This **Armagh City, Banbridge and Craigavon** Borough Council (ABCBC) Local Transport Study (LTS) has been prepared by the Department to supplement the overarching Sub-Regional Transport Plan (SRTP) which covers Fermanagh & Omagh; Mid Ulster; Causeway Coast & Glens; Armagh, Banbridge & Craigavon; and Newry, Mourne & Down. Throughout the development of this study, the Department has shared the evidence used as it became available so that consideration of the emerging study could inform the ABCBC LDP - Draft Plan Strategy stage. Additional maps, tables and charts are provided in Annex 1 alongside this document.

1.2. Purpose of Transport Study

- 1.2.1. The purpose of this LTS is to set out an objective evidence-based assessment in relation to current and future transport issues, in the context of Council growth ambitions and future indicative transport measures required to facilitate growth ambitions during the LDP period to 2030 in the ABCBC area. This evidence base can be used to inform both the Armagh, Banbridge and Craigavon LTP and the ABCBC LDP Plan Strategy to ensure that the transport network and transport needs of the ABCBC area are taken into account when planning for its future development. Whilst the transport elements are quite distinct in terms of the services they offer and benefits they bring, the key linkages with land-use planning will collectively help deliver on shared regional and local ambitions and outcomes.
- 1.2.2. These illustrative transport measures are developed in this LTS in line with the draft PfG, current government policies and with the direction of the ABCBC Community Plan and the LDP Preferred Options Paper (POP).
- 1.2.3. This LTS presents the range of measures for active travel¹, public transport and roads for the period up to 2030, in addition to the linkages with the Regional Strategic Transport Network Transport Plan (RSTNTP), which will look at how best to develop the key transport corridors and other main routes.
- 1.2.4. At this stage, consistent with the LDP POP and Plan Strategy stage, the locations of the transport measures are not described in detail. The detail and specific schemes will be added at LDP LPP stage, when land use zonings are identified. Therefore, in this LTS measures are described in terms of strategic locations. **ABCBC** has both **urban and rural areas**, and as such has particular needs for both land use planning and transportation infrastructure. The majority of key services and economic generators are located in the main and local hubs of **Armagh, Banbridge and Craigavon Urban Area (CUA)**, and therefore these towns naturally provide the focus for the potential transport measures.

1.3. Study Area

- 1.3.1. This LTS is aligned to the **ABCBC area**, as shown in Figure 1, and includes potential transport measures for the main hubs of **Armagh, Banbridge and Craigavon Urban Area** as defined in the Regional Development Strategy 2035 – Building a Better Future (RDS). **Armagh, Banbridge and the Craigavon Urban Area** are the largest settlements within ABCBC. The next largest settlements of **Dromore, Waringstown and Tandragee** are much smaller as summarised in Table 1 together with a list of all settlements within the council area.

¹ Active travel means making journeys by physically active means such as walking and cycling.

Figure 1 Armagh City, Banbridge and Craigavon Borough Council

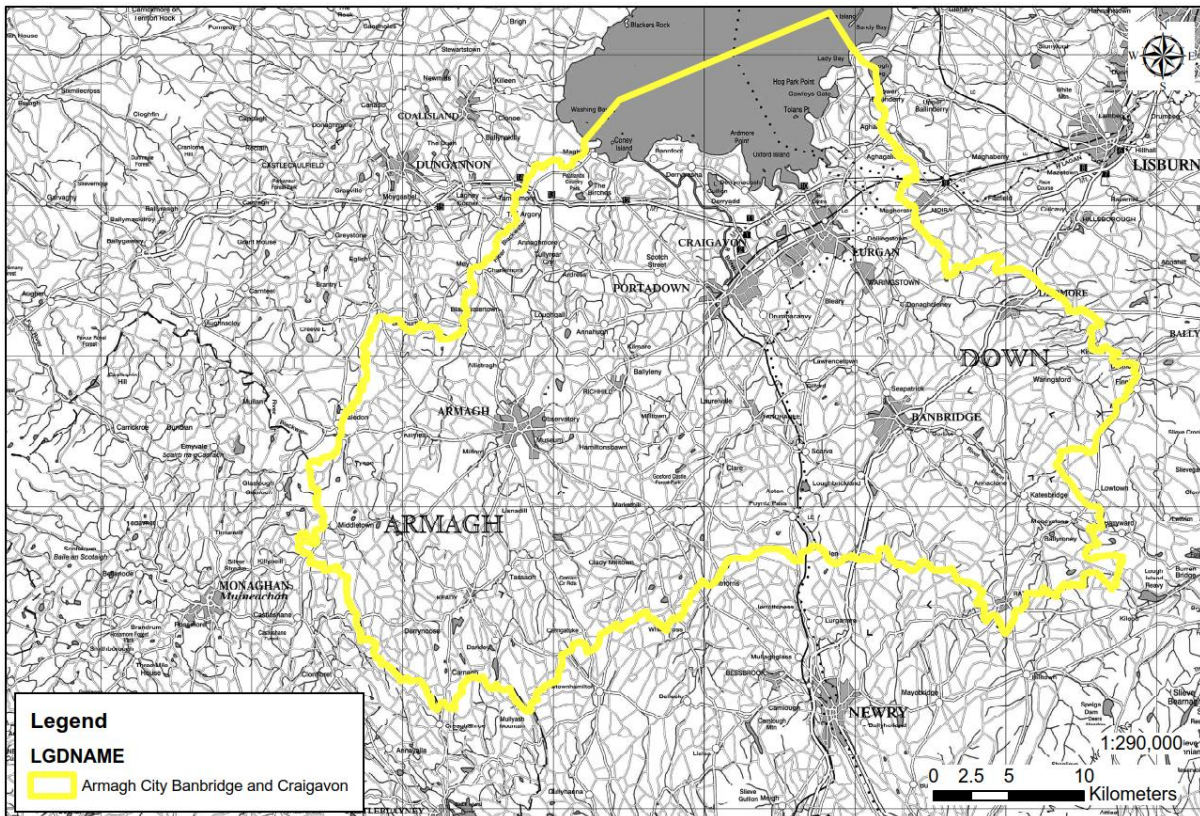


Table 1. Armagh City, Banbridge and Craigavon Borough Council Settlements and 2011 Population

SETTLEMENT	USUAL RESIDENTS 2011
Craigavon Urban Area	64,323
Banbridge	16,637
Armagh	14,777
Dromore	6,003
Waringstown	3,683
Tandragee	3,486
Keady	3,051
Richhill	2,826
Rathfriland	2,467
Dollingstown	2,103
Gilford	1,933
Donaghacloney	1,695
Markethill	1,647
Magheralin	1,343
Laurelvale / Mullavilly	1,288
Drumnacanvy	1,004
Lawrencetown	951
Hamiltonsbawn	888
Derrymacash	709
Loughbrickland	693
Milford	618
Poyntzpass	552
Scotch Street	491

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

1.3.3. ABCBC is a large council in terms of area and measures as 134,697 ha compared to the NI average of 123,294 ha. Its population density is approximately 1.48 compared to the NI average of 3.66 (or 1.54 when excluding BCC) and an NI-wide density of 1.34. Only 51% of the population live in towns of 5,000 or more compared to the NI average of 58% or just under 54% excluding BCC. The road length per capita is 0.02km which equals the NI average. Average road speeds within the Borough are 64km/hr, marginally higher than the NI average of 62km/hr. 18% of households do not own cars and only 53% of the population are able to access a main town by public transport within 30 minutes compared to the NI-wide value of 68% or 62% excluding BCC.

Figure 2. Armagh City, Banbridge and Craigavon Borough Council Key Characteristics Compared to NI Average

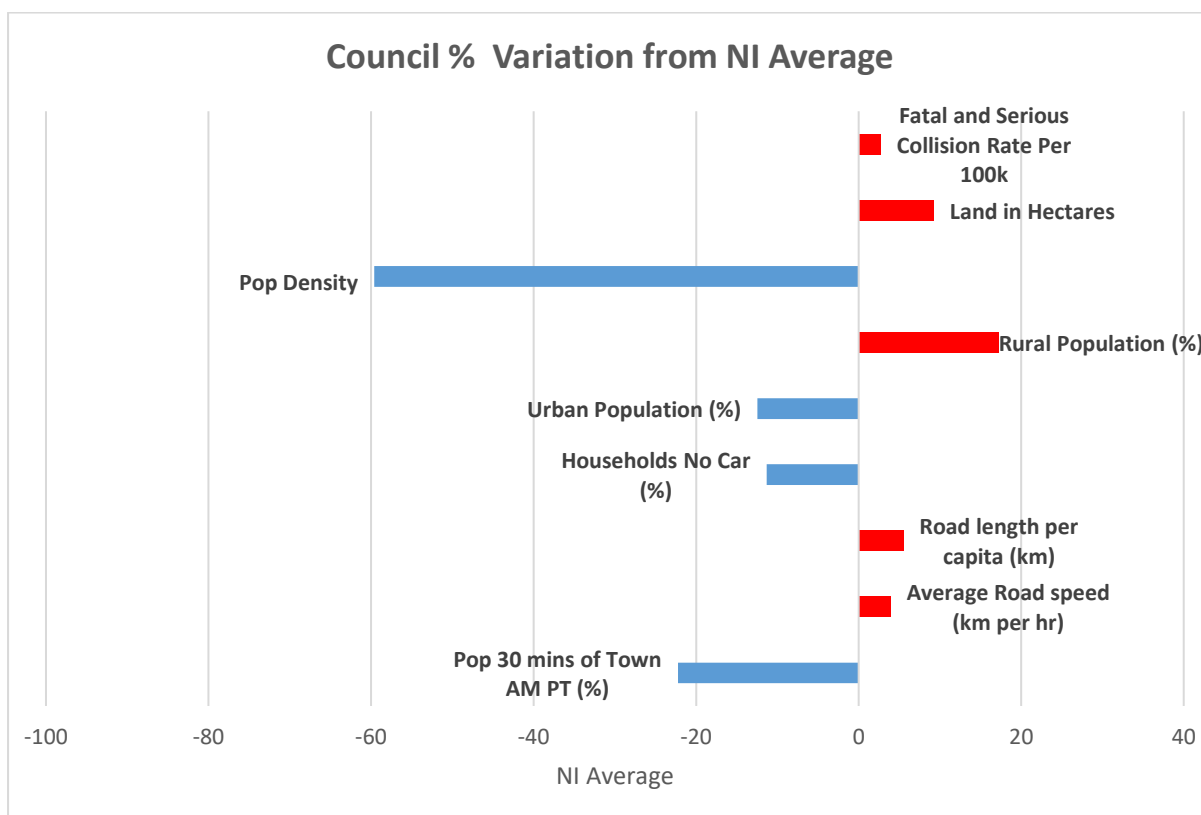


Table 2. Armagh City, Banbridge and Craigavon Borough Council Key Characteristics Compared to NI Average

	Council	NI Avg	NI Avg (exc. Belfast)	% Variation from Avg	% Variation from Avg (exc. Belfast)
Pop 30 mins of Town AM PT (%)	53	68	62	-22	-15
Average Road speed (km per hr)	64.23	61.79	65.00	4	-1
Road length per capita (km)	0.0185	0.0175	0.019	6	-2
Households No Car (%)	18.19	20.51	18.74	-11	-3
Urban Population (%)	50.79	58.01	53.90	-12	-6
Rural Population (%)	49.21	41.99	46.10	17	7
Pop Density	1.48	3.66	1.54	-60	-4
Land in Hectares	134,697	123,294	134,282	9	0
Fatal and Serious Collision Rate Per 100k	46	44.80	45.41	3	1

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, local **ABCBC** issues and direction as set by the Community Plan and the LDP Preferred Options Paper;
- Chapter 7 commences with a discussion of transport options and their merits before presenting the Transport Measures.
- Chapter 8 summarises the conclusions of the LTS and the recommended measures.

2.0 Policy Context

2.1. Transport Policy Context

- 2.1.1. The ABCBC LDP, POP and Community Plan set out a wide range of objectives and outcomes for the council area.
- 2.1.2. Similarly, the draft PfG sets out the Northern Ireland Executive's wider ambitions to address the major social, economic and environmental issues affecting all sections of society.
- 2.1.3. In addition to the draft PfG, there are a number of strategic planning and transport policies which set the context for this LTS, namely:
- The Regional Development Strategy 2035 – Building a Better Future (RDS);
 - Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation (New Approach);
 - Northern Ireland Changing Gear – A Bicycle Strategy for Northern Ireland; and,
 - Exercise Explore Enjoy: A Strategic Plan for Greenways.
- 2.1.4. These strategic documents are NI wide and all council areas are required to take full cognisance of their content and to plan accordingly. In particular the urban areas in ABCBC, most notably **Armagh, Banbridge and the Craigavon Urban Areas** have a key role to play in helping to deliver any urban-related objectives.
- 2.1.5. This study has been developed to support the achievement of both the objectives set out in these documents and the objectives of the future ABCBC LDP Plan Strategy.
- 2.1.6. An overview of the content of these key strategic documents and their context is outlined below.

2.2. Draft Programme for Government 2016-2021²

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

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

- 2.2.2. The draft PfG identifies key strategic outcomes, supported by a number of indicators. Draft Delivery Plans have been developed for each of these, setting out the key actions to support delivery of draft PfG outcomes.
- 2.2.3. The Department's main contribution to the PfG is through:
- Outcome 2: We live and work sustainably – protecting the environment; and
 - Outcome 11: We connect people and opportunities through our infrastructure.
- 2.2.4. Outcome 2 has a focus on protecting the environment while supporting wider economic growth and social cohesion objectives. The key focus of Outcome 11 is the importance of physical connectivity as a key enabler of economic growth and social cohesion. Under this framework the Department is directly responsible for delivery of two transport related PfG indicators
- Indicator 23: Average journey time on key economic corridors; and
 - Indicator 25: % of all journeys made by walking, cycling and public transport.
- 2.2.5. The focus within the Delivery Plan for Indicators 23 and 25 is to ensure that investment in our transport infrastructure supports economic and social progress while seeking to minimise the harmful effects generated by road traffic through congestion and pollution on the environment and on health. Indicators 23 and 25 are strongly inter-dependent, for example, progress in increasing the uptake of active travel and public transport will help reduce pressure on the strategic road network, mitigate congestion and improve journey times on key corridors.
- 2.2.6. It is understood that variations in the rural / urban settlement balance across NI will provide variations in the challenges and opportunities for Councils in delivering draft PfG outcomes and indicators. The Department's contribution to the successful delivery of draft PfG outcomes will be reliant on the concerted and collaborative efforts of delivery partners working in partnership with the Department.

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

- 2.3.1. The RDS, published in March 2012, is a long-term plan to deliver the spatial aspects of the PfG. The RDS recognises the need for balanced sub-regional growth and importance of key settlements as centres for growth and investment.
- 2.3.2. The RDS includes Regional Guidance 2 (RG2) to “deliver a balanced approach to transport infrastructure”. (RG2) which will allow the region to remain competitive in the global market in a sustainable manner. The focus of this guidance is on managing the use of road and rail space and how we can use our network in a better, smarter way.
- 2.3.3. In particular, the RDS recognises the need to maximise the potential of the Regional Strategic Transport Network (RSTN) to enhance accessibility to towns; to help build an integrated

regional economy; facilitate tourist travel including improving connections to key tourism sites; and reducing where possible, unsuitable increases of traffic into towns.

- 2.3.4. The RDS contains a Spatial Framework and Strategic Planning Guidelines based on focusing development in gateways, hubs and clusters, and prioritising the improvement of the main transport corridors that form the regional transportation network. The RDS identifies Armagh, Banbridge and Craigavon as main hubs. It states that Armagh, Banbridge and Craigavon have potential to form a cluster. It recognises their strategic location on economic corridors connecting the hubs to Belfast, Dublin, Enniskillen and Sligo.

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

- 2.4.1. The New Approach to Regional Transportation (the 'New Approach') published April 2012, sets out proposals for regional transportation beyond 2015. The New Approach was developed to complement the RDS.
- 2.4.2. The New Approach sets out three High Level Aims for transportation, each of which is supported by a number of Strategic Objectives – these are outlined below:

A. Support the Growth of the Economy

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

B. Enhance the quality of life for all

- 7: Improve Safety
- 8: Enhance Social Inclusion
- 9: Develop transport programmes focused on the user

C. Reduce the Environmental Impact of Transport

- 10: Reduce Greenhouse gas emissions from transport
- 11: Protect biodiversity
- 12: Reduce water, noise and air pollution

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

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

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

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

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

- *Making urban areas in Northern Ireland more accessible for people using the bicycle – improvements to cycling infrastructure will enable more people to access facilities in our urban centres by bicycle or by multi modal journeys.*
- *Improve opportunities for social interaction – 22% of households in Northern Ireland do not have access to a car/van. Improved cycling infrastructure enhances the travel opportunities for those who don't have access to a car/van. Perhaps more importantly, cycling is a social form of transport. It allows people to interact and engage with their surroundings, their community and their neighbours. This can help build a sense of community and contribute to personal well-being and social inclusion.*
- *Improvements in public health – increased levels of bicycle use have both direct (personal fitness) and indirect (improvements to air quality) benefits for public health.*
- *Increase safety for people using the bicycle – this includes reducing the proportion involved in collisions and increasing the 'feel safe' factor for people riding a bicycle.*

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

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

2.5.5. The Bicycle Strategy is particularly relevant to the settlements of Armagh, Banbridge and Craigavon Urban Area.

2.6. Exercise Explore Enjoy: A Strategic Plan for Greenways

- 2.6.1. In November 2016 DfI published its greenways strategy entitled “Exercise Explore Enjoy: A Strategic Plan for Greenways”. The documents provide a vision for “A region where people have ready access to a safe traffic free environment for health, active travel and leisure”.
- 2.6.2. The strategy sets out the plans for a network of greenways, connecting towns and cities to the villages and countryside from east to west and north to south across all eleven councils.
- 2.6.3. The document identifies three classifications of greenway routes that should be explored;
- Primary Greenway Network – to provide long distance connectivity;
 - Secondary Greenway Network – to provide wider access to greenways; and,
 - Community Paths – to provide doorstep opportunities to connect local communities to their local green space and neighbouring communities.

2.7. Sub Regional Transportation Plan 2015

- 2.7.1. The Sub-Regional Transport Plan 2015 (SRTP 2015) was launched by the Department on 11 June 2007. The SRTP 2015 deals with the transport needs of the whole of Northern Ireland with the exception of the Belfast Metropolitan Area and the Regional Strategic Transportation Network.
- 2.7.2. The purpose of the SRTP 2015 is to study the needs of the designated areas in detail and to confirm a package of transport schemes, consistent with the general principles and indicative levels of spend in regional policy at the time.
- 2.7.3. Whilst many of the core objectives of the SRTP 2015 remain relevant, the wider strategic framework has changed with the publication of the RDS 2035 and a new RTS and therefore SRTP 2015 is considered outdated. Schemes and transportation initiatives included in the SRTP 2015 will require further consideration as part of the development of the new Sub Regional Transport Plan 2035 which will accompany the Local Policies Plan.

2.8. Planning Policy Context

Reform of local government & development planning

- 2.8.1. Reform to 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 Environment³ was replaced by a new two-tier system 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.

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

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

Strategic Planning Policy Statement

2.8.3. The Strategic Planning Policy Statement for Northern Ireland – Planning for Sustainable Development (SPPS) was published in September 2015 and provides the government’s policy on important planning matters that should be addressed across Northern Ireland. It reflects expectations for delivery of the planning system.

2.8.4. The document consolidates the 20 separate Planning Policy Statements (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.

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

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

2.8.6. Accessibility is considered to be a key strand throughout the SPSS. The SPSS must be taken into account in the preparation of LDPs and in the determination of planning applications. The SPSS states that the LDP process “*provides the opportunity to assess the transport needs, problems and opportunities within the plan area and to ensure that appropriate consideration is given to transportation issues in the allocation of land for future development, including appropriate integration between transport modes and land use*” and that the “*preparation of a local transport study will assist in this process*”. Transport studies such as this one assist the council in identifying transportation and land use planning issues to be addressed through the delivery of LDPs. This is to have consideration of transport infrastructure (as related to development proposals / land use zoning); new transport schemes; walking & cycling; car parking etc.

Local Development Plan

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

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

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

2.8.9. 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.

POP

2.8.10. ABCBC published their POP in March 2018. The Council's LDP sets a vision where “*Armagh City, Banbridge and Craigavon Borough will be a place to live, work and visit with a vibrant and sustainable economy supported by a healthy and connected community*”.

2.8.11. The POP identifies strategic objectives under the three key themes of social, economic and environmental. The Council's objectives and preferred options for the transport related key issues are as follows:

- Key Issue ECN 13: Protecting the Borough's Protected Routes
 - **Bringing forward an approach that is in line with existing Protected Routes policy, tailored to the needs of the Borough.** This preferred option would bring forward an approach in line with existing policy which seeks to control the

number of new accesses and control the level of use of existing accesses onto protected routes, and provides specific guidance to control protected routes within and outside settlement limits. The preferred approach complies with the regional strategic direction of the SPPS in that it would seek to restrict the number of new accesses and control the level of use of existing accesses onto protected routes therefore contributing towards a sustainable transportation network. This approach acknowledges the role of protected routes and the importance of ensuring that their function is not compromised, it also provides the opportunity to tailor policy to meet the specific needs of the Borough. The tailored policy, would acknowledge that in some cases a new access onto a protected route is necessary, for example, in the case of residential development where this will significantly assist in the creation of a quality environment without compromising road safety standards or result in an excessive number of access points. The preferred approach towards protected routes will therefore rely on improved integration between land use and transportation planning in order to identify where stricter or more relaxed approaches would be appropriate.

- Key Issue ECN 14: Protecting proposed strategic road improvement schemes
 - **Identify and safeguard Key Strategic Road Improvement Schemes in the LDP to enhance accessibility within the Borough.** This preferred approach will enable the Council to identify these Strategic Road Improvement schemes (SRIs), in consultation with Department for Infrastructure (Dfi), and protect such schemes within the Borough and delivers on the Regional Strategic Transport Network Transport Plan (2015) commitment to enhancing accessibility to the main gateways and cross border links, which involves the implementation of SRIs and also the Council's commitment to improving physical connectivity within the Borough. The LDP would also seek to protect land from development that is required to facilitate long term SRI's to ensure that implementation of the project is not jeopardised. The preferred option would seek, in line with the SPPS, to secure improved integration between transportation and land-use planning.
- Key Issue ECN 15: Protecting the Borough's Disused Transport Routes
 - **Protect disused transport routes in line with existing policy and identify and safeguard routes in the LDP that have a reasonable prospect of becoming useable in the future.** Disused transport routes are transport networks such as roads, railway lines, canals and towpaths that are not currently operational.
- Key Issue ECN 16: Protecting key Park and Ride Sites
 - **Protect existing and proposed key Park and Ride sites and identify and safeguard potential new Park and Ride/ Park and Share sites within the Borough.** The preferred approach seeks to protect Key Park and Ride sites across the Borough as an effective measure to help address congestion and reduce private car dependency in line with regional strategic direction which aims to promote sustainable patterns of development. The preferred approach would also enable the Council to identify new Park and Ride or Park and Share sites in viable locations where demand exists, therefore aligning with the SPPS

which states that new transport schemes including Park and Ride proposals should be identified and protected through the LDP. It will also enable the Council to review existing and proposed sites as well as identifying new Park and Ride / Park and Share Sites, which will allow the Council to be better equipped to target pressure areas so as to enable the efficient movement of people and goods in addition to encouraging a modal shift away from private car usage.

- Key Issue ECN 17: Promoting active travel and sustainable transport
 - **Promote active travel networks and sustainable transport in all new development within Settlements to demonstrate accessibility to and integration with existing public transport, walking and cycling networks.** This preferred option would seek to ensure that any proposals for new development may only be permitted where it is demonstrated that it would have acceptable access to walking, cycling and public transport facilities and provides a safe and convenient access for pedestrians and cyclists. The preferred option is proactive in nature, ensuring that sustainable travel options are considered at the early stages of the planning process, which is in line with regional strategic objectives for transportation. It acknowledges the need to promote sustainable patterns of development which reduce the need to travel by car, through encouraging a modal shift towards alternative transport, including walking, cycling and public transport. The preferred option reflects the necessity for improved integration between transportation and land use, without which a shift towards active travel and other sustainable transport modes will be unachievable.
- Key Issue ECN 18: Promoting and enhancing access to greenways
 - **Identify and protect accessible and safe Greenways in order to encourage a modal shift away from the private car, connect people and places through active travel and enable ecological linkages.** This preferred option will seek to identify and protect greenways to create a network of open spaces that provide links within and between rural and urban areas. This approach is in keeping with regional strategic direction which requires that the Council take into account the importance of protecting linear open spaces such as pedestrian and cycle routes and community greenways, recognising the potential to provide a range of benefits that extend beyond transportation. As such, the LDP will seek to identify and protect linear open spaces such as pedestrian and cycle routes, community greenways and river and canal corridors and ensure that greenways are integrated with other modes of sustainable transport and other land uses.

Community Plan

2.8.12. The ABCBC2030 Community Plan sets out the vision that “we have a happy, healthy and connected community, a vibrant and sustainable economy and appealing places for living, working and learning”.

2.8.13. The primary themes which underpin this vision are community, economy and place. These themes are fundamental in guiding the emerging vision and strategic objectives of the LDP– Plan Strategy and the LTP. An illustration of the Community Plan Vision and Aims is provided in Figure 3.

Figure 3 - Community Planning Vision, Themes and aims



3.0 Transport Evidence Baseline

- 3.1. Figures 1 and 2 in Section 1 – Introduction, have provided a demographic, geographic and transport context for the ABCBC area. This section introduces a more detailed transport evidence baseline for ABCBC as presented in Annex 1.
- 3.2. The evidence in Annex 1 is presented in the form of maps, diagrams and tables and 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.
- 3.3. The key public services and economic generators are centred on the largest settlements of Armagh, Banbridge and the Craigavon Urban Area. Therefore, consideration of transport and access in and around Armagh, Banbridge and the Craigavon Urban Area is key to the performance of the area as a whole. The evidence is presented for a range of issues; for some cases across all of the Council area and for others, where appropriate, with a focus on the settlements of Armagh, Banbridge and the Craigavon Urban Area. Annex 1 answers the following questions:
 - Regional connectivity from Armagh, Banbridge and the Craigavon Urban Area by road and public transport – what time is required to travel to the economic centres and travel gateways of Northern Ireland?
 - Accessibility within the area, to essential local services by public transport from across the Council area – to what degree do current rural bus services allow residents, including those in rural areas to reach essential services such as health, shops and banks?
 - Active travel infrastructure in Armagh, Banbridge and the Craigavon Urban Area – how well developed are the current networks?
 - Local urban bus services in Armagh, Banbridge and the Craigavon Urban Area – to what degree do they provide coverage for urban residents?
 - Travel to work journeys – where do residents of ABCBC 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?

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- Road collision history in Armagh, Banbridge and the Craigavon Urban Area – how many people are injured or killed on roads and streets in the towns and which modes are most vulnerable?
 - Parking provision in Armagh, Banbridge and the Craigavon Urban Area – how many parking spaces are there in the town centres, where are they located, what tariffs are in place and how they are designated?
- 3.4. Interpretation of the evidence and identification of transport issues and opportunities are described in the Section 5 – Transport Issues and Opportunities.

4.0 Growth and Development proposals

4.1. Growth in Population and Employment

4.1.1. The ABCBC POP foresees a population increase of approximately **30,000** and **12,350⁴** new houses required over the period 2015 – 2030. The proposed allocation of housing would locate **75%** of the new houses in the main hubs, local towns and villages, with the remainder allocated between the small settlements and rural area. 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 in the main towns is the most integrated land-use and transport planning solution. It offers the greatest opportunity to minimise congestion, social exclusion, air quality problems and increase walking and cycling. However, it is recognised that where there are committed housing sites which have planning permission or where development is ongoing, the ability to provide alternative modes of travel as part of any current development control process may be more difficult to achieve.
- Outside the three main towns, many of the local towns are located on the public transport network. Those that have frequent and direct bus services to Armagh, Banbridge and the Craigavon Urban Area offer the best locations for sustainable transport opportunities, offering people an alternative to the private car. Outside of the main and local hubs, these should be the focus of most new housing (and taking into account the Housing Evaluation Framework, RDS).
- Houses in the countryside are unlikely to contribute to a meaningful shift towards alternative transport modes. However, where houses can be located within easy walking distance of existing bus routes, this may help minimise the potential for social exclusion.

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

⁴ The referenced new housing requirement contained within the POP was based on the HGI figures published in April 2016. In September 2019, DfI published revised HGIs for the period 2016-2030. As a result the growth requirements as outlined in the POP may consequently be revised.

- 4.1.3. The POP estimates that approximately **12,333** new jobs may be required by 2030 to support the projected increase in working age population in the Borough.
- 4.1.4. The transport impacts differ according to the type of employment and are generally as follows:
- Land use, such as a business park, would generate a relatively high number of people movements and a primary concern should be its accessibility by active travel and public transport.

 - Manufacturing would require a balance concerning accessibility for employees and the traffic impacts of heavy goods vehicles carrying materials and finished goods to and from the site.
- 4.1.5. However, in both cases it should be noted that the location, and in particular its distance from residential areas will dictate whether accessibility by walking and cycling is practical and whether public transport becomes the primary consideration for employee accessibility. In all cases the consideration of safety for all road users will remain a primary concern.

5.0 Transport Issues and Opportunities

5.1. Introduction

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

5.1.2. The following issues are dealt with in turn:

- Regional connectivity from Armagh, Banbridge and the Craigavon Urban Area 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 Armagh, Banbridge and the Craigavon Urban Area;
- 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 Armagh, Banbridge and the Craigavon Urban Area;
- Parking provision in Armagh, Banbridge and the Craigavon Urban Area; and
- Legacy Road Alignments.

5.2. Regional Connectivity

5.2.1. The settlements of Armagh, Banbridge and the Craigavon Urban Area are currently relatively well connected by road to Belfast, Derry/Londonderry and the transport gateways by the Key Transport Corridors. There is good provision of motorways and dual carriageway roads near to Banbridge and the Craigavon Urban Area which reduces travel times. As shown in Figure 2 A-E of Annex 1, travel times from Armagh, Portadown, Central Craigavon and Lurgan are generally similar, however travel times from Banbridge to northern and western areas of the province are slightly longer.

5.2.2. 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 but plays an important role as it focuses on the M1, A1 and A3 corridors in the Council area. Unlike car travel times, the pattern of public transport travel times is unevenly distributed as public transport requires interchanges and hence longer journey times to reach locations to the north and west of the region. From Armagh, travel times to Belfast are 1 – 1.5 hours and to Derry are 2 – 2.5 hours, as shown in Figure 3a of Annex 1. These travel times are comparable with the times provided by the Translink Journey Planner of 1 hour 5 minutes to Belfast Europa Bus Station and 2 hour 20 minutes for travel to Derry Buscentre. Regional travel times from Banbridge to Belfast are 0.5 – 1 hour and to Derry are 3 – 3.5 hours, as shown in Figure 3b of Annex 1. These travel times are comparable with the times provided by the Translink Journey Planner of 51 minutes to Belfast Europa Bus Station and 3 hours and 8 minutes for travel to Derry Buscentre. Regional travel times from Portadown are similar with travel to Belfast within 0.5 – 1 hour and Derry within 3 – 3.5 hours, as shown in Figure 3c of Annex 1. These travel times

are comparable with the times provided by the Translink Journey Planner of 33 minutes to Great Victoria Street Station and 3 hours and 7 minutes for travel to Derry Rail Station. Regional travel times from Central Craigavon to Belfast are 1 – 1.5 hours and Derry within 3 – 3.5 hours, as shown in Figure 3d of Annex 1. These are comparable with times provided by Translink Journey Planner of 1 hour and 25 minutes to Belfast Europa Bus Station and Derry within 3 hours and 23 minutes. Regional travel times from Lurgan to Belfast are 0.5 – 1 hour and Derry within 3 – 3.5 hours, as shown in Figure 3e of Annex 1. These travel times are comparable with the times provided by the Translink Journey Planner of 30 minutes to Belfast Europa Bus Station and 3 hours to Derry Rail Station.

- 5.2.3. Near to Armagh, Banbridge, Portadown and Lurgan, and at strategic locations along the routes, park and ride facilities may have a role to play in encouraging use of Goldline services for longer journeys. These facilities may be especially important for residents of smaller towns and villages and outlying rural areas.
- 5.2.4. There are a number of protected routes within the study area. These routes facilitate the efficient and safe movement of traffic over long distances. Reflecting the importance of the routes, regional policy restricts the number of new accesses and controls the level of use of existing accesses onto protected routes. The regional policy will be translated into local planning policies within LDPs. A map viewer showing the most up-to-date protected routes is available on the Departmental website⁵.

5.3. Accessibility to Essential Local Services

- 5.3.1. Figure 4 in Annex 1 shows accessibility by public transport to health facilities. The maps show that there is good accessibility to health services during the morning peak period.
- 5.3.2. Figure 4 shows the majority of people living along the bus routes generally have travel times of up to 1 hour. Accessibility is provided by bus services scheduled to provide access to work and education in Armagh, Banbridge and the Craigavon Urban Area, and to a lesser degree, the smaller settlements.
- 5.3.3. In general, these services operate return trips throughout the day and regular services on Saturdays, however some services operate limited services in the morning or at the end of the working day and therefore time windows for this access may not be convenient. In addition, the catchment areas are effectively limited to the radial bus routes and some outlying tracts of the Council area have no access. Bus services and their frequency from towns/villages to the main hubs of Armagh, Banbridge and Craigavon are generally good, however improvements to some services may help to reduce car dependency and improve access to health facilities.
- 5.3.4. 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

⁵ <https://dfi-ni.maps.arcgis.com/apps/webappviewer/index.html?id=cbef2552e0d348b8839f9c2aecb050d1>

will add directly to the number of people who have no access to essential local services, except by private car.

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

5.4. Urban Sustainable Transport Infrastructure in Armagh, Banbridge and Craigavon Urban Area

Armagh

- 5.4.1. Figure 5a of Annex 1 shows the current provision of pedestrian infrastructure in Armagh. The length of radial road within the development limit of Armagh totals 18.4 km. A length totalling 2.2 km do not have footways. Whilst there is reasonably consistent provision of dropped kerbs at breakpoints, only 2.7 km of footway exceeds 2.5 m in width.
- 5.4.2. Within Armagh city centre there are 72 crossing facilities for pedestrians and cyclists. The most common form of provision are pedestrian refuge islands i.e. 37 provided. There are also 19 pedestrian signalised crossings.
- 5.4.3. Figure 6a of Annex 1 shows details of the cycling infrastructure in Armagh. In total, 1 cycle facility provides 12 bicycle parking spaces. However, there is currently no cycle network in Armagh.
- 5.4.4. There would appear to be gaps in the provision of sustainable transport infrastructure in Armagh in particular the lack of cycle network infrastructure and missing footway sections.
- 5.4.5. Figure 7a of Annex 1 shows details of the local bus network in Armagh. Armagh has 3 town centre bus services (Ulsterbus service 371a) route which serves the south eastern sectors of the settlement via Armagh Buscentre between 0900 and 1730. Ulsterbus service 371b route serves the western sector via Armagh Buscentre between 0815 and 1745. Ulsterbus service 371c serves the northern sector via Armagh Buscentre between 0845 and 1800. It is noticeable that the town centre service is effectively operated by a single bus. However, the services only operate twice during the morning interpeak period and typically twice throughout the remainder of the day. Each service route also operates during the weekend with a service frequency of one in the morning and three in the afternoon. The service provides accessibility to the town centre for residents who may live up to 2km from the centre and find walking or cycling impractical. It is likely that the service will be most attractive to people without a car and for those who have free concessionary fares.

- 5.4.6. The town centre bus service in Armagh could be improved by:
- Extending the hours of operation, especially to support the town centre evening economy;
 - Increasing the number of services to ensure full coverage of all residential areas in the town.

Banbridge

- 5.4.7. Figure 5b of Annex 1 shows details of the pedestrian infrastructure in Banbridge. The length of radial road within the development limit of Banbridge totals 21.8 km. A length totalling 1.7 km does not have footways. Whilst there is generally consistent provision of dropped kerbs at breakpoints, only a small length of footway exceeds 2.5m in width (5.2 km).
- 5.4.8. Within Banbridge town centre there are 64 crossing facilities for pedestrians and cyclists. The most common form of provision are pedestrian refuge islands. There are also 11 signal-controlled traffic junctions and 12 puffin crossings.
- 5.4.9. Figure 6b of Annex 1 shows details of the cycling infrastructure in Banbridge. There is 1.2 km of cycle network infrastructure in Banbridge which is provided as shared cycleway / pedestrian footway.
- 5.4.10. There would appear to be significant gaps in the provision of sustainable transport infrastructure in Banbridge including missing footway sections and a lack of cycle parking provision.
- 5.4.11. Figure 7b of Annex 1 shows details of the local bus network in Banbridge. Banbridge has 3 town centre bus services that operate local routes at hourly frequencies from the bus station to Tesco via Chinauley Park (Ulsterbus service 330a), from the bus station to Pinley Drive via Peggs Loaning (Ulsterbus service 330b) and from the bus station to the Old New Road via The Boulevard (Ulsterbus service 330c). The three routes serve the majority of the residential areas, generally between 0930 and 1800 on weekdays and Saturday. The services are looped in nature and hence may not be competitive with car travel. The services will be most attractive to people without a car and for those who have free concessionary fares.
- 5.4.12. The town centre bus service in Banbridge could be improved by:
- Extending its hours of operation, especially to support the town centre evening economy; and
 - Increasing the number of services to ensure full coverage of all residential areas in the town.

Craigavon Urban Area

- 5.4.13. Figure 5c of Annex 1 shows details of the pedestrian infrastructure in Craigavon Urban Area. The length of radial road within the development limit of Craigavon Urban Area totals 53.2 km. A length totalling 22.7 km do not have footways. Whilst there is generally consistent provision of dropped kerbs at breakpoints, a small proportion of footway exceeds 2.5 m in width.
- 5.4.14. Within the Craigavon Urban Area town centre there are 133 crossing facilities for pedestrians and cyclists. The most common form of provision is signalised pedestrian crossings. There are also 35 refuge islands.
- 5.4.15. Figure 6c of Annex 1 shows details of the cycling infrastructure in the Craigavon Urban Area. In total, 4 cycle parking facilities provide 48 cycle parking spaces. There is 13.3 km of cycle network infrastructure in the Craigavon Urban Area and this is made up of:
- 0.2km of mandatory cycle lane;
 - 0.8km of advisory cycle lane;
 - 3.9km of shared use footway; and
 - 8.4km of traffic free cycle route.
- 5.4.16. There would appear to be gaps in the provision of sustainable transport infrastructure in Craigavon Urban Area, including missing footway sections.
- 5.4.17. Figure 7c of Annex 1 shows details of the local bus network in Craigavon Urban Area. Craigavon Urban Area has 2 town centre bus services that generally operate at a range of frequencies through the weekday and Saturday. Ulsterbus service 46a serves Lurgan, Craigavon and Seagoe. Ulsterbus service 46c serves Lurgan, Rushmere Shopping Centre, Seagoe and Portadown. In particular, the services provide accessibility to the town centre for residents who may live up to 2km from the centre and find walking or cycling impractical. It is likely that the services will be most attractive to people without a car and for those who have free concessionary fares. In addition under 18's may find the Saturday services attractive.
- 5.4.18. The town centre bus service in Craigavon Urban Area could be improved by:
- Extending the hours of operation, especially to support the town centre evening economy; and
 - Increasing the number of services to ensure full coverage of all residential areas in the town.

5.5. 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 legacy Armagh, Banbridge

and Craigavon Council areas separately, as shown in Figures 8a – 8c of Annex 1 respectively. These show that a high proportion of employed residents in Armagh (49.5%) and Craigavon (61.5%) work within their own Council area. However, there are some differences with a higher proportion of Banbridge (17%) and Craigavon (11.7%) residents working in Belfast compared to Armagh residents (6.5%).

Results

- 5.5.2. The 2011 census results also allow contrasts to be drawn between Armagh, Banbridge and Craigavon Borough Council and Northern Ireland (NI) in terms of travel behaviour, differentiating between working adults, school children and students.
- 5.5.3. Figure 9 of Annex 1 shows that the use of sustainable modes in Armagh, Banbridge and Craigavon is below the NI average for journeys to work with only 11% walking, cycling or using public transport compared to 15% across NI. It is notable that for short journeys (less than 2km) 32% use active modes (walking and cycling) compared to the NI average of 37%, as shown in Figure 10.
- 5.5.4. In Armagh, Banbridge and Craigavon the use of sustainable modes for journeys to education is the same as the NI average with 44% walking, cycling or using public transport. It is notable that for short journeys (less than 2km) to work, 41% use active modes compared to the NI average of 37%. As for journeys to work (2km to less than 5km), only 5% use active modes compared to 9% in NI, as shown in Figure 10 of Annex 1.
- 5.5.5. Comparing journeys to education and work presents a stark contrast in terms of use of public transport, see Figures 10 and 12 of Annex 1. Public transport accounts for 27% of journeys to education, but only 4% to work. It is notable that 6% of shortest (less than 2km) education journeys are made by public transport whilst by far the greatest share is car passenger (50%).

Conclusions

- 5.5.6. Armagh, Banbridge and the Craigavon Urban Area has low levels of active travel compared to NI averages and these even apply when comparisons are limited to short journeys. In Armagh, Banbridge and the Craigavon Urban Area, 50% of journeys to work less than 2km are made by single occupancy cars. Therefore there appears to be considerable potential to increase the number of journeys made by walking and cycling. This may require new and / or improved infrastructure, picking up on the conclusions of the previous section and a continued emphasis on road safety for vulnerable road users. Land-use planning should therefore seek to encourage residential development within the existing urban area to reduce travel distances. Ideally residential development should be located in proximity to existing centres of employment and schools and be convenient to existing radial routes and existing walking and cycling infrastructure.

- 5.5.7. The 2011 census for Armagh, Banbridge and the Craigavon Urban Area also shows that public transport is popular for children and students' journeys to education, presumably where it is provided on a statutory and subsidised basis to a small number of largely centralised locations. However, public transport is almost unused for adult journeys to work which tend to be more widely distributed and where fares are generally not subsidised. Therefore there appears to be considerable potential for additional use of 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 (0700 - 0900 and 1600 - 1900) and off-peak (0900 - 1600) periods.

Results

- 5.6.2. The off-peak speeds have been inspected for the road network which extends over the Armagh, Banbridge and the Craigavon Urban area as this is considered most appropriate for most inter-urban journeys including commercial traffic. Figure 13 of Annex 1 shows that in general terms the A road network, consisting of the A1, A3, A26, A27, A28, A29 and A50 between the principal towns generally operates at speeds up to and exceeding 51mph except where it passes through villages.
- 5.6.3. Peak period speeds have been considered in the urban areas of Armagh, Banbridge and the Craigavon Urban Area, as this will highlight congestion on journeys to and from work. Speeds in the urban area of Armagh, in Figure 14a of Annex 1, show a general pattern of decreasing speeds toward the centre of the town. Speeds on the outer length of the northern radial routes exceed 51mph relating approximately to the national speed limit restrictions. In general terms, speeds drop to 40mph and 30mph or less on the inner lengths relating approximately to the 40mph and 30mph speed restricted area and drops further to 30mph or less at the principal junctions in the town centre.
- 5.6.4. Speeds in the urban area of Banbridge, in Figure 14b of Annex 1, show a general pattern of decreasing speeds toward the centre of the town. Speeds on the A1 corridor to the south east of the town exceed 51mph. Speeds on the outer lengths of the main radials generally exceed 31mph and reflect the 40mph restrictions in place. On the northern, eastern and southern approaches to the town centre, speeds below 30mph are noted on a number of sections adjacent to junctions. In general terms, the 30mph speed restricted area is reached where speeds drop to less than 30mph. At the principal junctions in the town centre, speeds drop further to 20mph and less.

- 5.6.5. Speeds in the Craigavon Urban Area, in Figure 14c of Annex 1, show a general pattern of decreasing speeds toward the centre of the town. In general terms, the 30mph speed restricted area is reached where speeds drop to less than 30mph. Speeds on a section of the A3 Northway, which links Portadown and Central Craigavon, exceeds 51mph and this reflects the national speed limit restriction currently in place. Speeds of up to 50mph are noted on the A27 corridor, except at the roundabouts along this corridor, where speeds drop to less than 30mph. Speeds at the principal junctions in Portadown and Lurgan generally decrease to 20mph or less.

Conclusions

- 5.6.6. In general terms traffic speeds are consistent with the road class and level of development. On the principal inter-urban network roads are generally single-carriageways with sections of dual-carriageway along the A3 Northway and A27. Recorded average speeds on the A road network generally do not exceed 50mph except along some sections of the A3 Northway and the A1.
- 5.6.7. In the urban areas of Armagh, Banbridge and the Craigavon speeds reduce in line with the urban restrictions of 40mph and 30mph. Traffic progression is controlled by the throughput of the principal junctions in the town centre which reduces peak speeds to less than 30mph.

5.7. Urban Road Collision History

Introduction

- 5.7.1. An investigation of road collision history has been undertaken of the urban areas of Armagh, Banbridge and the Craigavon Urban Area using PSNI records dated between 2007 and 2016, with particular attention given to latest period 2012 – 2016. Consideration has been given to the type of road user, the severity of the casualties and the location of the collision in seeking to draw general conclusions. The results are presented in Figures 15a – c of Annex 1 for the three areas.

Results

- 5.7.2. In Armagh between 2012 and 2016, there were a total of 23 people seriously injured of which 14 were pedestrians and 1 was a cyclist. There were no fatalities in Armagh during this period. The pattern is similar in Banbridge, where a total of 14 people were seriously injured of which 9 were pedestrians and 1 was a cyclist. There were no fatalities in Banbridge during this period. In the Craigavon Urban Area a total of 92 people were seriously injured of which 37 were pedestrians and 14 were cyclists. Of the 3 fatalities in Craigavon, 1 was a pedestrian and 1 was a cyclist.

- 5.7.3. The locations of the collisions are distributed around the rural road networks in the Armagh, Banbridge and the Craigavon Urban Areas. 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. Whilst there are fewer journeys made by walking and cycling in Armagh, Banbridge and Craigavon Urban Area, pedestrians and cyclists are often seriously injured in road collisions. The application of engineering, enforcement and education methods all have a role in minimising urban road casualties. In particular the message that there needs to be mutual respect between all road users is particularly important for the safety of pedestrians and cyclists.

5.8. Parking Provision in Armagh, Banbridge and Craigavon Urban Area

Introduction

- 5.8.1. An investigation of existing public car parking provision has been undertaken by surveying and recording the location of all on and off-street spaces in the town centres of Armagh, Banbridge and Craigavon. Off-street parking occupancy surveys were also undertaken in 2017.

Results

- 5.8.2. The results for Armagh are presented in Figures 16a, 17a and 18a of Annex 1. The surveys show that the centre of Armagh provides a total of 3,062 public parking spaces of which 1,439 are off-street and 1,623 are on-street. Of the off-street spaces, 640 are free and 799 require payment. A number of the free car parks are privately operated, often by supermarkets, options for any change in future operation should be carefully considered. All of the on-street spaces are free, however 358 have day time restrictions (generally 1 hour with no return in 1 hour) and 1,265 are unrestricted. The on-street spaces are generally the most conveniently located for shopping and personal business purposes in the principal business streets.
- 5.8.3. The results for Banbridge are presented in Figures 16b, 17b and 18b of Annex 1. The town centre of Banbridge has a total of 1,059 public parking spaces of which 786 are off-street and 273 are on-street. Of the off-street spaces, 424 are free and 362 require payment. All of the on-street spaces are free, however 195 have day time restrictions (generally 1 hour with no return in 2 hours) and 78 are unrestricted. The on-street spaces are generally the most conveniently located for shopping and personal business purposes in the principal business streets.

- 5.8.4. The results are presented individually for Portadown, Central Craigavon and Lurgan, rather than the Craigavon Urban Area, in order to provide an overview of the existing public car parking provision and restrictions in place in each settlement.
- 5.8.5. The results for Portadown are presented in Figures 16c, 17c and 18c of Annex 1. The surveys show that the town centre of Portadown provides a total of 3,309 public parking spaces of which 2,879 are off-street and 430 are on-street. Of the off-street spaces, 1,752 are free and 1,127 require payment. A number of the free car parks are privately operated, often by supermarkets, options for any change in future operation should be carefully considered. All of the on-street spaces are free, however 258 have day time restrictions (generally 1 hour with no return in 1 hour) and 172 are unrestricted. The on-street spaces in Portadown are generally the most conveniently located to town centre services.
- 5.8.6. The results for Central Craigavon are presented in Figures 16d, 17d and 18d of Annex 1. The surveys show that the town centre of Central Craigavon provides a total of 3,445 off-street parking spaces. It is noted that on street parking is not provided in Craigavon. All of the off-street spaces are free and privately operated, often by supermarkets, therefore options for any change in future operation should be carefully considered.
- 5.8.7. The results for Lurgan are presented in Figures 16e, 17e and 18e of Annex 1. The surveys show that the town centre of Lurgan provides a total of 1,568 public parking spaces of which 1,324 are off-street and 244 are on-street. Of the off-street spaces, 982 are free and 342 require payment. A number of the free car parks are privately operated, often by supermarkets, options for any change in future operation should be carefully considered. All of the on-street spaces are free, however 222 have day time restrictions (generally 1 hour no return in 1 hour) and 22 are unrestricted. The on-street spaces in Lurgan are generally the most conveniently located to town centre services.

Conclusions

- 5.8.8. In Armagh traffic is encouraged to circulate searching for the most convenient free on-street parking. The town centre is around 1km in length and 1.6km in breadth, and the publicly owned parking facilities are generally distributed in the centre and to the south of the town centre. Therefore parking facilities are within short walking distance of the goods, services and amenities on offer in the town.
- 5.8.9. Banbridge town centre is around 500m in length and around 800m in breadth, therefore it is not unreasonable to expect drivers to walk from edge of town to their places of work or other long-stay purposes. Publicly owned parking provision is evenly distributed throughout the town centre and are within short walking distance of the goods, services and amenities on offer in the town.
- 5.8.10. Portadown town centre is around 800m in length and breadth, therefore it is not unreasonable to expect drivers to walk from edge of town to their places of work or other long-stay purposes.

The publicly managed car parks are evenly distributed throughout the town centre and can be easily accessed from the radial routes.

- 5.8.11. Central Craigavon town centre is around 800m in length and 700m in breadth. The off-street parking facilities are all privately operated and generally associated with retail developments.
- 5.8.12. Lurgan town centre is around 500m in length and 900m in breadth, and therefore it is not unreasonable to expect drivers to walk from the edge of town to their places of work or other long-stay purposes. Generally, publicly owned parking provision is evenly distributed throughout the town centre and are within short walking distance of the goods, services and amenities on offer in the town.

5.9. Legacy Road Alignments and Other Protected Land

- 5.9.1. Legacy road alignments and other transport related schemes with associated protected lands exist in the extant LDPs within the study area. They are regarded as undeveloped alignments/areas identified in previous LDPs that have been protected from development. While not all alignments/schemes will be retained in the future, they should remain protected until more detailed consideration is given to each alignment at the LDP LPP / LTP stage when zoning and scheme level detail will be provided.
- 5.9.2. In some cases, these alignments may first appear out of line with current policy and some schemes will not progress in the form previously planned or not at all. However, these alignments will be retained until the LDP LPP stage when they will be reviewed in conjunction with individual zoning considerations and consequently dropped or retained as they could have potential alternative uses such as for active travel routes.
- 5.9.3. The remaining Legacy Road Alignments included in the previous area plans for Armagh and Craigavon are as follows;

- Armagh North Link;
- Armagh West Link;
- Armagh East Link;
- M12 Central Way & Balteagh Road Link, Craigavon;
- Northway – Eastway Link, Craigavon;
- A3 Portadown - Armagh Dual Carriageway;
- New River Bann Bridge Link, Meadow Lane – Gilford Road, Portadown;
- Church Street – West Street Link, Portadown;
- Tandragee Road – Meadow Lane Link, Portadown;
- Mahon Road Link, Portadown; and,
- Mahon Road – Tandragee Road, Portadown.
- Newry Road to Ballygowan Road Link, Banbridge
- Lurgan Road to Huntley Road Link, Banbridge
- Scarva Road/ Commercial Road/ Downshire Place Junction, Banbridge
- Gilford Town Centre Relief Road – Bridge Street to Dunbarton Street, Gilford

6.0 Transport and Objectives

6.1. Introduction

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

6.2. Context

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

6.2.2. This rebalancing must recognise the need for long-term stability and maintenance of the network and hence must play to the natural strengths of each mode of transport. For example, in general, public transport must focus on travel to and from urban centres where there is a ‘critical mass’ of key services and travel demand. Similarly walking and cycling 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.

6.3. Objectives

6.3.1. The Transport Objectives link to the objectives in the existing strategic and local policies for the Council area, in particular the LDP POP.

Transport Study Objectives

Objective 1	
<p>Enhance accessibility by road and public transport from the centres of Armagh, Banbridge and Craigavon Urban Area to Belfast, Londonderry, gateways and hubs.</p>	<p>Link to POP</p>
	<p>Social (1)</p> <p>Economic (1), (3), (10)</p>

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

Objective 2	
Ensure viable and sustainable public transport accessibility to essential services for people living in the Armagh City, Banbridge and Craigavon Council area.	Link to POP
	<p>Social (2), (3), (6), (7)</p> <p>Economic (10)</p>

- 6.3.3. It is important that everyone can access essential services such as work, education, health or food shops. Whilst the 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 LTS and LTP will therefore seek to identify a range of possible innovative public transport options for the area that will be supported by the authorities, which although not currently developed, may be deliverable within the lifetime of the LTP, subject to NI-wide transport policy. This will take account of the location of current and future essential services.

Objective 3	
Ensure there are attractive and safe active travel networks (walking and cycling) connecting all residential, employment, retail and leisure uses in the urban areas of Armagh, Banbridge and the Craigavon Urban Area.	Link to POP
	<p>Social (1), (2), (6)</p> <p>Economic (3), (7), (10)</p>

- 6.3.4. Creating higher density, mixed use places will require transport investment to be fully aligned with the growth strategy set out by ABCBC.
- 6.3.5. Although still in the development stages, by working closely with the Council it is intended that growth will primarily focus on the large urban centres of Armagh, Banbridge and the Craigavon Urban Area. This will effectively maximise the capacity of the existing urban bus and active travel networks and will facilitate the improvement of these networks.

- 6.3.6. 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 Armagh, Banbridge and the Craigavon Urban Area are such that most residential areas within the settlement development limits are within walking distance of the centre of the town (approximately 1 mile or 20 minutes). Similarly, the full settlement development limits are within a convenient cycling distance (approximately 3 miles or 20 minutes).
- 6.3.7. A requirement when obtaining planning permission is the demonstration of safe transport infrastructure for all users.

Objective 4	
Deliver high quality public realm in the centres of Armagh, Banbridge and the Craigavon Urban Area, with reduced vehicle dominance, to make the towns safe and attractive places to live and work, and to improve safety for active travel modes.	Link to POP
	Social (2), (6) Economic (1), (3)

- 6.3.8. Indicator 25 of the draft PfG focuses on increasing the proportion of journeys made by walking, cycling and public transport. This will 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 active travel 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 and can be influenced by parking strategy. The transport infrastructure in town centres also merit special priority in terms of place-making.

Objective 5	
Enhance transport connectivity and accessibility by sustainable modes of transport to Armagh, Banbridge and the Craigavon Urban Area to safeguard their viability.	Link to POP
	Economic (1), (3), (10)

- 6.3.9. Armagh, Banbridge and the Craigavon Urban Area town centres offer a broad range of services which meet the needs of the residents of the ABCBC area. By improving transport infrastructure and hence accessibility between and within towns it is considered that the role of these town centres will be strengthened, supporting their development and vitality. Development in close

proximity to town centres should be focussed on active travel networks and public transport, reducing the need for car use and contributing to the place making opportunities.

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

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

Objective 7	
Protect and ensure our transport systems are resilient to climate change.	Link to POP
	Environment (1), (5), (7)

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

6.4. Alignment with Wider Strategy Aims and Objectives

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

- Draft PfG;
- RDS;
- The New Approach
- NI Changing Gear: Cycling Strategy
- ABCBC Community Plan; and
- ABCBC LDP POP.
- Exercise Explore Enjoy: A Strategic Plan for Greenways

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

LTS Objective	PfG	RDS	New Approach	NI Bicycle Strategy	ABCBC Community Plan	ABCBC POP
Objective 1: <i>Enhance accessibility by road and public transport from the centres of Armagh, Banbridge and Craigavon Urban Area to Belfast, Londonderry, gateways and hubs</i>	Outcome 13 Indicator 23 Indicator 25	RG2	Objective 1 Objective 2 Objective 5 Objective 6 Objective 8 Objective 9 Objective 12	Objective 2	Outcome 4 Outcome 5 Outcome 6 Outcome 9	Objective 1 Objective 2 Objective 3
Objective 2: <i>Ensure financially viable and sustainable public transport accessibility to essential services for people living in the Armagh City, Banbridge and Craigavon Council area</i>	Outcome 13 Indicator 23 Indicator 25	RG2	Objective 1 Objective 5 Objective 8 Objective 9	Objective 2 Objective 3	Outcome 2 Outcome 4 Outcome 5 Outcome 6 Outcome 9	Objective 1 Objective 2 Objective 3
Objective 3: <i>Ensure there are attractive and safe active travel networks (walking and cycling) connecting all</i>	Outcome 2		Objective 1	Objective 1	Outcome 2	Objective 1

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LTS Objective	PfG	RDS	New Approach	NI Bicycle Strategy	ABCBC Community Plan	ABCBC POP
<i>residential, employment, retail and leisure uses in the urban areas of Armagh, Banbridge and Craigavon Urban Area.</i>	Indicator 25		Objective 4 Objective 6 Objective 7 Objective 8 Objective 9 Objective 10 Objective 11 Objective 12	Objective 2 Objective 3 Objective 4	Outcome 4 Outcome 5 Outcome 6 Outcome 8	Objective 2 Objective 3 Objective 4
Objective 4: <i>Deliver high quality public realm in the centres of Armagh, Banbridge and Craigavon Urban Area, with reduced vehicle dominance, to make the towns safe and attractive places to live and work, and to improve safety for active travel modes.</i>	Outcome 2 Indicator 25	RG2	Objective 2 Objective 6 Objective 7 Objective 8 Objective 9 Objective 10	Objective 1 Objective 2 Objective 3 Objective 4	Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 8 Outcome 9	Objective 2 Objective 3 Objective 4

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LTS Objective	PfG	RDS	New Approach	NI Bicycle Strategy	ABCBC Community Plan	ABCBC POP
			Objective 11 Objective 12			
Objective 5: <i>Enhance transport connectivity and accessibility by sustainable modes of transport to Armagh, Banbridge and Craigavon Urban Area to safeguard their viability.</i>	Outcome 13 Indicator 23 Indicator 25	RG2	Objective 1 Objective 2 Objective 4 Objective 6 Objective 10	Objective 1 Objective 2	Outcome 4 Outcome 5 Outcome 6 Outcome 9	Objective 2 Objective 3
Objective 6: <i>Enhance safety for all modes of transport and reduce the number and severity of casualties.</i>	Outcome 7 Indicator 23		Objective 7	Objective 4	Outcome 3 Outcome 6	Objective 1 Objective 2
Objective 7: <i>Protect and ensure our transport systems are resilient to climate change</i>	Outcome 2 Indicator 23 Indicator 25	RG2 RG9	Objective 2 Objective 3 Objective 10		Outcome 5 Outcome 6 Outcome 8	Objective 3 Objective 4

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LTS Objective	PfG	RDS	New Approach	NI Bicycle Strategy	ABCBC Community Plan	ABCBC POP
			Objective 11 Objective 12			

7.0 Assembly of the Transport Study

7.1. Introduction

7.1.1. This section presents the assessment of transport options and conclusions of the Transport Study for ABCBC. 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 recommended Transport Measures; and
- confirmation of Transport Measures Assessment against the objectives.

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

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 ABCBC consistent with the Community Planning and LDP processes. These objectives are used to assess alternative options and recommend a set of Transport Measures that, along with other evidence sources, will help inform the development of the LTP.

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

7.3. Development of Options

7.3.1. The process of developing options is enabled through the consideration of the objectives:

- **Objective 1:** Enhance accessibility by road and public transport from the centres of Armagh, Banbridge and Craigavon Urban Area to Belfast, Londonderry, gateways and hubs.
- **Objective 2:** Ensure financially viable and sustainable public transport accessibility to essential services for people living in the ABCBC area.

- **Objective 3:** Ensure there are attractive and safe active travel networks (walking and cycling) connecting all residential, employment, retail and leisure uses in the urban areas of Armagh, Banbridge and Craigavon Urban Area.
- **Objective 4:** Deliver high quality public realm in the centres of Armagh, Banbridge and Craigavon Urban Area, with reduced vehicle dominance, to make the towns attractive places to live and work and to improve safety for active travel modes.
- **Objective 5:** Enhance transport connectivity and accessibility by sustainable modes of transport to Armagh, Banbridge and Craigavon Urban Area 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

7.3.2. **Objective 1 summarised as External Accessibility**, is specific in requiring improvements in both road and public transport. The potential options appear to be:

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

7.3.3. **Objective 2 summarised as Public Transport Accessibility**, essentially focuses on rural bus services and connections to essential services such as, for example, health, food, shops and banks. The potential options 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'⁶;
- Land-use policy changes which focus residential development in towns;
- New or improved public transport serving new developments funded by the developers; and
- Alternative models of delivery of essential services including mobile services and use of the internet.

7.3.4. **Objective 3 summarised as Attractive and Safe Active Travel Networks**, focuses on safe and attractive walking and cycling connections within Armagh, Banbridge and the Craigavon Urban Area. 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 walking and cycling routes in towns and between settlements with a:

⁶ Ride-share definition is to participate in an arrangement in which a passenger travels in a private vehicle driven by its owner, for free or for a fee, especially as arranged by means of a website or app.

- Focus on radial routes
 - Local improvements which together provide longer routes; and
 - Identification and implementation of measures to address road user behaviour related to active travel.
- 7.3.5. There are other options which relate to how this infrastructure is provided and at additional locations such as:
- For new developments, active travel infrastructure both within the development and linking to existing or planned networks are to be provided by developers; and
 - Improvements to existing greenway and the provision of new greenways between towns.
- 7.3.6. **Objective 4 summarised as High Quality Public Realm in town centres**, generates a number of largely complementary transport options:
- Town Centre Parking Strategies that reduce circulating traffic searching for parking spaces;
 - Traffic management schemes that remove traffic routes through town centres;
 - Priority to be given to pedestrians in and around town centre streets; and
 - Pedestrianisation of town centres.
- 7.3.7. **Objective 5 summarised as Accessibility to Town Centres**, generates a number of quite different transport options:
- Traffic management measures to reduce travel times to town centres by all sustainable modes;
 - Public Transport improvements options identified against Objective 2;
 - Improved walking and cycling options identified against Objective 3;
 - Town Centre Parking Strategies that provide for demand for long and short stay parking at locations that reduce town centre congestion; and
 - Traffic management schemes that give priority to movements to the town centre.
- 7.3.1. **Objective 6 summarised as Safety** and the options include:
- Implement road safety measures to reduce collisions;
 - Improved walking and cycling options identified against Objective 3;
 - Priority to be given to pedestrians in and around town centre streets;
 - Improvements including connections to existing greenway and provision of new greenways between towns; and
 - Traffic management schemes that remove traffic routes through the town centre.
- 7.3.2. **Objective 7 summarised as Resilience**, is quite specific. The potential options include:
- Ensure transport infrastructure is designed and provided to current 'best practice' standards regarding extreme weather events; and
 - Ensure transport infrastructure is maintained to 'best practice' standards to maximise performance at all times and that whole life costs are minimised.

7.4. Assessment of Options and Selection of Recommended Transport Measures

Objective 1: External Accessibility

- 7.4.1. The following options have the potential to be progressed as feasible within the LTS time frame of 2030 and consistent with the objectives
- Improved inter-urban roads;
 - Improved 'limited-stop' bus services to main hubs;
 - Maintained and improved rail connections; and
 - Park & Ride / Park & Share facilities also have complementary roles in improving local access or increasing vehicle occupancy respectively.

Objective 2: Public Transport Accessibility

- 7.4.2. It is proposed that these transport options are considered in the context of NI-wide policy issues for the Department and 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 LTP and LDP processes as and when the next steps for the wider public transport network are identified and agreed. In outline, the proposal is to develop innovative integrated public transport services, using for example transport models such as 'ride-share'.
- 7.4.3. It is also recommended that the options for land-use policy should focus on residential development in towns and that service providers consider alternative models of delivery of essential services such as mobile services and use of the internet.

Objective 3: Urban Active Travel Networks

- 7.4.4. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives:
- Provision of improved walking facilities in towns;
 - Provision of improved cycle parking provision in towns;
 - Provision of a network of attractive cycling routes in towns;
 - Improvements to the existing greenway network and provision of a new greenway network between towns; and
 - For new developments, walk and cycle infrastructure both within the development and linking to existing or planned networks are provided by the developers.
- 7.4.5. Radial routes in towns would reinforce the expectation for direct high quality cycle routes which can provide a realistic option for journeys to and through the town centre. The designation of routes also facilitates the proposal to seek developer contributions for infrastructure over and beyond the development site.

Objective 4 High Quality Public Realm in Town Centres

- 7.4.6. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives:
- Town Centre Parking Strategies that reduce circulating traffic searching for parking spaces;
 - Traffic management schemes that remove traffic routes through the town centre; and
 - Priority to be given to pedestrians in and around town centre streets.
- 7.4.7. The following option is unlikely to be feasible within the LTP time period or would not meet the objectives :
- Pedestrianisation of town centres – this measure is considered out-moded and likely to fail by removing key servicing access and after hours animation. The other options seek to deliver the positive points of pedestrianisation relating to reducing vehicle dominance.

Objective 5 Accessibility to Town Centres

- 7.4.8. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives:
- Traffic management measures to reduce travel times to town centres by all sustainable modes;
 - Public Transport improvement options identified against Objective 2;
 - Improved walking and cycling options identified against Objective 3;
 - Town Centre Parking Strategies that provide for the demand for long and short stay parking at locations that reduce town centre congestion; and
 - Traffic management schemes that give priority to pedestrian, cycling and public transport movements to the town centre.
- 7.4.9. However it is noted that there are likely to be instances when key development will require essential new urban road infrastructure simply to access and service the development and to facilitate active travel modes. In such instances the urban road infrastructure will be provided by the developers. Therefore the following option is identified as potentially feasible:
- New urban road links (and supporting sustainable transport infrastructure) to facilitate key development funded by developers.

Objective 6 Safety

- 7.4.10. The following options are potentially feasible within the LTS time frame of 2030 and are consistent with the objectives as follows:
- Implement road safety measures to reduce collisions;

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

Objective 7 Resilience

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

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

7.5. Confirmation of Transport Measures Assessment against the Objectives

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

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

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

10. Ensure that user behaviour regarding safe use of the transport network is monitored and addressed. Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times.
11. Transport infrastructure to be designed, provided and maintained to 'best practice' standards to maximise performance at all times.

7.5.3. Each of the measures are confirmed against the transport objectives below. The table summarises how each of the 11 measures support the 7 Transport Objectives. A double tick (vv) designates strong or direct support for the objective whilst a single tick (v) 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	√√	√√			√√	√	
2: Improved 'limited-stop' bus services to key hubs	√√	√			√√		
3: Integration of passenger transport services including innovative transport models such as 'ride-share'	√	√√			√		
4: Maintained and improved rail connections	√√	√√			√√	√	
5: New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developers		√	√√		√√	√	
6: Town Centre Parking Strategies including integrated management of long and short-stay spaces		√		√√	√√		

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

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

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 ABCBC area. These schemes will be listed in the RSTNTP which is currently being prepared.
- 7.5.5. These roads will improve external accessibility by reducing journey times or improving journey time reliability. This will impact on bus travel in addition to private car and goods travel.
- 7.5.6. Improvements to these roads will also directly improve accessibility to the town centres by reducing journey times from the catchment areas.

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

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

- 7.5.7. New 'limited-stop' bus services may be identified and prioritised on the strategic road network to improve external accessibility from the ABCBC area. These services will build upon the existing Goldline route network to be listed in the RSTNTP which is currently being prepared. The bus services will capitalise on continued road improvements and new park and ride schemes.
- 7.5.8. These 'limited-stop' bus services will improve external accessibility by reducing public transport journey times and increasing service frequency between the key hubs.
- 7.5.9. These services will indirectly improve public transport accessibility from the wider rural area 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.

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

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

- 7.5.11. The integration of passenger transport services has the potential to increase the public transport opportunities for rural communities. These transport options will be considered in the context of NI-wide policy issues for the Department and transport providers.
- 7.5.12. Increased public transport opportunities for rural communities would have a direct and markedly positive impact on the public transport accessibility objective as residents living beyond the current Translink bus network would be able to use the new services, potentially on a door to door basis.
- 7.5.13. Increased public transport opportunities for rural communities would also have a positive impact on external accessibility as a proportion of rural residents who do not have the use of a car would now be able to travel by public transport to the local bus or rail stations and then interchange to Goldline, inter-urban Ulsterbus and railservices.
- 7.5.14. Increased public transport opportunities for rural communities would also have a positive impact on accessibility to town centres as the new services, though carefully fitted to users travel needs, will invariably include a proportion of journeys to town centres where key services are centred.

Potential Measure	Objectives						
	1: External Accessibility	2: Public Transport Accessibility	3: Urban Active Travel Networks	4: High Quality Public Realm in town centres	5: Accessibility to Town Centres	6: Safety	7: Resilience
Maintained and improved rail connections	√√	√√			√√	√	

4. Maintained and Improved Rail Connections

7.5.16. The Portadown rail line is situated within the ABCBC area and serves Portadown and Lurgan stations. It is recommended that service enhancements to the Portadown line should be prioritised in order to enhance the current attractiveness of the line.

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

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

- 7.5.17. The LDP LPP stage will, in all likelihood, generate new zonings or developments that will require new infrastructure to enable their delivery. In some cases new urban road links will be needed simply to provide direct access however active travel and public transport infrastructure and services are also likely to be needed. The required infrastructure will need to be funded by the developers and planned and delivered in conjunction with the council and the Department.
- 7.5.18. The new infrastructure would impact directly on the objective to improve urban active travel networks.
- 7.5.19. The new infrastructure will improve accessibility to the town centres.
- 7.5.20. Where new public transport services are secured, these may improve public transport access to key town centre services.

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

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

- 7.5.21. Town Centre Parking Strategies will be required in Armagh, Banbridge and the Craigavon Urban Area as stipulated in the SPPS. Parking strategies have a key role to play in improving how the urban transport networks operate as public parking locations represent the ultimate destination for many car journeys. The location of public parking and its designation as long or short-stay using payment controls will be identified in the LTS and at the LDP LPP stage.
- 7.5.22. In Armagh, Banbridge and the Craigavon Urban Area parking strategies would have a direct impact on the potential to provide high quality public realm. By removing extraneous traffic which often dominates the town centres it will be possible to design and deliver public realm geared to increase social interaction and animation.
- 7.5.23. The parking strategies would have a direct impact on accessibility to the town centres. It will be important that the strategies improve turnover of parking spaces, and by reducing traffic searching for spaces, to improve travel times and safety by public transport and active travel.
- 7.5.24. The parking strategies would have an indirect impact on public transport accessibility as it is envisaged that the charges needed to increase the turnover of spaces may lead to public transport becoming a more attractive and financially viable option.

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

7. Provision of Improved Walking Facilities in Towns

- 7.5.25. The provision of improved walking facilities in Armagh, Banbridge and the Craigavon Urban Area will likely be a central measure of the LTP. In these settlements pedestrian networks are incomplete and levels of walking to work and education in the council area are lower than the NI average. Whilst improvements to the walking facilities may require retro-fitting work and may impact on traffic capacity this measure has a role in delivering greater walking activity and hence a number of objectives. In addition, attractive local and town-centre routes must be an integral part of any LDP.
- 7.5.26. Improved walking facilities will have a direct impact on urban active travel networks. In particular in designing off-road walking routes consideration should be given to their potential as shared cycle facilities.
- 7.5.27. Improved walking facilities would have a direct impact on accessibility to the town centres. By making it easier to cross roads and generally making walking routes to the town centre more attractive, it will be more convenient for people 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 the majority of residential areas within the development area of the towns with few exceptions. In addition, should parking strategies displace long stay parking to the edge of town, the accessibility of the town centre for car users would be largely unaffected as the consequent longer walk access would be improved in quality.
- 7.5.28. Improved walking facilities would have an indirect impact on public transport accessibility as local town centre walk access is often the final component of a public transport journey.
- 7.5.29. Improved walking facilities would have an indirect impact on high quality public realm as they are often designed together in an integrated fashion.

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

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

- 7.5.30. The provision of improved cycling facilities in Armagh, Banbridge and the Craigavon Urban Area will be a central measure of the LTP. In these settlements the cycle networks are incomplete and serve only a small proportion of the residential areas. Whilst the provision of a network of radial cycling routes in Armagh, Banbridge and Craigavon Urban Area may impact on traffic capacity it is clear that the measure has a role in delivering sustainable accessibility across the urban areas. The designation and identification of a network of routes should be an integral part of any LDP such that the network can be delivered in co-ordination with development proposals.
- 7.5.31. Attractive cycle routes would have a direct impact on urban active travel networks. In particular in designing off-road cycle routes consideration will be given to their potential as shared walking facilities. Cycle routes can provide convenient access to places of employment and education within a range of up to 3 miles (assuming a travel time of 20 minutes) which would encompass the entire development area of the towns.
- 7.5.32. Improved cycle routes will have a direct impact on accessibility to the town centres. By making these attractive, it will be more convenient for people without cars (including children), to travel (independently) to the town centre.
- 7.5.33. Improved cycle routes would have an indirect impact on high quality public realm as they are often designed together in an integrated fashion as part of local routes or longer greenways. Care will be needed to ensure that the cycle route function and use does not discourage use by pedestrians, elderly people or other people with particular impairments.

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

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

- 7.5.34. The introduction of sustainable transport measures, such as those proposed in this LTS, will involve an impact on traffic capacity and on traffic flows. Consequently there will be a requirement for the Department to consider how road-space is designated and used by a range of modes (pedestrian, cyclist, bus, goods service vehicle and general traffic) and exactly what priority is given to each. Traffic management schemes can complement physical infrastructure schemes by amending regulations, signing and lining to achieve that priority and provide safer and more coherent networks.
- 7.5.35. Traffic management schemes would impact directly on the objective to improve and create continuous high quality urban active travel networks where traffic capacity has to be re-assigned using amended road markings, junction layouts or phasing of signal settings.
- 7.5.36. Traffic management schemes would be required to ensure that accessibility to the town centre is improved. Consideration will be given to re-balancing priority to pedestrians and public transport in town centre shopping streets whilst private car routes to designated parking locations as identified in the parking strategy should not be unduly inconvenienced.
- 7.5.37. Traffic management 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.
- 7.5.38. Traffic management would also indirectly impact on public realm as traffic engineers will likely need to engage in the co-design of schemes that require changes in local traffic designations or regulations to ensure their success.

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

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

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

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

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

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

12. Transport infrastructure to be Designed, Provided and Maintained to 'Best Practice' Standards to Maximise Performance at all Times.

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

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

7.5.44. It may be worth noting however, that despite 'best practice' in extreme conditions such as road collisions or traffic signals failures or flooding, road infrastructure, especially urban, can reach capacity leading to grid-lock. Similar grid-lock would 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.

8.0 Conclusion – the Transport Study

8.1.1. This Transport Study for Armagh, Banbridge and Craigavon Borough Council is confirmed as the following 11 measures:

- **1: Improved inter-urban roads**
New inter-urban road schemes will be identified and prioritised on the Key Transport Corridors. These schemes will be listed in the RSTNTP which is currently being prepared.
- **2: Improved 'limited-stop' bus services to key hubs**
New 'limited-stop' bus services are expected to be identified and prioritised on the Key Transport Corridors to and from **Armagh, Banbridge and the Craigavon Urban Area**. These services will build upon the existing Goldline route network to be listed in the RSTNTP which is currently being prepared. The bus services will capitalise on continued road improvements.
- **3: Integration of passenger transport services including innovative transport models such as 'ride-share'**
The viability of this measure would be considered in the context of NI-wide policy issues for DfI and other transport providers and would be the subject of separate work.
- **4: Maintained and Improved Rail Connections**
Ongoing enhancements to the Portadown rail line will be required to maintain a good level of rail service provision in **ABCBC**.
- **5: New urban road links and supporting sustainable transport infrastructure to facilitate key development funded by developers**
The LDP LPP stage will generate new zonings or developments that would require new infrastructure to enable their delivery. In some cases new urban road links will be needed simply to provide direct access however walking cycling and public transport infrastructure and services are also likely to be needed. That infrastructure will need to be funded by the developers and planned and delivered in conjunction with the council and the Department.
- **6: Town Centre Parking Strategies including integrated management of long and short-stay spaces**
Town Centre Parking Strategies will be required in **Armagh, Banbridge and the Craigavon Urban Area**. The location of public parking and its designation as long or short-stay using payment controls will be identified in the LTS and LDP LPP stages. The strategies should remove extraneous traffic which dominates the town centres and improve the turnover of parking spaces.
- **7: Provision of improved walking facilities in towns**
The provision of improved walking facilities in **Armagh, Banbridge and the Craigavon Urban Area** will be a central measure of the LTP. The current pedestrian networks are incomplete

and local levels of walking to work and education are below NI averages. Improvements to the walking facilities may require retro-fitting work and may impact on traffic capacity.

- **8: Provision of a network of attractive radial cycling routes in towns and greenways between towns**

The provision of improved cycling facilities in **Armagh, Banbridge and the Craigavon Urban Area** will be a central measure of the LTP. The current cycle networks are incomplete and serve only a small proportion of the residential areas. The provision of a network of radial cycling routes in **Armagh, Banbridge and the Craigavon Urban Area** may impact on traffic capacity. The designation and identification of a network of routes will allow its delivery in co-ordination with development proposals.

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

Consideration of how road-space is designated and used by a range of modes (pedestrian, cyclist, bus, goods service vehicle and general traffic) in **Armagh, Banbridge and the Craigavon Urban Area**. Traffic management schemes can complement physical infrastructure schemes by amending regulations, signing and lining to achieve appropriate priority and provide safer and more coherent networks.

- **10: Ensure that user behaviour regarding safe use of the transport network is monitored and addressed.**

Road safety depends heavily on drivers, pedestrians and cyclists understanding how they should use the infrastructure and the risks of inattention and excessive speed etc. This is especially important for any new pedestrian and cycling facilities and for rural roads.

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

Resilience to system failures, such as traffic signal failures, can be increased by providing 'back-up' systems whilst overall urban travel resilience can be increased by ensuring that realistic active travel options are provided.

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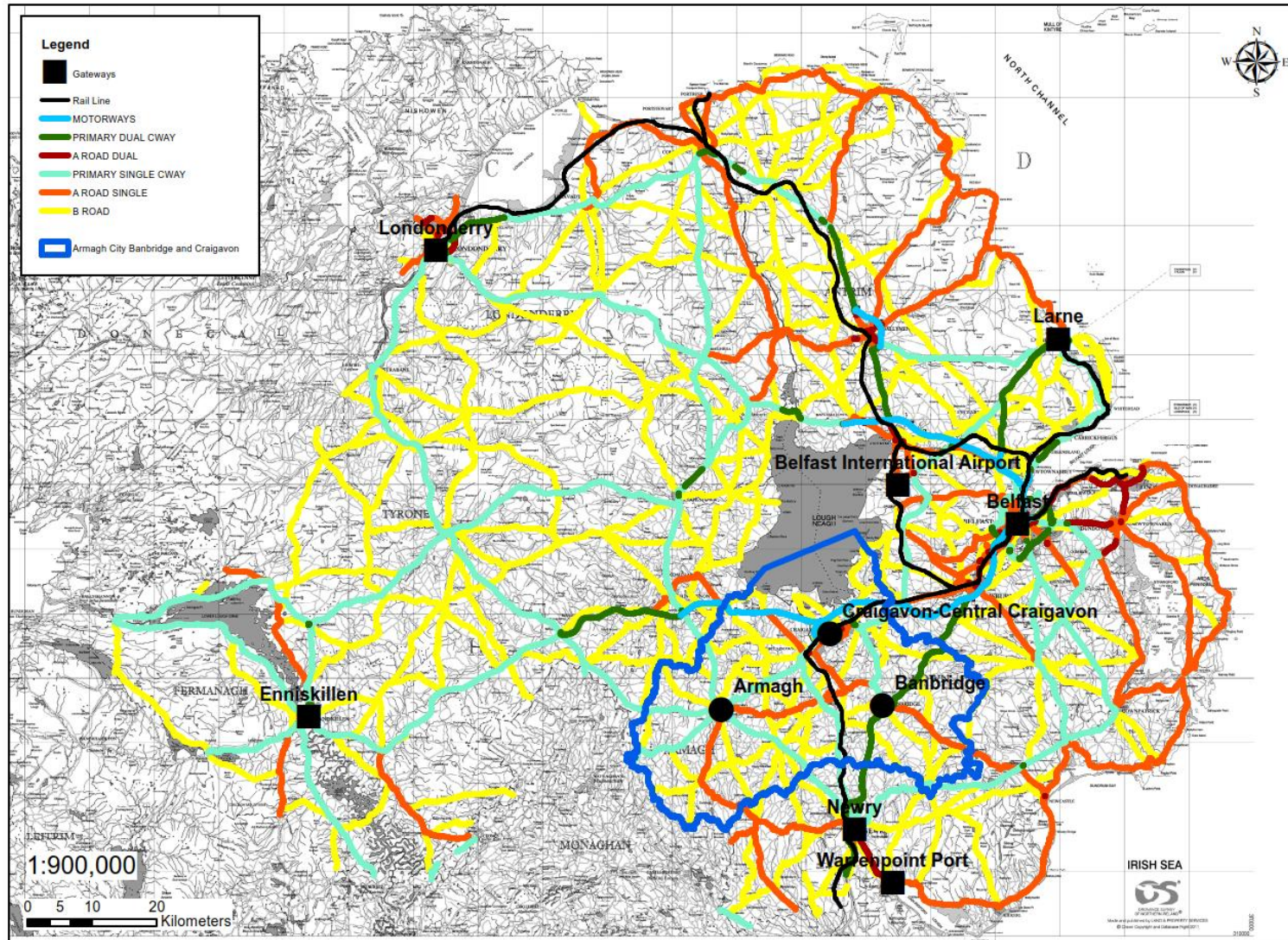
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Armagh City, Banbridge and Craigavon Borough Transport Study

Introduction

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

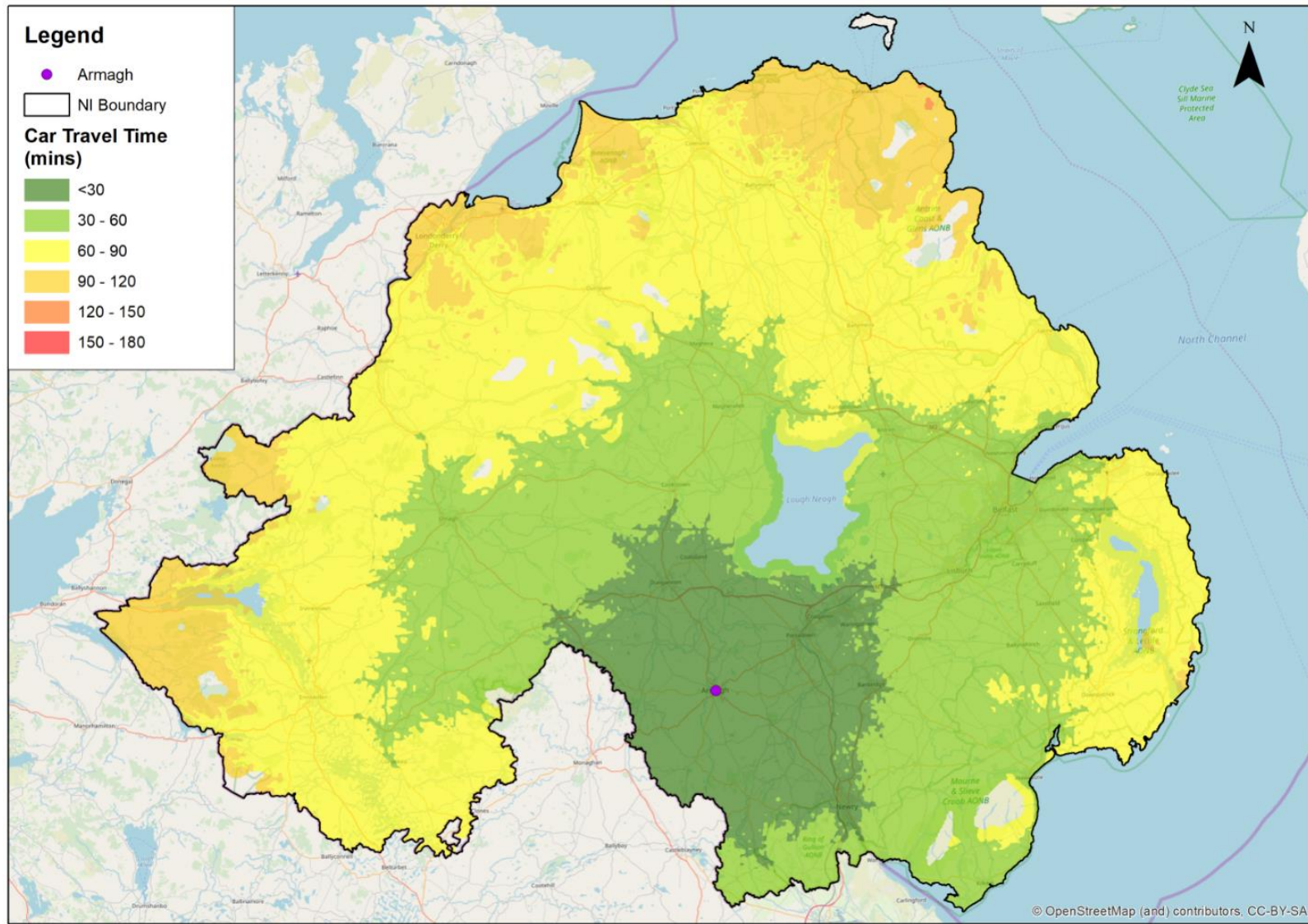


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Armagh City, Banbridge and Craigavon Borough Transport Study

Regional connectivity from Armagh, Banbridge and Craigavon Urban Area by road and public transport

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



Regional connectivity from Armagh, Banbridge and Craigavon Urban Area by road and public transport

NOTES

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

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

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

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

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

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

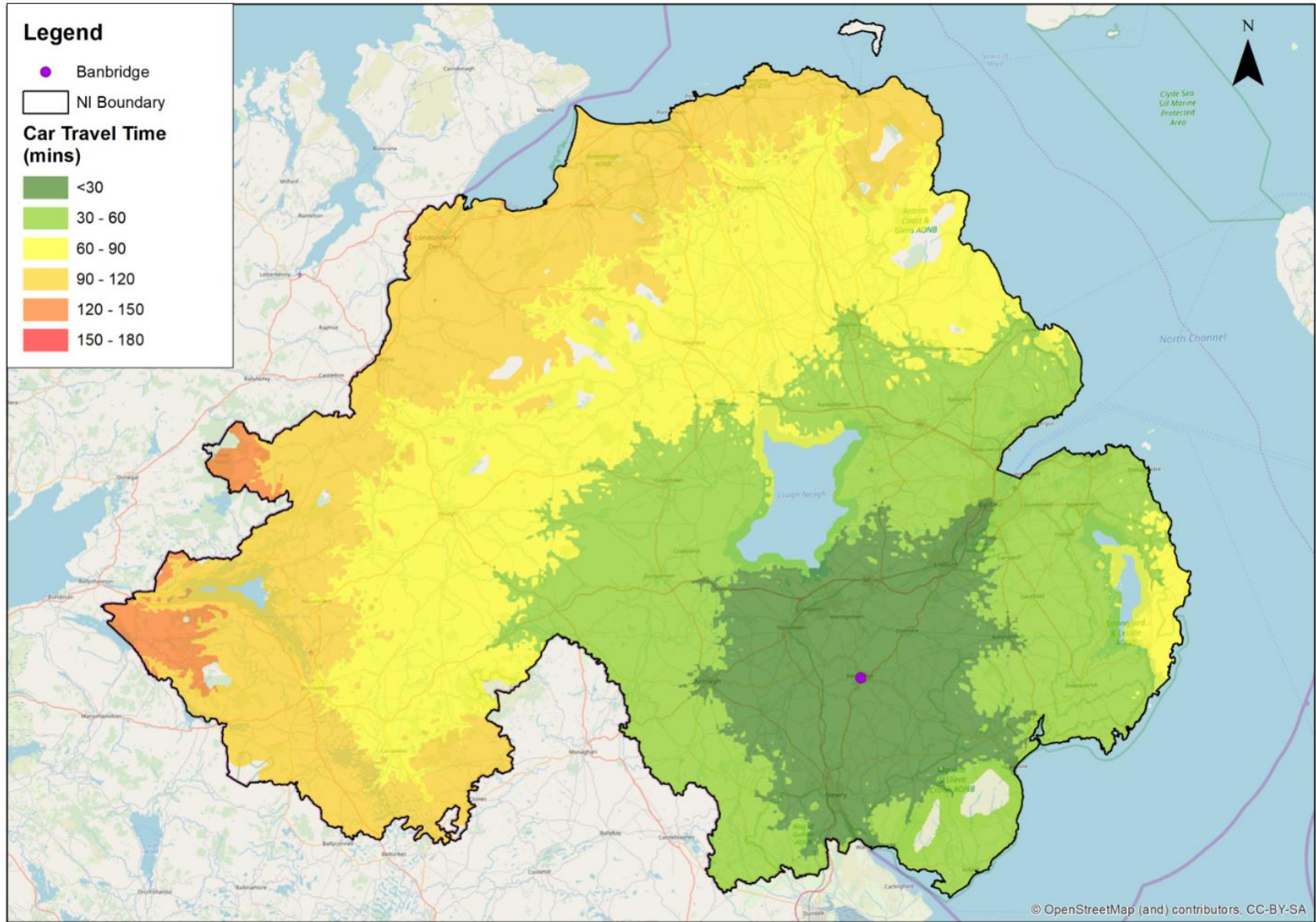


Figure 2c – Travel Time by Car from Portadown at AM Peak Speed

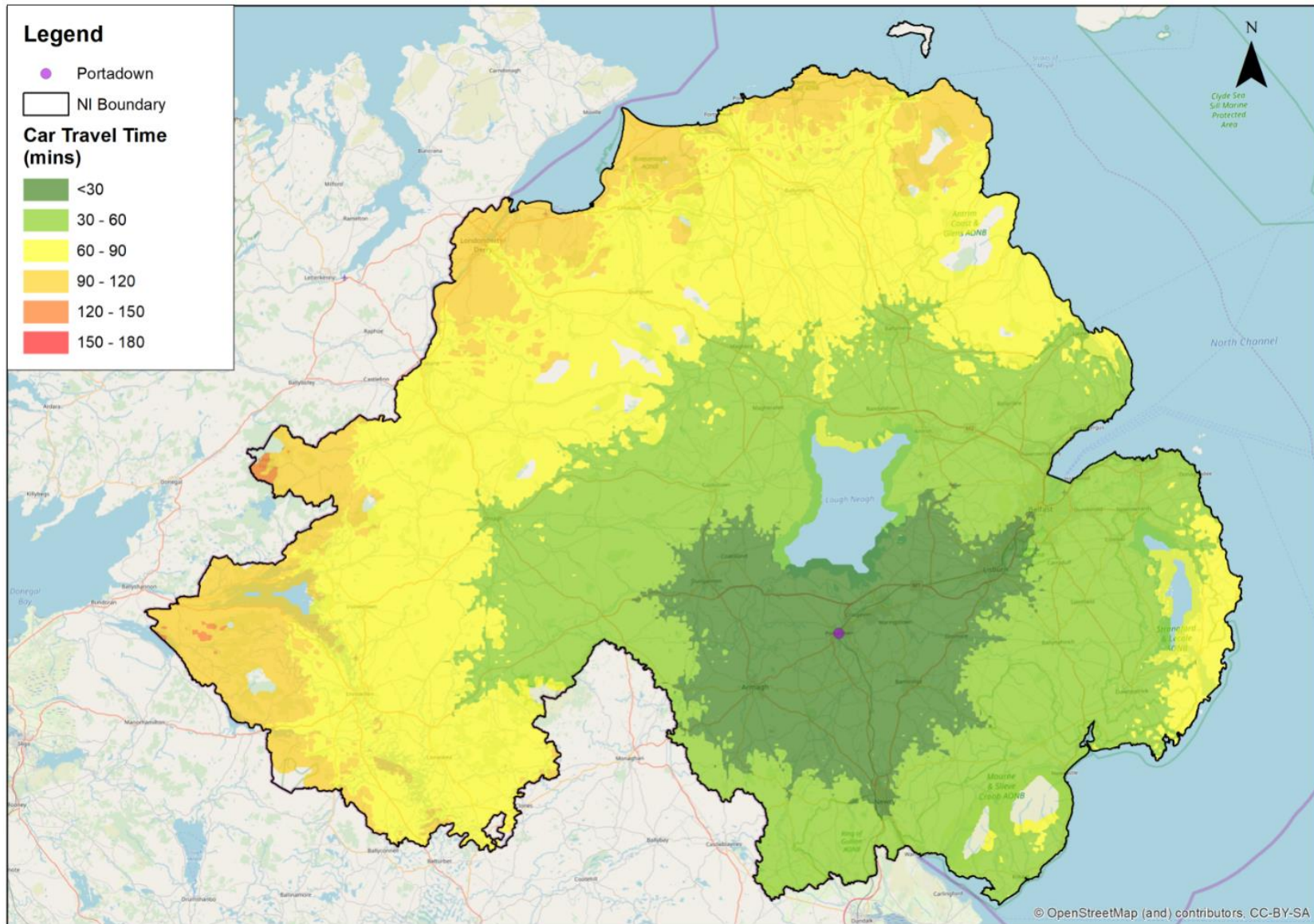


Figure 2d – Travel Time by Car from Central Craigavon at AM Peak Speed

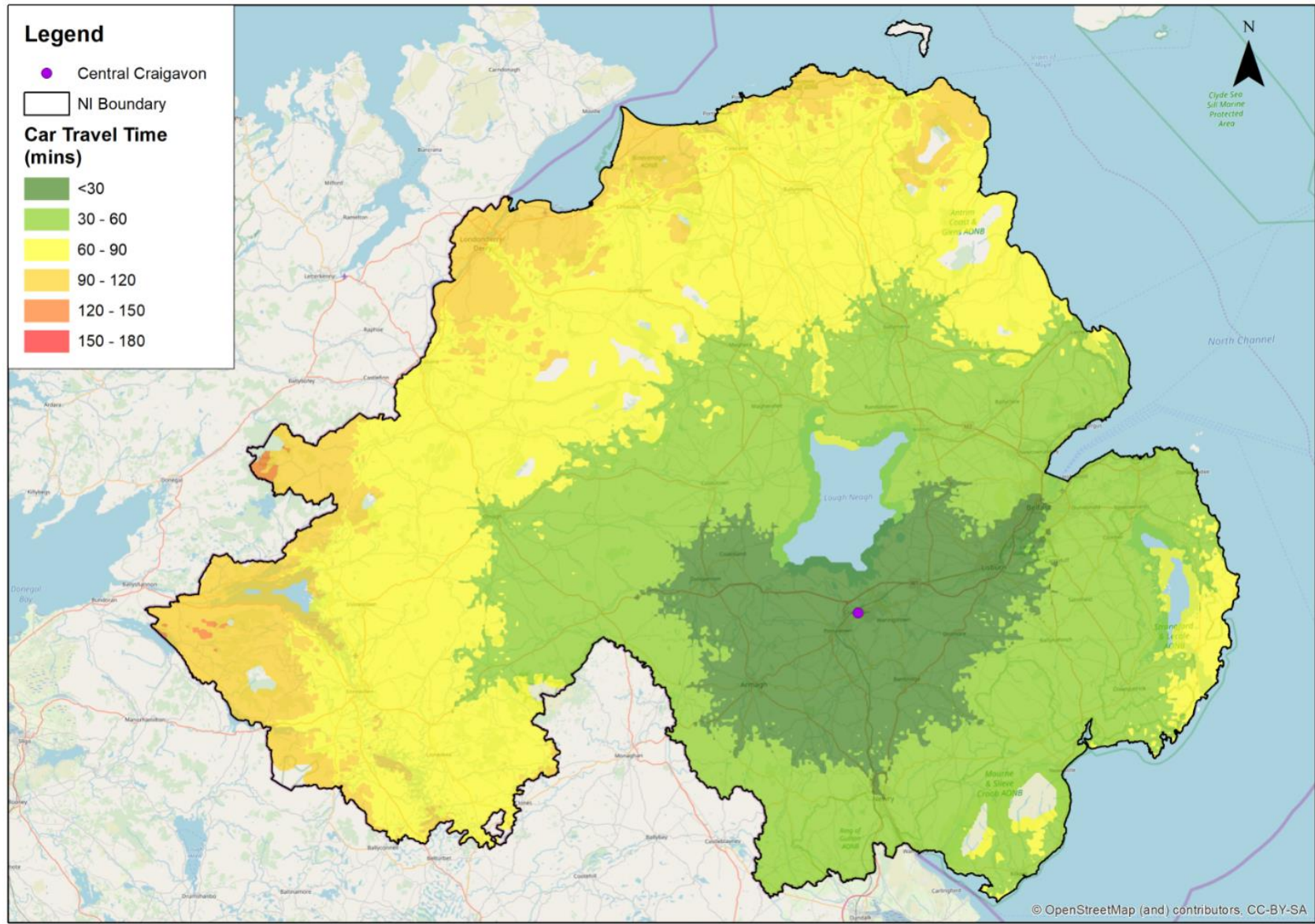


Figure 2e – Travel Time by Car from Lurgan at AM Peak Speed

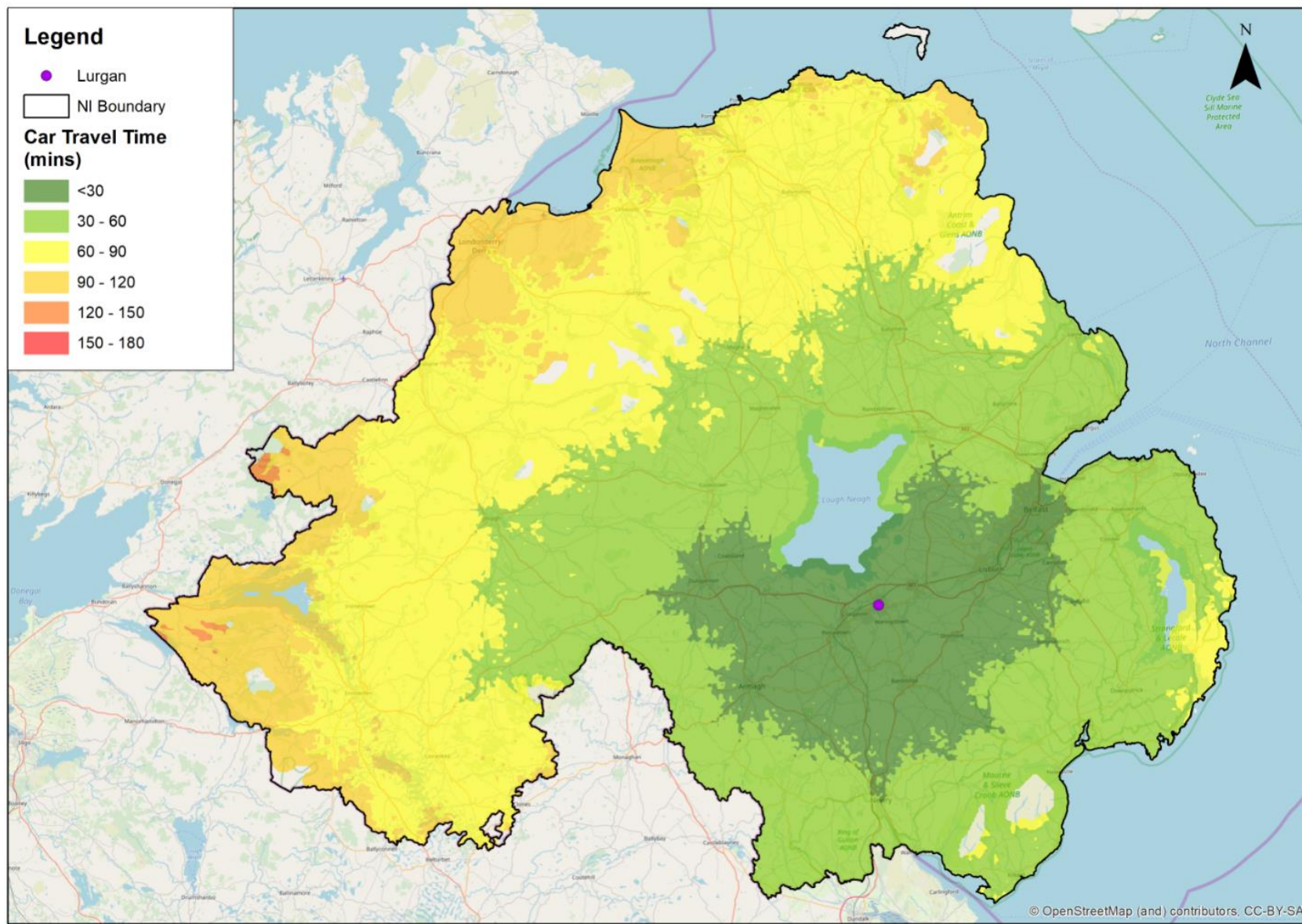
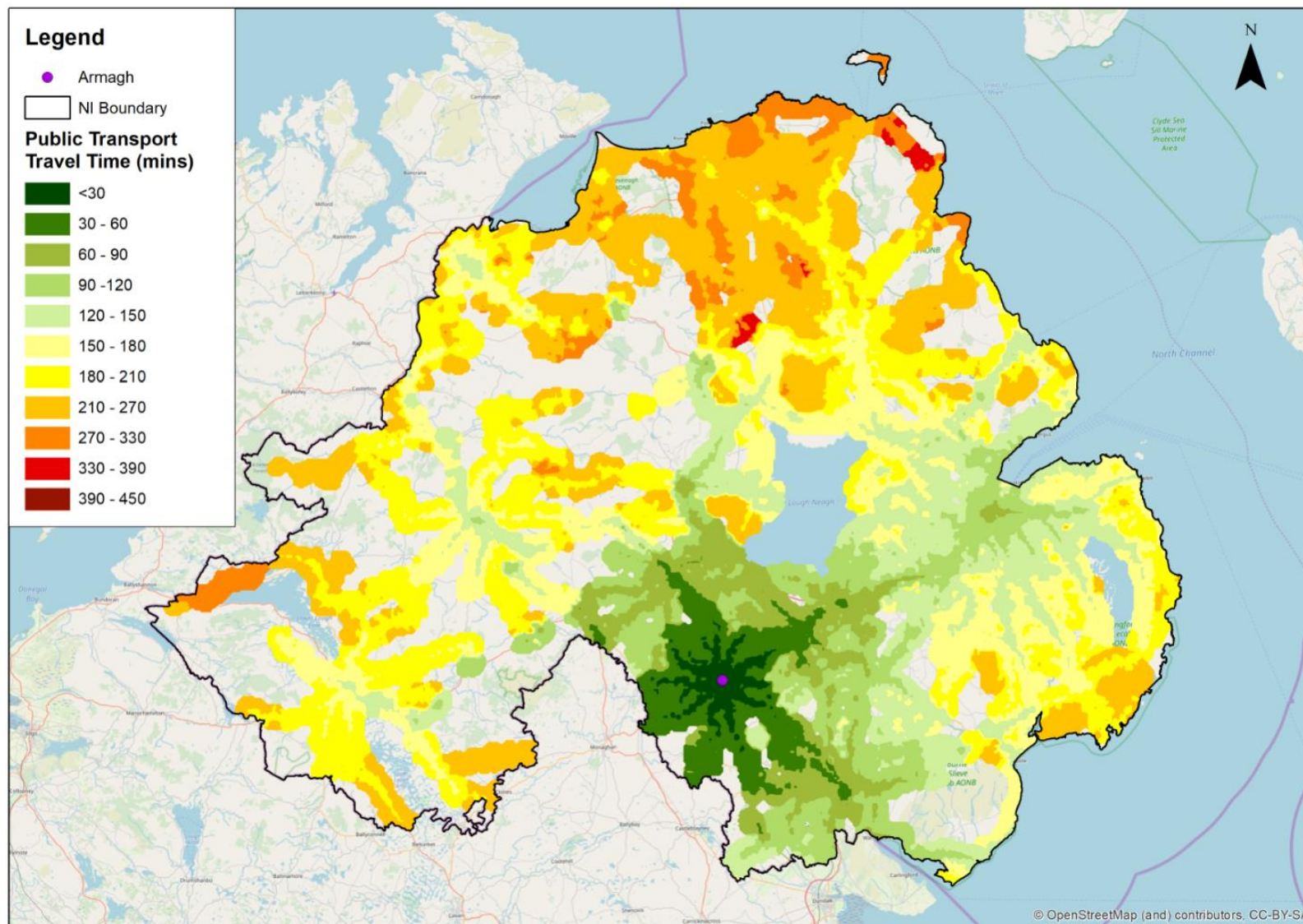


Figure 3a – Travel Time by Public Transport from Armagh from 7:00am



Regional connectivity from Armagh, Banbridge and Craigavon Urban Area by road and public transport

NOTES

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

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

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

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

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

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

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

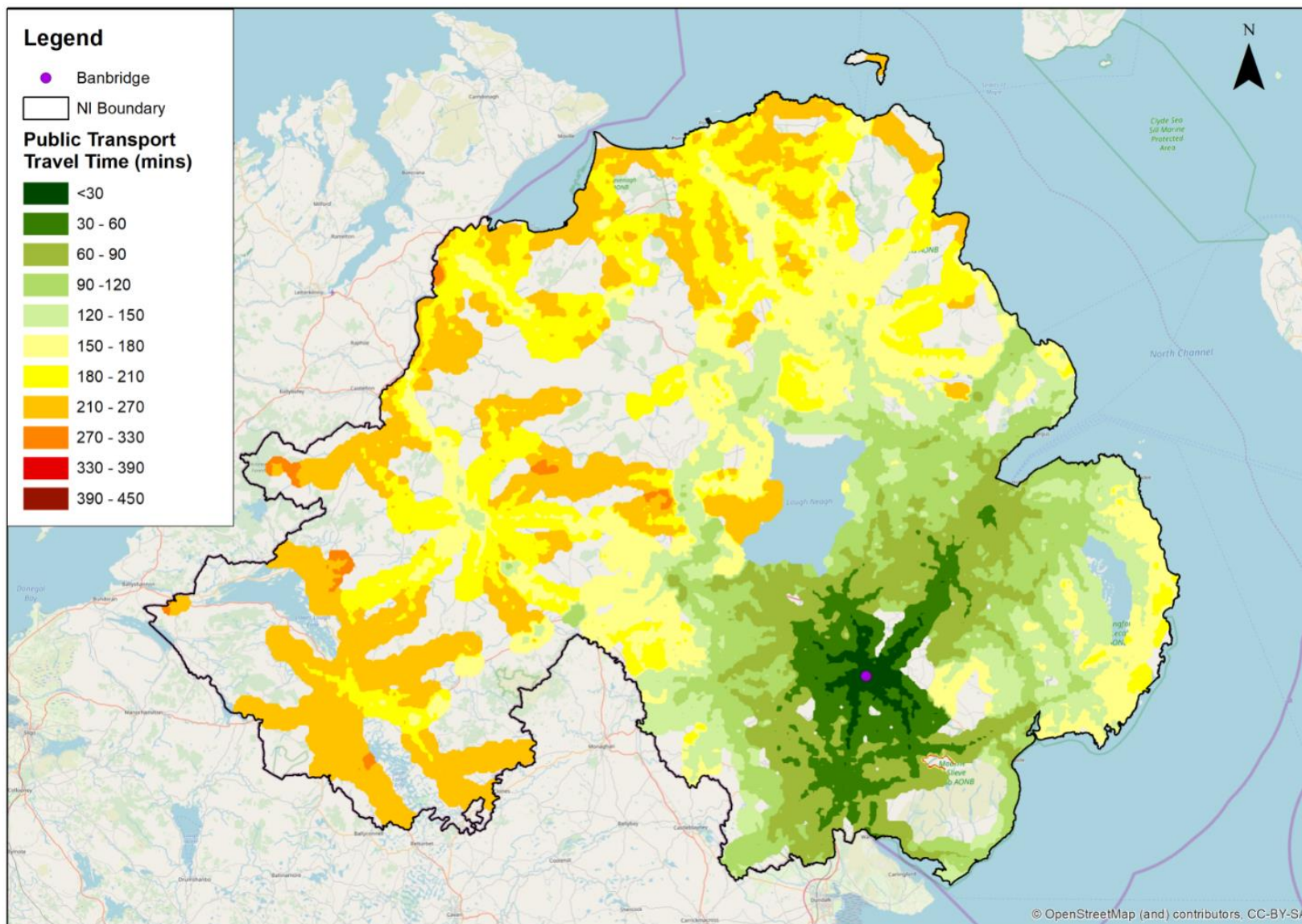


Figure 3c – Travel Time by Public Transport from Portadown from 7:00am

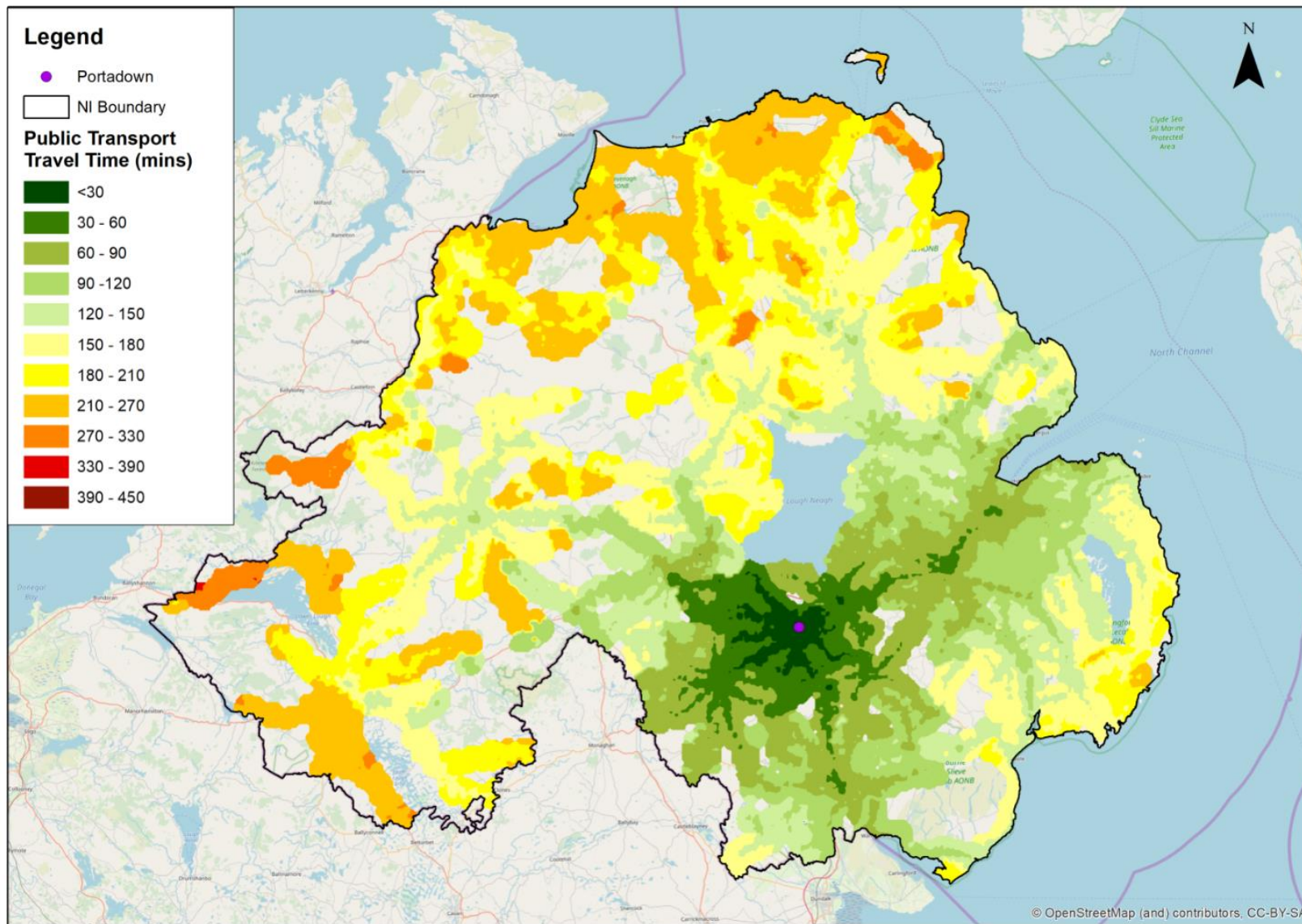


Figure 3d – Travel Time by Public Transport from Central Craigavon from 7:00am

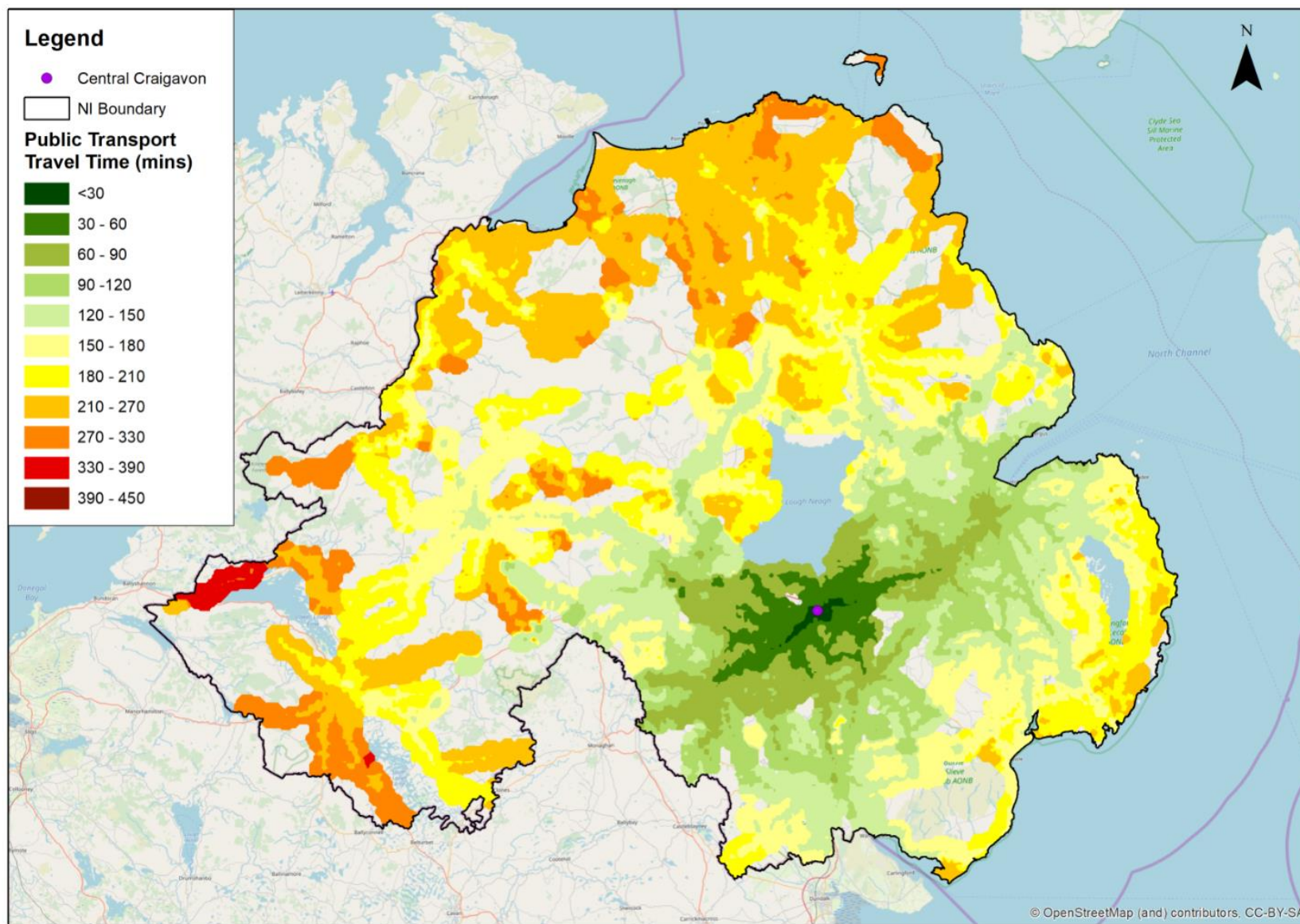
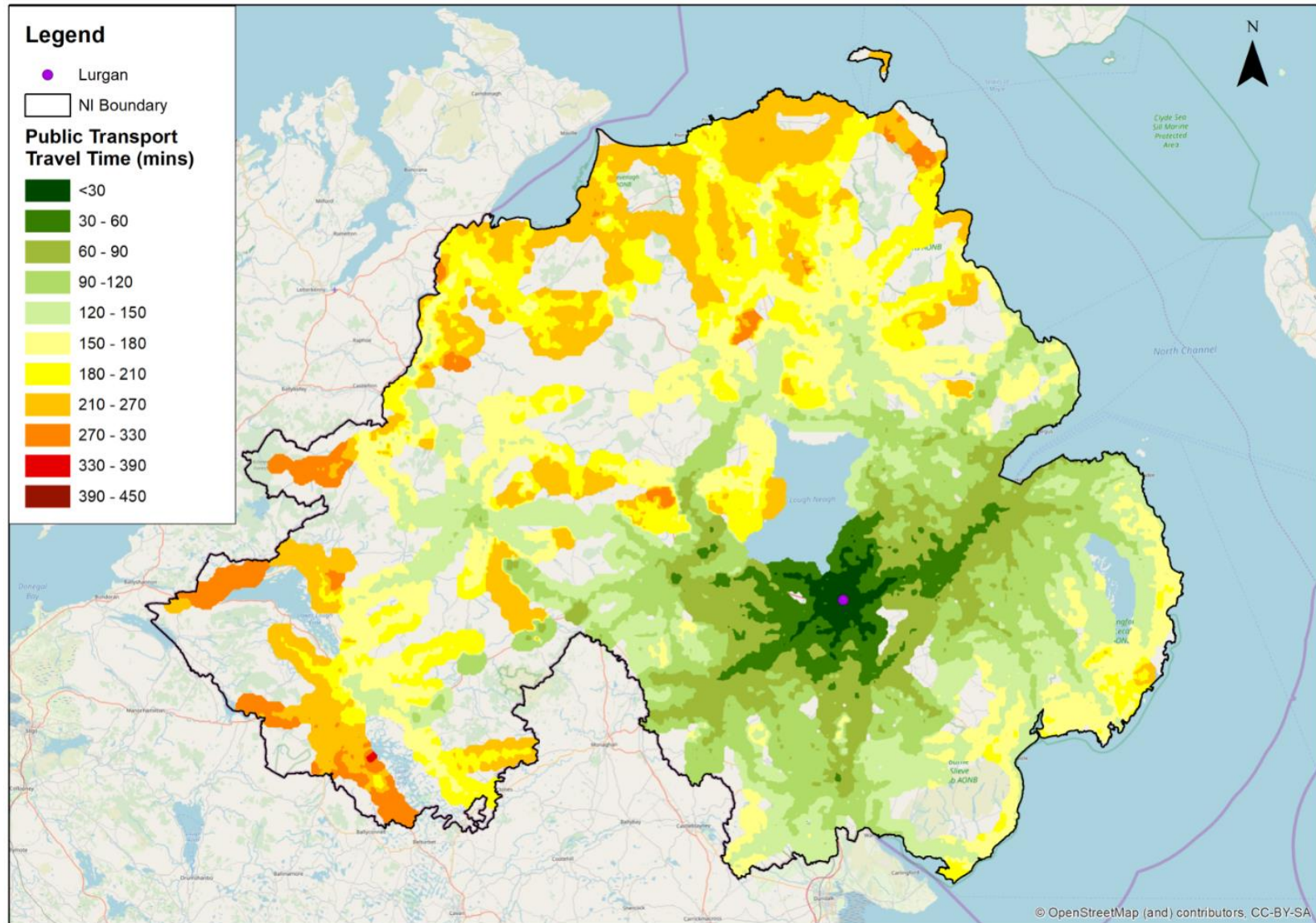
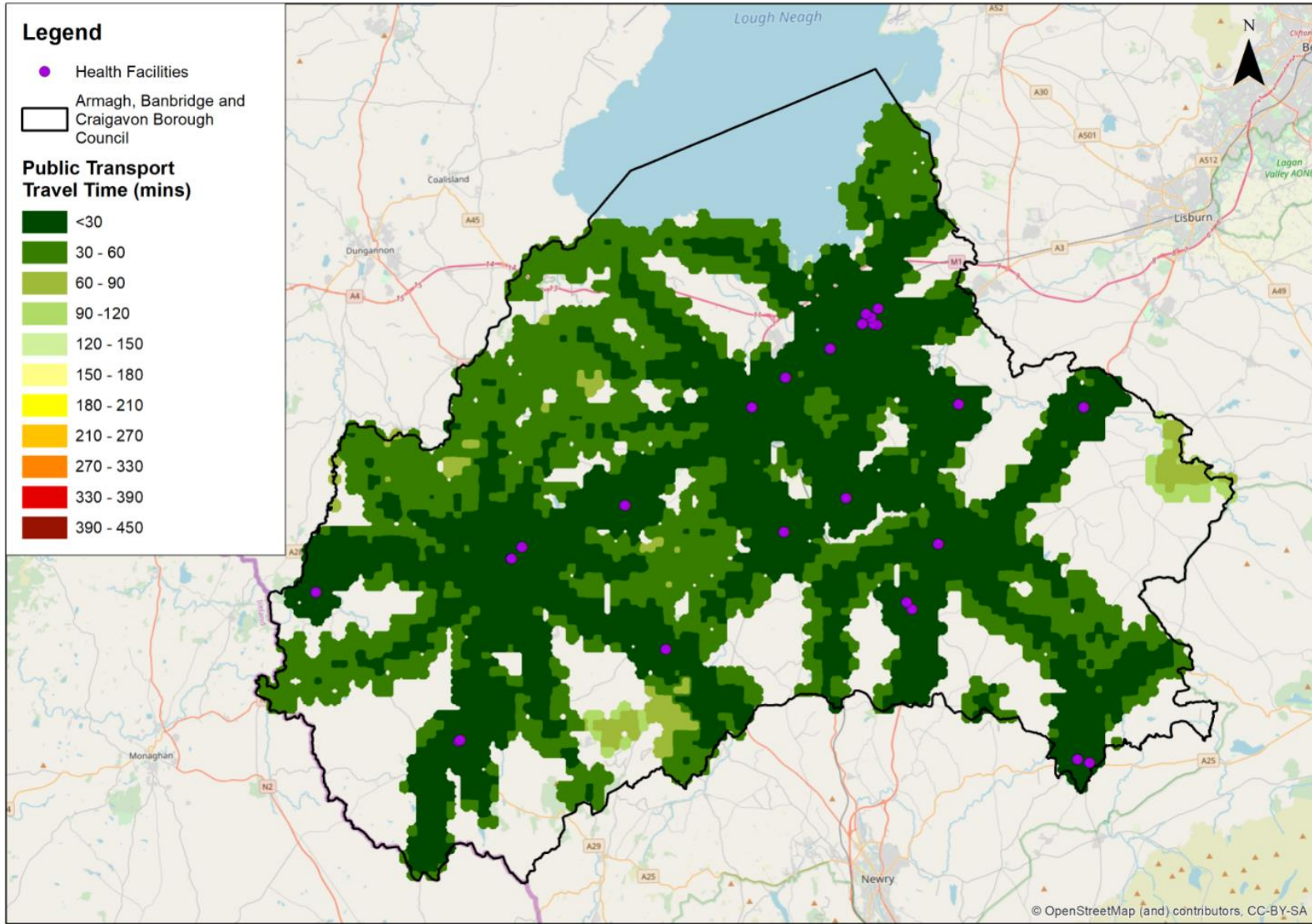


Figure 3e – Travel Time by Public Transport from Lurgan from 7:00am



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

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



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

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

The travel times are presented in 30 minute time bands in varying shades of green through to red. Travel times less than 30 minutes are indicated by the darkest shade of green and the darkest shade of red represents 390-450 minutes (i.e. 6.5 hours and 7.5 hours).

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

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

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

Urban walking and cycling infrastructure and bus services in Armagh, Banbridge and Craigavon Urban Area
Figure 5a – Pedestrian Infrastructure in Armagh – Key Radial Footways by Width and Type

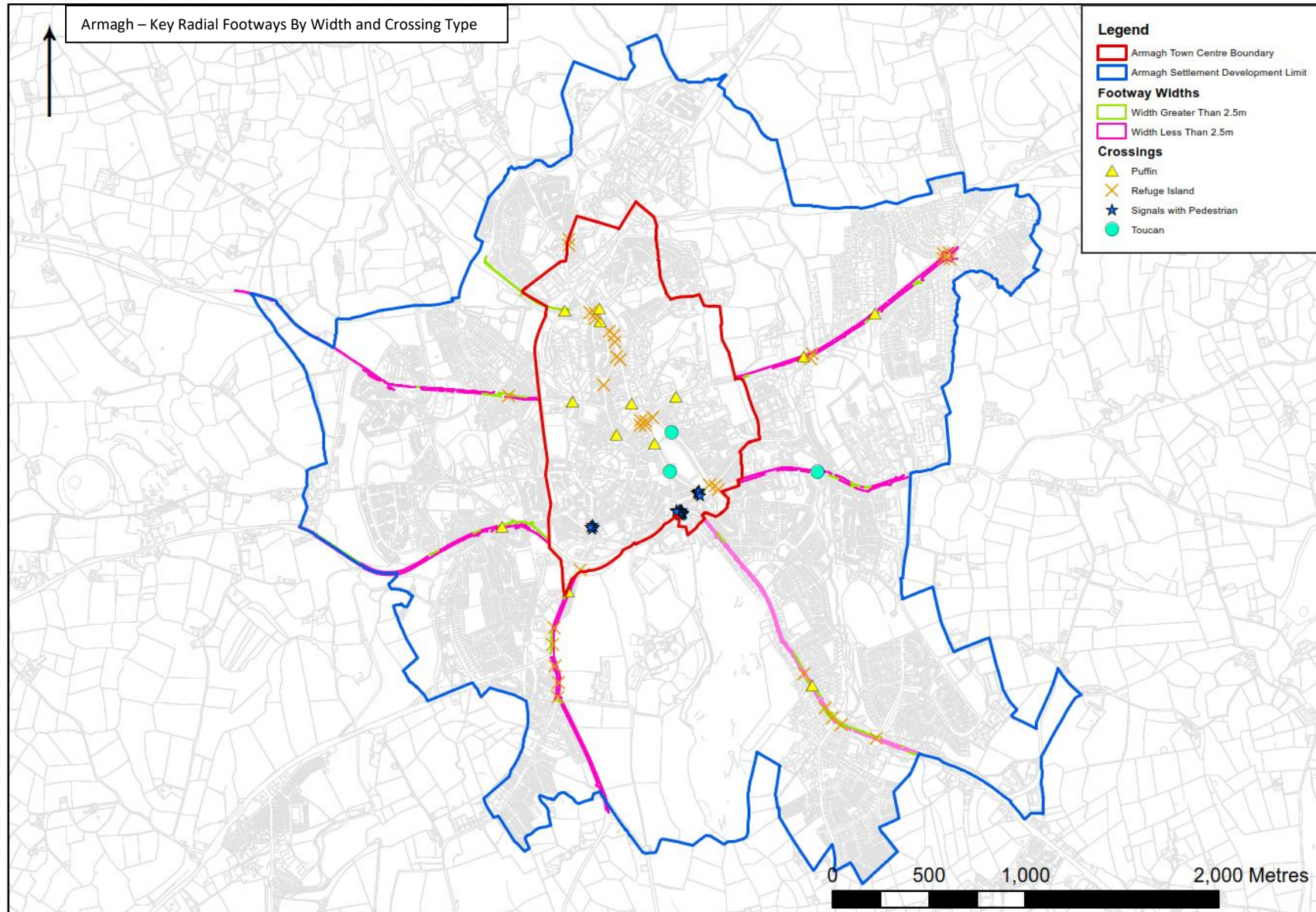


Figure 5b – Pedestrian Infrastructure in Banbridge – Key Radial Footways by Width and Type

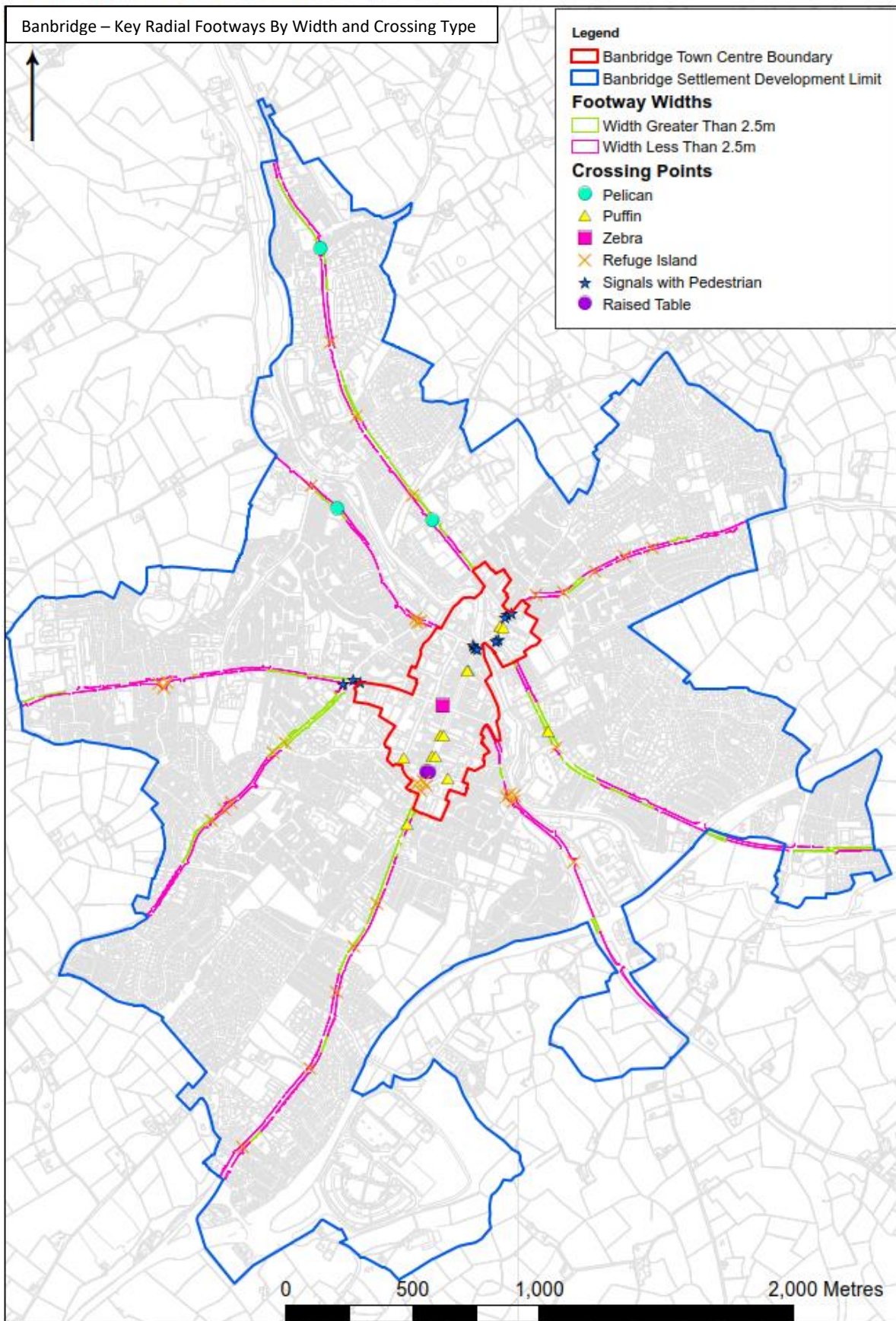


Figure 5c – Pedestrian Infrastructure in Craigavon Urban Area– Key Radial Footways by Width and Type

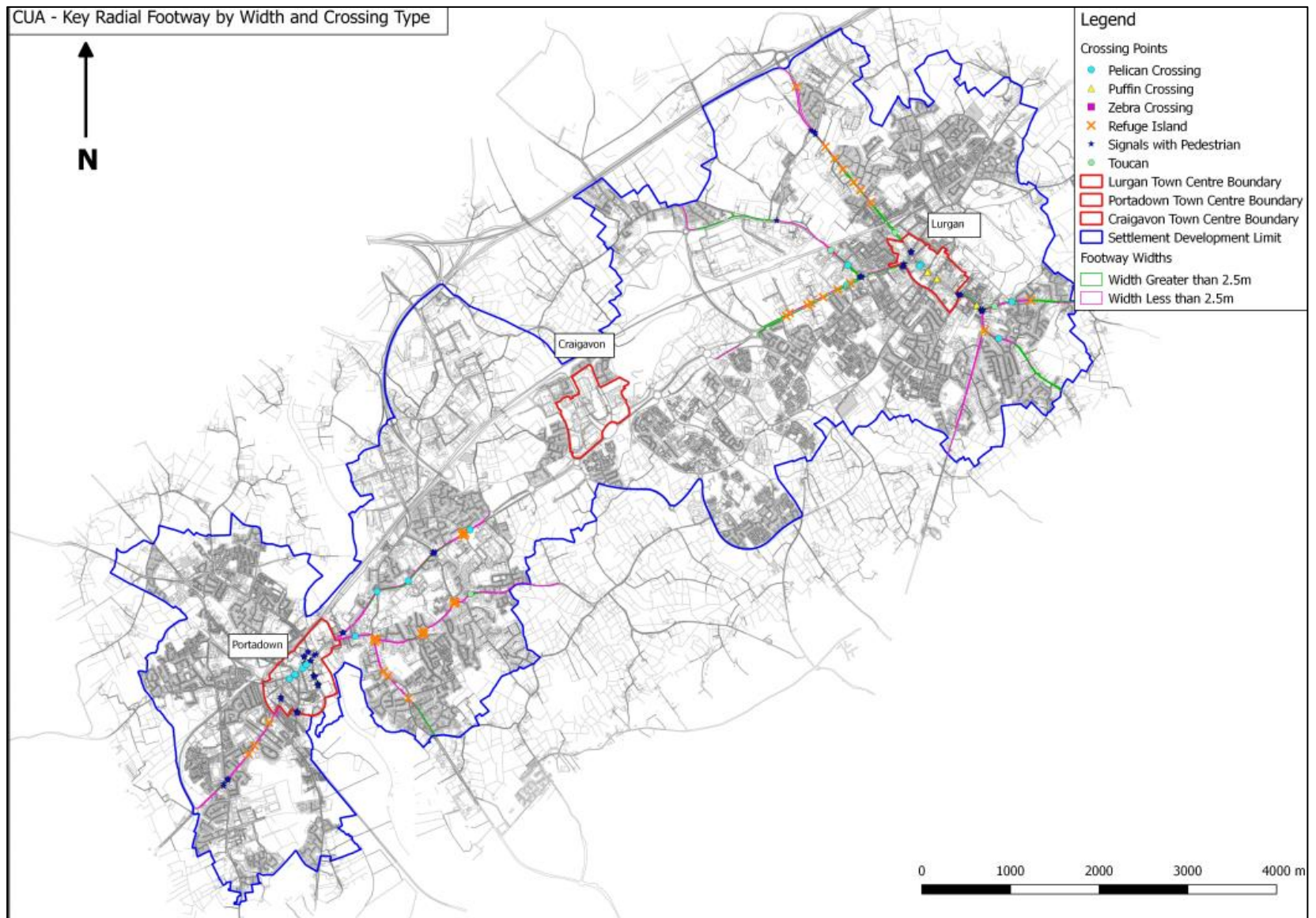


Figure 6a – Cycling Infrastructure in Armagh

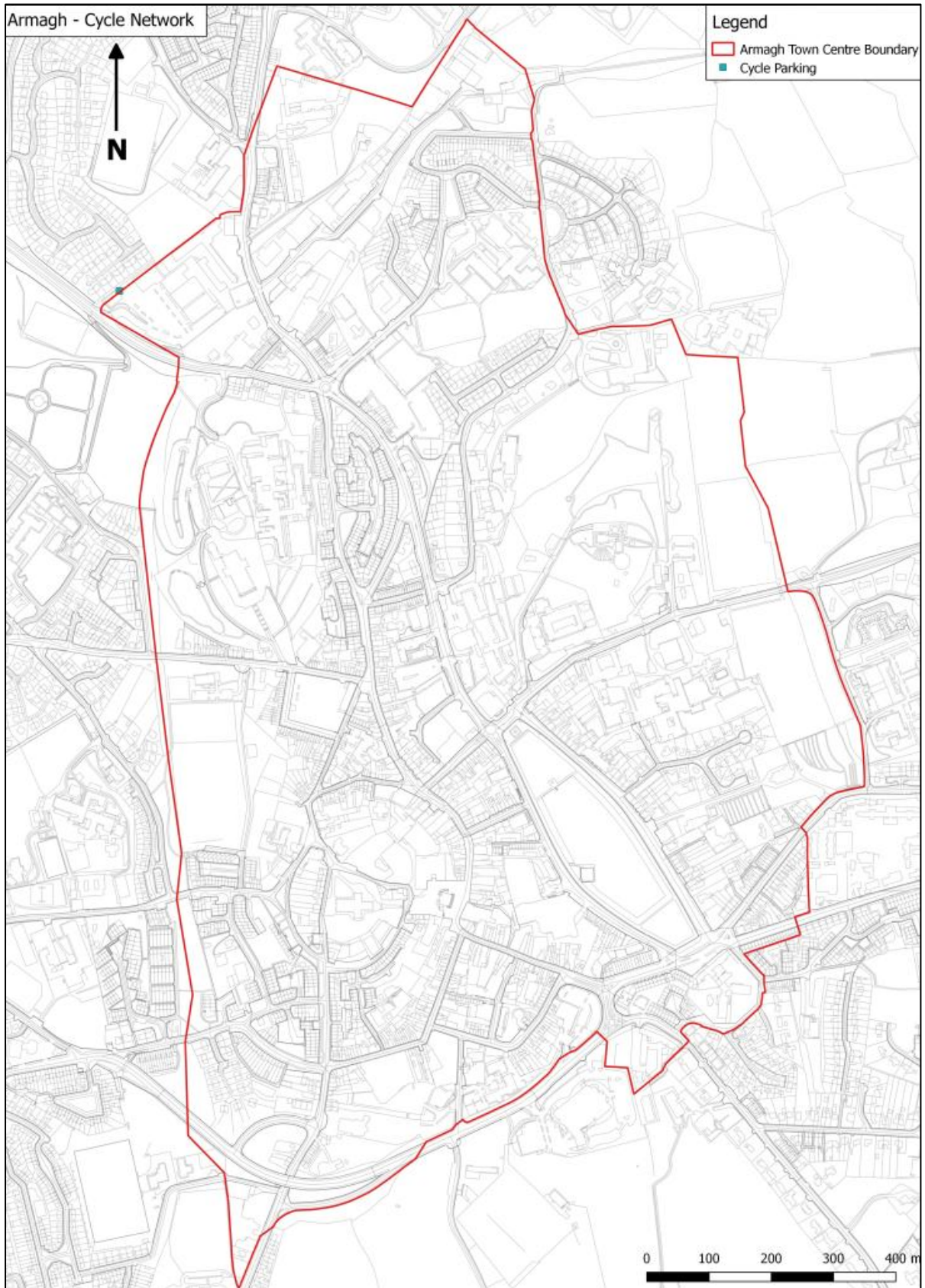


Figure 6b – Cycling Infrastructure in Banbridge

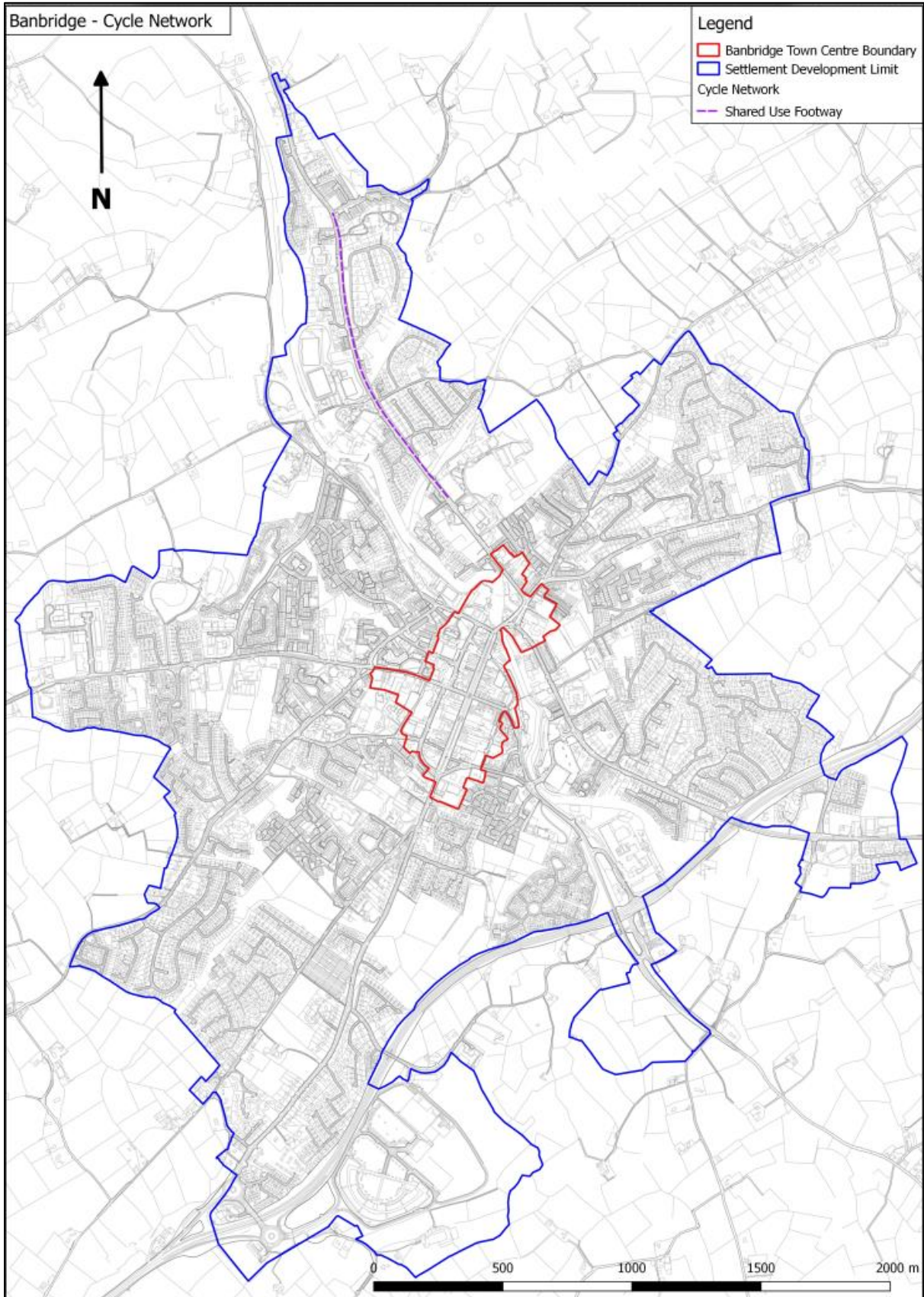


Figure 6c – Cycling Infrastructure in Craigavon Urban Area

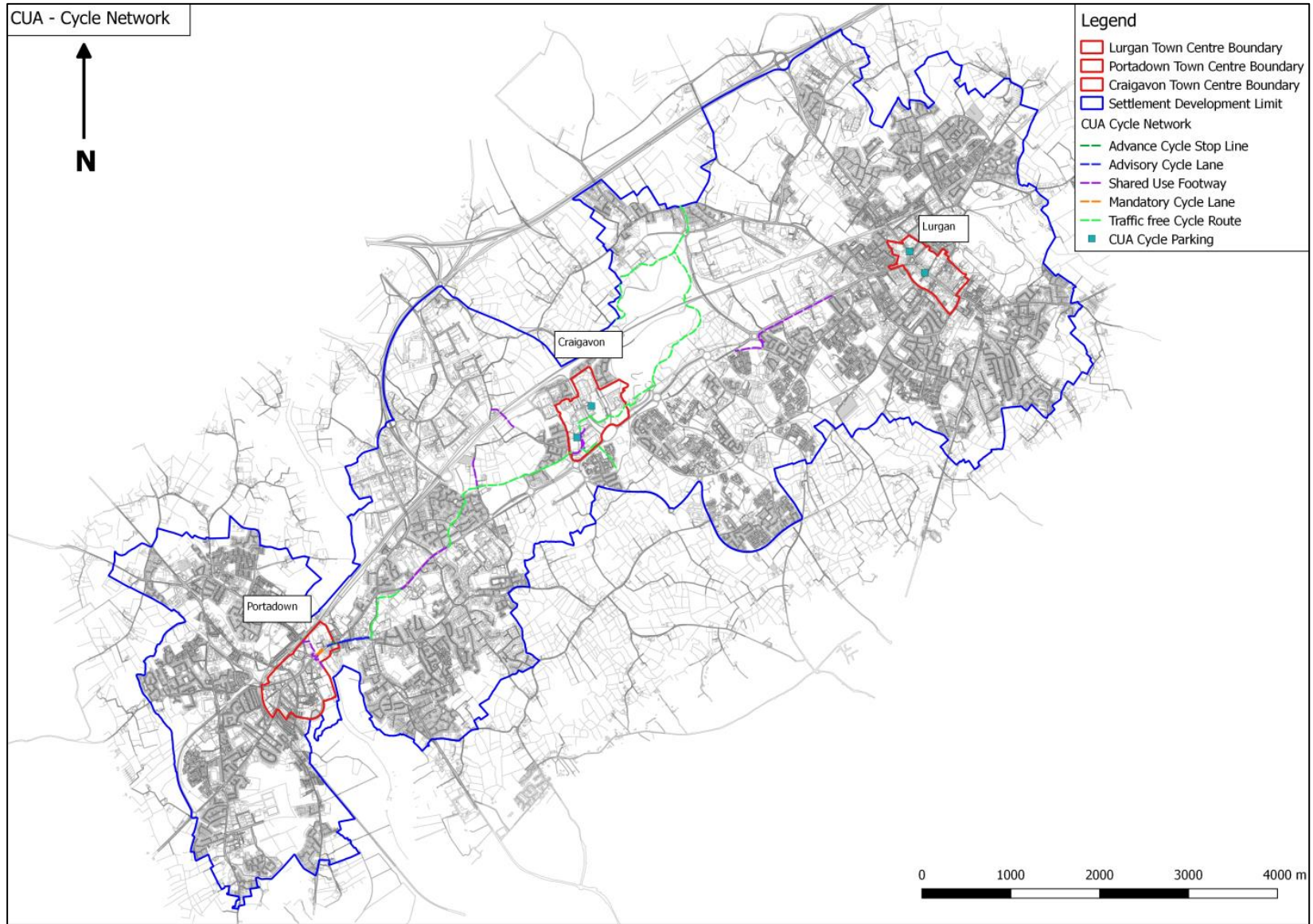


Figure 7a – Bus Service Routes in Armagh

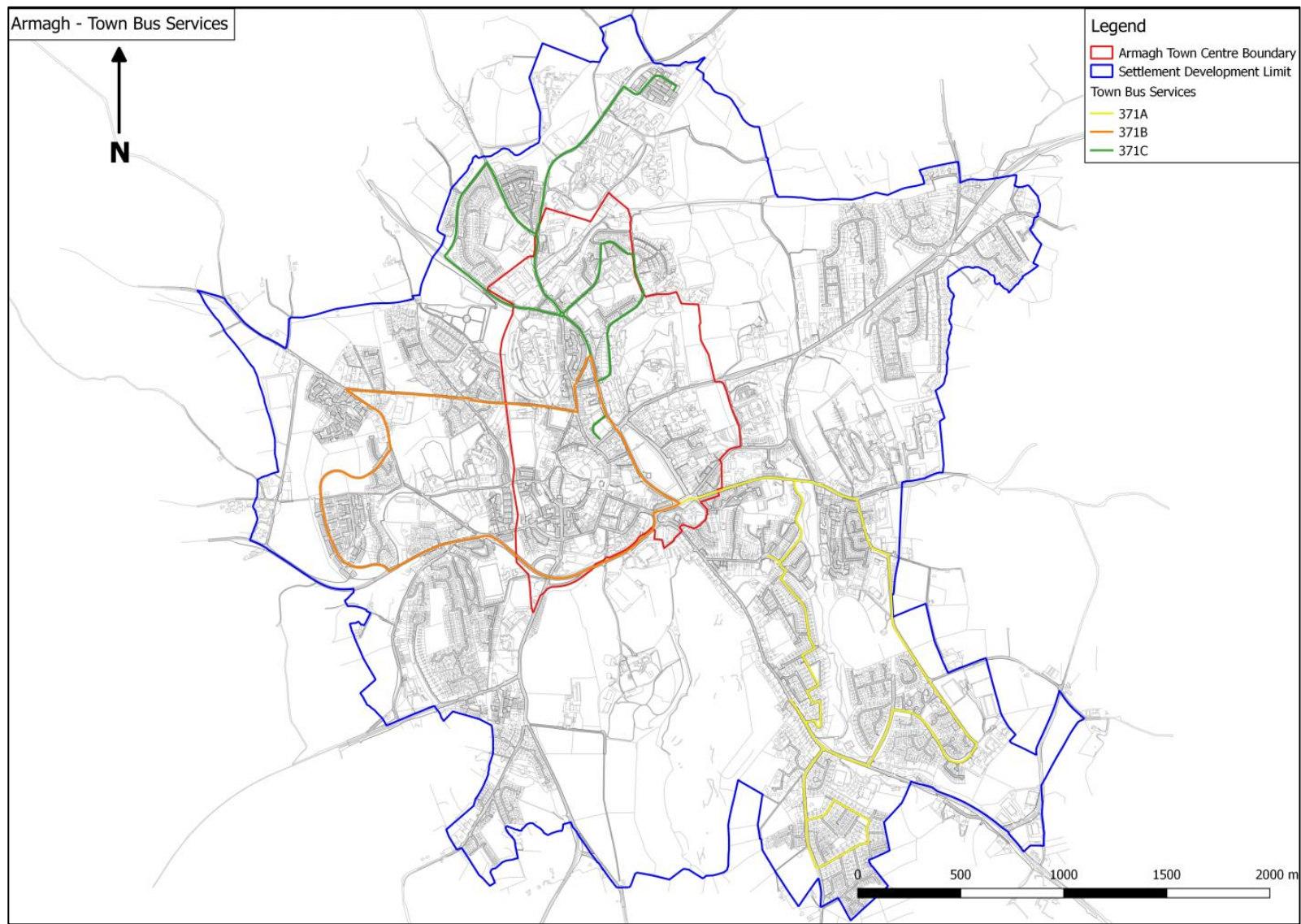


Figure 7b – Bus Service Routes in Banbridge

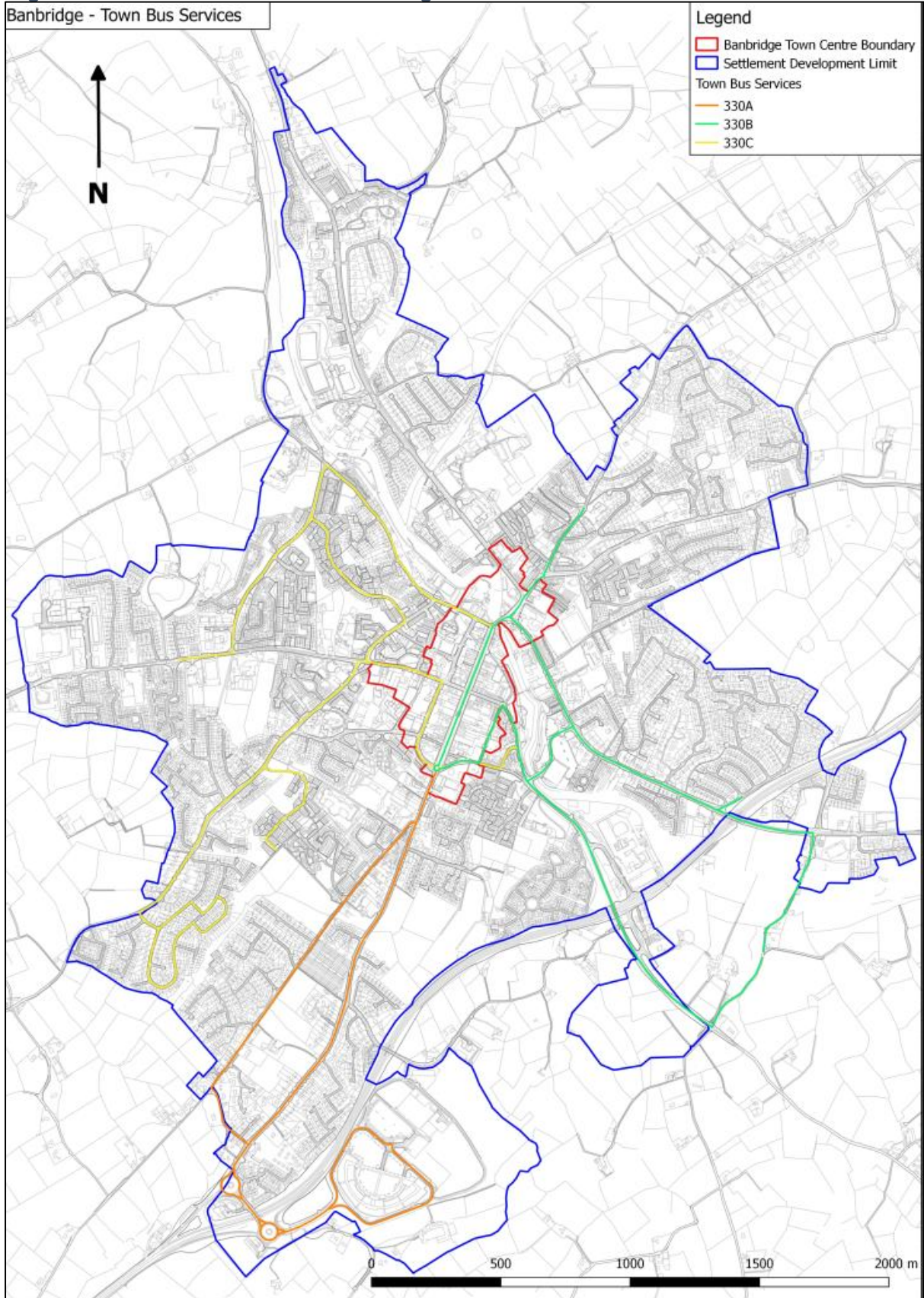
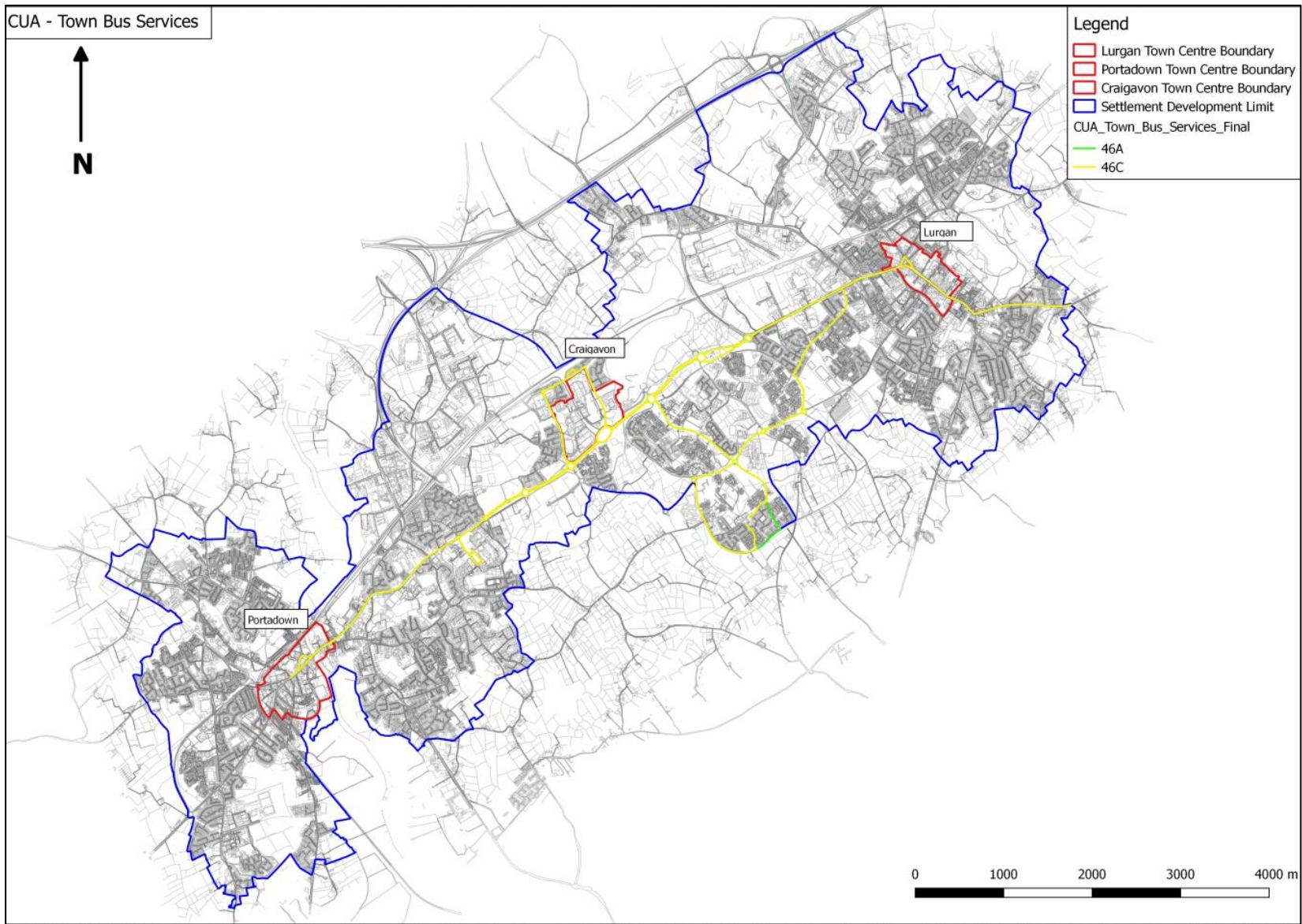


Figure 7c – Bus Service Routes in Craigavon Urban Area



Armagh City, Banbridge and Craigavon Borough Transport Study

Travel to work destinations

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

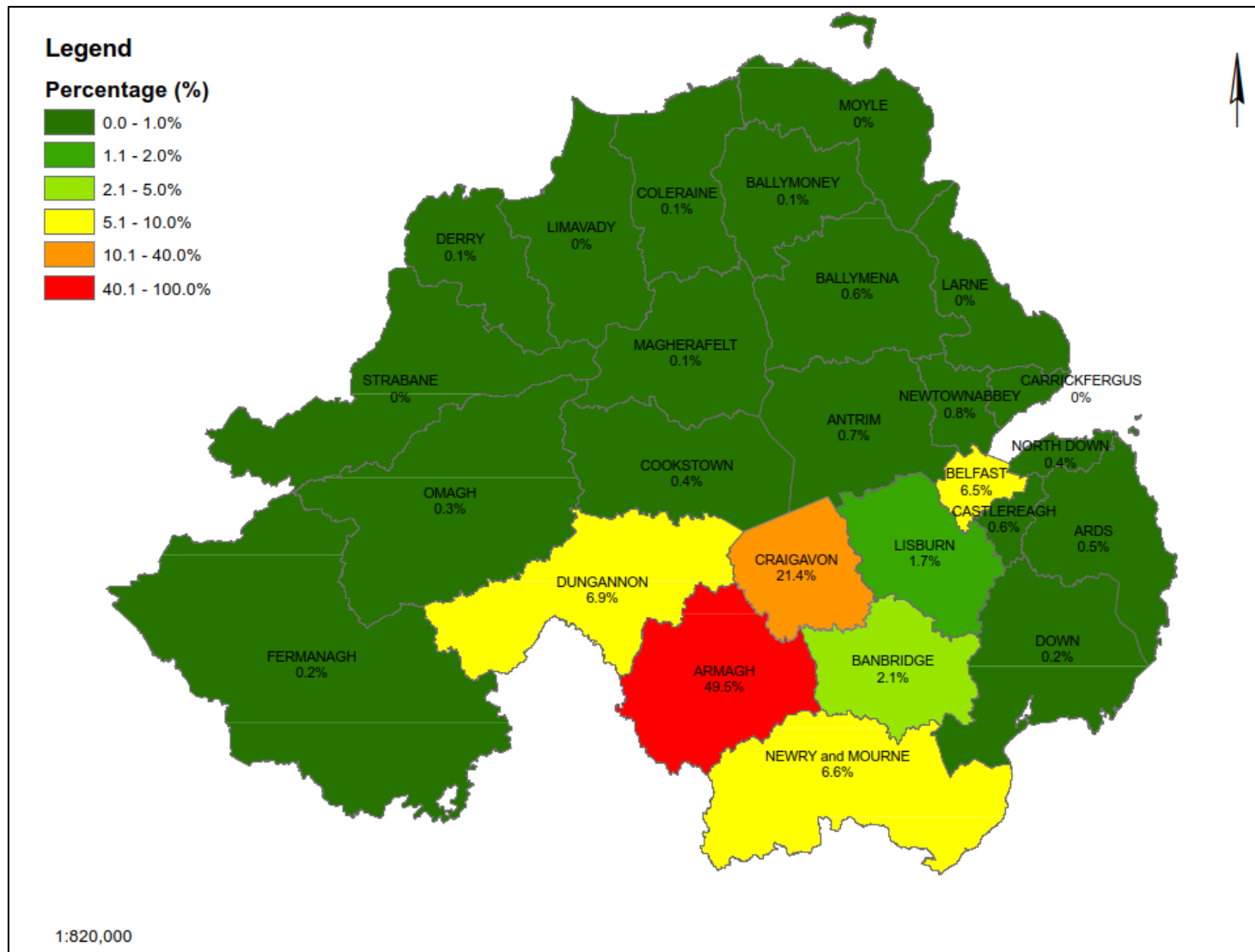


Figure 8b - Percentage of Travel to Work Journeys from Banbridge to other LGDs in 2011

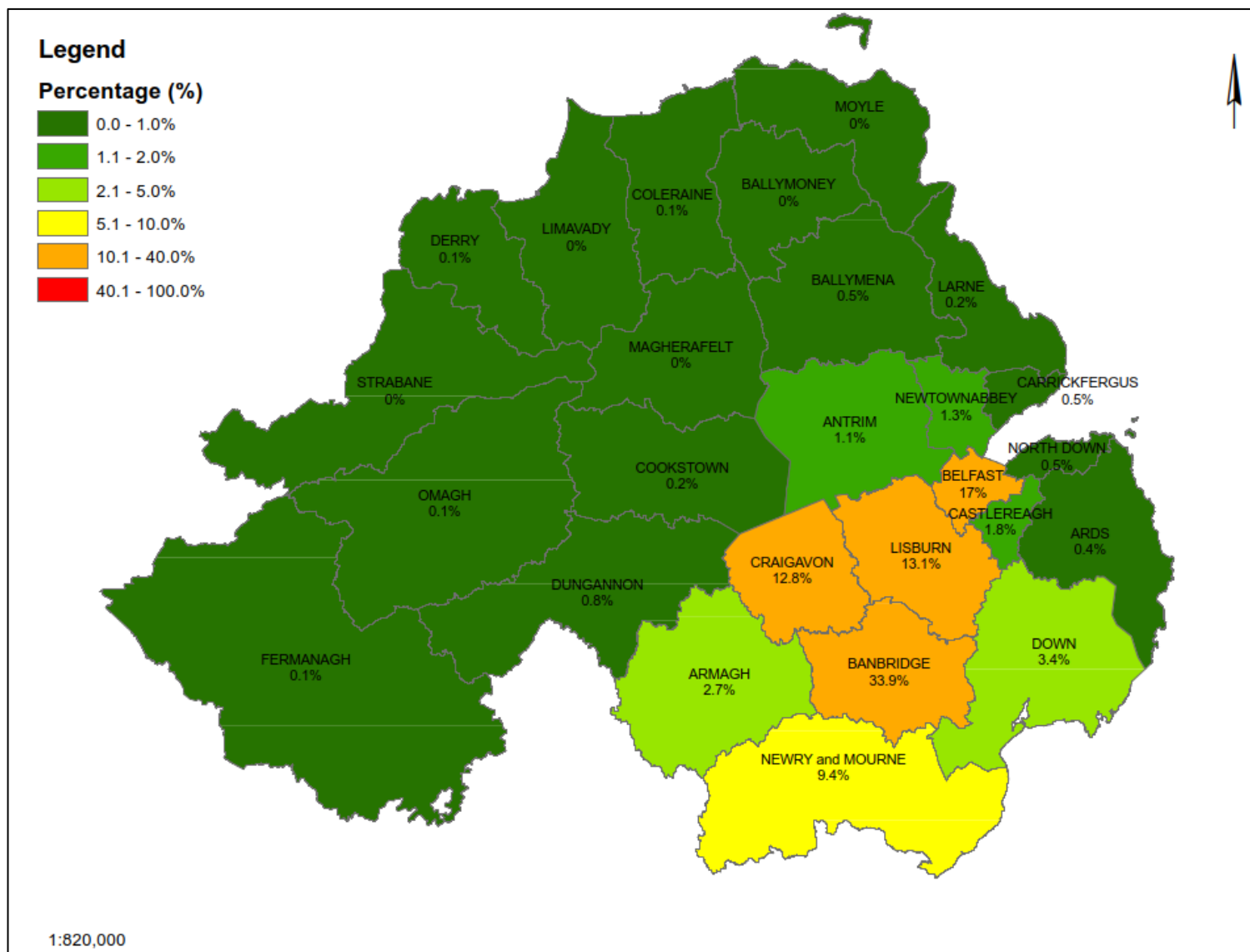
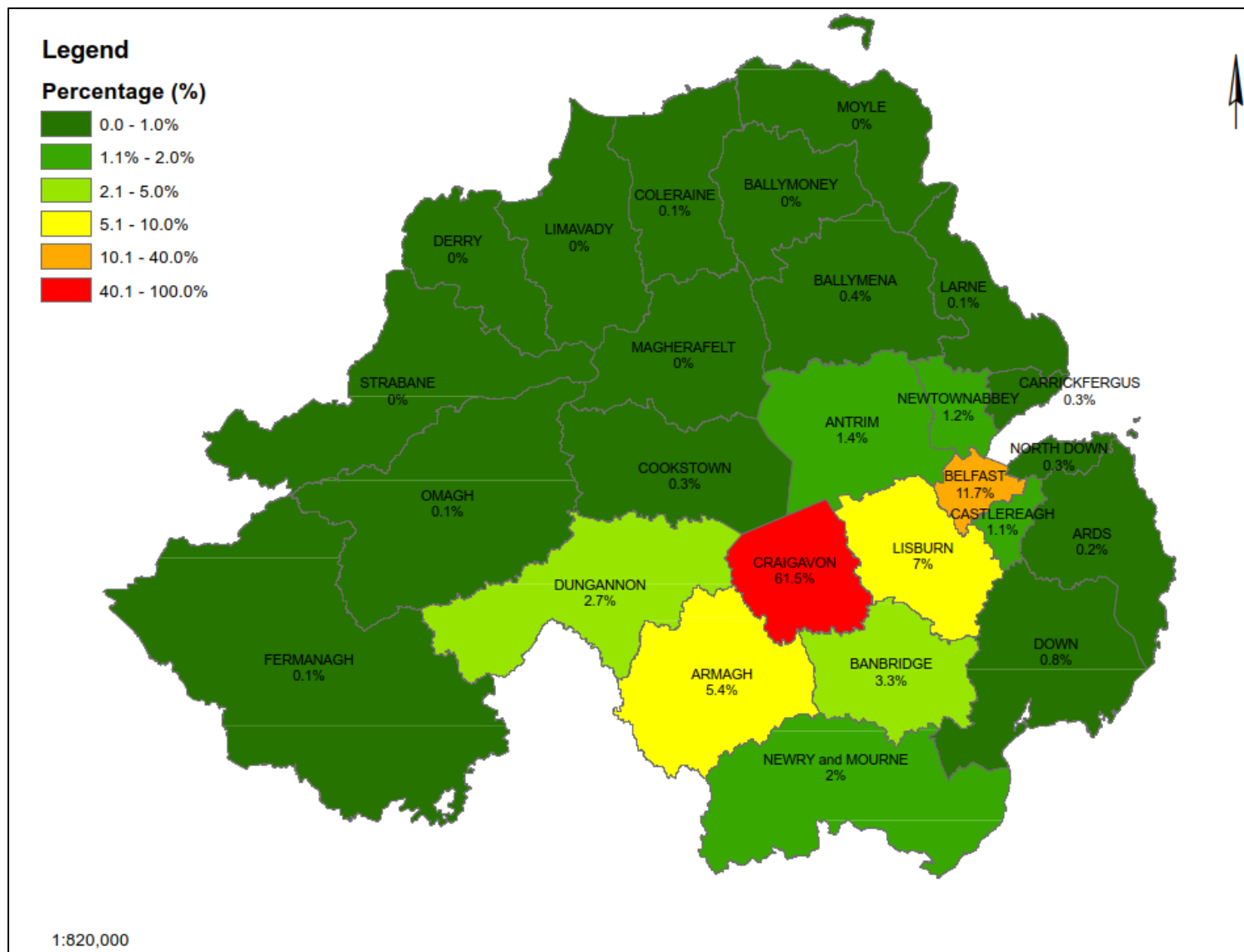


Figure 8c - Percentage of Travel to Work Journeys from Craigavon to other LGDs in 2011



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

Figure 9 – Modal Choice for Journey to Work in Armagh, Banbridge and Craigavon Urban Area

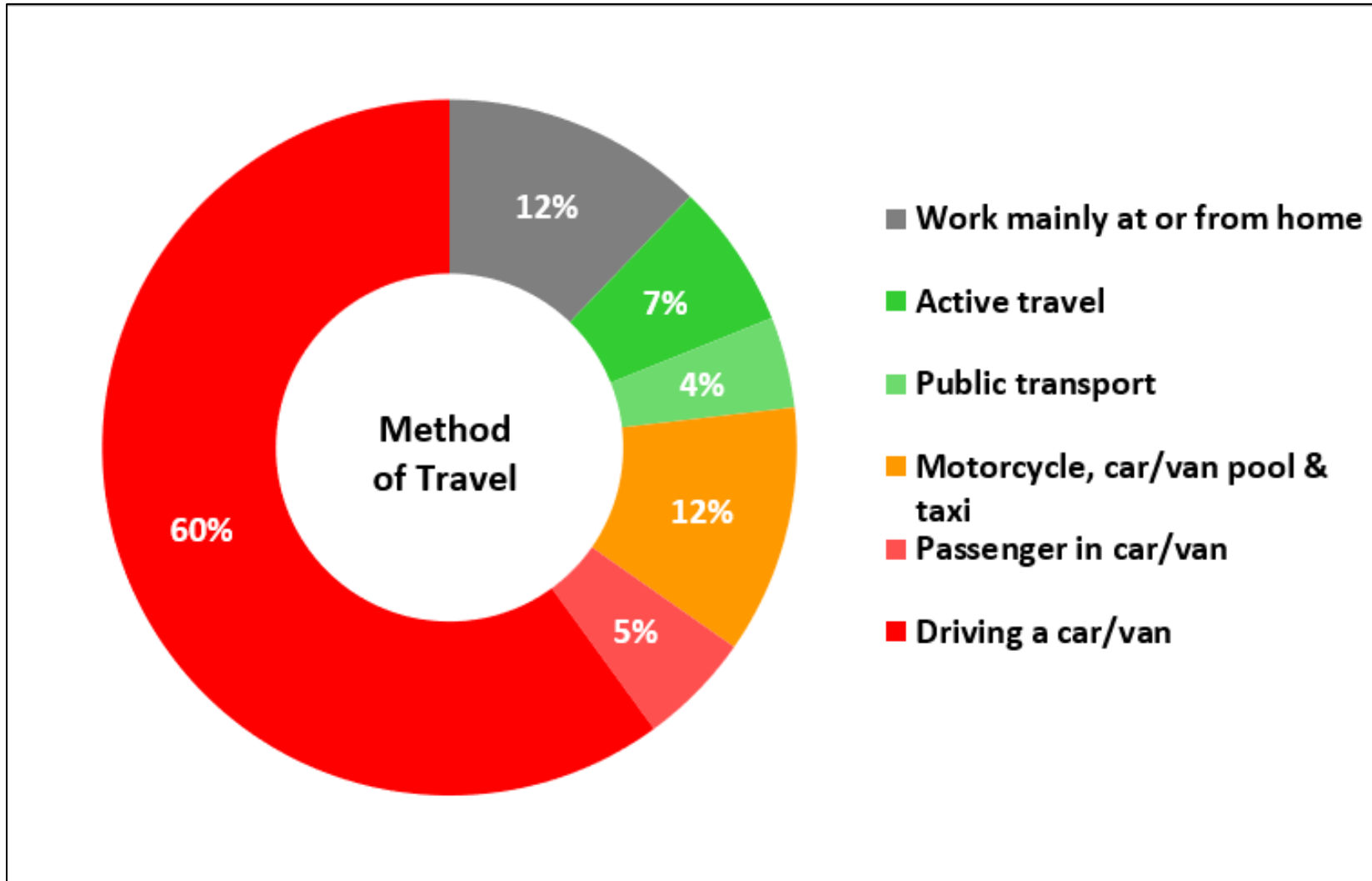


Figure 10 – Modal Choice for Journey to Work by distance in Armagh, Banbridge and Craigavon Urban Area

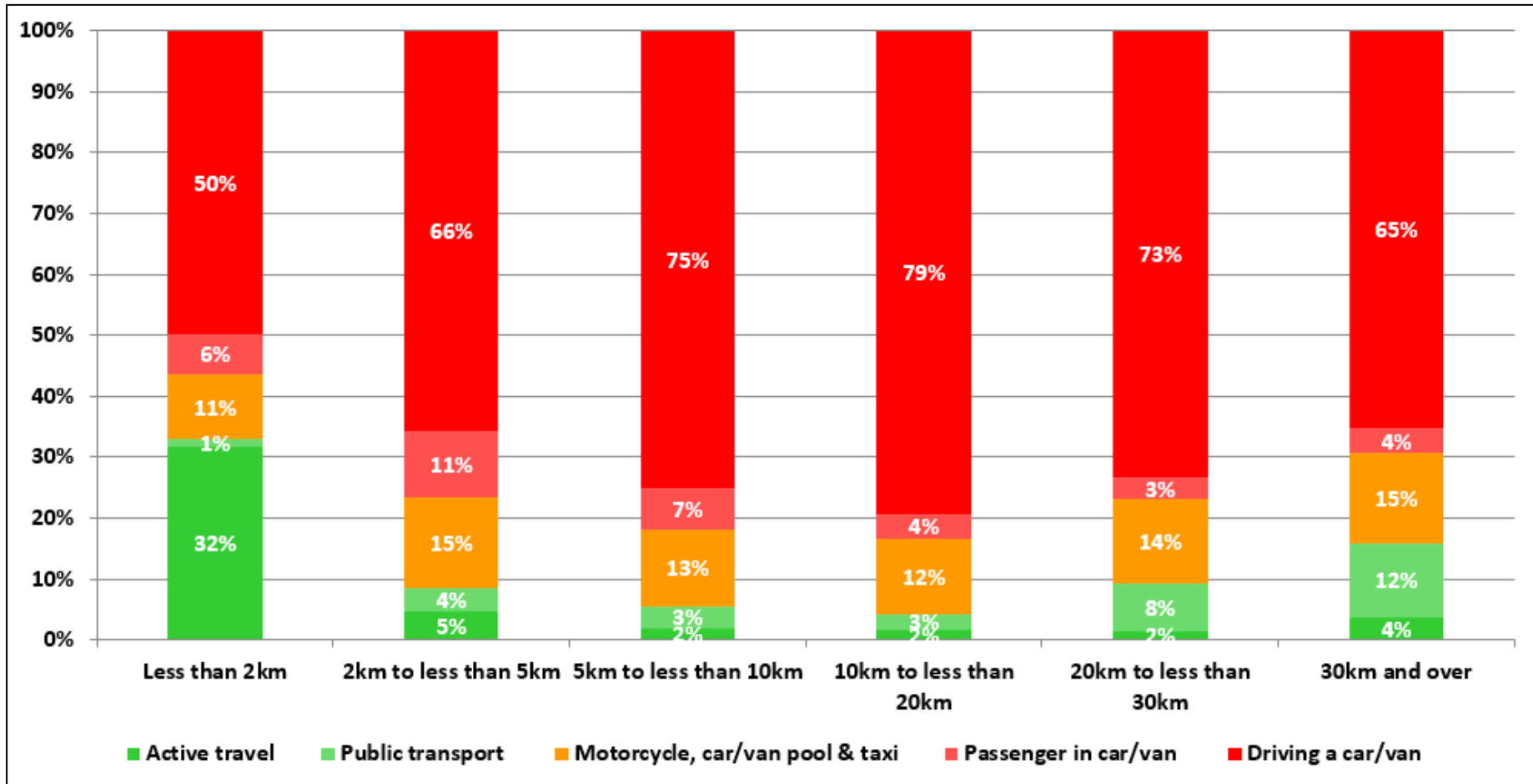


Figure 11 – Modal Choice for Journey to Education in Armagh, Banbridge and Craigavon Urban Area

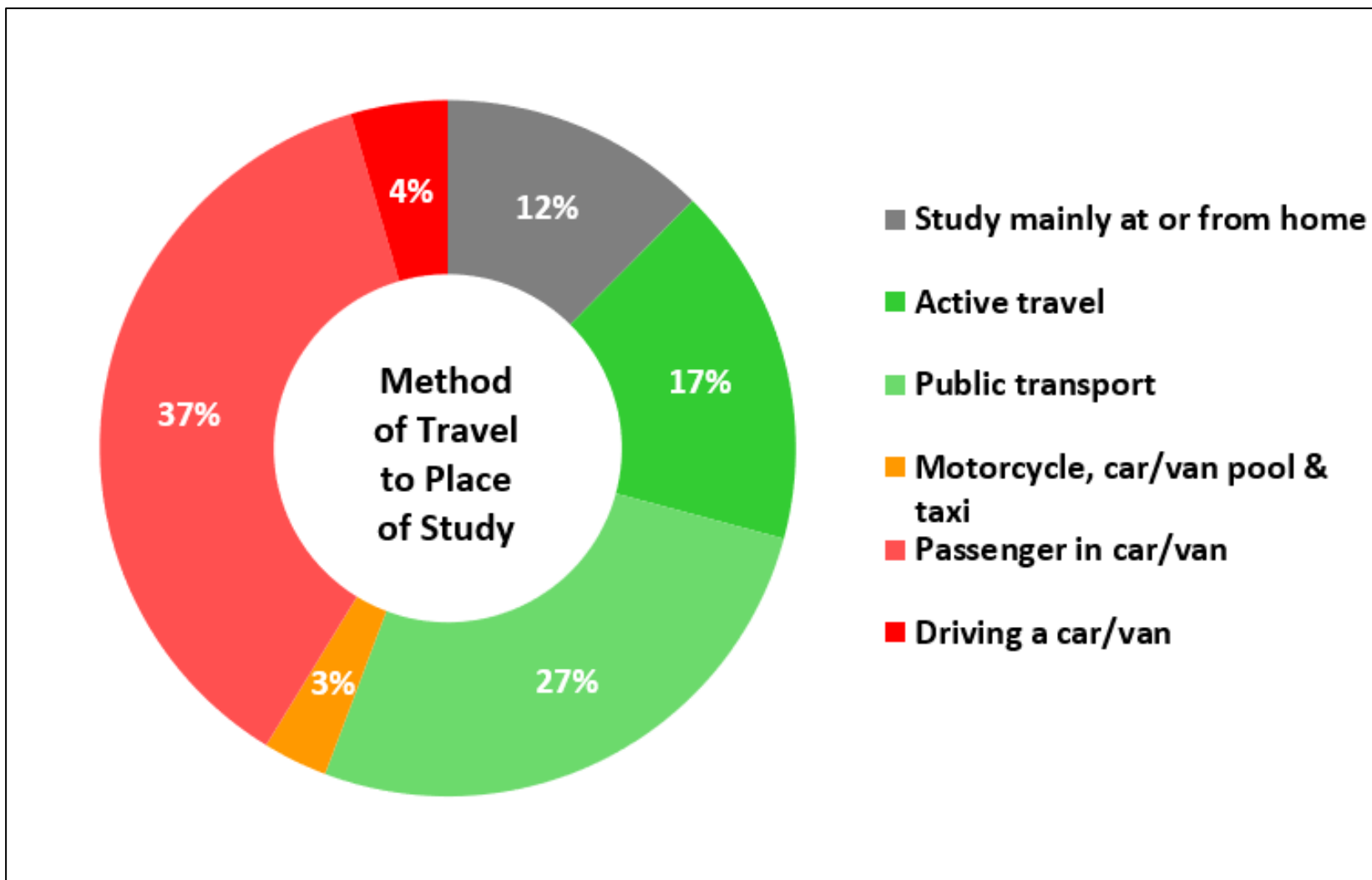
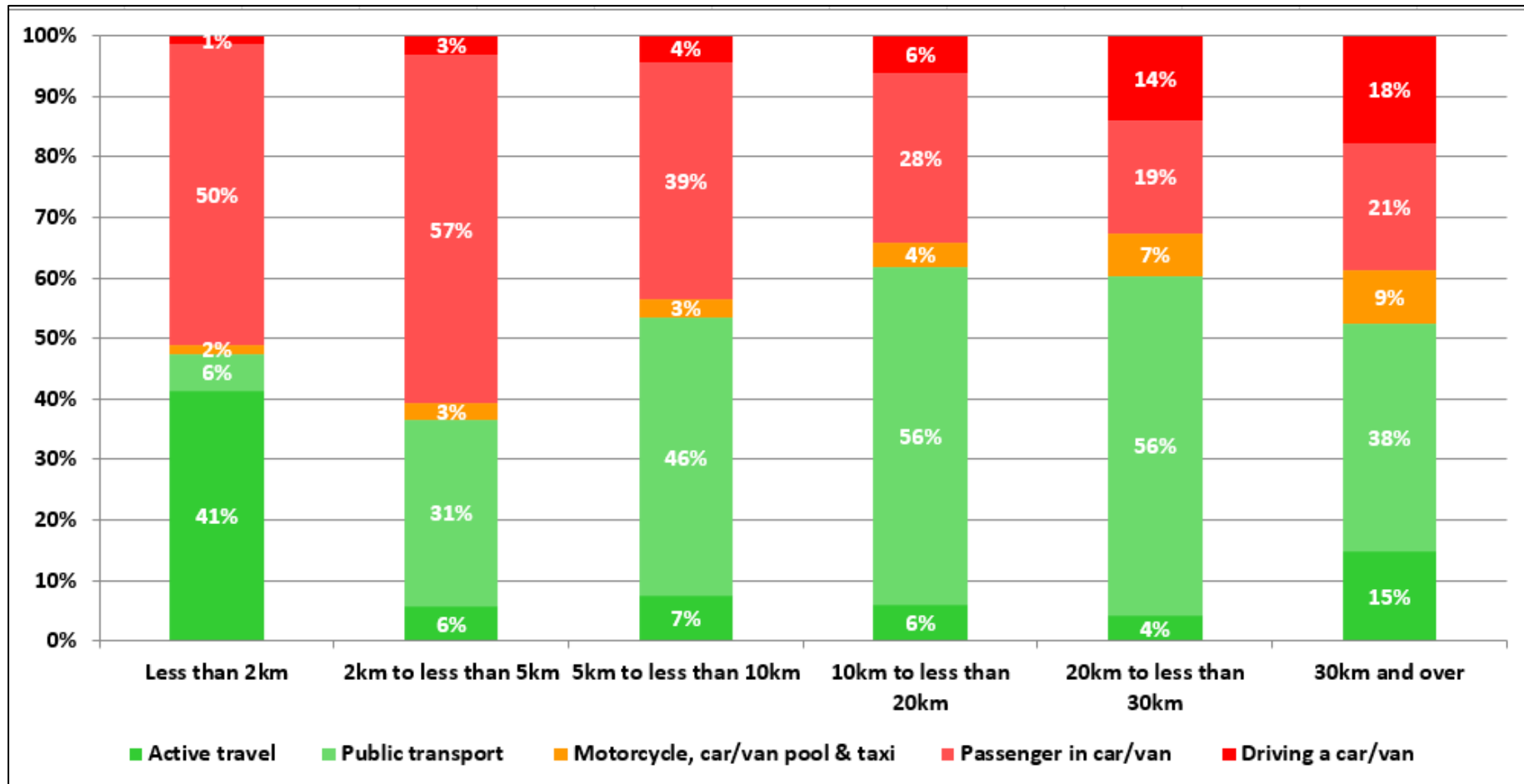


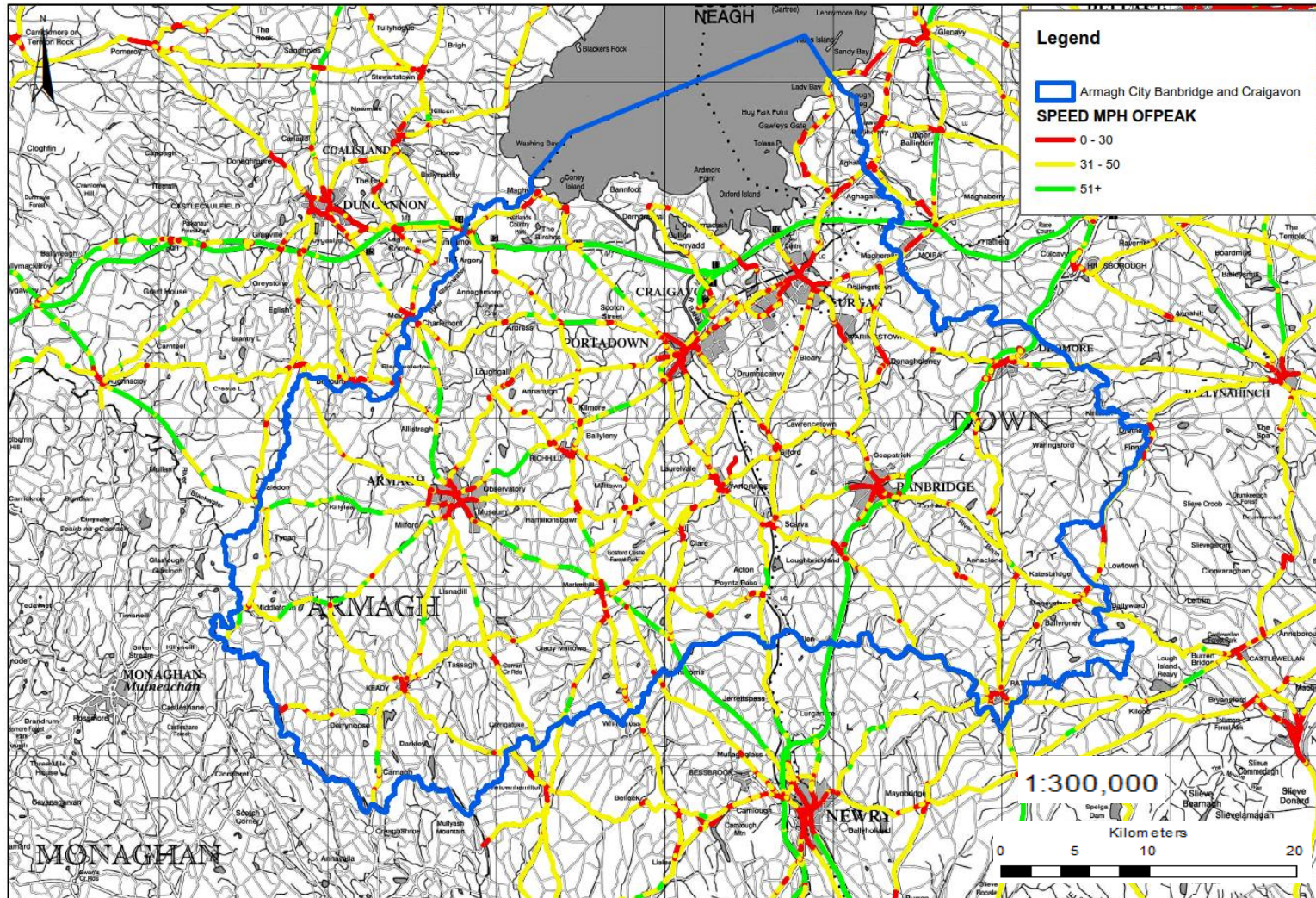
Figure 12 – Modal Choice for Journey to Education in Armagh, Banbridge and Craigavon Urban Area



Armagh City, Banbridge and Craigavon Borough Transport Study

Road network speeds at peak and off peak time periods

Figure 13 – Average Off Peak Speeds (mph) in Armagh, Banbridge and Craigavon Urban Area



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Figure 14a – Average Peak Speeds (mph) for road in Armagh

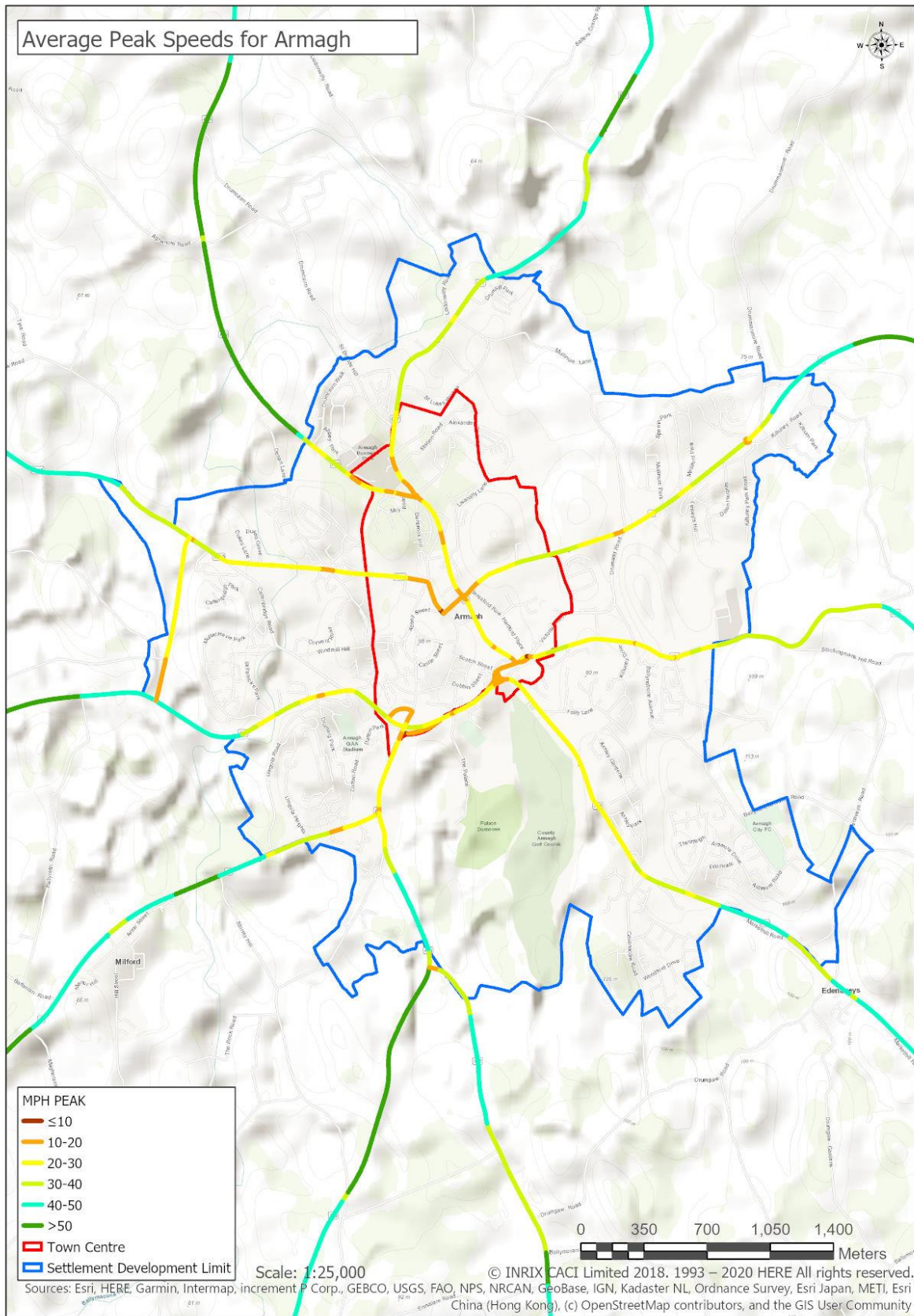
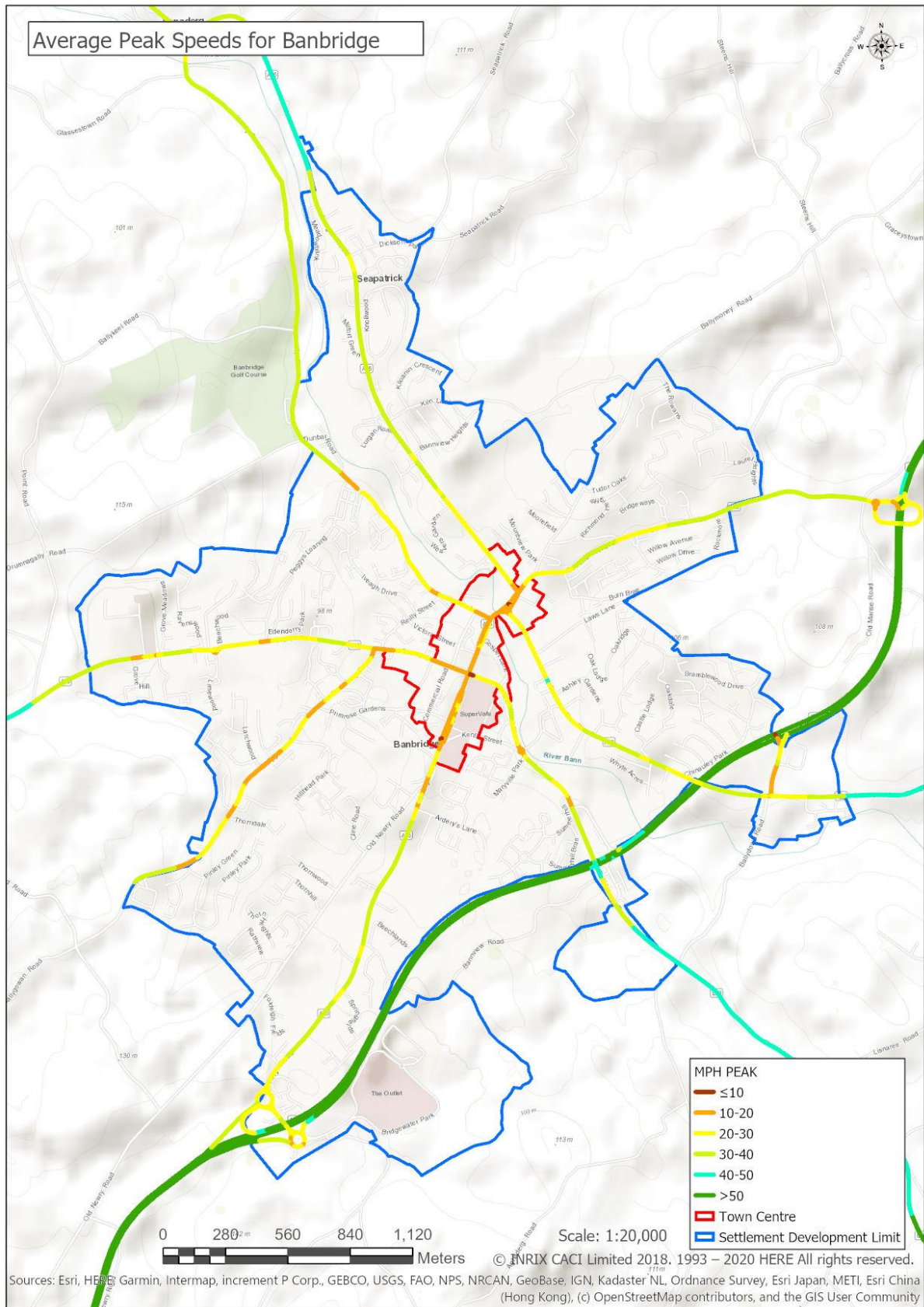
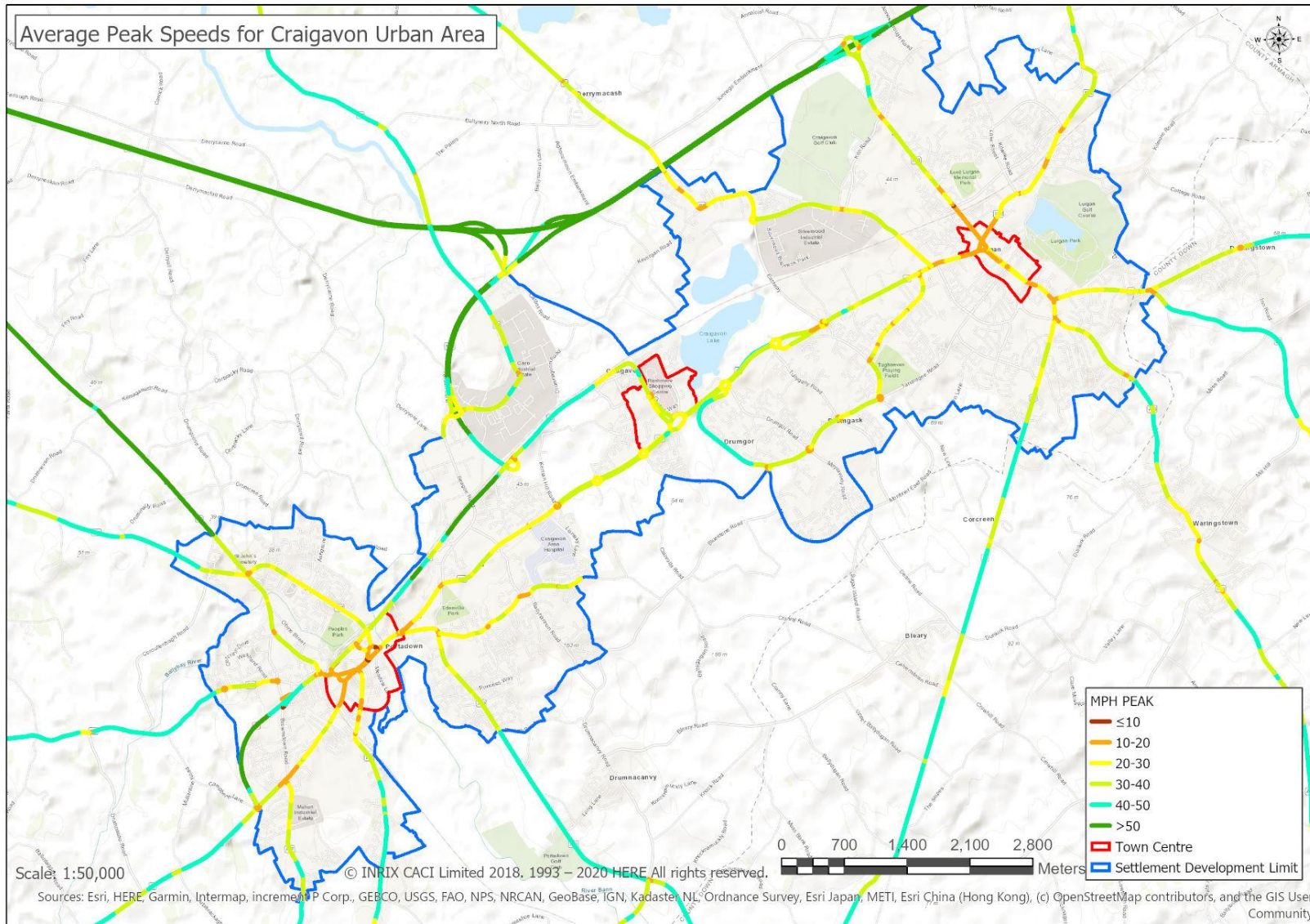


Figure 14b – Average Peak Speeds (mph) for road in Banbridge



Armagh City, Banbridge and Craigavon Borough Transport Study

Figure 14c – Average Peak Speeds (mph) for road in Craigavon Urban Area



Road collision history in Armagh, Banbridge and Craigavon Urban Area

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

Road User Type	2007-2011				2012-2016				2007-2016 Combined			
	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	206	1	29	176	274	0	23	251	480	1	52	427
Pedestrians	47	1	11	35	48	0	14	34	95	1	25	69
Motor Vehicle Users (inc passengers)	145	0	13	132	215	0	7	208	360	0	20	340
Motorcyclists (inc pillion passengers)	6	0	2	4	5	0	1	4	11	0	3	8
Pedal Cyclists	8	0	3	5	6	0	1	5	14	0	4	10
Other Road Users	0	0	0	0	0	0	0	0	0	0	0	0

Casualties in Armagh 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	274	0	23	251
Pedestrians	17.5%	0.0%	60.9%	13.5%
Motor Vehicle Users (inc passengers)	78.5%	0.0%	30.4%	82.9%
Motorcyclists (inc pillion passengers)	1.8%	0.0%	4.3%	1.6%
Pedal Cyclists	2.2%	0.0%	4.3%	2.0%
Other Road Users	0.0%	0.0%	0.0%	0.0%

Casualties in Armagh 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	274	0.0%	8.4%	91.6%
Pedestrians	48	0.0%	29.2%	70.8%
Motor Vehicle Users (inc passengers)	215	0.0%	3.3%	96.7%
Motorcyclists (inc pillion passengers)	5	0.0%	20.0%	80.0%
Pedal Cyclists	6	0.0%	16.7%	83.3%
Other Road Users	0	0.0%	0.0%	0.0%

Armagh City, Banbridge and Craigavon Borough Transport Study

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

Road User Type	2007-2011				2012-2016				2007-2016 Combined			
	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	198	1	17	180	216	0	14	202	414	1	31	382
Pedestrians	37	0	8	29	33	0	9	24	70	0	17	53
Motor Vehicle Users (inc passengers)	144	1	7	136	170	0	1	169	314	1	8	305
Motorcyclists (inc pillion passengers)	10	0	2	8	10	0	3	7	20	0	5	15
Pedal Cyclists	7	0	0	7	3	0	1	2	10	0	1	9
Other Road Users	0	0	0	0	0	0	0	0	0	0	0	0

Casualties in Banbridge 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	216	0	14	202
Pedestrians	15.3%	0.0%	64.3%	11.9%
Motor Vehicle Users (inc passengers)	78.7%	0.0%	7.1%	83.7%
Motorcyclists (inc pillion passengers)	4.6%	0.0%	21.4%	3.5%
Pedal Cyclists	1.4%	0.0%	7.1%	1.0%
Other Road Users	0.0%	0.0%	0.0%	0.0%

Casualties in Banbridge 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	216	0.0%	6.5%	93.5%
Pedestrians	33	0.0%	27.3%	72.7%
Motor Vehicle Users (inc passengers)	170	0.0%	0.6%	99.4%
Motorcyclists (inc pillion passengers)	10	0.0%	30.0%	70.0%
Pedal Cyclists	3	0.0%	33.3%	66.7%
Other Road Users	0	0.0%	0.0%	0.0%

Armagh City, Banbridge and Craigavon Borough Transport Study

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

Road User Type	2007-2011				2012-2016				2007-2016 Combined			
	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	1,260	5	92	1,163	1,502	3	92	1,407	2,762	8	184	2,570
Pedestrians	142	2	36	104	157	1	37	119	299	3	73	223
Motor Vehicle Users (inc passengers)	986	3	29	954	1,200	1	26	1,173	2,186	4	55	2,127
Motorcyclists (inc pillion passengers)	73	0	20	53	67	0	14	53	140	0	34	106
Pedal Cyclists	54	0	6	48	72	1	14	57	126	1	20	105
Other Road Users	5	0	1	4	6	0	1	5	11	0	2	9

Casualties in Craigavon Urban Area 2012-2016 - Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	1,502	3	92	1,407
Pedestrians	10.5%	33.3%	40.2%	8.5%
Motor Vehicle Users (inc passengers)	79.9%	33.3%	28.3%	83.4%
Motorcyclists (inc pillion passengers)	4.5%	0.0%	15.2%	3.8%
Pedal Cyclists	4.8%	33.3%	15.2%	4.1%
Other Road Users	0.4%	0.0%	1.1%	0.4%

Casualties in Craigavon Urban Area 2012-2016 - Severity Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	1,502	0.2%	6.1%	93.7%
Pedestrians	157	0.6%	23.6%	75.8%
Motor Vehicle Users (inc passengers)	1,200	0.1%	2.2%	97.8%
Motorcyclists (inc pillion passengers)	67	0.0%	20.9%	79.1%
Pedal Cyclists	72	1.4%	19.4%	79.2%
Other Road Users	6	0.0%	0.0%	0.0%

Parking Provision in Armagh, Banbridge and Craigavon Urban Area

Figure 16a – Parking Provision Locations in Armagh

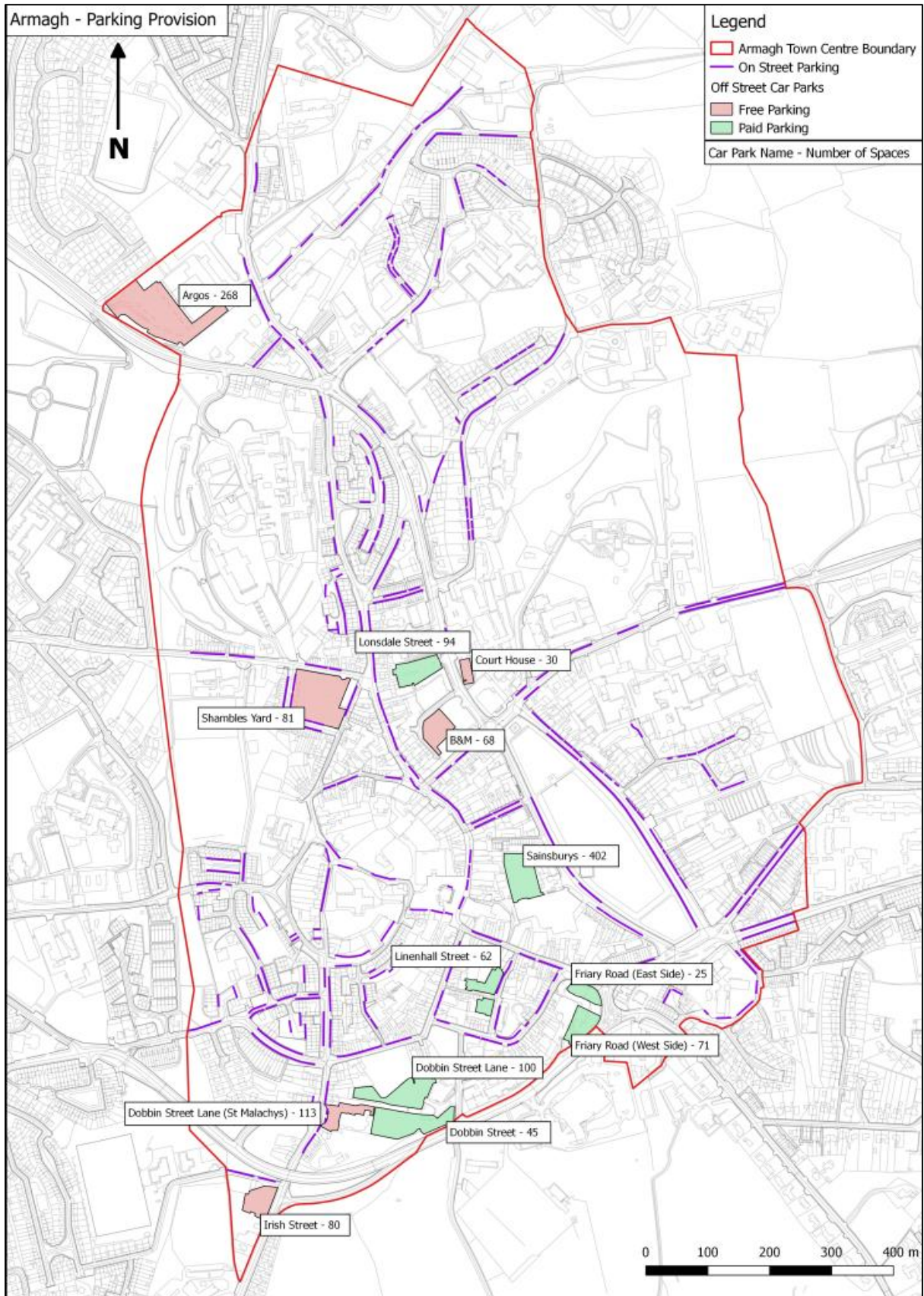


Figure 16b – Parking Provision Locations in Banbridge

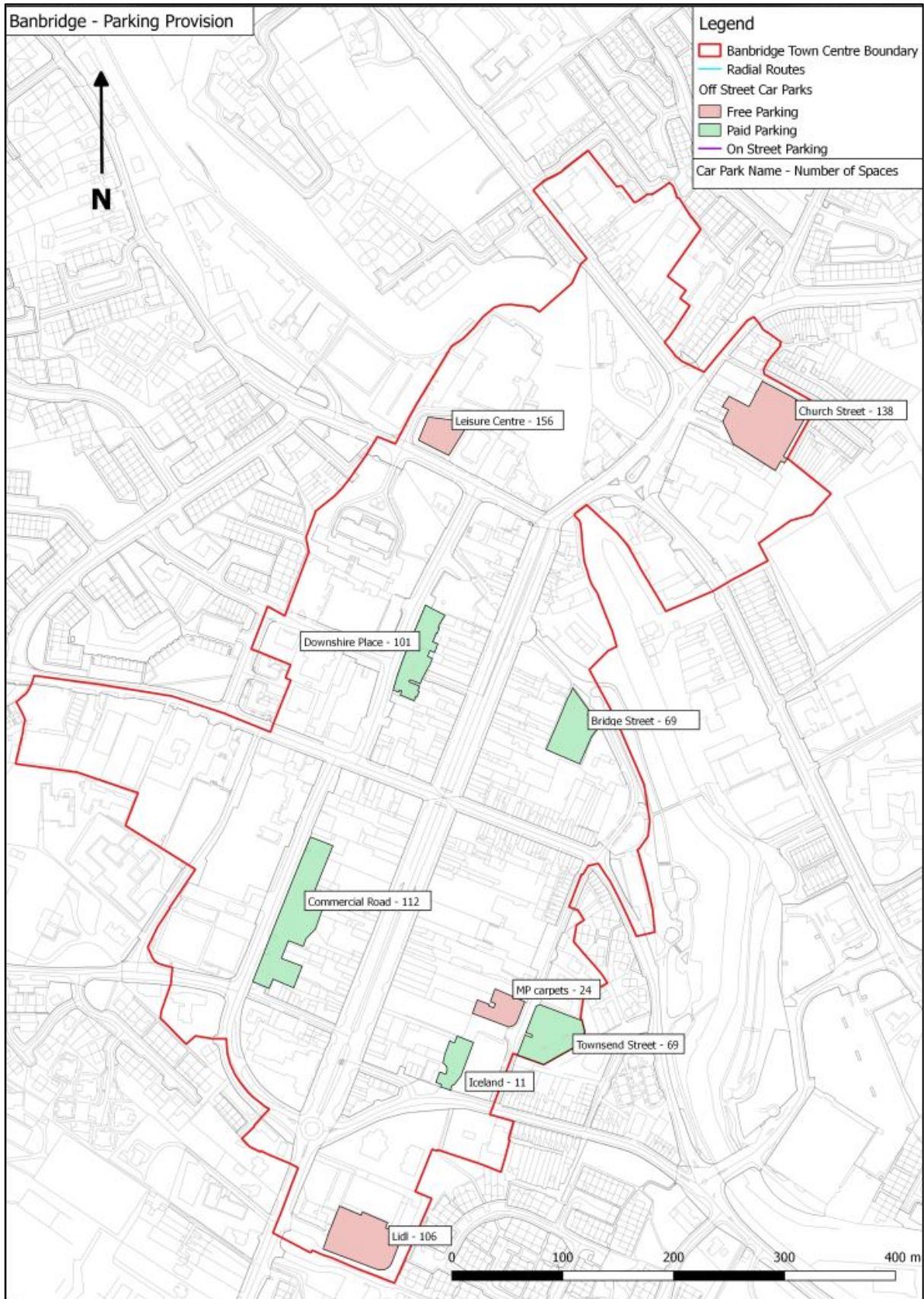


Figure 16c – Parking Provision Locations in Portadown

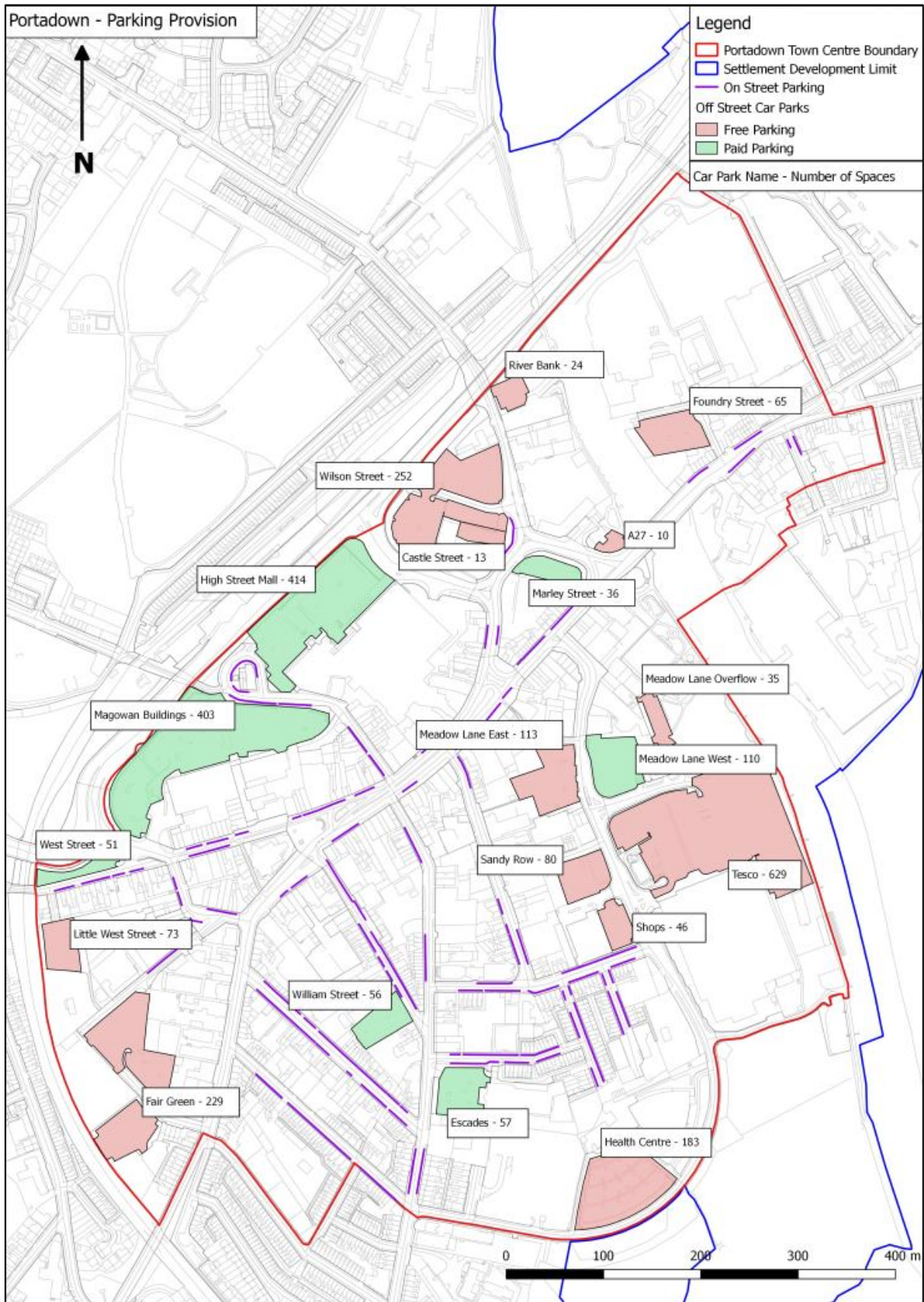


Figure 16d – Parking Provision Locations in Central Craigavon

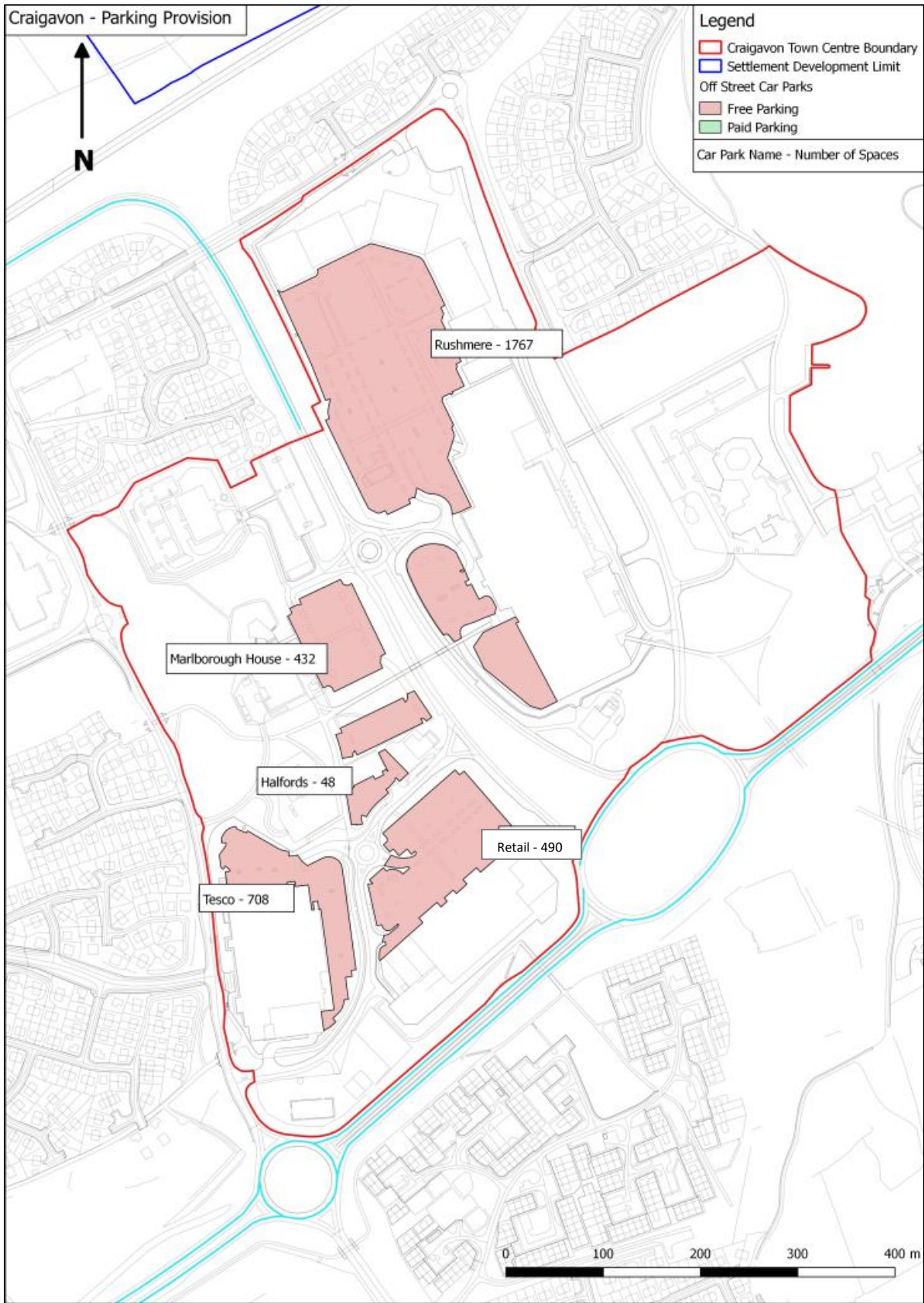
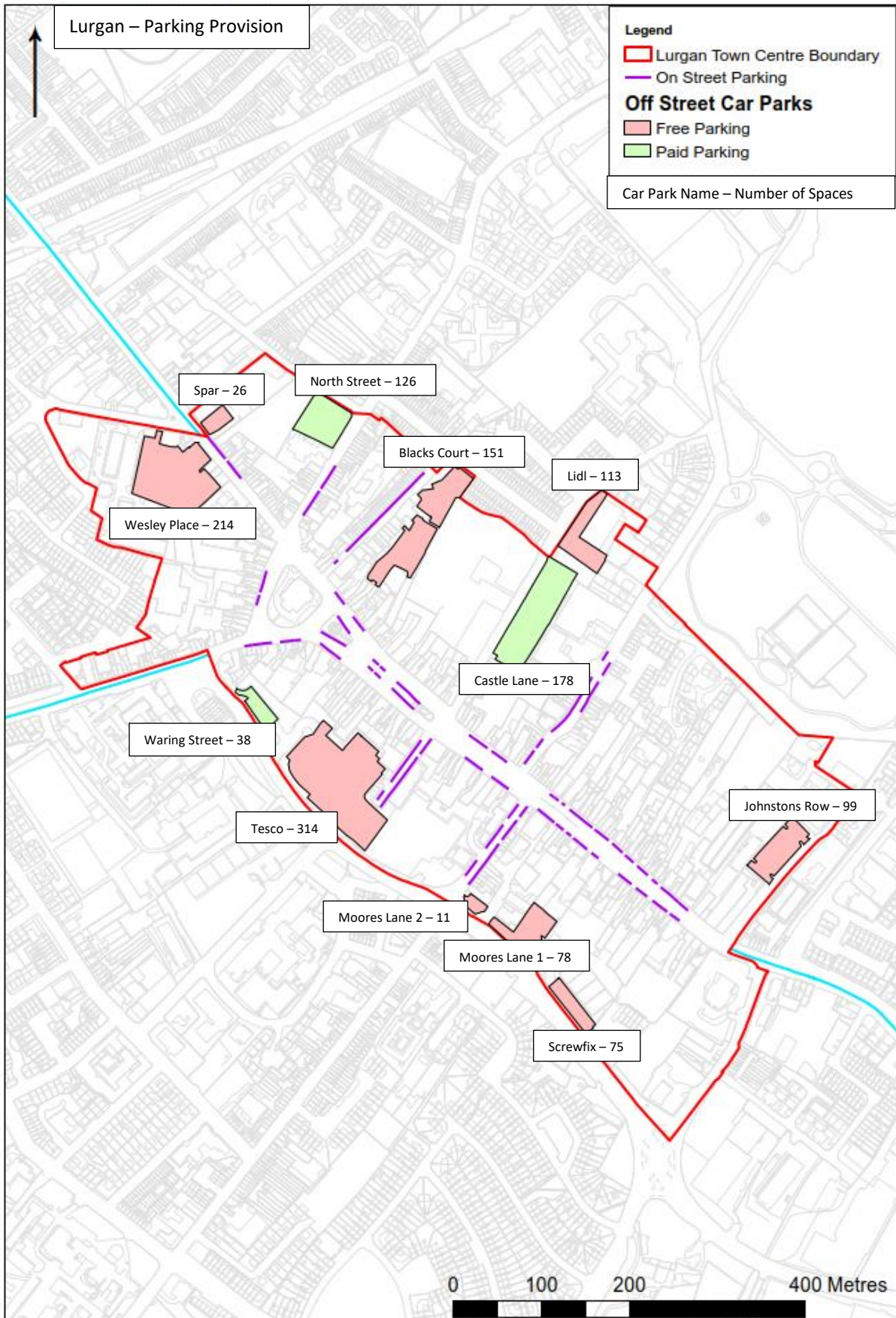


Figure 16e – Parking Provision Locations in Lurgan



Armagh City, Banbridge and Craigavon Borough Transport Study

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

Off Street Parking - Armagh								
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
Dobbin Street	Paid	£0.40	Council	45	1	104%	96%	20%
Friary Road (West Side)	Paid	£0.40	Council	71	2	55%	61%	45%
Lonsdale Street	Paid	40p for 1 hr, 80p 1-2 hrs, £1.50 2-4 hrs, £3 4-6 hrs, £5 6 hrs+	Council	94	6	35%	37%	34%
Court House	Free	N/A	Council	30	2	110%	97%	73%
Dobbin Street Lane, Armagh (St Malchy's Part)	Free	N/A	Council	113	0	112%	93%	28%
Irish Street	Free	N/A	Council	80	2	-	-	-
Linenhall St	Paid	£0.40	Council	62	2	84%	65%	92%
Dobbin Street Lane	Paid	£0.40	Council	100	3	46%	42%	93%
Sainsburys	Paid	£0.40	Private	402	15	-	-	-
Shambles Yard	Free	N/A	Private	81	8	96%	75%	32%
Argos	Free	N/A	Private	268	11	-	-	-
B&M	Free	N/A	Private	68	1	-	-	-
Friary Road (East Side)	Paid	£0.40	Council	25	2	29%	34%	86%
TOTAL				1439	55			

This table has been augmented with parking occupancy data collected by AECOM throughout May and June 2017. The AM and PM weekday data was surveyed between 10:00-12:00 and 13:30-15:00 respectively. The weekend data was surveyed between 12:00 – 14:00.

Armagh City, Banbridge and Craigavon Borough Transport Study

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

Off Street Parking - Banbridge								
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
Lidl	Free	N/A	Private	106	4	40%	25%	51%
Iceland	Paid	£0.50	Private	11	1	91%	55%	73%
Townsend Street	Paid	40p for up to 3 hrs, 80p 3-6 hrs, £1.20 6+ hrs	Council	69	4	75%	55%	75%
Commercial Road	Paid	£0.40	Council	112	8	87%	81%	96%
Downshire Place	Paid	£0.40	Council	101	6	37%	22%	40%
Bridge Street East	Paid	40p for up to 3 hrs, 80p 3-6 hrs, £1.20 6+ hrs	Council	69	4	43%	59%	42%
Leisure Centre	Free	N/A	Private	156	4	59%	39%	66%
Church Street	Free	N/A	Council	138	6	70%	74%	38%
MP Carpets	Free	N/A	Private	24	0	38%	42%	29%
TOTAL				786	37			

This table has been augmented with parking occupancy data collected by AECOM throughout May and June 2017. The AM and PM weekday data was surveyed between 10:00-12:00 and 13:30-15:00 respectively. The weekend data was surveyed between 12:00 – 14:00.

Armagh City, Banbridge and Craigavon Borough Transport Study

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

Off Street Parking - Portadown								
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
Health Centre	Free	N/A	Private	183	13	-	-	-
Fair Green	Free	N/A	Council	229	6	92%	102%	58%
Wilson Street	Free	N/A	Private	252	13	103%	101%	
Little West Street	Free	N/A	Council	73	0	92%	95%	66%
Meadow Lane West	Paid	£0.40	Council	110	8	24%	26%	29%
West Street	Paid	30p for up to 3 hrs, 60p 3-6 hrs, £1.20 6+	Council	51	4	53%	53%	59%
Escades	Paid	£3 all day	Private	57	3	40%	74%	110%
Meadow Lane Overflow	Free	N/A	Council	35	0	-	-	-
A27	Free	N/A	Council	10	2	-	-	-
High Street Mall	Paid	Free 0-2 hrs, £1 2-3 hrs, 30p/hr thereafter to max of £2.50	Private	414	27	43%	39%	52%
Magowan Buildings	Paid	£0.40	Council	403	16	49%	45%	54%
Foundry Street	Free	N/A	Council	65	7	43%	80%	97%
Tesco	Free	N/A	Private	629	14	72%	75%	31%
Sandy Row	Free	N/A	Private	80	0	-	-	-
Shops	Free	N/A	Private	46	3	-	-	-
Meadow Lane East	Free	N/A	Council	113	9	101%	96%	69%
Marley Street	Paid	£0.40	Council	36	3	31%	33%	47%
River Bank	Free	N/A	Council	24	2	0%	13%	3%
Castle Street	Free	N/A	Council	13	0	84%	78%	9%
William Street	Paid	30p for up to 3 hrs, 60p 3-6 hrs, £1.20 6+	Council	56	3	84%	61%	79%
TOTAL				2879	133			

This table has been augmented with parking occupancy data collected by AECOM throughout May and June 2017. The AM and PM weekday data was surveyed between 10:00-12:00 and 13:30-15:00 respectively. The weekend data was surveyed between 12:00 – 14:00.

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

Off Street Parking - Craigavon								
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
Tesco	Free	N/A	Private	708	24	41%	36%	48%
Retail	Free	N/A	Private	490	14	-	-	-
Marlborough House	Free	N/A	Private	432	11	-	-	-
Halfords	Free	N/A	Private	48	2	50%	60%	76%
Rushmere	Free	N/A	Private	1767	63	-	-	-
TOTAL				3445	114			

This table has been augmented with parking occupancy data collected by AECOM throughout May and June 2017. The AM and PM weekday data was surveyed between 10:00-12:00 and 13:30-15:00 respectively. The weekend data was surveyed between 12:00 – 14:00.

Figure 17e – Off-street Parking Provision by Spaces and Type in Lurgan

Off Street Parking - Lurgan								
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
Castle Lane	Paid	£0.40	Council	178	9	11%	10%	62%
Moore's Lane 2	Free	N/A	Council	11	0	57%	62%	48%
Waring Street	Paid	30p up to 3hrs, 60p 3-6hrs, £1.20 6+hrs	Council	38	3	26%	61%	32%
Moore's Lane 1	Free	N/A	Council	78	0	91%	99%	54%
Wesley Place	Free	N/A	Council	214	10	100%	97%	-
Tesco	Free	N/A	Private	314	33	60%	48%	63%
Screwfix	Free	N/A	Private	75	4	-	-	-
North Street	Paid	£0.30	Private	126	6	41%	35%	53%
Spar	Free	N/A	Private	26	1	-	-	-
Blacks Court	Free	N/A	Council	151	7	85%	87%	55%
Lidl	Free	N/A	Private	113	3	-	-	-
Johnstons Row	Free	N/A	Private	99	8	51%	70%	33%
TOTAL				1423	84			

This table has been augmented with parking occupancy data collected by AECOM throughout May and June 2017. The AM and PM weekday data was surveyed between 10:00-12:00 and 13:30-15:00 respectively. The weekend data was surveyed between 12:00 – 14:00.

Figure 18a – On-street Parking Provision in Armagh

On-street car parking - Armagh		
Parking Length Description	Number of Parking Spaces	Percentage of Total Spaces
Limited Waiting Mon-Sat 8:30am-6:15pm. Max Stay 1hrs. No Return Within 1hr.	198	12.2%
Limited Waiting Mon-Sat 8:30am-6:15pm. Max Stay 2hrs. No Return Within 1hr.	22	1.4%
Limited Waiting Mon-Sat 8:30am-6:15pm. Max Stay 1hr No Return Within 2hrs.	89	5.5%
Loading Only Mon-Sat 8:30am-6:15pm	13	0.8%
Disabled Limited Waiting Mon-Sat 8:15am-6:15pm. Max Stay 2hrs. No Return Within 1hrs.	3	0.2%
Disabled Limited Waiting Mon-Sat 8:15am-6:15pm. Max Stay 3hrs. No Return Within 1hrs.	14	0.8%
Disabled Badge Holders Only	19	1.2%
Unrestricted Kerb	1265	77.9%
Total	1623	100%

Figure 18b – On-street Parking Provision in Banbridge

On-street car parking - Banbridge		
Parking Length Description	Number of Parking Spaces	Percentage of Total Spaces
Limited waiting 8:30am-6:15pm Mon-Sat 60 minutes only in a 2hr period	173	63.4%
Limited waiting 9:15am-4:30pm Mon-Sat 60 minutes only in a 2hr period	11	4.0%
Loading Only Mon – Sat 8:30am-6:15pm	3	1.1%
Disabled Persons Parking	8	2.9%
Unrestricted Kerb	78	28.6%
Total	273	100%

Figure 18c – On-street Parking Provision in Portadown

On-street car parking – Portadown		
Parking Length Description	Number of Parking Spaces	Percentage of Total Spaces
Limited Waiting Mon-Sat 8:30am-6:15pm. Max Stay 1hrs. No Return Within 1hr.	151	35.1%
Limited Waiting Mon-Sat 8:30am-6:15pm. Max Stay 1hr in any 2hr period.	75	17.4%
Loading Only Mon-Sat 8:30am-6:15pm	14	3.3%
Disabled Limited Waiting Mon-Sat 8:15am-6:15pm. Max Stay 3hrs. No Return Within 1hr.	8	1.9%
Disabled Badge Holders Only	10	2.3%
Unrestricted Kerb	172	40.0%
Total	430	100%

Figure 18d – On-Street Parking Provision in Lurgan

On-street car parking – Lurgan		
Parking Length Description	Number of Parking Spaces	Percentage of Total Spaces
Limited Waiting Mon-Sat 8:30am-6:15pm. Max Stay 1hrs. No Return Within 1hr.	136	55.7%
Limited Waiting Mon-Sat 8:30am-6:15pm. Max Stay 2hrs. No return within 1hr.	72	29.5%
Loading Only Mon-Sat 8:30am-6:15pm	2	0.9%
Disabled Limited Waiting Mon-Sat 8:15am-6:15pm. Max Stay 3hrs.	12	4.9%
Unrestricted Kerb	22	9.0%
Total	244	100%