



Lincolnshire County Council

GAINSBOROUGH CYCLING AND WALKING NETWORK PLAN

Final Report





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CONTENTS

1	INTRODUCTION	1
2	POLICY REVIEW	3
3	CYCLING AND WALKING NETWORK PLAN	12
4	CYCLING NETWORK PLAN	32
5	WALKING NETWORK PLAN	38
6	ENGAGEMENT	46
7	GOOD PRACTICE REVIEW – APPLICATION IN GAINSBOROUGH	58
8	CYCLING AND WALKING INFRASTRUCTURE – PRIORITY ROUTES	74
9	SUMMARY	93

1 INTRODUCTION

- 1.1.1. Lincolnshire County Council (LCC) has requested that WSP, as part of the Lincolnshire County Council Technical Services Partnership, produce a Cycling and Walking Network Plan for Gainsborough.
- 1.1.2. LCC is developing this Cycling and Walking Network Plan for Gainsborough in order to:
- Take advantage of future and additional funding streams;
 - Maximise the best opportunities for improving cycling and walking rates; and
 - Make cycling and walking a priority and make Gainsborough one of the best towns in the UK for cycling and walking.
- 1.1.3. The objectives of the project are to:
- Produce an evidence-based infrastructure network plan;
 - Identify early network investment priorities and potential interventions;
 - Secure stakeholder “buy-in” for the network and potential interventions; and
 - Provide high-level feasibility for investment in the highest priority cycling and walking infrastructure.
- 1.1.4. The project follows the publication of the Cycling and Walking Investment Strategy (CWIS) by the Department for Transport in 2017, which led to the publication of guidance on preparing Local Cycling and Walking Infrastructure Plans (LCWIPs). CWIS states that the guidance enables local bodies to take a more strategic approach to improving conditions for cycling and walking in order to support increases in travel on foot or by cycling. The development of the Gainsborough Cycling and Walking Network Plan (GCWNP) is therefore largely based on the LCWIP guidance.
- 1.1.5. This report explains the methodology used and engagement carried out in the development of the GCWNP. It then includes an overview of good practice in cycling and walking infrastructure, applicable to Gainsborough. Finally, it provides high-level options for the priority cycling and walking routes identified in the development of the GCWNP.
- 1.1.6. The report is structured as follows:
- Section 2 – Policy Review
 - A review of current cycling and sustainable transport policy across the study area
 - Section 3 – Cycling and Walking Network Plans
 - Presents the baseline data used to develop both the cycling and walking network plans
 - Section 4 – Cycling Network Plan
 - Presents the baseline data used specifically to develop the cycling and walking network plan
 - Section 5 – Walking Network Plan
 - Presents the baseline data used specifically to develop the walking network plan
 - Section 6 – Engagement
 - Details the internal and external workshops undertaken to develop and gain input and feedback on the GCWNP



- Section 7 – Good Practice Review – Application in Gainsborough
 - Provides a high-level review of good practice in cycling and walking infrastructure, taking account of the latest design guidance and standards.
- Section 8 – Cycling and Walking Infrastructure – Priority Routes
 - Provides a high-level overview of potential cycling and walking interventions along the identified priority cycle routes
- Section 9 – Walking Infrastructure – Priority Walking Interventions
 - Provides a high-level overview of potential walking interventions in the Core Walking Zone
- Section 10 – Summary
 - Provides a summary of the report and recommended next steps

2 POLICY REVIEW

2.1.1. The current cycling and sustainable transport policy situation across the study area has been reviewed to ensure the Gainsborough Cycling and Walking Network Plan (GCWNP) aligns with and considers local, regional, and national policy. The following list provides a summary of the policy and strategy documents reviewed.

- Cycling and Walking Investment Strategy (DfT, 2017);
- Local Cycling and Walking Infrastructure Plans (DfT, 2017);
- Greater Lincolnshire Strategic Economic Plan (Greater Lincolnshire Local Enterprise Partnership, 2016);
- Lincolnshire Local Transport Plan (LCC, 2013);
- Central Lincolnshire Local Plan (Central Lincolnshire Joint Strategic Planning Committee, 2017);
- Central Lincolnshire Local Plan Review (Central Lincolnshire Joint Strategic Planning Committee, 2018);
- Greater Lincolnshire Strategic Infrastructure Delivery Plan (GLSIDP) (2016);
- Countryside Access and Rights of Way Improvement Plan 2007-2012 (LCC, 2007)
- Joint Health and Wellbeing Strategy for Lincolnshire (LCC, 2018).
- Green Masterplan
- The Lincolnshire County Council Strategy for Waterways Development Strategy 2018-2028 (LCC)
- Gainsborough Neighbourhood Plan
- Gainsborough Transport Strategy (LCC, emerging)
- Green Infrastructure Study (Gainsborough Town Council, 2018)
- Gainsborough Town Centre Heritage Masterplan (West Lindsey District Council)

2.2 CYCLING AND WALKING INVESTMENT STRATEGY (DFT, 2017)

2.2.1. The Government published its first Cycling and Walking Investment Strategy (CWIS) in 2017. The strategy sets out the Government's ambition to make walking and cycling the natural choices for shorter journeys or as part of a longer journey, and includes targets for increasing the number of people cycling whilst also reducing the number of cycle user casualties.

2.2.2. The CWIS states that the benefits of doing this would be substantial, potentially leading to cheaper travel and better health; increased productivity for business and increased footfall in shops; lower congestion levels and better air quality; and vibrant, attractive places and communities for society as a whole.

2.2.3. The CWIS outlines a £300 million investment in cycle training and infrastructure during the current Parliament and sets out ambitious targets for the period up to 2025, including a doubling of cycling trip stages each year (from 0.8 billion in 2013 to 1.6 billion by 2025), whilst also reversing the current year-over-year decline in walking trip stages. The CWIS also identifies a need to decrease the number of cycle user fatalities and serious injuries each year.

2.3 LOCAL CYCLING AND WALKING INFRASTRUCTURE PLANS (DFT, 2017)

2.3.1. The Local Cycling and Walking Infrastructure Plans (LCWIP) Guidance was published alongside the DfT CWIS. LCWIPs are set out in the CWIS as a new strategic approach to identifying cycling and walking improvements required at a local level.

- 2.3.2. The LCWIP guidance sets out a recommended approach to planning networks of walking and cycling routes that connect places that people need to get to, whether for work, education, shopping, or for other reasons.
- 2.3.3. The guidance brings together national and international guidance on best practice, and explains how a range of tools, such as the Propensity to Cycle Tool (PCT), can be used to help develop robust plans and schemes.
- 2.3.4. The LCWIP guidance will be referred to during the development of the GCWNP.

2.4 GREATER LINCOLNSHIRE STRATEGIC ECONOMIC PLAN (GREATER LINCOLNSHIRE LOCAL ENTERPRISE PARTNERSHIP, 2016)

- 2.4.1. The GCWNP study area sits within Greater Lincolnshire. The Strategic Economic Plan (SEP) is the primary document developed by the Local Enterprise Partnership (LEP) reflecting the ongoing priorities for continued growth and new investment in Greater Lincolnshire.
- 2.4.2. The SEP recognises the need to promote Greater Lincolnshire as a place for sustainable growth through improved transport infrastructure and enhanced connectivity with national and international markets. It identifies that improving Lincolnshire's connectivity and transport infrastructure will be vital to achieving the aims and objectives of the SEP.
- 2.4.3. The document mentions several projects that GLEP have supported, including Go Skegness and the Tentercroft East-West Growth Corridor in Lincoln. GLEP sets out to promote sustainable transport schemes where possible in order to promote sustainability and reduce transport's negative impact on the environment.

2.5 LINCOLNSHIRE LOCAL TRANSPORT PLAN (LCC, 2013)

- 2.5.1. The 4th Lincolnshire Local Transport Plan (LTP4) was published in April 2013. The document sets out the transport strategy for the county for the subsequent 10-year period to 2023, and presents a vision for Lincolnshire's Transport System in 2030.
- 2.5.2. LTP4 recognised that there had been a strong focus on encouraging walking and cycling throughout Lincolnshire, including:
 - Improved facilities for walking and cycling through the Community Travel Zones, Rural Priority Initiatives and Rights of Way Improvement Plan;
 - Work under the 'Healthy Schools' initiative as part of the delivery of school travel plans;
 - CATCH (Choose Active Travel, Choose Health) funding, in partnership with NHS Lincolnshire, for schools to provide a range of facilities including cycle storage, access improvements for pedestrians and parent waiting shelters; and
 - The rollout of Bikeability cycle training.
 - The document recognised that major benefits can be incurred by encouraging greater levels of cycling, such as improved air quality and reduced levels of congestion.
 - In terms of funding, the Plan recognises the role of the Community Travel Zone initiative, Sustrans' Link to School and Connect 2 funding as being particularly helpful in funding walking and cycling infrastructure improvements in Lincolnshire.
 - Central Government funds were also recognised as an important funding mechanism and instrumental in securing future cycling and walking infrastructure improvements.

2.5.3. LTP5 is in preparation and it is recommended that it takes account of the GCWNP.

2.6 CENTRAL LINCOLNSHIRE LOCAL PLAN (CENTRAL LINCOLNSHIRE JOINT STRATEGIC PLANNING COMMITTEE, 2017)

- 2.6.1. The Central Lincolnshire Local Plan was adopted by the Central Lincolnshire Joint Strategic Planning Committee (CLISPC) in April 2017 and supersedes the Local Plans of the City of Lincoln, West Lindsey and North Kesteven District Councils. It sets out detailed policies and proposals for the development of the combined area up to 2036 with the aim to create places that are sustainable, accessible and attractive to live in. The plan identifies land for new housing and employment development, prescribes transport requirements, and acts as a guide for most day-to-day planning decisions.
- 2.6.2. Several policies relate directly to transport and specifically walking and cycling:
- Policy LP13: Accessibility and Transport, proposes that all developments should have regard towards minimising additional travel demand through walking and cycling links and integration with existing infrastructure.
- 2.6.3. Where possible, the policy recommends that walking and cycling infrastructure complements the aims of the existing Public Rights of Way Improvement Plan and the Green Infrastructure Study for Central Lincolnshire and improves linkages between settlements and to the surrounding countryside. Specifically, schemes that complete gaps in the network should be prioritised.
- 2.6.4. Furthermore, any infrastructure improvements should be appropriately linked and integrated with the wider network, be well maintained, and promote walking and cycling.
- Policy LP15: Community Facilities states a need to prioritise walking, cycling and public transport as a means of accessing newly constructed community facilities or local shops and services. Access should be considered proportionately to the catchment area of the community facility, and should be accessible by all members of society.
- 2.6.5. The following relevant policies apply specifically to Gainsborough:
- Policy LP38: Protecting Gainsborough's Setting and Character, states that proposals should make a positive contribution to the built and natural environment
 - Policy LP40: Gainsborough Riverside, includes a directive for all development proposals on sites adjacent to the River Trent to assist in the delivery of the long-term aim of creating an uninterrupted and attractive pedestrian cycle corridor, connecting Gainsborough's riverside area with the settlements of Lea and Morton. New sites next to the River Trent must deliver an enhanced pedestrian and cycle network.
 - Policy LP41: The regeneration of Gainsborough: Development proposals should enhance linkages to/ from Marshall's Yard, Market Place, Market Street, the Riverside and any other key Heritage sites. There should be improved integration and linkages between Marshall's Yard development, the town centre and the riverfront.

2.7 GREATER LINCOLNSHIRE STRATEGIC INFRASTRUCTURE DELIVERY PLAN (GLSIDP) (2016)

- 2.7.1. The GLSIDP sets out the delivery plan for major infrastructure projects capable of enabling housing construction and increasing employment growth. It sets out the proposals to fund this through devolved infrastructure funds, national programmes and local funding.
- 2.7.2. The single project relating to Gainsborough is the Gainsborough Bridge Road / Flood Street Upgrades. This is ranked as a medium-term project:
- The Flood Street Upgrade in Gainsborough aims to deal with the anticipated increased traffic growth in West Lindsey due to future housing development. An option assessment has been undertaken to increase the capacities of the Flood Street signal-controlled junction, Lea Road/ Ashcroft Road roundabout junction and the Thorndike Way roundabout.
- 2.7.3. The GLSIDP identifies major housing growth sites that will deliver 40% of the projected housing need across Greater Lincolnshire. Of these, the Gainsborough Southern Neighbourhood SUE has a potential capacity of 2,500 dwellings and Gainsborough Northern Neighbourhood SUE is expected to have a capacity of 750 dwellings.

2.8 COUNTRYSIDE ACCESS AND RIGHTS OF WAY IMPROVEMENT PLAN 2007–2012 (LCC, 2007)

- 2.8.1. Initiated from the Countryside and Rights of Way Act 2000, the first Countryside Access and Rights of Way Improvement Plan (RoWIP) for Lincolnshire was published in April 2007. The importance of Rights of Way for numerous activities such as short local trips to the shops, accessing schools and recreational purposes are highlighted in the document, with the vision for the plan as follows:

“To have an integrated network of rights of way that is relevant for today’s needs, bringing added benefits to residents and visitors by supporting wider interests including sustainable transport, rural economy & tourism, health benefits and quality of life issues.”

- 2.8.2. The focus for improvements to the Public Rights of Way include:
- Joining fragmented rights of way network. In particular, cyclists and horse riders need a better-connected network of paths and trails.
 - Better signage, waymarking and maintenance to encourage greater use of the network.
 - Increased promotion and better information provision in formats that meet people’s needs.
 - The path network needs to be safer for vulnerable users by improving crossing points on main roads.
 - Better engagement with local communities is needed through improved information about what we do and assisting those who want to take a more active role in helping to maintain and develop the access network.
- 2.8.3. A new RoWIP is being developed by LCC and is in the early stages of development.

2.9 CENTRAL LINCOLNSHIRE LOCAL PLAN REVIEW (CENTRAL LINCOLNSHIRE JOINT STRATEGIC PLANNING COMMITTEE, 2018)

- 2.9.1. A review of the Central Lincolnshire Local Plan is due to be published for public consultation in early 2020 to ensure it is up-to-date following significant changes to national policy.

2.10 JOINT HEALTH AND WELLBEING STRATEGY FOR LINCOLNSHIRE (LCC, 2018)

- 2.10.1. Under requirement of the 2012 Health and Social Care Act, the Lincolnshire Health and Wellbeing Board are required to publish a strategy bringing together detailed information on local health and wellbeing needs, whilst looking ahead at emerging challenges and projected future needs.
- 2.10.2. The strategy describes physical activity, amongst other health and wellbeing concerns, as one of the most pertinent issues facing the county. Objectives of the strategy include better integration of physical activity into strategic planning; improved local insight analysis, with findings used to drive service improvements; support of workforce wellbeing through physical activity; and consideration of innovative technologies aimed at increasing physical activity.
- 2.10.3. Through these objectives it is envisaged that physical activity will be safeguarded and materially considered throughout the county.

2.11 GREEN MASTERPLAN

- 2.11.1. The Green Masterplan is a multi-year programme running until 2050 to ensure that LCC meet the national carbon reduction targets. The three guiding principles are:
 - Don't waste anything
 - Consider wider opportunities
 - Take responsibility and pride
- 2.11.2. Part of the Green Masterplan is to implement new ways of working for LCC staff, including reducing travel to work and business mileage and improving connectivity and technology.

2.12 LCC WATERWAYS DEVELOPMENT STRATEGY

- 2.12.1. Lincolnshire County Council has proposed a Waterway Development Strategy (WDS) for 2018-2028, which is commission led, identifying opportunities to work with other LCC Commissioning Teams and the LEP to deliver outputs.
- 2.12.2. The WDS strategic objective is to increase the economic performance of the Lincolnshire waterways. Part of its plan is to assist West Lindsey District Council to develop the Gainsborough marina proposal, to gain planning consent and to form a Gainsborough Marina Delivery Partnership with a private sector development.
- 2.12.3. The priority of improving access to Lincolnshire's waterways puts a focus on places as strategic investments and will benefit Gainsborough as the gateway to Lincolnshire's waterways from the River Trent.

2.13 GAINSBOROUGH NEIGHBOURHOOD PLAN

- 2.13.1. The Gainsborough Neighbourhood Plan (GNP) has been developed by Gainsborough Neighbourhood Plan Steering Group, which was formed by Gainsborough Town Council. Currently at referendum stage (as of March 2021), it will form part of the Development Plan for Gainsborough, with significant influence in determining planning applications.
- 2.13.2. The GNP sets out the planning policies for 2020 – 2036 and covers the Town Council area of Gainsborough. The development of the plan takes on board opinions of local people, through the

creation of a People's Panel. This has allowed residents and businesses to shape future growth of the town.

- 2.13.3. Community objectives were developed as part of the GNP. Objectives 6, 8, 9, 10 and 11 have particular relevance to the GCWNP:

Community Objective 6: To ensure that the Sustainable Urban Extensions connect easily with the existing settlement pattern of the Town.

Community Objective 8: To improve and extend routes that create green connections to local green spaces and provide access to the countryside, the Riverside and routes within the Town. Supporting nature conservation, protecting landscape character and enhancing biodiversity.

Community Objective 9: To create an environment that makes it attractive for micro, small and medium sized businesses and shops to locate and flourish in the Town.

Community Objective 10: To seek improvements to rail, bus and road infrastructure that will unlock the movement of people, goods and services into, out of and around the Town.

Community Objective 11: To encourage developers to work with the local community before planning applications are submitted so the community and developers can produce schemes that ensure the most positive benefit for the Town.

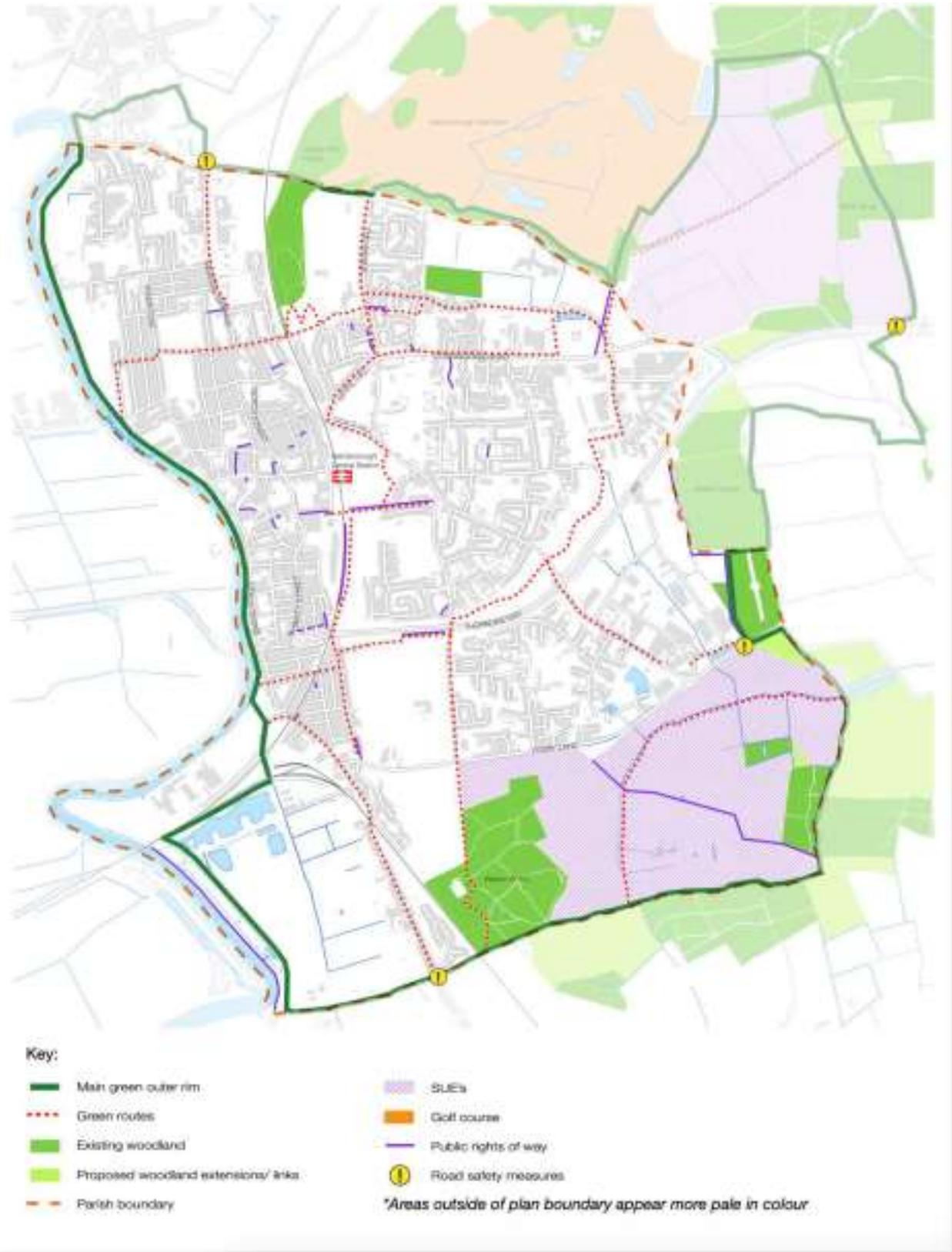
- 2.13.4. The GNP included the following relevant Neighbourhood Plan Policies (NPP):

- NPP 1 Sustainable Development
 - States that the definition of sustainable development includes proposals that increase the local cycle and walking network (in accordance with the details of Policy NPP3)
- NPP 3 Creating a Local Green Network
 - Proposals which would deliver elements of the Local Green Network around the Town as identified in the Green Infrastructure Study will be supported;
 - Proposals for major housing and employment should, as appropriate to their scale and nature, demonstrate the way in which they would:
 - deliver footpaths and cycle routes in accordance with the Local Green Network proposals;
 - enhance the attractiveness of walking and non-motorised transport in and around the Parish;
 - add to the connectivity between existing footpaths, roadways and cycle ways in and around the Parish and to the Town Centre; and
 - accommodate the requirements of people with limited mobility to access existing and new Green Infrastructure provision.
 - Development which promotes new connections to existing walking and cycling routes with boundaries that ensure new development is integrated with the existing settlement will be supported.

- 2.13.5. The section on NPP 3 Creating a Green Network states that encouraging people to get around on foot or bike improves health and wellbeing and reduces air pollution.

- 2.13.6. It also includes an indicative concept for the long term linking of publicly accessible green spaces and routes around the town. This is called the Local Green Network and is shown in Figure 2-1.

Figure 2-1 - Proposed Local Green Network (Source: GNP)



2.13.7. GNP states that the Local Green Network will make accessing shops, school and work without using the car easier and more attractive. The Green Infrastructure Study (see section 2.15) provides

further information on how the Local Green Network can be provided. The GNP supports collaboration with developers and landowners to create this network.

- 2.13.8. GNP also involved discussion with local cycling clubs who identified specific issues relating to cycling around the Town. In relation to these issues, the GNP has an Aspiration Policy as follows:
- The redevelopment of sites across and Plan area provides the opportunity to improve cycling around the Town. The Town Council will work with developers, WLDC, and other partners, to address the issues identified. Proposals that achieve this aspiration are supported where they are compatible with other policies in this Plan.

2.14 GAINSBOROUGH TRANSPORT STRATEGY

- 2.14.1. LCC is currently developing an updated transport strategy for Gainsborough, and will play a vital role in driving growth and investment in and around Gainsborough over the next twenty years.
- 2.14.2. The existing transport strategy published in 2011 identified a number of immediate improvements to the transport network including extension to the network of cycle-ways and some minor improvements to a number of junctions in the town.
- 2.14.3. Some of the specific final measures that aim to increase rates of walking and cycling included the following:
- Review parking provision and pricing to encourage sustainable travel;
 - Implement targeted junction improvements which will be used to relieve congestion;
 - Convert the main road through the town centre (Beaumont Street) to a more pedestrian friendly layout;
 - Establish 20 mph zones outside schools and in the town centre;
 - Improve the quality of cyclist and pedestrian route maps supplied to the public increasing transport information;
 - Implement a comprehensive publicity campaign with on-going promotions to raise public awareness of sustainable transport options;
 - Promote personalised travel planning by contacting individuals to provide information and advice on travel options;
 - Co-operate with local schools to produce travel plans and promote sustainable travel to school;
 - Co-operate with local employers to produce travel plans and promote sustainable travel to work;
 - Install cycle lanes in both directions on busier roads to connect to existing cycle lanes and serve cyclist desire lines;
 - Install secure cycle storage and cycle parking stands at key destinations throughout the town centre;
 - Implement public realm improvements introducing high quality paving and street furniture to the key pedestrian routes in Gainsborough;
 - Carry out an audit to ensure compliance with the Disability and Discrimination Act; and
 - Introduce a green corridor of pedestrian and cycle routes.

2.15 GREEN INFRASTRUCTURE STUDY (BRCC, 2018)

- 2.15.1. The Green Infrastructure Study (GIS) compliments the GNP by providing a summary of existing Green Infrastructure (GI) and proposes GI enhancements to inform GNP policies, as presented in section 2.13.

- 2.15.2. The GIS advocates a Green Network linking publicly accessible green spaces to create a network of open and biodiverse spaces. The green routes will create a continuous accessible corridor that promotes recreational trips using healthy, non-motorised forms of sustainable transport.
- 2.15.3. The principles of the Green Network include:
- Be traffic free;
 - Offer easy access;
 - Have potential for future upgrading to be used by cycles where not already possible;
 - Safe crossing points over motorised routes;
 - Clearly signed;
 - Be safe spaces that inspire confidence in visitors; and
 - Cater for a wide range of users (dog walkers, children, joggers, families, older people).
- 2.15.4. The key sections of the Green Network are:
- North: River Trent (Morton) – A631;
 - East / South: A631 – Lea Road; and
 - West: River Trent (Lea Road – Morton).
- 2.15.5. The GIS provides an overview of the GI proposals and feasibility for these sections.

2.16 GAINSBOROUGH TOWN CENTRE HERITAGE MASTERPLAN

- 2.16.1. The Gainsborough Town Centre Heritage Masterplan (GTCHM) was produced by West Lindsey District Council, setting out the strategies and principles that will restore and repair Gainsborough's historic core and safeguard its Conservation Area status, whilst delivering wider economic and social benefits.
- 2.16.2. A renewed, protected and enhanced historic core will determine the future vitality and prosperity of the town centre. Any future development both within and impacting upon the Town Centre Conservation Area must seek to avoid visual harm to its townscape and the historic environment.
- 2.16.3. The GTCHM sub-divides the historic core into four intervention areas, which have high concentrations of designated and non-designated heritage assets:
- Lord Street and Market Street;
 - The Market Place;
 - Silver Street; and
 - Church Street.
- 2.16.4. The focus for intervention is on restoring vitality to the retail and commercial heart of the town to secure its long-term sustainability.

3 CYCLING AND WALKING NETWORK PLAN

3.1 INTRODUCTION

3.1.1. This section covers the baseline data used to inform both the cycling network plan and the walking network plan for Gainsborough. This data comprises:

- Trip Origins and Destinations;
- Barriers;
- Indices of Multiple Deprivation;
- Topography;
- Motor Traffic Flows; and
- Collisions.

3.1.2. Section 4 covers the data used specifically for the development of the cycling network plan and Section 5 covers the data used specifically for the development of the walking network plan.

3.2 TRIP ORIGINS AND DESTINATIONS

3.2.1. The LCWIP guidance recommends a process that identifies trip origins and destinations, which should be the basis for drafting walking and cycling networks. Trip origins and destinations or 'trip generators' are those amenities that can be expected to attract a significant number of trips.

3.2.2. The guidance states that trip origins are usually main residential areas, and significant trip destinations include the following:

- Employment areas or large individual employers;
- Educational establishments;
- Healthcare establishments;
- Retail facilities;
- Community facilities;
- Transport interchange facilities; and
- Future development sites and planned transport links.

3.2.3. The trip origins and destinations, as defined above, were mapped using ArcGIS software and this can be seen in Figure 3-1 and Figure 3-2. The methodology adopted for this is described for each type of origin and destination below.

RESIDENTIAL AREAS

3.2.4. Residential areas are mapped using proxy points, identified using Census 2011 Lower Super Output Area (LSOA) data from the Office of National Statistics (ONS). The proxy points are population-weighted centroids of each LSOA, which were plotted on ArcGIS. The residential points were reviewed using satellite imagery to ensure they were located on a significant residential area.

EMPLOYMENT AREAS OF LARGE INDIVIDUAL EMPLOYERS

3.2.5. Employment sites were identified using Workplace Zones from ONS. Employment numbers for each zone were calculated from Census Journey to Work data, which shows the total number of people travelling to each Workplace Zone. Proxy employment nodes were then set for the most significant Workplace Zones. The Workplace Zones with the highest employment numbers were represented with proxy points.

EDUCATION ESTABLISHMENTS

3.2.6. LCWIP guidance states that educational establishments typically include primary and secondary schools, colleges and university campuses. It was decided to show all education establishments given the smaller size of Gainsborough compared to larger LCWIP areas. The education establishments included are as follows:

- Colleges
- Secondary schools
- Primary schools
- Nurseries
- Other education establishments

HEALTHCARE ESTABLISHMENTS

3.2.7. LCWIP guidance states that healthcare establishments typically include hospitals and doctor's surgeries. One hospital and two doctor's surgeries are located within the study area and are marked on the map.

COMMUNITY FACILITIES

3.2.8. LCWIP guidance states that community facilities typically include libraries, sports stadia, performance arenas, visitor attractions, leisure centres, and cultural institutions, which have all been identified and mapped. Retail parks and supermarkets have also been included within community facilities.

3.2.9. The following significant community facilities, among several others, were included in the origin-destination maps:

- Gainsborough Heritage Centre
- Gainsborough Trinity Football Club
- Trinity Arts Centre
- Gainsborough Old Hall
- All Saints Church
- Town Hall
- Marshall's Yard Shopping Centre

TRANSPORT INTERCHANGES

3.2.10. LCWIP guidance states that interchange facilities cover bus stops and rail stations. The two rail stations and bus interchange were included within the transport interchanges mapping.

FUTURE DEVELOPMENT SITES

3.2.11. Future development sites were identified from the Central Lincolnshire Local Plan's Policies Map. The land use of each future development site was categorised into residential, employment or mixed use. These future development sites were then plotted on the origin and destination maps.

3.2.12. Figure 3-1 and Figure 3-2 show the maps of trip origins and destinations for the Gainsborough Urban Area and Study Area, respectively.

Figure 3-1 – Gainsborough – Trip Origins and Destinations – Urban Area

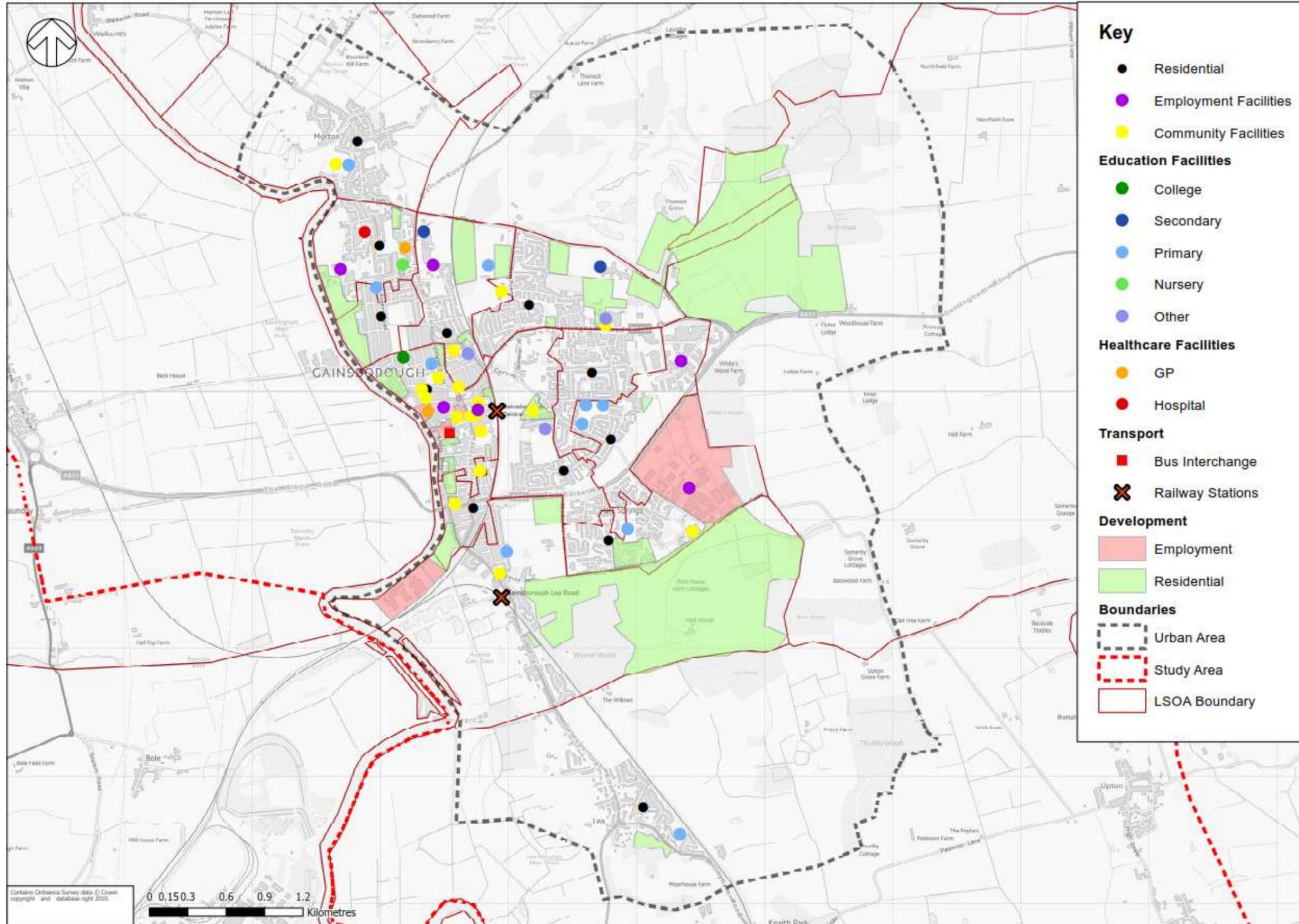
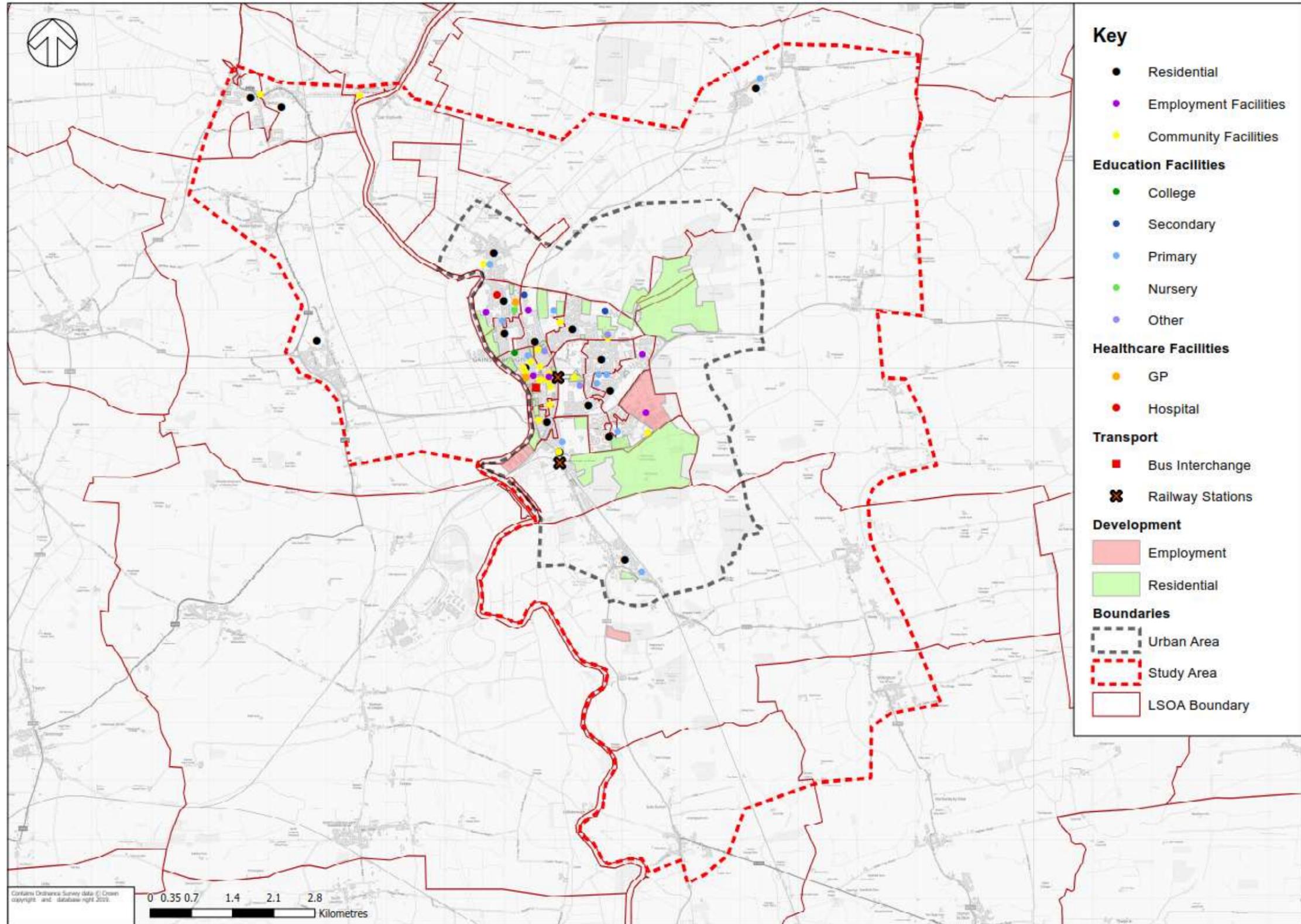


Figure 3-2 – Gainsborough – Origins and Destinations - Study Area



3.3 BARRIERS

- 3.3.1. Natural and man-made barriers to movement may impact on cycling and walking movements by creating severance that restricts mobility or funnels pedestrians or cycles onto specific routes, generating high flows. Landforms and objects of severance include rivers, canals, railways lines and heavily trafficked roads with limited crossing points.
- 3.3.2. Major roads in Gainsborough representing barriers to movement include:
- A631 through Gainsborough east to west. The Thorndike Way section is a dual carriageway will few crossing points for pedestrians and cycles, and no cycling or pedestrian infrastructure provision along most of its length.
 - A159 through the north of the town, extending northward towards Scunthorpe. This has a mix of formal and informal crossing points, but has high traffic flows along Trinity Street, including freight.
 - A156 extending southward from the town, past Gainsborough Lea Road Station and towards Lincoln.
 - B1433 which lies east to west through the town, connecting the A631 to the A159.
- 3.3.3. Railway lines serve the two stations of Gainsborough Central Station and Gainsborough Lea Road Station. The railway line that serves Gainsborough Central divides the east of Gainsborough from the west, with either bridges or underpasses provided as crossing facilities.
- 3.3.4. The main water body in the area is the River Trent and is a major barrier to movement west of the town. The only river crossing in Gainsborough is the bridge at The Flood Road.
- 3.3.5. Figure 3-3 and Figure 3-4 show maps of the physical barriers in Gainsborough for the Urban Area and Study Area, respectively.

Figure 3-3 – Gainsborough – Cycling and Walking Barriers – Urban Area

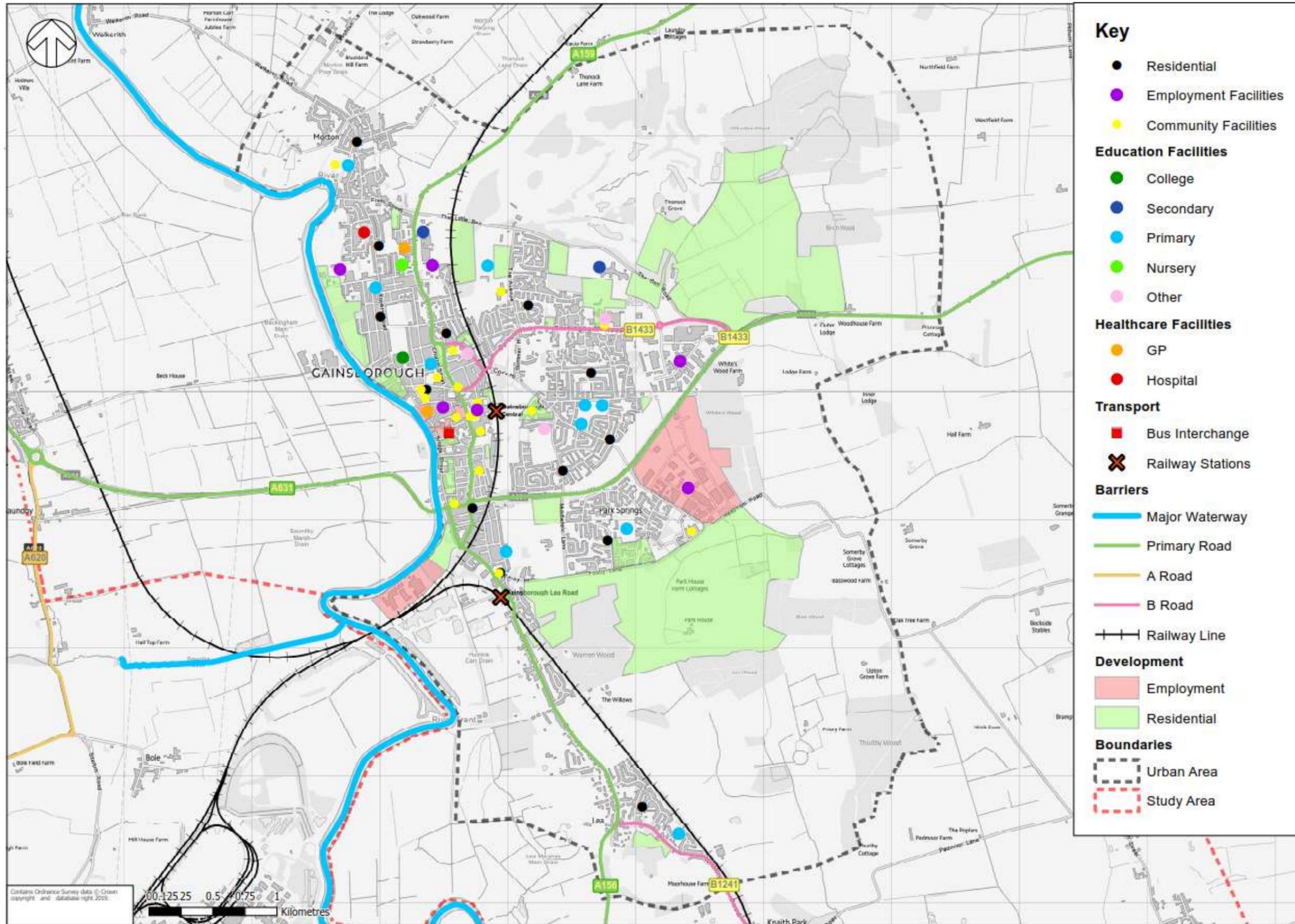
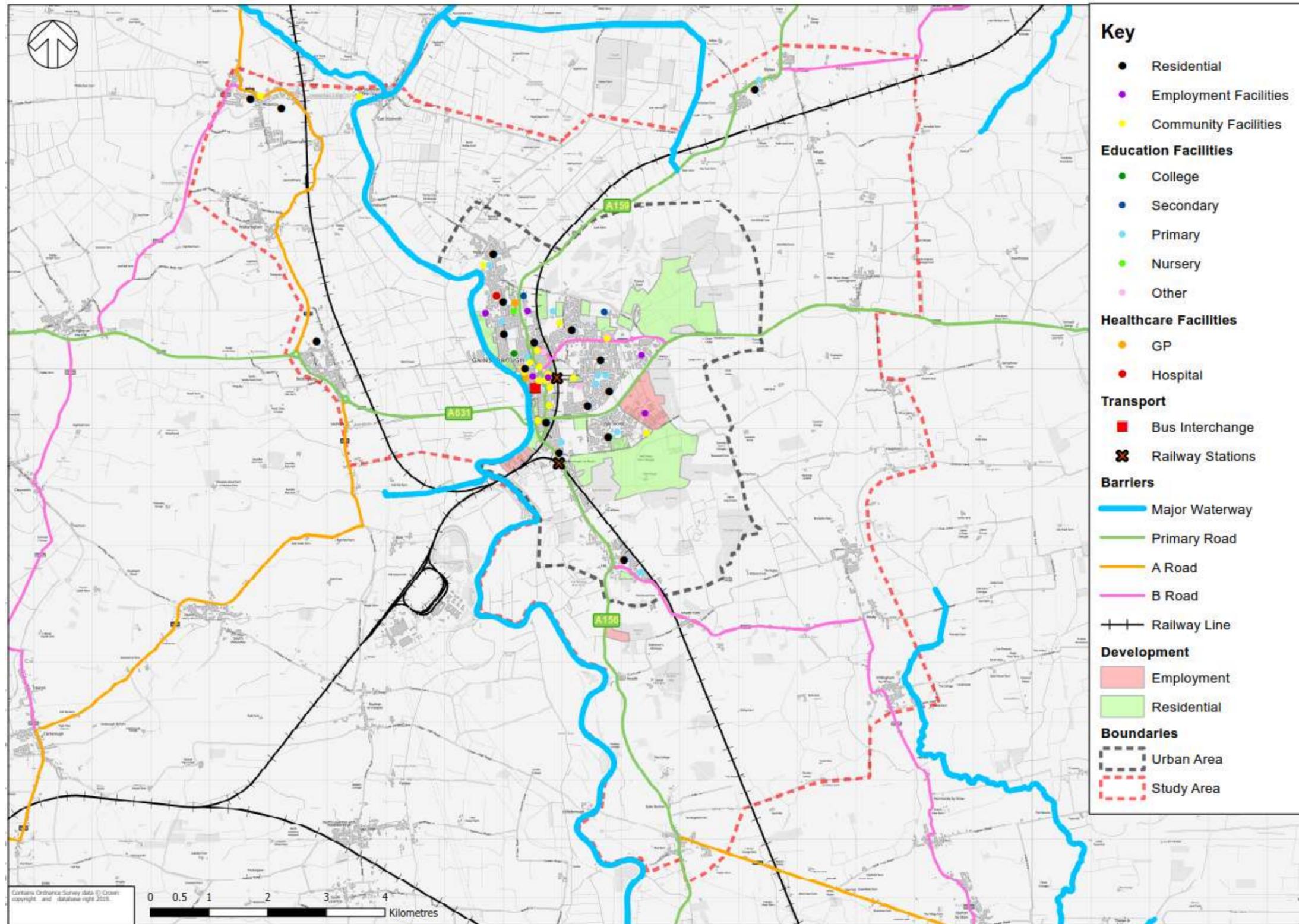


Figure 3-4 – Gainsborough – Cycling and Walking Barriers – Study Area



3.4 INDICES OF MULTIPLE DEPRIVATION

- 3.4.1. To understand relative deprivation within the strategy area, data from the 2019 indices of multiple deprivation (IMD) has been analysed and mapped using GIS software. The IMD provides a set of relative measures of deprivation for each Lower Super Output Area (LSOA) in England. These measures are used to calculate an overall rank of deprivation by comparing against other LSOAs in England.
- 3.4.2. There are seven different indicators which make up the IMD which are given different weighting in terms of their importance, shown in brackets. These are as follows:
- Income Deprivation (22.5%)
 - Employment Deprivation (22.5%)
 - Education, Skills and Training Deprivation (13.5%)
 - Health Deprivation and Disability (13.5%)
 - Crime (9.3%)
 - Barriers to Housing and Services (9.3%)
 - Living Environment Deprivation (9.3%)
- 3.4.3. Figure 3-5 and Figure 3-6 shows that at an aggregate level, the study area has significant pockets of deprivation with some areas in and around Gainsborough being ranked as being within the most 5% deprived within England.
- 3.4.4. The figure demonstrates that the areas suffering from the highest levels of overall deprivation are centralised around the main urban centre of the town with the surrounding villages including Lea and Morton being relatively less deprived.

Figure 3-5 – Gainsborough – Index of Multiple Deprivation - Urban Area

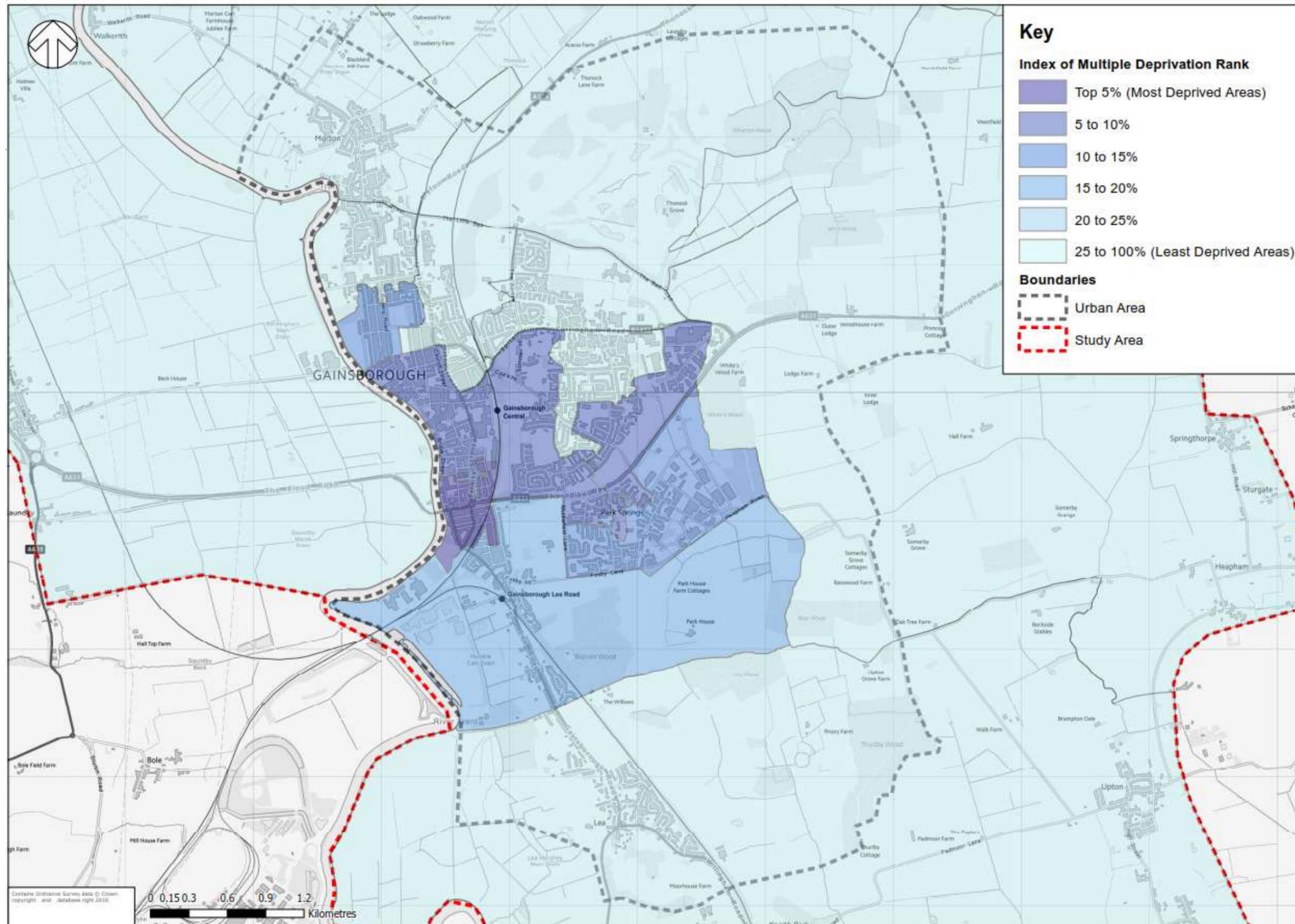
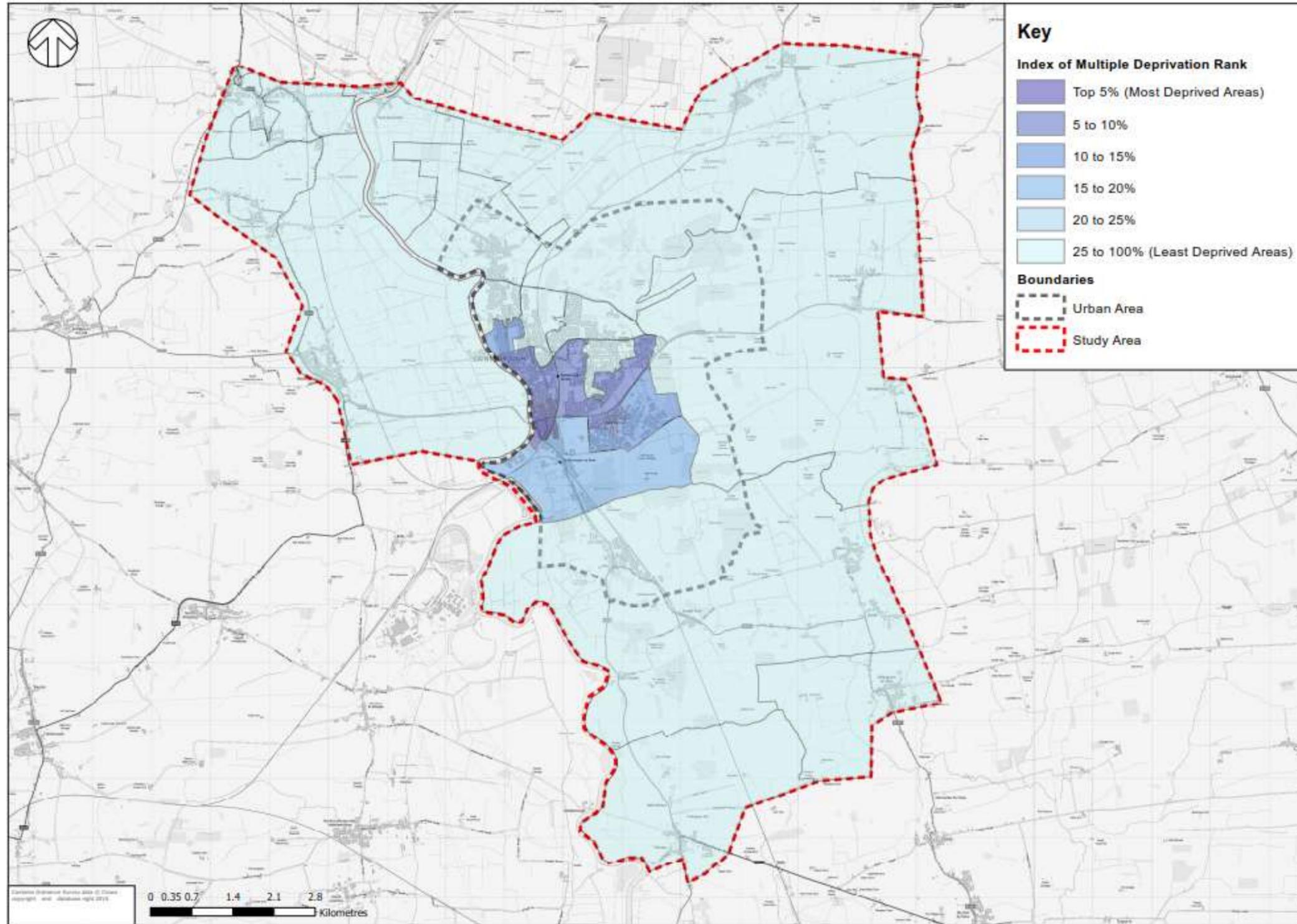


Figure 3-6 – Gainsborough – Index of Multiple Deprivation - Study Area



3.5 TOPOGRAPHY

- 3.5.1. The plans in Figure 3-7 and Figure 3-8 show the topography of the Gainsborough region for the Urban Area and Study Area.
- 3.5.2. The east of Gainsborough is at a higher elevation than the west, with steep inclines from west to east, for example along Spital Hill and Cox's Hill towards the centre of the town, Foxby Hill in the south and Little Belt in the north.
- 3.5.3. On the western side of Gainsborough between the railway line and the river Trent, the topography is at a lower elevation and flatter, which includes the primary route of the A159 and the residential areas and town centre either side of this street.

Figure 3-7 – Gainsborough – Topography - Urban Area

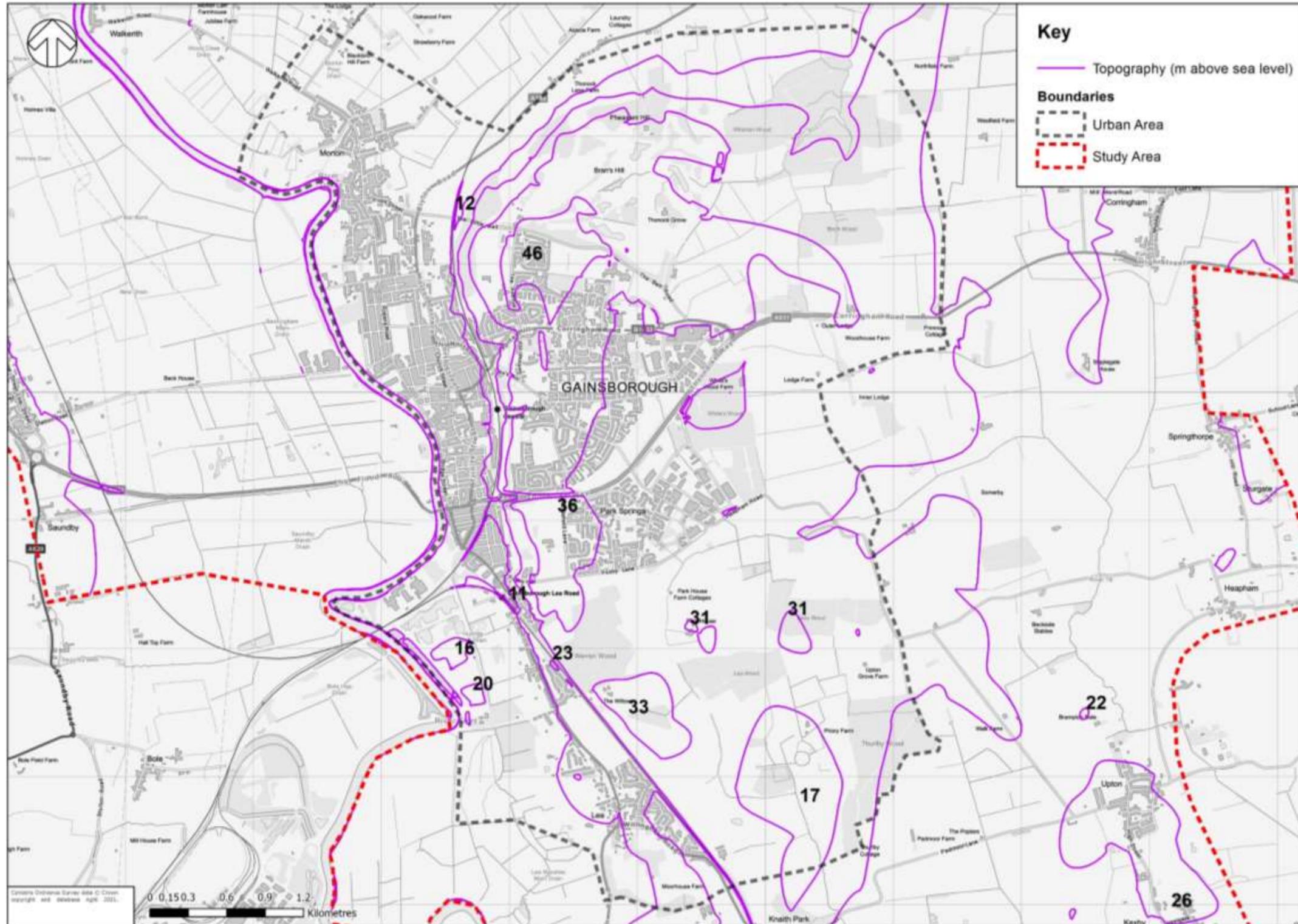
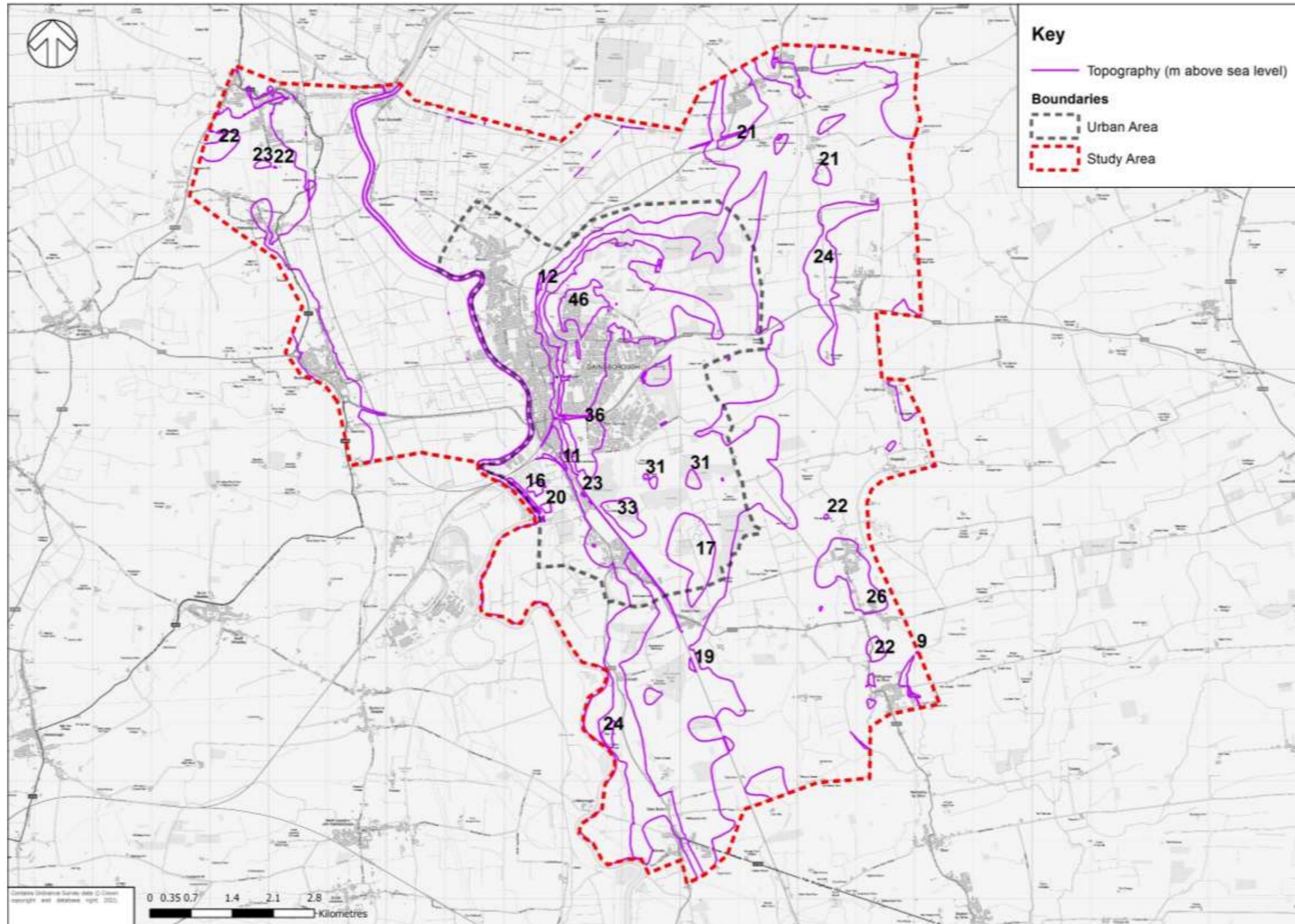


Figure 3-8 – Gainsborough – Topography – Study Area



3.6 MOTOR TRAFFIC FLOWS

- 3.6.1. Motor traffic flows have an impact on the comfort and safety of cycling and walking and impact the cycling and walking infrastructure requirements. For example, streets with higher traffic flows need wider footways and where appropriate segregated cycle tracks, to separate motor traffic from cycling and walking. It is particularly important to separate cycle infrastructure where there are high Heavy Goods Vehicle (HGV) traffic flows.
- 3.6.2. As part of the Gainsborough Traffic Model (GTM), Automatic Traffic Count (ATC) surveys were undertaken across Gainsborough. GTM was developed in 2017 and is a highways assignment model, simulating traffic patterns for Gainsborough and the surrounding area.
- 3.6.3. Data from the ATC surveys was reported for the following key links in Gainsborough:
- Lea Road;
 - Ashcroft Road;
 - Trinity Street;
 - Bridge Street;
 - Morton Terrace;
 - Corringham Road; and
 - Thorndike Road.
- 3.6.4. The approximate location of the 2017 ATC surveys are shown in Figure 3-9. The associated ATC data is presented in Table 3-1.

Figure 3-9 - Location of 2017 ATC Surveys

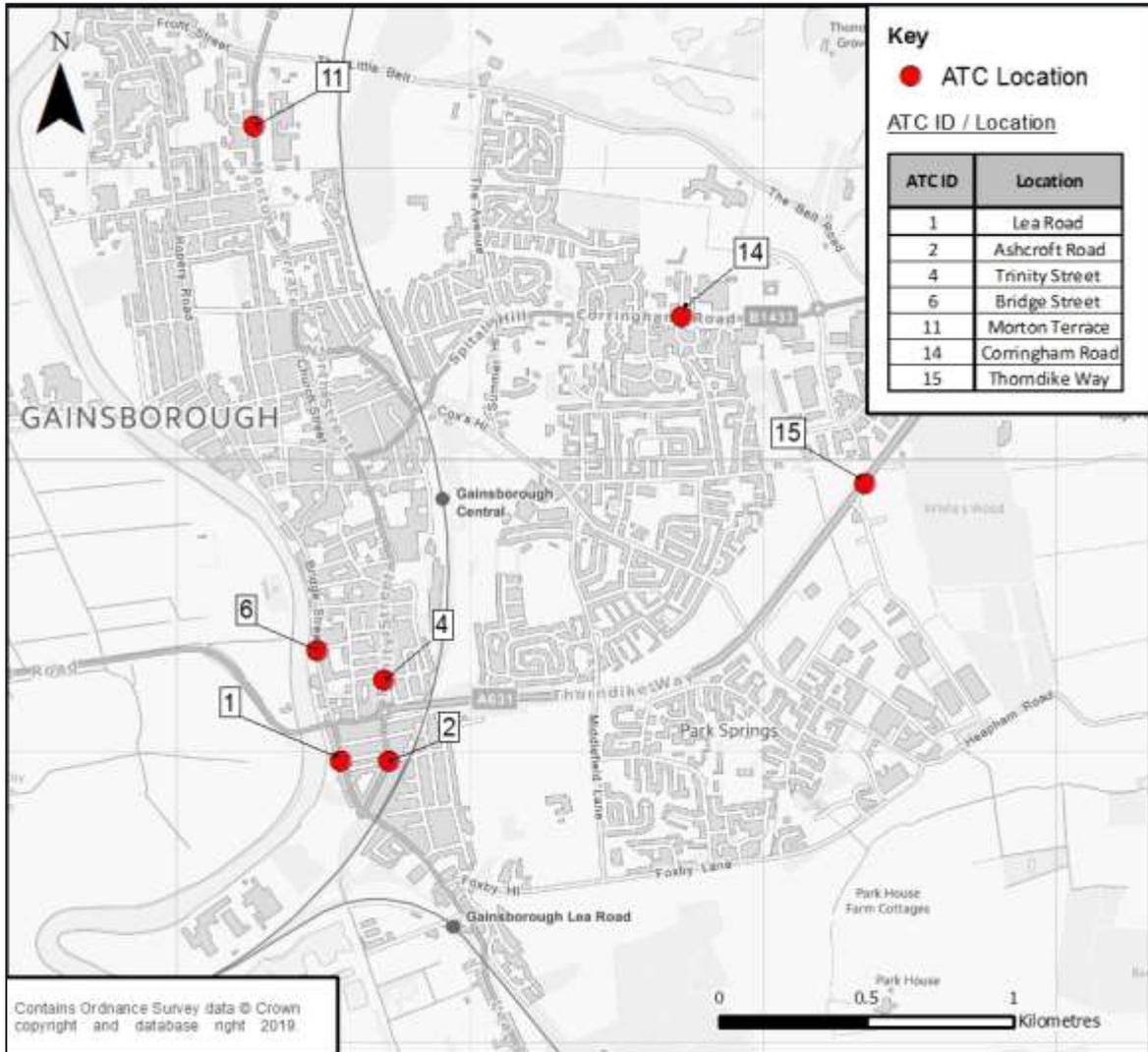


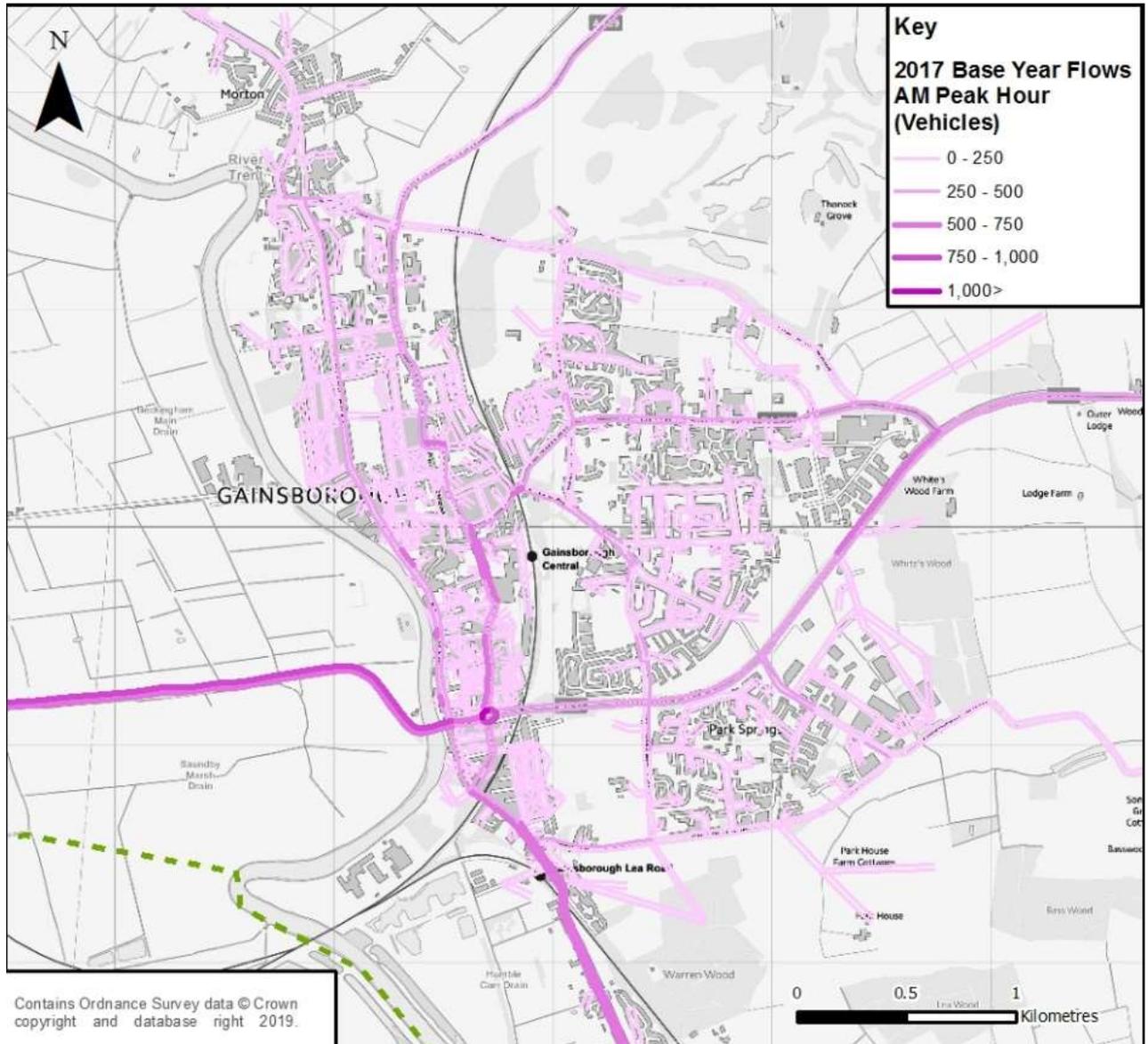
Table 3-1 - 2017 Traffic Flows on Key Links

Link	ATC	AM Peak			PM Peak			24 Hour Weekday		
		Cars	LGV	HGV	Cars	LGV	HGV	Cars	LGV	HGV
Bridge Street	6	552	236	28	536	236	14	6335	2930	258
Trinity Street	4	724	313	40	897	345	24	10065	4591	506
Ashcroft Road	2	373	209	37	453	234	19	4976	2795	438
Lea Road	1	287	198	23	315	241	15	3614	2980	262
Thorndike Way	15	392	14	37	512	12	24	5571	223	511
Corringham Road	14	303	264	29	301	222	6	3064	2665	257
Morton Terrace	11	564	248	31	458	231	14	5331	2821	341

LGV = Light Goods Vehicle; HGV = Heavy Goods Vehicle

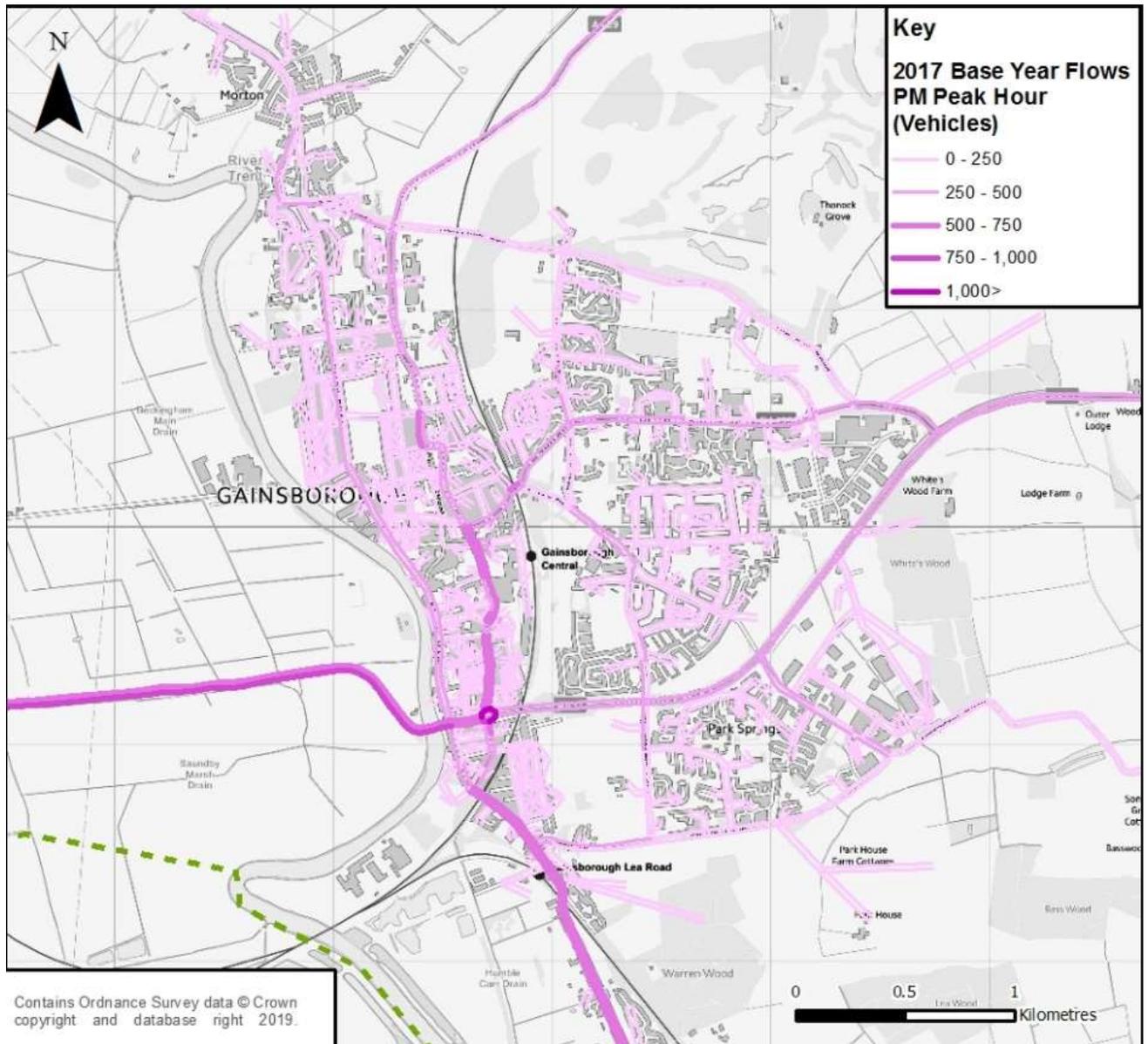
- 3.6.5. The existing vehicle flow as modelled by the GTM is presented in Figure 3-10 and Figure 3-11, which show the AM and PM peak traffic flows on a weekday in a neutral month in 2017.
- 3.6.6. Figure 3-10 and Figure 3-11 both show that the busiest area of the network is Gainsborough Bridge, Flood Road / Bridge Street Junction and the Trinity Street / Thorndike Way roundabout.

Figure 3-10 - 2017 AM Peak Hour – GTM Base Year Traffic Flows in Vehicles



- 3.6.7. Figure 3-10 shows that in the AM peak hour there is in excess of 1,000 travelling east over the Gainsborough Bridge. This traffic flow dissipates at the Bridge Street / The Flood Road junction and the Trinity Street / Thorndike Way Roundabout, as traffic moves either north into Gainsborough or south away from Gainsborough.
- 3.6.8. Figure 3-11, which shows the PM peak hour, traffic patterns generally reverse showing a significant volume of traffic travelling west along The Flood Road.

Figure 3-11 - 2017 PM Peak Hour GTM Base Year Traffic Flows in Vehicles



3.7 COLLISIONS

- 3.7.1. This section sets out the analysis of collision data within the study area. Collision data was provided by Lincolnshire Road Safety Partnership (LRSP), a multi-agency partnership aimed at reducing the number of people killed and injured on the county’s roads. The analysis provides the location, severity of collisions and the user types involved and covers the 5-year period between 2014 and 2018.
- 3.7.2. Table 3-2 and Table 3-3 show the number and severity of collisions involving pedestrians and cycle users respectively. All of the study area collisions involving pedestrians and cycles occurred within the urban area.

3.7.3. Collisions were only slightly fewer for cycle users than pedestrians – 33 collisions involving pedestrians and 30 involving cycle users. There were no fatal collisions involving either cycle users or pedestrians.

Table 3-2 - Study Area Collisions involving Pedestrians between 2014 and 2018

Severity	Number of Collisions
Fatal	0
Serious	6
Slight	27
Total	33

Table 3-3 - Study Area Collisions involving Cycle Users between 2014 and 2018

Severity	Number of Collisions
Fatal	0
Serious	7
Slight	23
Total	30

3.7.4. Figure 3-12 shows the location and severity of collisions involving pedestrians between 2014 and 2018. A large proportion of slight collisions occurred on or near to the A156 Trinity Street and Beaumont Street in the town centre. One serious collision also occurred on Trinity Street. Further serious collisions were recorded on Bridge Street/Caskgate Street, B1433 Corringham Road and A156 Lea Road. The B1433 and A156 are major roads identified in Section 3.3 as barriers to movement. Figure 3-13 shows the location and severity of collisions involving cycle users between 2014 and 2018. There were five slight collisions at the junction of Bridge Road and Trinity Street. There were a total of seven serious collisions, mainly occurring at junctions, including one serious collision at the junction of A156 Blyton Road and Front Street.

Figure 3-12 – Gainsborough – Collisions involving Pedestrians between 2014 and 2018



Figure 3-13 – Gainsborough – Collisions involving Cycle Users between 2014 and 2018



4 CYCLING NETWORK PLAN

4.1 INTRODUCTION

4.1.1. This section covers the baseline data used for development of the cycling network plan, in addition to Section 3. This includes:

- Existing Cycle Infrastructure and Cycle Counts; and
- Propensity to Cycle Tool (PCT)

4.2 EXISTING CYCLE INFRASTRUCTURE AND CYCLE COUNTS

4.2.1. Figure 4-1 shows the existing cycle infrastructure in Gainsborough town centre. The cycle infrastructure is neither widespread across the town nor provides joined-up routes and varies in the level of service it provides to users.

4.2.2. Shared-use cycleway/footways make up a large proportion of the existing cycle infrastructure through the town including along the A156 to the south between the rail bridge and Lea, a section of the A159 Morton Road and Morton Terrace to the north, and along Spital Hill and Cox's Hill.

4.2.3. There is a short section of segregated footway/cycleway on Corringham Road.

4.2.4. There is a suggested cycle route on Sandsfield Lane and into Heaton Street in the town centre which is signed as a cycle route but has no cycle carriageway markings. There are also sections of marked advisory cycle lanes on the carriageway on the A156 and on Spital Hill.

4.2.5. The map also shows the DfT cycle counts that were available for 2018, showing the two-way annual average daily flow (AADF). The highest counts are on A159 North Street in the town centre near to the junction with Spital Terrace with a recorded 63 cycles, and on the A156 Ashcroft Road with a recorded 64 cycles. There are likely to be limitations with this cycle count data however, including sensors not picking up all cycles passing across the count site.

4.3 PROPENSITY TO CYCLE TOOL (PCT)

4.3.1. The following analysis uses the Propensity to Cycle Tool (PCT) to identify key desire lines for cycle users. The PCT analysis presents cycle desire lines based on two scenarios:

- Census 2011 Cycling
- Go Dutch

CENSUS 2011 CYCLING

4.3.2. The Census 2011 Cycling scenario is based on the number of existing cycle commuters across the study area, extracted from Census 2011 journey to work data. A cycle commuter is defined for this analysis as a resident whose main mode of travel to work is cycle. The census origin (residence) and destination (workplace) data allowed desire lines to be drawn.

GO DUTCH

4.3.3. The Go Dutch scenario models a representation of what would happen if English and Welsh people were as likely to cycle as Dutch people. People in the Netherlands make 26.7% of trips by bicycle, fifteen times higher than the figure of 1.7% in England and Wales. It therefore provides a representation of England and Wales had both countries developed the same cycling infrastructure and cycling culture as The Netherlands.

4.3.4. The Go Dutch scenario is generated using the Census 2011 journey to work data, which shows trip origins and destinations for all modes. It then increases the proportion of residents travelling by bike, taking into account trip length and hilliness, to provide the Go Dutch scenario. The scenario highlights areas where cycling could be the natural choice for journeys, if suitable cycle infrastructure was in place and a cycling culture akin to The Netherlands is present. This is likely to produce new priorities, rather than the Census 2011 which presents existing cycle flows.

PCT – TOP 15 DESIRE LINES

4.3.5. The PCT plans are presented in Figure 4-2 and Figure 4-3. They show the highest 15 cycle movements between Lower Layer Super Output Areas (LSOA) for each PCT scenario, alongside the origin and destination mapping.

4.3.6. Figure 4-2 shows the top 15 Census 2011 desire lines. The highest levels of commuter cycling in Gainsborough takes place between the northwest of Gainsborough near the hospital, and the town centre. The next highest desire lines are between the west and east. There are also desire lines between the Gainsborough Lea Road Station and the centre; and between the neighbourhoods to the east of Gainsborough.

4.3.7. Overall cycling levels are however low across the study area, demonstrated by the small numbers (maximum cycle flow of 13 between LSOAs) associated with the top cycle Census 2011 desire lines.

4.3.8. Figure 4-3 shows the Go Dutch desire lines. This shows a greater level of cycling potential between the surrounding areas and the town centre, with strong radial desire lines. In this instance, many commuter cycling trips would favour the radial routes into the town centre if cycling mode share was similar to Dutch levels.

4.3.9. For the Go Dutch scenario, particularly strong cycling connections would exist between the residential areas in the north of Gainsborough and the town centre, and other strong desire lines exist between the east and west sides of Gainsborough, and from the town centre to Lea Road

Station and further on to the village of Lea in the south. There are also strong cycle desire lines between the eastern neighbourhoods on either side of the A631 Thorndike Way.

- 4.3.10. The main limitation of the PCT is that it focuses on Census 2011 journey to work data, which is now dated and only covers commuting journeys. As a result, it does not show journeys generated by developments since 2011, neither does it show journeys with trip purposes other than commuting. To overcome this, future developments were mapped within the origin and destination mapping for the project and officer knowledge was used to interpret the various sources of data to provide the key desire lines based on the overall picture, and not just the PCT data. The officer interpretation is detailed within Section 6.

Figure 4-2 – PCT Census 2011 Top 15 LSOA Cycle Desire Lines – Urban Area

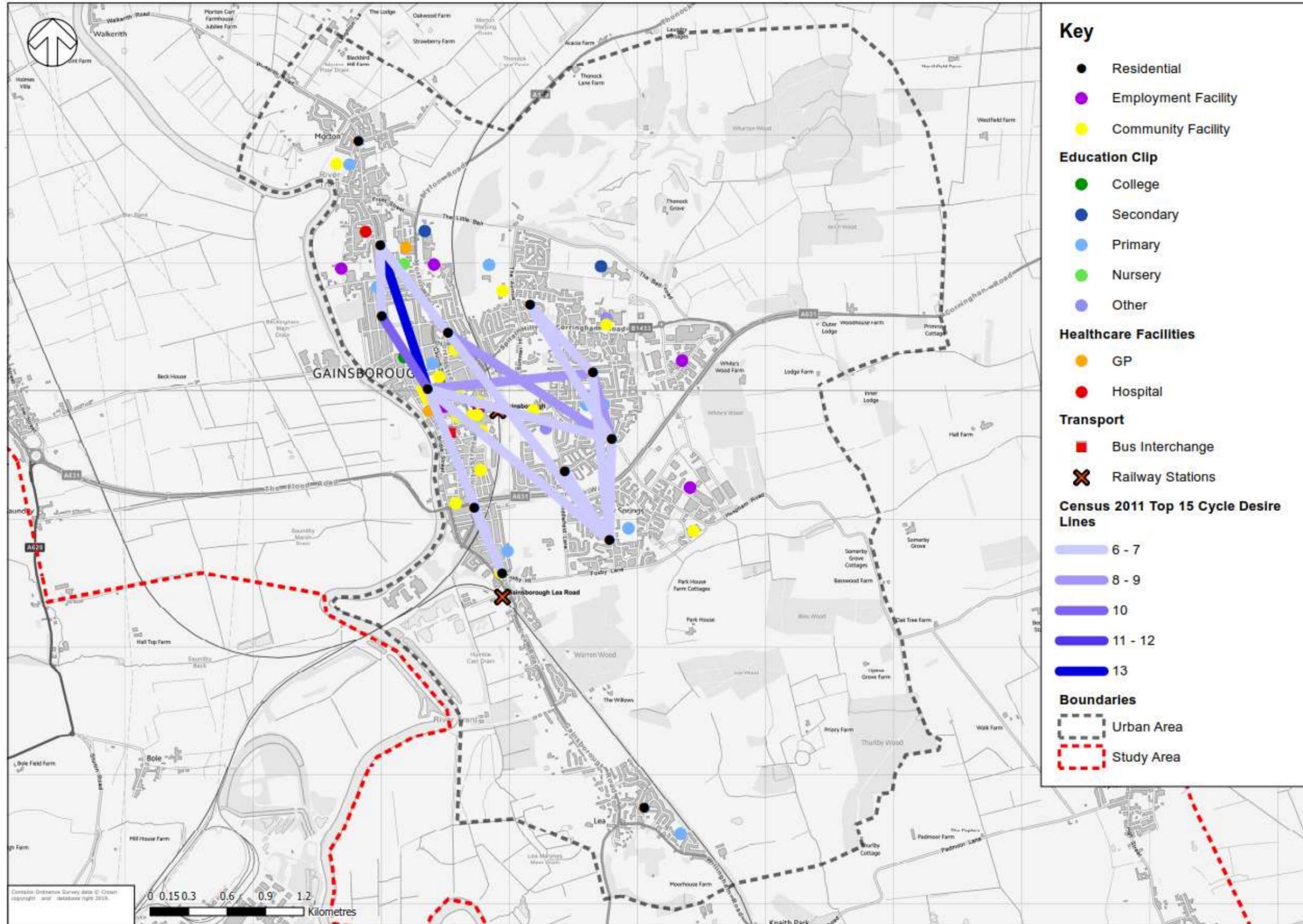
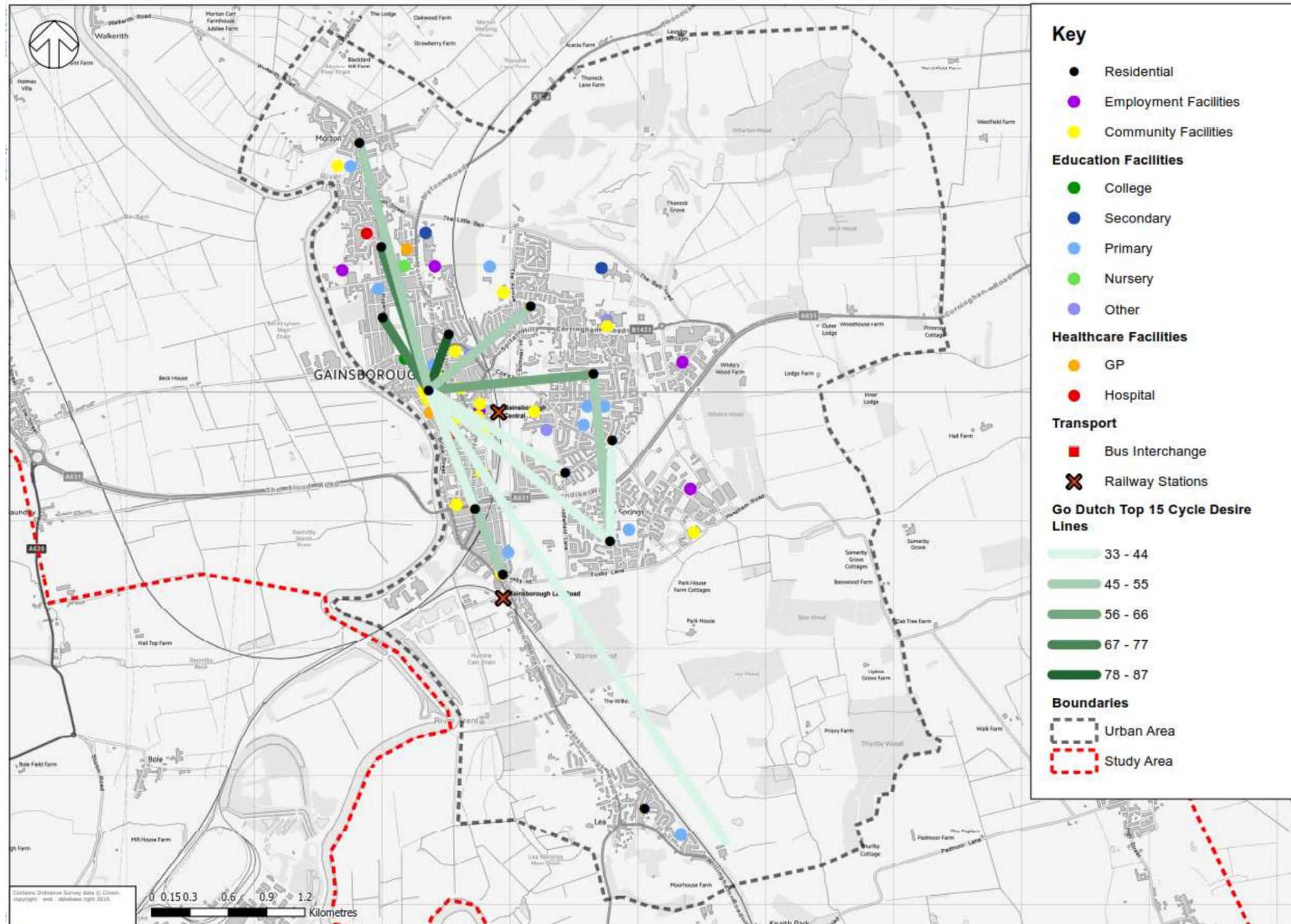


Figure 4-3 - PCT Go Dutch Top 15 LSOA Cycle Desire Lines – Urban Area



5 WALKING NETWORK PLAN

5.1 INTRODUCTION

5.1.1. This section covers the baseline data used for development of the walking network plan, in addition to Section 3. This walking-specific baseline data includes:

- Core Walking Zone;
- Census 2011 Journey to Work Desire Lines;
- Existing Walking Infrastructure; and
- Public Rights of Way.

5.2 CORE WALKING ZONE

5.2.1. Walking data showing average daily footfall in 2018 is presented in Figure 5-1. This shows the high level of walking that exists in the town centre.

5.2.2. The Core Walking Zone (CWZ) was agreed with LCC as the town centre of Gainsborough, because it has a high density of origin and destination points and is has a clear short trip focus.

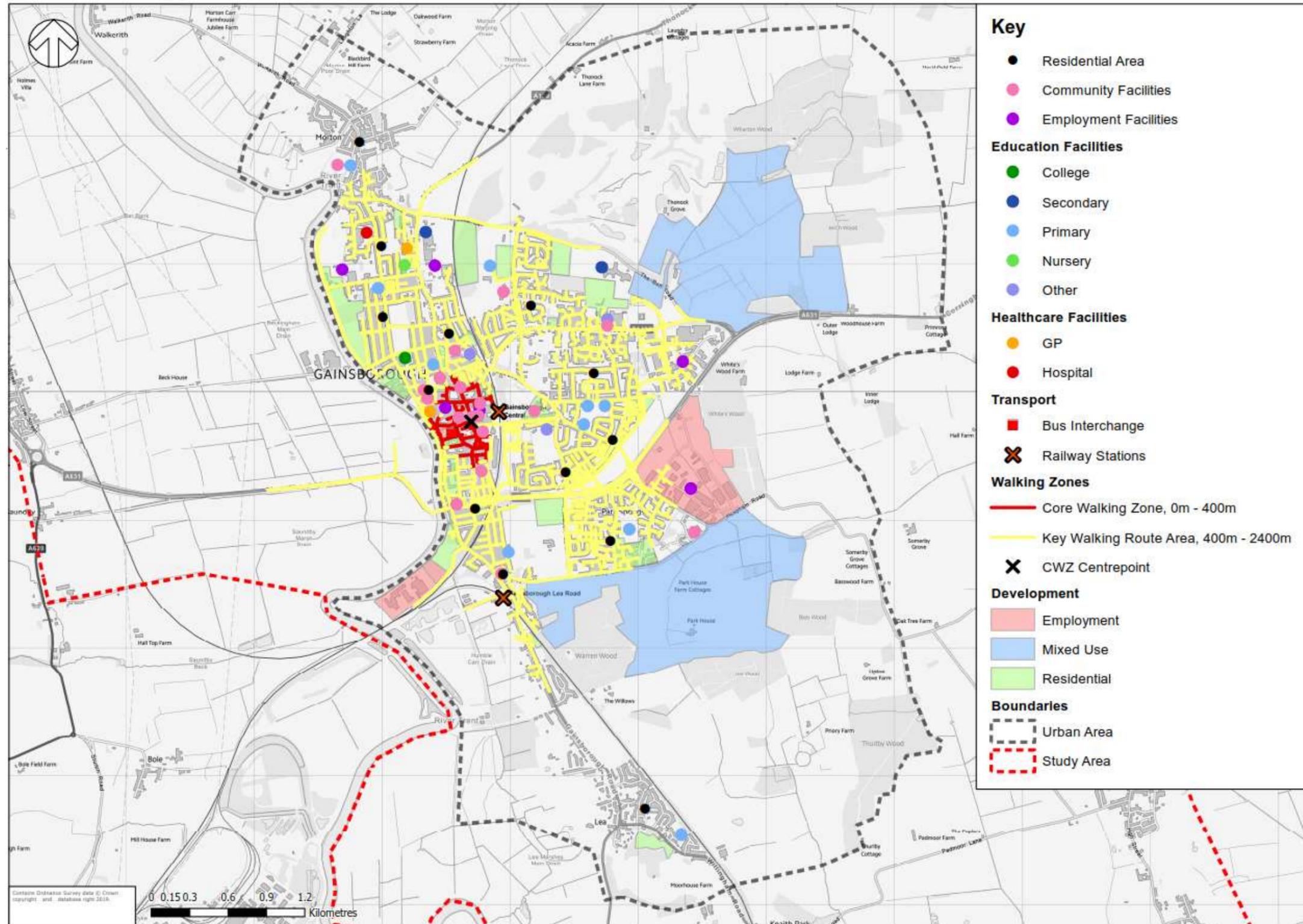
5.2.3. The LCWIP guidance states that the CWZ should be a minimum of 400m in diameter. Isochrone mapping was undertaken on the road and footpath network, displaying the highways and footways that were within 400m of the identified centre point.

5.2.4. The LCWIP guidance states that key walking routes should link from other significant origin and destination points to the CWZ. These key walking routes should be within 2km of the CWZ as this offers a manageable walking distance for most people. To display where these key walking routes could be located, an additional 2km road and footway isochrone area beginning from the extent of the CWZ was created.

5.2.5. The CWZ and key walking route are presented in Figure 5-2.

5.2.6. The walking network maps with origin and destination mapping provide the basis for identifying the priority walking routes to be developed within the GCWNP.

Figure 5-2 - Core Walking Zone and Key Walking Route Area



5.3 EXISTING WALKING INFRASTRUCTURE AND PUBLIC RIGHTS OF WAY

EXISTING WALKING INFRASTRUCTURE

- 5.3.1. The urban walking network predominantly consists of pedestrian footways along the majority of streets within the town. The walking infrastructure includes pedestrian crossings and streetlighting.
- 5.3.2. There are drawbacks with the existing walking infrastructure. Some pedestrian crossings require maintenance or are not located on appropriate desire lines. There are some routes that lack tactile paving, limiting disabled access. This may inhibit trips due to both actual and perceived safety concerns.
- 5.3.3. Several walking routes within the study area are unattractive with inconsistent signage, and there is a general lack of clear wayfinding that links key destinations in the town.
- 5.3.4. Severance is a problem in the town due to the rail line which inhibits east-west movements, and the A631 dual carriageway which inhibits north-south movements. There are several subways and footbridges crossing the A631 and railway line, which might be a deterrent for walking and cycling trips due to their relative remoteness and low natural surveillance and where lighting is not provided.

PUBLIC RIGHTS OF WAY

- 5.3.5. The Public Right of Way (PRoW) network is presented in Figure 5-3 and Figure 5-4, which includes footpaths, bridleways, restricted byways and byways open to all traffic. Footpaths, excluding footways, make up the greatest proportion of the PRoW in the Study Area.
- 5.3.6. The different sections of the PRoW are fragmented and do not provide continuous dedicated routes across the study area. Villages located in the south and north of the study area also have limited provision of public footpaths. There is a lack of wayfinding provision across the study area.
- 5.3.7. Lea to Upton is connected by a PRoW for a significant stretch. Additionally, Upton is connected by a footpath to Foxby Lane in the south-east of Gainsborough. However for journeys by foot between Lea and Gainsborough, pedestrians are required to use the local highway network.
- 5.3.8. To the north of the strategy area, Blyton has several footpaths near to the village, but which do not link up to Gainsborough. The alternative route between Blyton and Gainsborough is to walk along the highway network on the A159 Thonock Road.
- 5.3.9. Within the urban area, there are short sections of footpath connecting streets within housing developments, connecting neighbouring estates or shopping precincts. Notably, a footpath exists adjacent to the eastern side of the railway line from Gainsborough Central almost up to Thorndike Way, where the footpath is no longer classified as a PRoW but continues to meet Lea Road.
- 5.3.10. Intermittent footpaths also exist alongside the River Trent, between Morton in the north and Knaith in the south. However, the route is not continuous and forces pedestrians onto public highway footways for large sections.
- 5.3.11. Where possible good links should be provided from the CWZ to the PRoW network. Interventions to address this will be suggested along the prioritised walking routes identified within the GCWNP.

Figure 5-3 - Public Right of Way Plan - Urban Area

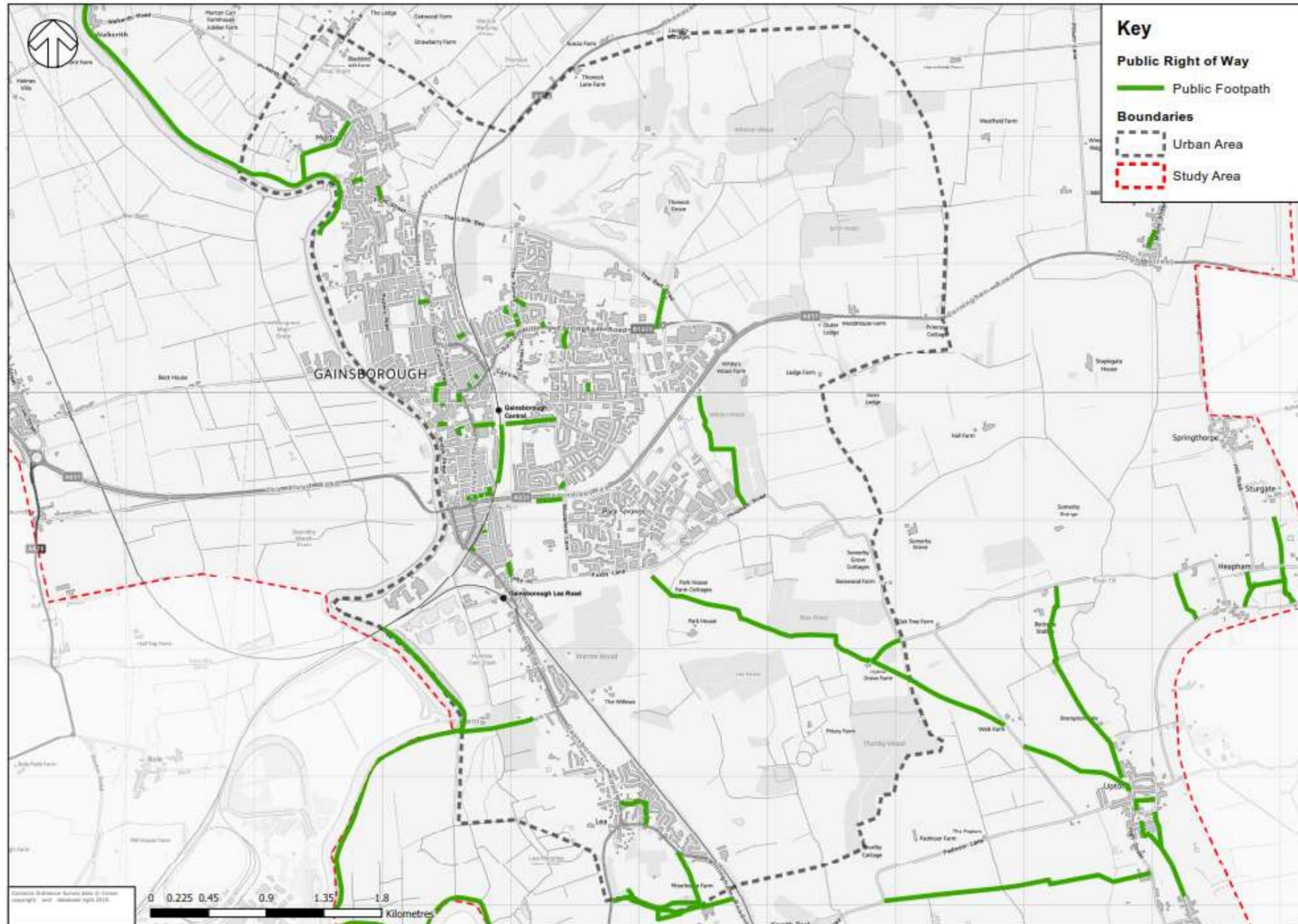
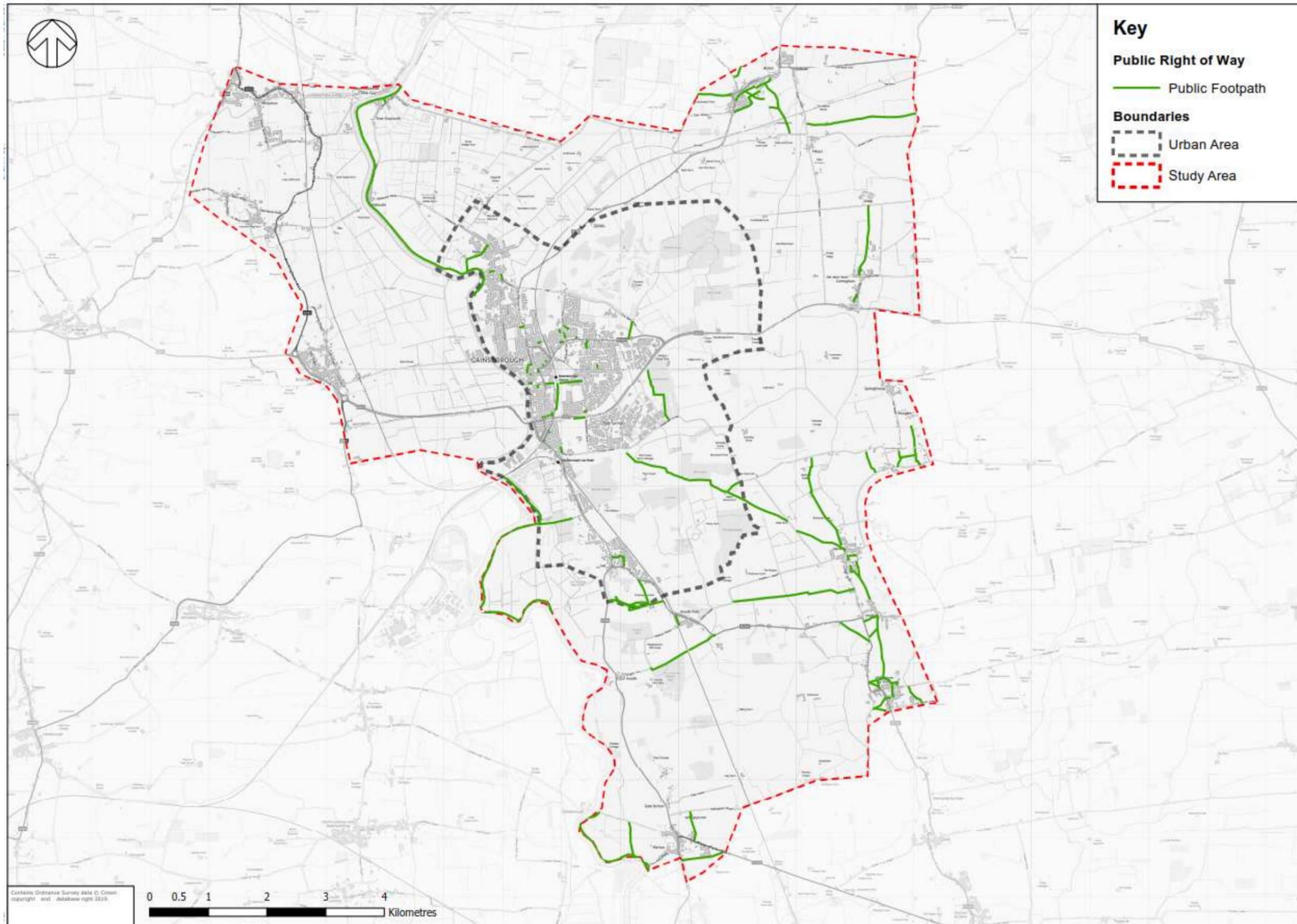


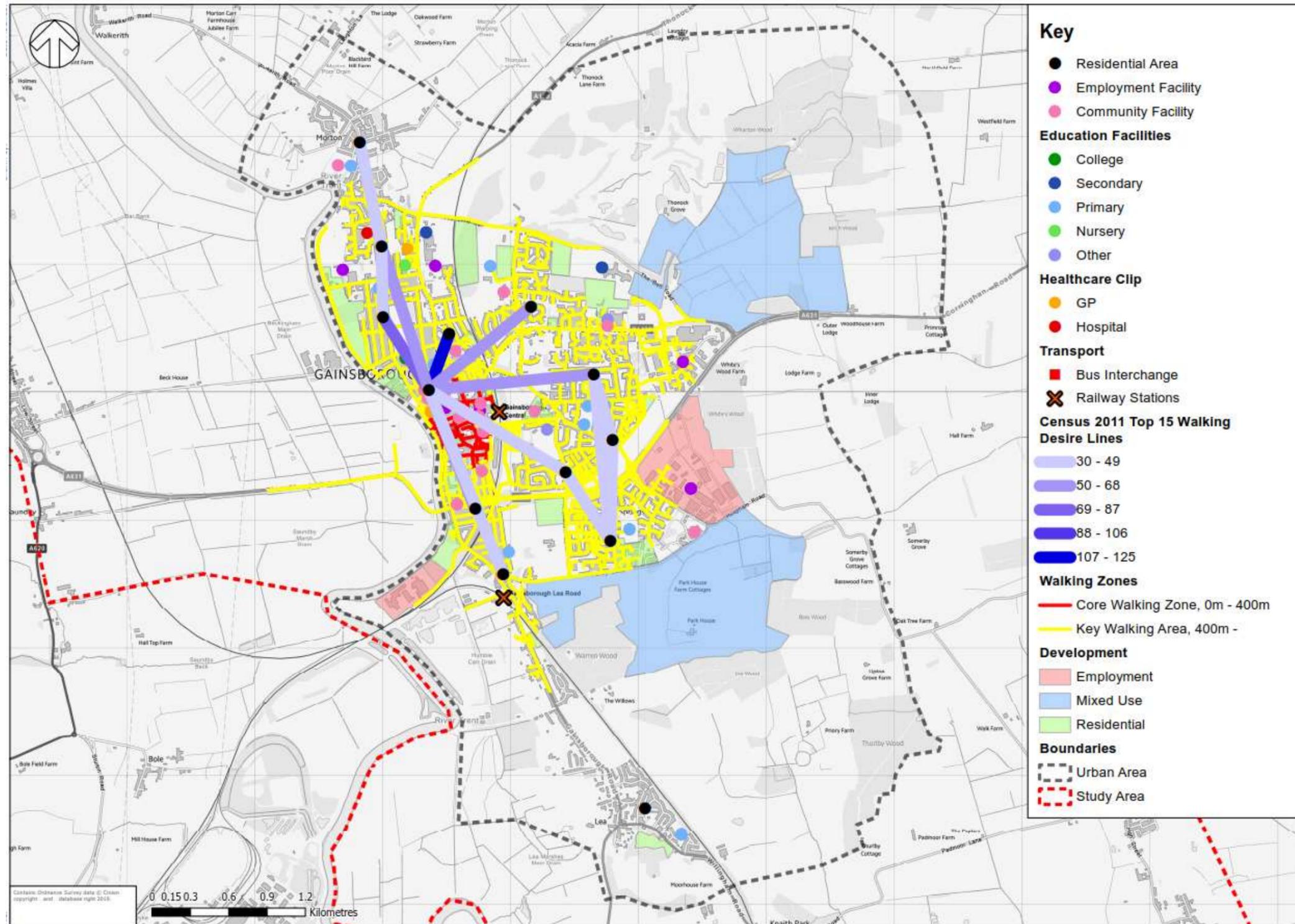
Figure 5-4 - Public Rights of Way - Study Area



5.4 CENSUS 2011 JOURNEYS TO WORK BY FOOT

- 5.4.1. Following the mapping of the CWZ, Census 2011 journey to work data was used to map commuter walking desire lines. Figure 5-5 shows the top 15 commuter walking desire lines between LSOAs.
- 5.4.2. When desire lines are drawn at LSOA level, this shows the strategic walking desire lines that could be prioritised in Gainsborough.
- 5.4.3. Figure 5-5 shows that the highest walking flows for commuters mostly radiate into the town centre from the surrounding residential areas. There are also walking desire lines between the areas in the east of Gainsborough.

Figure 5-5 - Census 2011 Walking Desire Lines - Urban Area



6 ENGAGEMENT

6.1 INTRODUCTION

6.1.1. Stakeholder engagement is an important part of development of any cycling and walking network plan, as is highlighted in the LCWIP guidance, which states:

“effective engagement is critical to ensuring that high quality LCWIPs are produced...it is important to communicate with stakeholders throughout the process, and consult with them at critical decision points, enabling their views to be expressed and considered.”

6.1.2. This section details the internal and external workshops that took place during the development of the GCWNP. It also provides an overview of the cycling and walking options that arose in the development of the Gainsborough Transport Strategy.

6.2 INTERNAL WORKSHOP

6.2.1. An internal workshop was held on Tuesday 3rd December 2019 in order to identify cycle desire lines, the proposed network and key walking routes. This included setting out the draft cycle and walking route priorities.

6.2.2. The workshop was held at West Lindsey District Council’s (WLDC) office at Guildhall Marshall’s Yard in Gainsborough and included WSP, Lincolnshire County Council and WLDC officer representatives. The outputs of the workshop were as follows:

- Gainsborough cycle desire lines
- Proposed Gainsborough cycle network
- Gainsborough walking route priorities

6.2.3. The workshop is an important part of the development of the cycling and walking plan as it allows for local officer input and sense checking of the baseline data analysis.

6.2.4. The cycle desire lines identified within the workshop can be seen in Figure 6-1 and Figure 6-2.

Figure 6-1 - Cycle Desire Lines - Outer Study Area

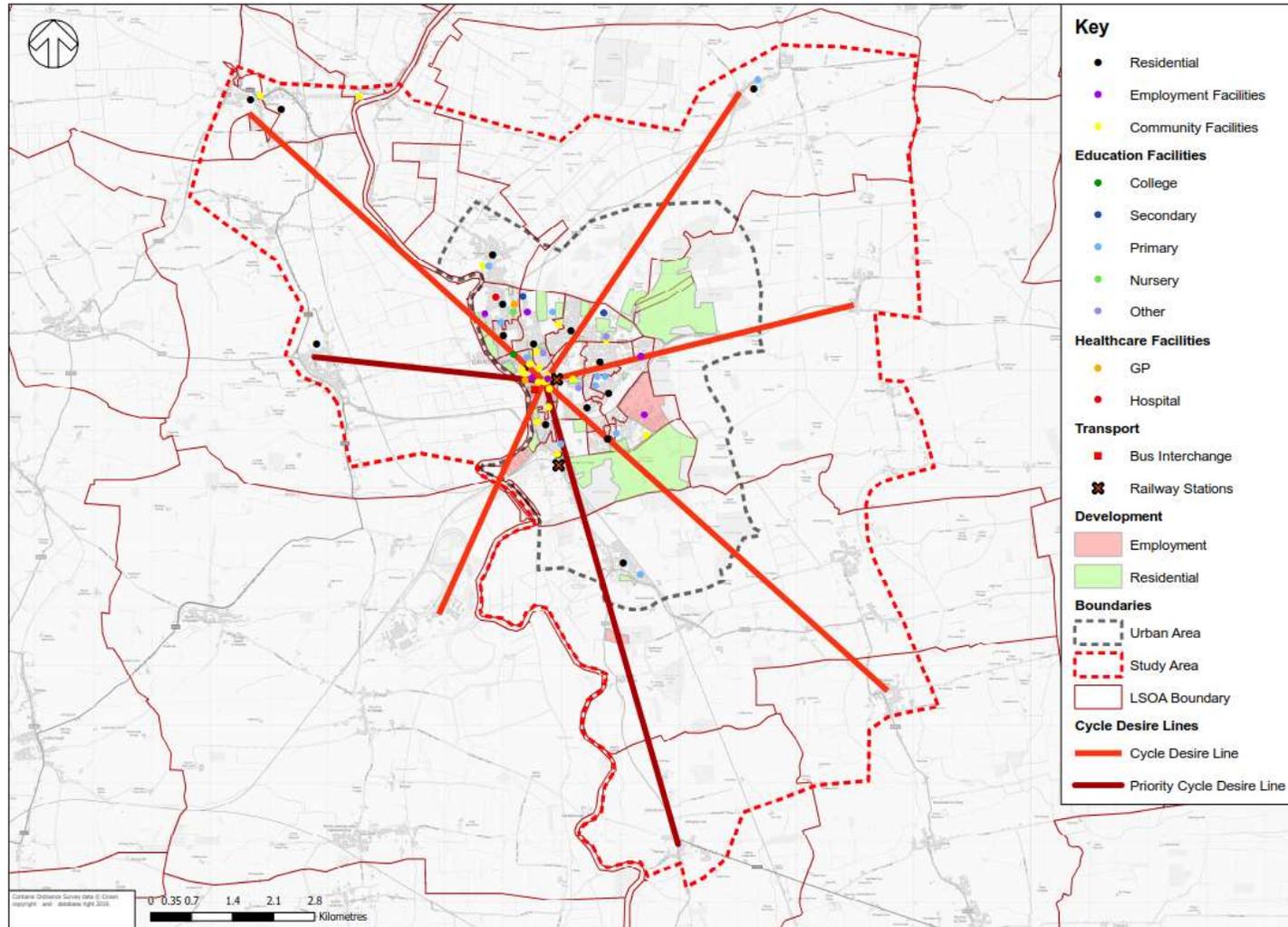
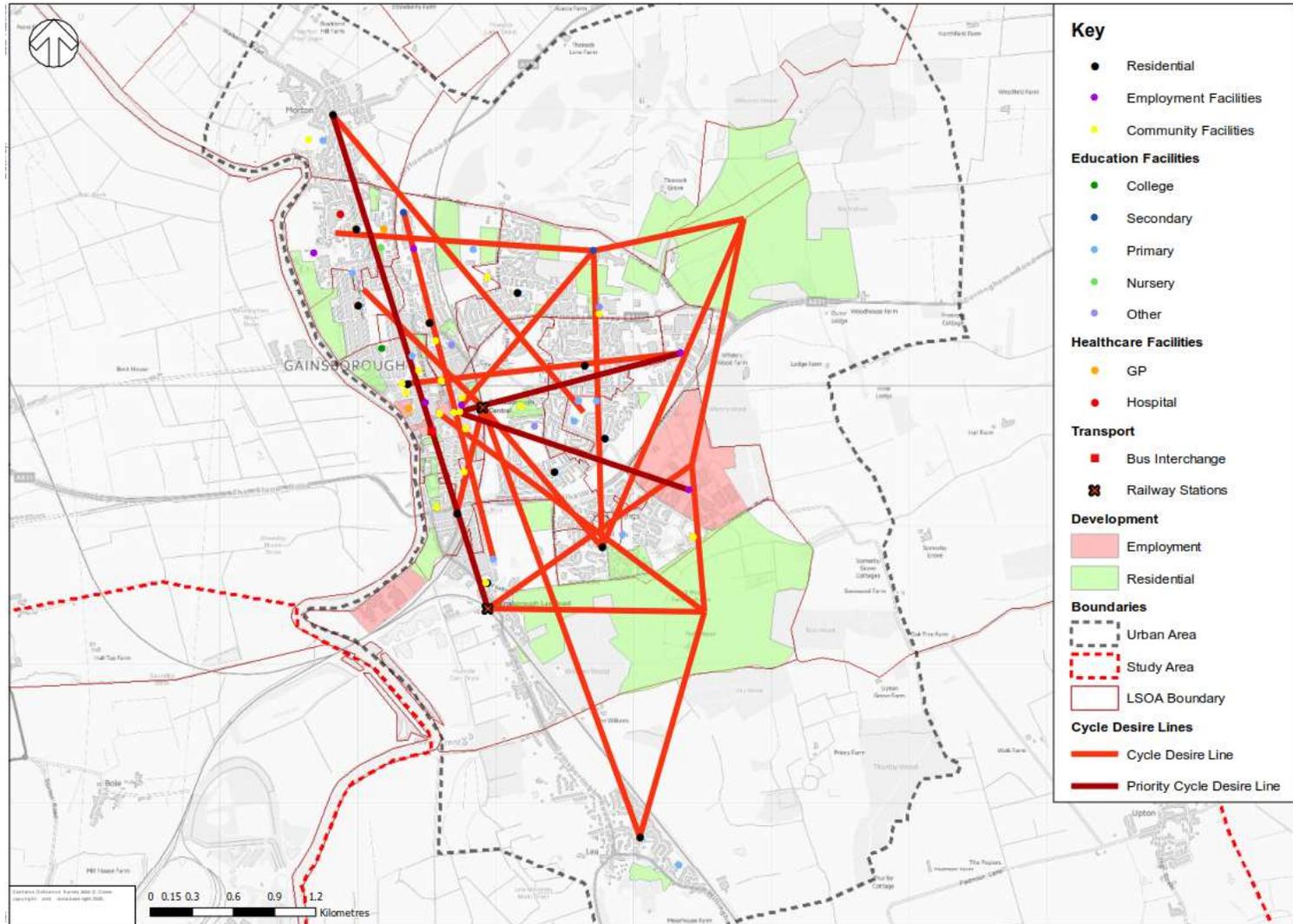


Figure 6-2 - Cycle Desire Lines - Urban Area



- 6.2.5. The identified cycle desire lines were used to inform the proposed cycle network. Using the cycling and walking barriers map, an iterative process was carried out of converting the identified cycle desire lines into proposed cycle routes, forming the proposed cycle network. During the process, the priority cycle desire lines identified were translated into a priority cycle network. The proposed cycle network and priority cycle network can be seen in Figure 6-3 and Figure 6-4.
- 6.2.6. Proposed priority walking routes were also identified within the workshop with the aid of the baseline data. The priority walking routes can be seen in Figure 6-5.

Figure 6-3 - Internal Workshop Proposed Gainsborough Cycle Network

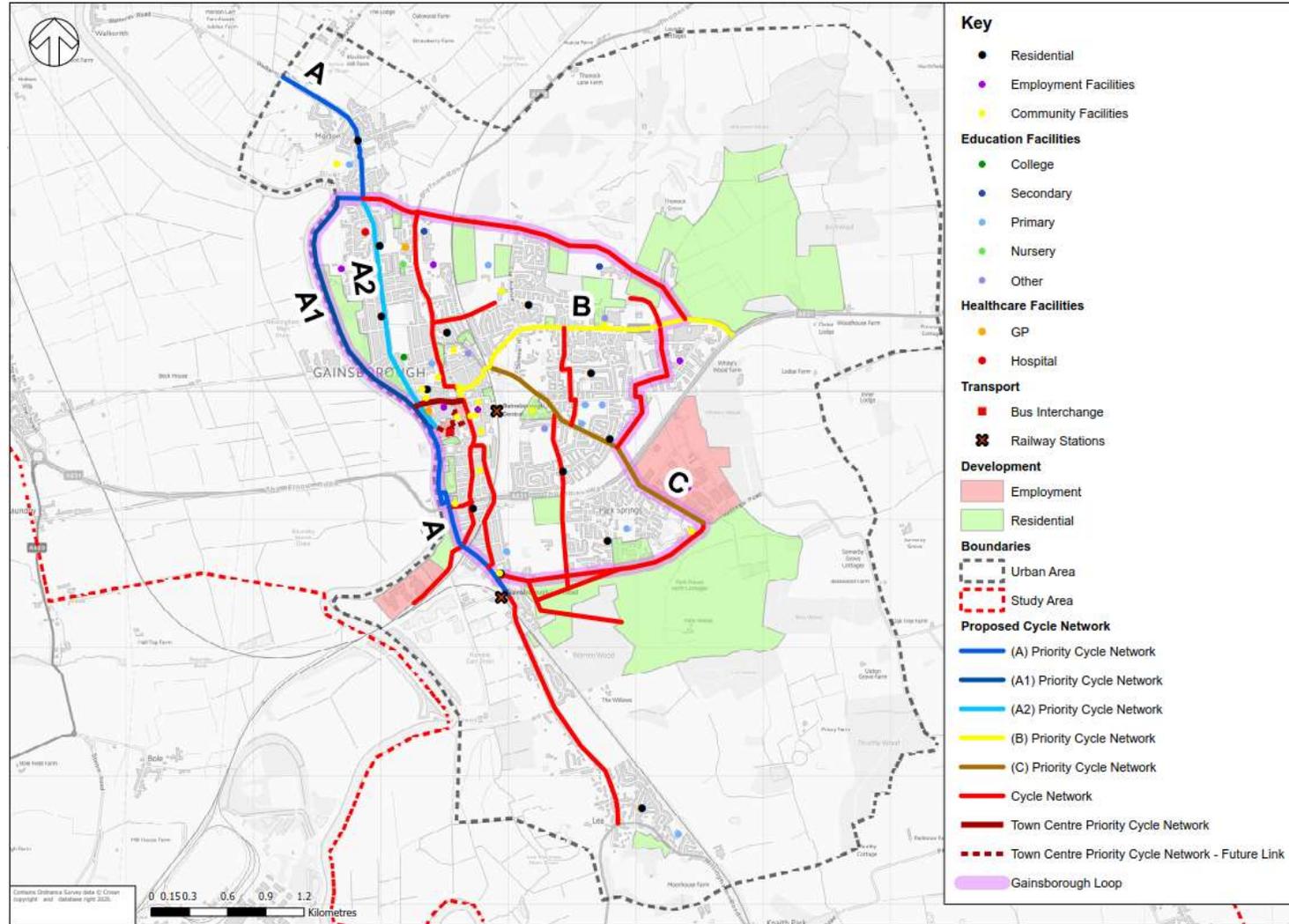


Figure 6-4 - Internal Workshop Proposed Gainsborough Cycle Network - Town Centre

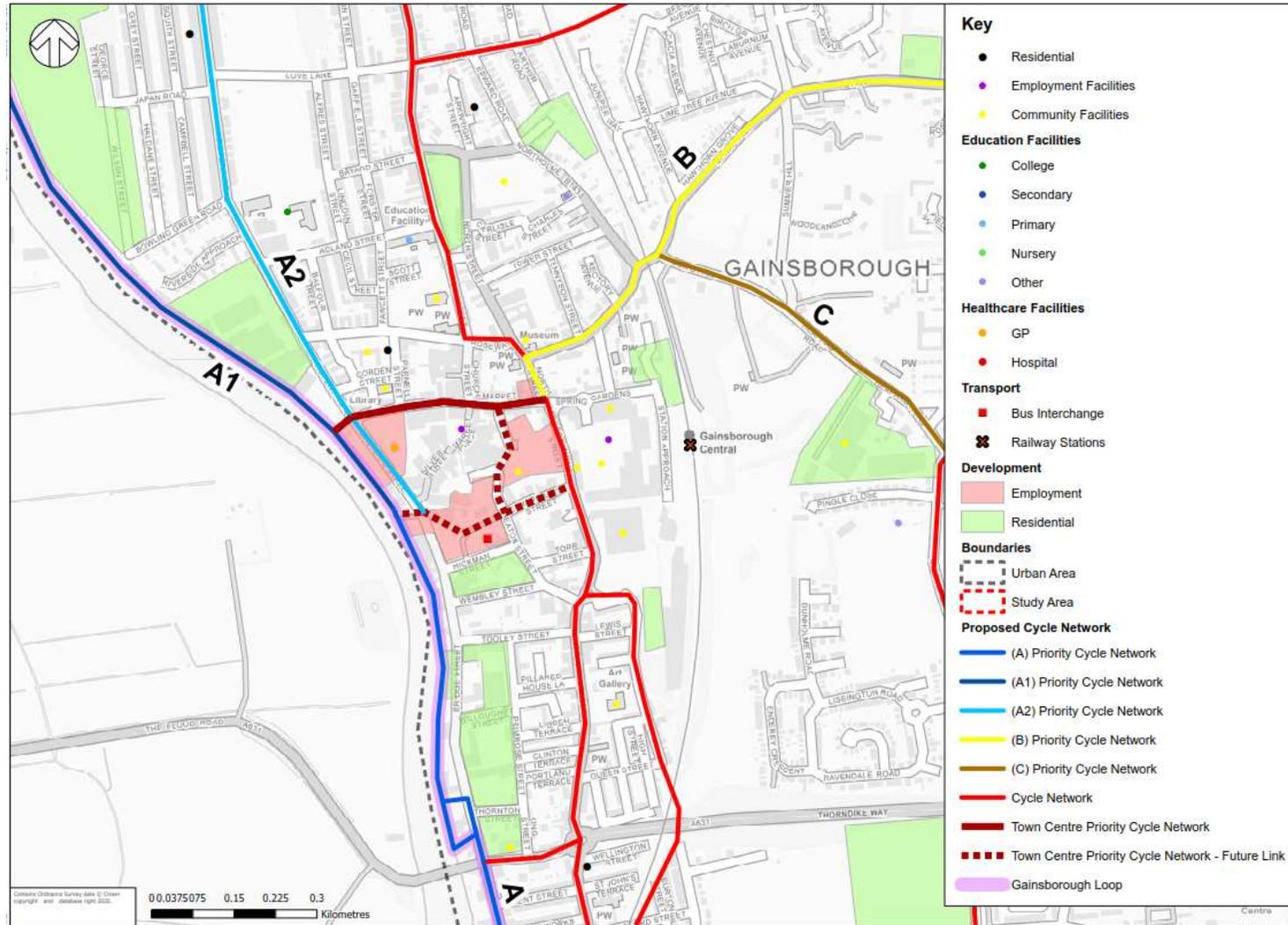
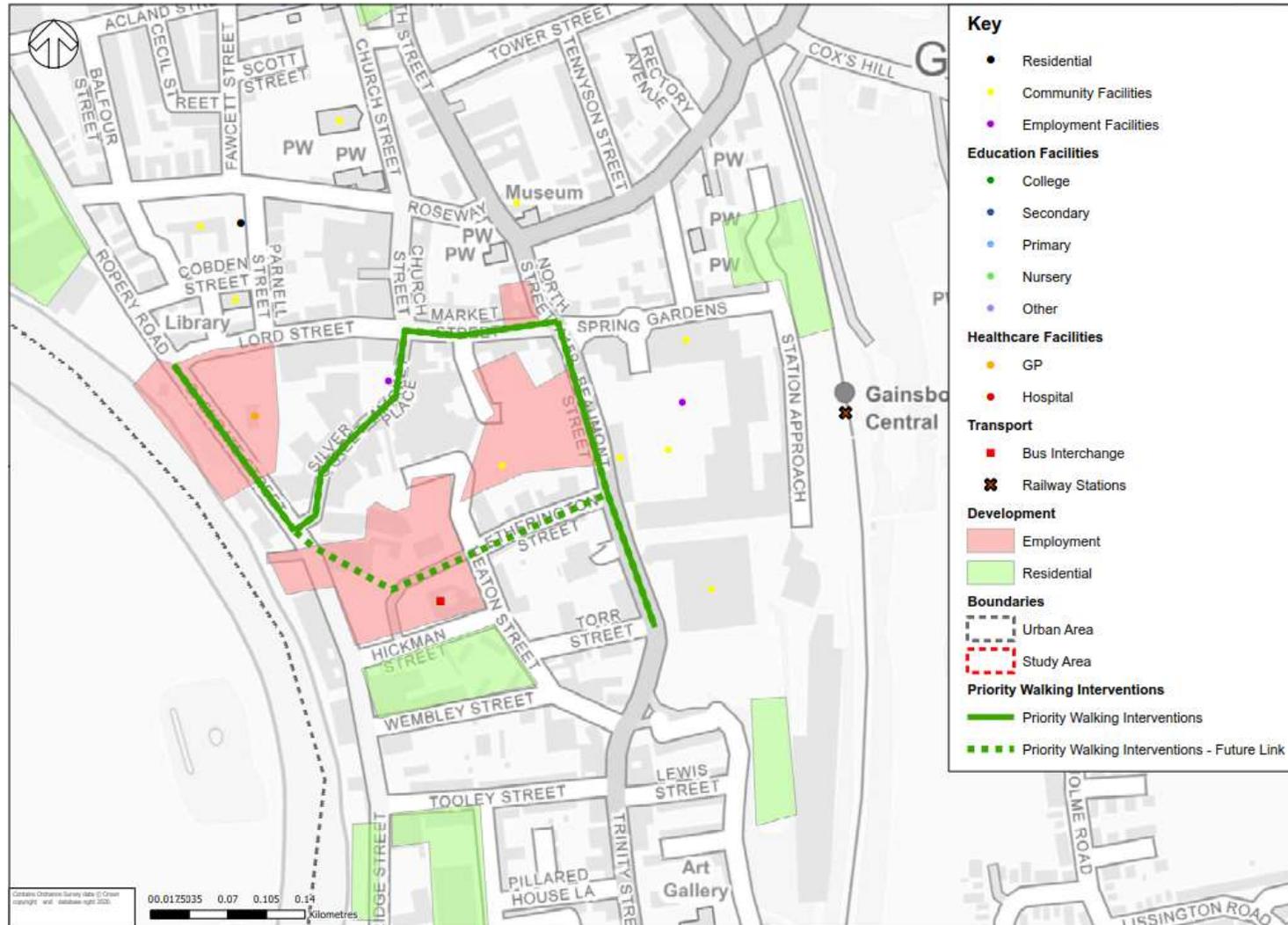


Figure 6-5 - Internal Workshop Proposed Gainsborough Priority Walking Interventions



6.3 EXTERNAL WORKSHOP

INTRODUCTION

- 6.3.1. The external workshop sought views from selected stakeholders that had an interest in Gainsborough's cycling and walking plan, including a specific session for Councillors. The workshop aimed to support the objectives of the network plan, which are to:
- Produce an evidence-based infrastructure network plan;
 - Identify early network investment priorities and potential interventions;
 - Secure stakeholder "buy-in" for the network and potential interventions; and
 - Provide high-level feasibility for investment in the highest priority cycling and walking infrastructure.
- 6.3.2. In particular, attendees were asked if they agreed with the draft cycling and walking network plan and identified priorities, that were developed in the internal workshop. They were also asked to provide any further comments, including on existing infrastructure and what works and doesn't work well.
- 6.3.3. The external workshop was held at Gainsborough Old Hall on Tuesday 13th January 2020, taking place between 3:00pm and 7:00pm.
- 6.3.4. A summary of comments from the external workshop are provided below:

Councillors

General

- There was general agreement with the proposed priority cycle routes
- Work carried out to date is brilliant

Gainsborough town centre to Lea

- Cycle infrastructure along Lea Road between Lea and Gainsborough is inconsistent – it contains a mixture of off and on-road cycle infrastructure
- There is a section along this route where the footway should be widened to create a two-way cycle track
- Cycling on Lea Road is dangerous, especially as it is shared with buses
- Route A should be extended south to Lea
- Lea Road needs a minimum of solid white line cycle lane
- One-way residential streets neighbourhood needed near Lea Road
- Secure cycle parking required at Gainsborough Lea Road

Gainsborough town centre to Corringham Industrial Park via Corringham Road

- Corringham Road route makes sense as a priority
- The shared use path doesn't work well along Corringham Road as lose priority at side roads
- Corringham Road / Avenue Road is an unsuitable junction
- Corringham Road not seen as a priority due to existing infrastructure
- Bottom of Summer Hill is dangerous

Town Centre

- East-west route across town centre is a good plan

- Reclaiming the missing section of path on the riverbank is a priority
- Market Street should be pedestrianised with cycle access. Deliveries should be out of core hours
- Vehicles currently go the wrong way along Silver Street to avoid bollards – bollards required on Silver Street
- Change bus stops and route away from Church Street and use North Street instead – Church Street is not a safe route for buses
- Taxi rank can remain in place
- Extend route up Church St and potentially make this contraflow.
- Torr Street should be one-way and filling station should be moved
- Lidl access should be one-way

Other areas

- The Belt Road and The Little Belt requires resurfacing
- The Belt Road should be developed as health/wellbeing/leisure route. The residential development adds to this case. This would require traffic calming and slow speeds.
- Remove signs prohibiting cycles on footbridge on A631 Thorndike Road as no longer relevant.
- There was interest in an onward route to Lincoln
- There was interest in a Blyton to Gainsborough cycle route where there is already some infrastructure and serves school trips

Lincolnshire Road Safety Partnership (LRSP)

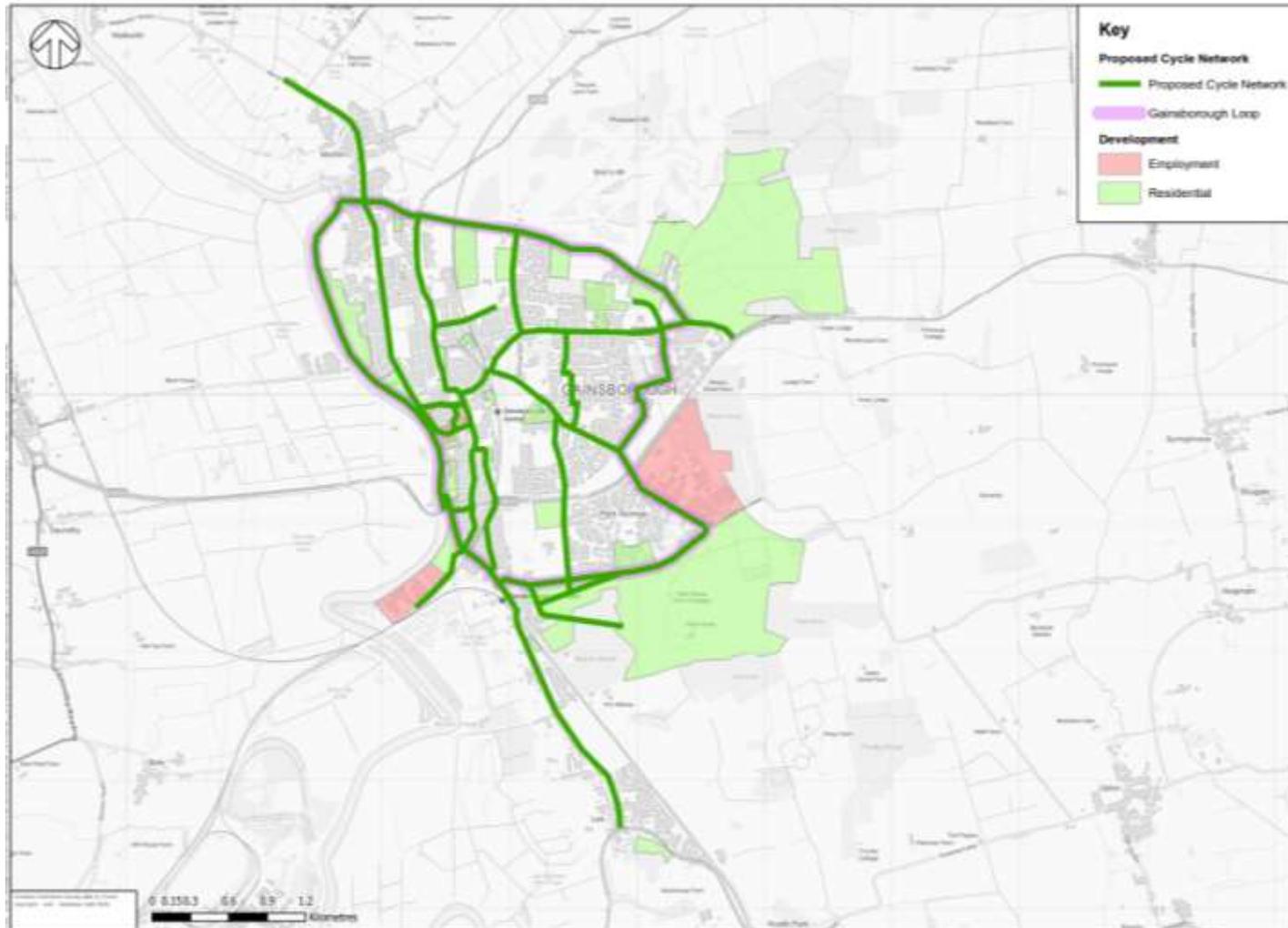
- Have been a few slights involving cycles but nothing significant in last 5 years

Other Stakeholders including Cycling UK

- Safe, lit routes needed to areas outside the urban area
- Signage of routes is missing
- Cycle lockers requested at Gainsborough Central rail station
- An additional link from The Belt Road along The Avenue to leisure centre was requested
- The toucan crossing on Ropery Road can be used to gain access to quieter streets parallel to Ropery Road via Bowling Green Road
- Support for a Loop route around Gainsborough that can be used as a health ride

6.3.5. Following the external workshop the priority cycling routes remained the same but there were some changes to the wider proposed cycle network. The updated overall cycle network plan can be seen in Figure 6-6.

Figure 6-6 - Proposed Gainsborough Cycle Network



6.4 GAINSBOROUGH TRANSPORT STRATEGY

6.4.1. The Gainsborough Transport Strategy (GTS) was in development at the same time as the Gainsborough Cycling and Walking Network Plan. The cycling and walking options that arose during the development of the GTS can be seen in Table 6-1.

Table 6-1 – Gainsborough Transport Strategy Cycling and Walking Options

Option	Description
Gainsborough leisure route	Creation of a leisure route to the east of Gainsborough (outside proposed SUEs)
Belt Road walking and cycling improvements	Improve walking and cycling route along The Belt Road to provide NMU connection between Corringham Road and Heapham Road industrial estate. To encourage commuting trips by bike.
New segregated pedestrian / cycleway - Lea Road	New segregated pedestrian / cycleway to improve access and permeability from the southern SUE to Lea Road, the train station and the wider urban area.
Creation of pedestrian and cycle crossing at Foxby Lane	New toucan crossing to improve access to the southern SUE and encourage trips by active modes.
Foxby Hill Lane footway improvements	Improvements to the existing footways along Foxby Hill Lane to the west of Middlefield Lane.
New cycle route on Foxby Hill Lane	New cycle route along Foxby Hill Lane. Potential to run along site frontage of SUE on the south side of Foxby Hill Lane.
New on-carriageway cycle route from Foxby Hill / Lea Road to the town centre.	Provide segregated route along Lea Road, Ashcroft Road and Trinity Street. Proposal would likely require removal of on street parking and potential realignment of sections of carriageway
Improvements to crossings at Lea Road / Ashcroft Road	Enhanced crossings at junction to facilitate safer crossing of cyclists over the roundabout.
Improvement to the crossings on Thorndike Way	Potential to upgrade Toucan and potential removal of stagger, surfaces treatments and improved tactile paving.
Improvements to pedestrian / cycle facilities on Heapham Road	Improvements to pedestrian / cycle facilities on Heapham Road to provide continuous cycle / footway with crossings at desire lines. Type dependent on demand and traffic flow.
Cycle route over River Trent	Improve access into Gainsborough by bike from surrounding areas
Improve footpaths between Blyton and East Stockwith	Review current footpaths and highlight areas for improvement

Option	Description
A156 pedestrian crossings	Provide new crossing on the A156 to give safe access to Lea Road bus stop
Connect pedestrian/cycle networks with Riverside	Connect pedestrian/cycle network to the Riverside
Town Centre Connectivity	Improve connectivity between key areas of the town centre. For example Marshalls Yard and the Market area. Measures to included improved footways, cycleways, crossings and signage
Development of circular cycle route	Develop circular cycle route linking wider strategy area.
Pedestrian access across Trent Bridge	Improvements to pedestrian access across Trent Bridge.
Walking and Cycling Connection - New Developments	Ensure that all new developments are designed to incorporate walking and cycling connections to the surrounding areas.
New cycleway - Gladstone Street	Improve cycling along river footpath past Gladstone street by installing new cycleway

7 GOOD PRACTICE REVIEW – APPLICATION IN GAINSBOROUGH

7.1 INTRODUCTION

- 7.1.1. Streets need to manage a wide range of road users and their competing demands by providing clear but flexible spaces, with consistent and legible features that acknowledge where, when and how users should interact.
- 7.1.2. Priorities should be applied to best provide for efficient and safe movement of people, goods and services, while reflecting and enhancing the character of the place. Balancing user priorities, especially the needs of pedestrians and cyclists, is often challenging in busy urban contexts. There is a need to carefully consider configurations, phasing and infrastructure to respond to the most challenging junctions and increase permeability.
- 7.1.3. Continuous improvement of the street environment and of public places is critical to meet the changing demand and expectations as urban areas grow and diversify. This will rely on good practice, creativity and innovation to develop places that cater for the current and future users.
- 7.1.4. This high-level review of good practice is not intended to replace or serve as a design standards document, nor to repeat the numerous documents that are already available. Rather, it provides a summary of key aspects to consider when designing for cycling and walking.

7.2 CYCLE DESIGN

- 7.2.1. The cycle design principles of the GCWNP follow the LTN 1/20 Cycle Infrastructure Design guidance that was published by the DfT in July 2020¹. LTN 1/20 provides guidance to local authorities on the delivery of high-quality cycle infrastructure from the network planning stage through to construction and maintenance.

CORE DESIGN PRINCIPLES

- 7.2.2. There are five core design principles which represent the essential requirements to achieve more people travelling by foot or cycle for more of their trips. The principles are based on international and UK best practice and are presented in Figure 7-1.
- 7.2.3. The five core design principles will be intrinsic to the network planning and intervention development to ensure the most optimal solutions for bicycle and pedestrian traffic are established.

¹ <https://www.gov.uk/government/publications/cycle-infrastructure-design-ltn-120>

Figure 7-1 – Core design principles for bicycle networks¹

Accessibility for all				
Coherent	Direct	Safe	Comfortable	Attractive
 <p>DO Cycle networks should be planned and designed to allow people to reach their day to day destinations easily, along routes that connect, are simple to navigate and are of a consistently high quality.</p>	 <p>DO Cycle routes should be at least as direct – and preferably more direct – than those available for private motor vehicles.</p>	 <p>DO Not only must cycle infrastructure be safe, it should also be perceived to be safe so that more people feel able to cycle.</p>	 <p>DO Comfortable conditions for cycling require routes with good quality, well-maintained smooth surfaces, adequate width for the volume of users, minimal stopping and starting and avoiding steep gradients.</p>	 <p>DO Cycle infrastructure should help to deliver public spaces that are well designed and finished in attractive materials and be places that people want to spend time using.</p>
 <p>DON'T Neither cyclists or pedestrians benefit from unintuitive arrangements that put cyclists in unexpected places away from the carriageway.</p>	 <p>DON'T This track requires cyclists to give way at each side road. Routes involving extra distance or lots of stopping and starting will result in some cyclists choosing to ride on the main carriageway instead because it is faster and more direct, even if less safe.</p>	 <p>DON'T Space for cycling is important but a narrow advisory cycle lane next to a narrow general traffic lane and guard rail at a busy junction is not an acceptable offer for cyclists.</p>	 <p>DON'T Uncomfortable transitions between on-and off carriageway facilities are best avoided, particularly at locations where conflict with other road users is more likely.</p>	 <p>DON'T Sometimes well-intentioned signs and markings for cycling are not only difficult and uncomfortable to use, but are also unattractive additions to the street scape.</p>

7.3 SUMMARY CYCLE DESIGN PRINCIPLES

7.3.1. Building on the five core design principles presented above, LTN 1/20 highlights 22 summary principles that aim to ensure long term commitment by local authorities to deliver the appropriate cycle infrastructure solutions. The summary principles that are pertinent to the network development and scheme identification stages that form the basis of the GCWNP are presented in Table 7-1.

Table 7-1 – Summary principles to inform the GCWNP

Summary Principles	
Cycle infrastructure should be accessible to everyone from 8 to 80 and beyond: it should be planned and designed for everyone. The opportunity to cycle in our towns and cities should be universal.	Cycle infrastructure should be designed for significant numbers of cyclists, and for non-standard cycles. The Government's aim is that thousands of cyclists a day will use many of these schemes.
Cycles must be treated as vehicles and not as pedestrians. On urban streets, cyclists must be physically separated from pedestrians and should not share space with pedestrians. Where cycle routes cross pavements, a physically segregated track should always be provided. At crossings and junctions, cyclists should not share the space used by pedestrians but should be provided with a separate parallel route.	Consideration of the opportunities to improve provision for cycling will be an expectation of any future local highway schemes funded by Government.
Cyclists must be physically separated and protected from high volume motor traffic, both at junctions and on the stretches of road between them.	Largely cosmetic interventions which bring few or no benefits for cycling or walking will not be funded from any cycling or walking budget.
Side street routes, if closed to through traffic to avoid rat-running, can be an alternative to segregated facilities or closures on main roads – but only if they are truly direct.	Cycle infrastructure must join together, or join other facilities together by taking a holistic, connected network approach which recognises the importance of nodes, links and areas that are good for cycling.
Cycle parking must be included in substantial schemes, particularly in city centres, trip generators and (securely) in areas with flats where people cannot store their bikes at home. Parking should be provided in sufficient amounts at the places where people actually want to go.	The simplest, cheapest interventions can be the most effective.
Schemes must be legible and understandable.	Cycle routes must flow, feeling direct and logical.

7.3.2. The principles in the table will be taken into account when considering the network planning and the development of interventions. Checking the proposals against these principles will ensure that Lincolnshire is well placed to capitalise on funding opportunities by having a compliant network plan and interventions.

7.4 WALKING INFRASTRUCTURE

7.4.1. This walking infrastructure good practice review is based upon the expertise of the consultancy team and the following documents:

- The Planning for Walking Toolkit (TfL, 2020)
- Creating better streets: Inclusive and accessible places – Review shared space (CIHT, 2018);
- Streetscape Guidance (Transport for London, 2016);
- Designing for Walking (CIHT, 2015);
- Planning for Walking (CIHT, 2015);
- Design Guidance: Active Travel (Wales) Act 2013 (Welsh Government, 2014);
- Local Transport Note 1/12: Shared Use Routes for Pedestrians and Cyclists (Department for Transport, 2012);
- Manual for Streets 2 (CIHT, 2010); and
- Providing for Journeys on Foot (CIHT, 2000)

DESIGN PRINCIPLES

7.4.2. TfL’s Planning for Walking Toolkit highlights seven key walking design principles that focus on the needs of all pedestrians. These key principles can be seen in Table 7-2.

Table 7-2 - Walking Infrastructure Key Principles

Walking Infrastructure Key Principles	
Safe	The public realm should be safe to use at all times of day and for people to feel safe to spend time in
Inclusive	All walking environments should adhere to the principles of inclusive design by ensuring that they are accessible to, and usable by, as many people as reasonably possible without the need for special adaptation or specialised design
Comfortable	Designated walking areas should allow unhindered movement for pedestrians by providing sufficient space
Direct	Facilities should be consistent and easy to understand for all pedestrians to know intuitively how to navigate within a space
Legible	Features should be consistent and easy to understand for all pedestrians to know intuitively how to navigate within a space
Connected	Walking networks should have a high density of route options to suit pedestrians’ needs
Attractive	Walking environments should be inviting for pedestrians to pass through or spend time in

Adapted from The Planning for Walking Toolkit, TfL (2020)

7.4.3. The following provide further detail on these walking infrastructure key principles. TfL state that all planners and designers of street environments should seek to understand the role of inclusive design for creating streets and places that everyone can use.

Safe

- 7.4.4. Reducing driving speeds is the single most influential determinant for a collision occurring as well as the severity of the collision. Therefore, reducing motor vehicle flow and speed is of primary concern for improving the safety for people walking. Collision analysis and Road Safety Audits should be carried out when designing improvements. Addressing trip hazards is also an important safety factor.
- 7.4.5. Personal safety is also a factor when choosing to walk. This includes physical risk and psychological perception of experiencing a crime. To tackle these concerns, it is important that designers suitably address lighting and natural surveillance, paying particular attention to avoiding hidden corners and assessing the extent of natural surveillance from windows and balconies.

Inclusive

- 7.4.6. New designs need to meet the obligations under the Equality Act 2010 and all projects should have an Equality Impact Assessment (EqIA) undertaken. There are a range of issues that can negatively impact on people protected by the Equality Act in relation to walking. These include:
- Narrow footways with pinch points
 - Insufficient time allocated on crossings
 - Overcrowding
 - Cobbled street surfacing
 - Overly steep gradients to dropped kerbs and other kerb issues including visibility
 - Street clutter including 'A' boards
 - Limited seating
 - Poor lighting

Comfortable

- 7.4.7. Within the walking context, comfort refers primarily to spatial considerations, including footway and footpath width relative to the pedestrian demand. There are other environmental factors to consider, including temperature and wind exposure, and noise and air pollution. Further detail is provided on widths within Pedestrian Environment below.

Direct

- 7.4.8. Direct movements for pedestrians supports and enables walking trips. Pedestrians tend to favour direct routes without deviation, changes in grade or long waiting times at traffic signals. Desire lines should be catered for and where they are not, for example where a visibly muddy path is made through a park, these should be addressed. Accommodating pedestrian desire lines may be achieved through the following interventions:
- Introducing or relocating controlled crossing points
 - Replacing subways with at-grade crossings
 - Traffic calming to better cater for informal crossing movements
 - Formalising a footpath with new surfacing

Legible

- 7.4.9. Legibility in walking relates to the ease in which walking trips can be completed through navigation and consistency of wayfinding features. Features that ensure legibility include:

- Street furniture arranged in a manner that supports pedestrian movement
- Use of consistent materials and signage
- Ensuring suitable lighting of facilities
- Placing wayfinding signs at key decision points

Connected

7.4.10. Connectivity refers to the ability of the pedestrian network to provide movements to multiple destinations. Here severance features are important to be overcome to enable this movement. To improve connectivity, the following should be sought:

- Coherently connecting urban areas together with streets and spaces and varying use, important, character and size
- Controlled crossings that are convenient
- A fine-grained pedestrian network with a range of alternative routes
- Effective integration with other modes

Attractive

7.4.11. Attractiveness, although subjective can be achieved through consistency of materials and an appreciation of the environment in which the design sits. Maintenance and minimising visual clutter are also key attractiveness considerations. Public art could be a consideration where there is an ambition to enliven a street or space.

PEDESTRIAN ENVIRONMENT

7.4.12. Providing a comfortable and attractive environment for pedestrians encompasses a variety of aspects, including high-quality pavements, attractive landscapes and buildings and as much freedom as possible from the noise, fumes and harassment of vehicles. In addition, opportunities for rest and shelter should also be provided.

Streetscape

7.4.13. Street furniture, signage and other street activity act as obstructions to pedestrians and can be a hazard to people with mobility or visual impairments. Therefore, to increase the effective width of footways and improve safety, it is often preferable to remove these items, or create a furniture zone where street furniture is coordinated in a consistent arrangement out of the main pedestrian flow to maximise the unobstructed width of the footway.

7.4.14. Personal security is important for a walking route to be attractive, and therefore lighting should be provided where there is sufficient pedestrian demand through the night. In addition, where possible, developments should be designed with natural surveillance, whereby buildings overlook pedestrian paths, to improve perceptions of personal security. This is also likely to deter antisocial behaviour and thereby provide a more attractive environment for pedestrians.

Footway Capacity and Comfort

7.4.15. Footways should be designed with sufficient usable width to safely cater for all anticipated pedestrian activity, and this is important so that the footway capacity is not exceeded, which could result in users being forced onto the carriageway. Therefore, the appropriate width will depend on the existing and expected usage at each specific location. The absolute minimum footway width is 1.8m, to provide sufficient width for wheelchairs / mobility scooters, however the desirable minimum width is 2.0m. Nevertheless, where there is street furniture and various footway activities, such as

street traders or queues at bus stops, the usable space is significantly reduced, and this is referred to as the effective width of the footway. The recommended footway widths are summarised within Table 7-3.

Table 7-3 – Footway Widths

	Width
Absolute minimum width	1.8m
Desirable minimum width	2.0m
Preferred width (especially adjacent to high-speed roads)	2.6m

Designing for Walking (CIHT, 2015)

- 7.4.16. It is not suggested within Designing for Walking (CIHT, 2015) that footways with widths less than 1.8m should never be provided, as existing narrow footways do provide a level of pedestrian amenity. A 1.5m footway may be better than no footway at all – the minimum will be dictated by site specific criteria, such as pedestrian flow and composition, and vehicle flow and speed.
- 7.4.17. Footway surfacing should be from durable materials, which provide good surface regularity, grip, and drain easily. To ensure good drainage of footways, a gentle crossfall should be provided, however it is important that the gradient is carefully designed to consider pedestrians with mobility impairments. Likewise, pedestrian ramps should generally not exceed a gradient of 1 in 20.

Wayfinding

- 7.4.18. Pedestrians are helped if walking routes are well signed and show the distances and/or times to useful destinations. Maps showing walking routes are valuable, particularly in places frequented by tourists. Consideration should also be given to using landmarks, bus stops, surfacing details, tactile paving and mobile phone applications to assist people with navigating the urban environment on foot.

Figure 7-2 - Examples of Wayfinding Signage (Source: Streetscape Guidance, TfL 2016)



Complementary Measures

- 7.4.19. Although not specifically designed as infrastructure walking, traffic calming measures, 20mph limits and zones along with the filtering out of through-traffic from residential and local streets can have a significant impact on making places more walkable. These measures can contribute to a reduction in the number and severity of pedestrian casualties and improve subjective safety by reducing traffic intimidation. They also shift the priorities in streets in favour of pedestrians, improving the sense of place and thereby increase the attractiveness of the walking route.
- 7.4.20. Cycle schemes can often have a positive impact on walking, for example where segregated cycle tracks provide a buffer between general traffic, as this reduces exposure to local air and noise pollution. Cycling and walking are both activities that enjoy low traffic flows and speeds, so any measures to reduce these are beneficial to both cycling and walking.

Maintenance

- 7.4.21. Access for maintenance should be a key consideration in the design of walking infrastructure. Trees and other vegetation should be trimmed to keep footways and sight lines clear. When specifying materials for walking infrastructure, any special or enhanced maintenance requirements as a result of the scheme should be considered.

PROVISION FOR PEDESTRIANS

Shared Space Schemes

- 7.4.22. The basic principle of shared space environments is to provide more equitable priority for all street users in areas with reduced physical segregation and formal control. The aim is to balance the 'movement' and 'place' functions of streets where there is a local aspiration to improve the street environment for non-motorised users. There are however issues with respect to inclusive mobility

and accessibility in shared space because of the lack of designated areas². Figure 7-3 shows a Shared Space area example with seating and dwell areas provided close to where vehicle can pass.

Figure 7-3 - Shared Space Area Example (Source: Shared Streets, CIHT 2018)



7.4.23. There is a range of street designs that sit on the scale of shared space. These were defined by CIHT in 2018 to clarify issues with shared space design, as follows:

- Pedestrian Prioritised Streets - Streets where pedestrians feel that they can move freely anywhere and where drivers should feel they are a guest (e.g. Leonard Circus). Under current legislation, this does not give formal priority to pedestrians.
- Informal Streets - Streets where formal traffic controls (signs, markings and signals) are absent or reduced. There is a footway and carriageway, but the differentiation between them is typically less than in a conventional street (e.g. Poynton).
- Enhanced Streets - Streets where the public realm has been improved and restrictions on pedestrian movement (e.g., guardrail) have been removed but conventional traffic controls largely remain (e.g. Walworth Road).

Narrowing of Carriageway

7.4.24. Street width also influences speed, narrowing of the carriageway can help reduce vehicle speeds. It is therefore a useful intervention which is applicable and useful in the creation of Cycle Streets but also of benefit to walking, as reducing the allocated carriageway also creates shorter crossing

² Such issues were highlighted in the recent CIHT (2018) document “Creating Better Streets: Inclusive and Accessible Places” which called for the review of the ‘shared space’ concept, proposing the adoption of the terms ‘Pedestrian Prioritised Streets’, ‘Informal Streets’ and ‘Enhanced Streets’. In light of the CIHT report, and following publication of the “Inclusive Transport Strategy: Achieving Equal Access for Disabled People” (DfT, 2018) and the Ministry for Housing, Communities and Local Government’s National Planning Policy Framework refresh, the DfT have called for a pause on the introduction of new shared space schemes as they update relevant design guidance. The pause relates to those shared space schemes that feature a level surface in areas with relatively large amounts of pedestrian and vehicular movement, such as high streets and town centres (outside of pedestrian zones). The pause does not apply to streets within new residential areas or the redesign of existing residential streets with very low levels of vehicular traffic, such as appropriately designed mews or cul-de-sacs.

distances. A continuous link can be broken up by introducing physical features along it to slow traffic using rumble devices, kerb build outs or positioning of planters and trees.

- 7.4.25. One-way streets with inset parking bays are an effective example of how this can be achieved. An example is given in Figure 7-4. Parking is formalised within allocated areas with consistent kerb build outs, giving pedestrians clearer sightlines of oncoming traffic and shorter distances to cross, allowing for safer crossing points.

Figure 7-4 - Narrowing of the carriageway with inset parking bays



Catering for Pedestrian Desire Lines

- 7.4.26. Pedestrian routes need to be direct and match desire lines as closely as possible.
- 7.4.27. Guardrails are installed to restrict the movement of pedestrians; most frequently where pedestrian desire lines cannot be accommodated or are deemed unsafe. However, they are visually and physically intrusive, reduce the width of available footway and can create direct and indirect safety issues, such as pedestrians choosing to walk on road-side of the guardrail. Therefore, they are useful in limited circumstances and good practice is to only use guardrails at locations where there is a real risk of pedestrians being hit by traffic should they walk onto the carriageway.

Shared Use Routes

- 7.4.28. Shared use routes are designed to accommodate the movement of pedestrians and cyclists and are generally implemented to improve conditions for cycle users, often simply converting existing footways into shared use. However, where pedestrian and/or cycle flows are likely to be very high, shared use routes are generally not appropriate, and instead there is a general preference for on-carriageway provision for cycle users.
- 7.4.29. Shared use routes may be segregated or unsegregated. A segregated route is one where pedestrians and cycle users are separated by a feature such as a white line, a kerb or some other feature. On an unsegregated route, pedestrians and cycle users mix freely and share the full width of the route. The width of the route depends on whether or not it is segregated, and the user flows in both directions. Figure 7-5 shows a segregated shared user route example.

Figure 7-5 - Segregated Shared User Route Example (Source: Shared Use Routes for Pedestrians and Cyclists, 2012)



At-Grade Crossings

- 7.4.30. To assist pedestrians at road crossings, especially those with mobility or visual impairments, there should be either dropped kerbs or the carriageway should be raised to the level of the footway, with flat-topped road humps. Tactile paving should be provided at the crossing points for visually impaired people to distinguish the footway edge. Figure 7-6 shows a crossing with tactile paving.

Figure 7-6 - Tactile Paving at a Controlled Crossing (Source: CIHT Designing for Walking, 2015)



- 7.4.31. To reduce the crossing width, a kerb build-out can be provided, whereby an area of footway is built out into the carriageway. This can improve pedestrian visibility and depending on the design, lead to reduction in traffic speed, enhancing safety of the crossing.

Uncontrolled Crossings

- 7.4.32. Providing dropped kerbs and tactile paving constitutes the most basic uncontrolled crossing, and where the carriageway is wide or traffic flows are higher, refuges can be used to help people cross in two stages. Pedestrian refuges as shown in Figure 7-7 should be 2m-wide to accommodate those using wheelchairs, mobility scooters or pushchairs.

Figure 7-7 - Uncontrolled Crossing with Refuge (Source: CIHT Designing for Walking, 2015)



Side Road Entry Treatments

- 7.4.33. This involves raising and narrowing the mouth of the junction to make it easier and safer for pedestrians to cross the minor arm by reducing speeds of turning vehicles, shortening the length of

the crossing and providing a level route. The side road entry treatment also encourages drivers to give way to pedestrians who are already crossing the road.

- 7.4.34. Side road entry treatment may also involve a continuous footway so that the pedestrian has priority. An example of this can be seen in Figure 7-8.

Figure 7-8 - Continuous Footway (Bromells Road, Clapham) (Source: CIHT Designing for Walking, 2015)



Controlled Crossings

- 7.4.35. Zebra crossings provide priority for pedestrians over traffic and are suitable only where traffic and/or pedestrian flows are relatively low, and there are slow traffic speeds.
- 7.4.36. Signal-controlled crossings provide a time-based separation between pedestrians and traffic to allow for road crossing. They include the following types:
- Pelican – pedestrian-only crossing that uses far-side pedestrian signals and has an overlapping flashing green figure / flashing amber phase for pedestrians and vehicles respectively.
 - Puffin – pedestrian-only crossing that uses near-side pedestrian signals. The steady green “invitation-to-cross” phase is followed by an all-red period which can be extended on demand from kerbside and on-crossing detectors.
 - Toucan – usable by both pedestrians and cyclists, and generally follow puffin detection principles.
- 7.4.37. A good example of a Toucan crossing in Lincoln can be seen in Figure 7-9.

Figure 7-9 - Lincoln East West Link Road Toucan Crossing



Image capture: Sep 2017 © 2019 Google

Grade-separated

7.4.38. Grade-separated crossings include footbridges and underpasses, and they have traditionally been used where people are at high risk when crossing roads with fast and heavy traffic flows. They ensure that people are physically safe from traffic and do not affect traffic capacity. However, they can create problems of personal safety and result in longer, more inconvenient pedestrian routes that involve stairs and ramps, as well as routes with poor natural surveillance. Figure 7-10 demonstrates when footbridge design can present an unattractive, circuitous route for pedestrians.

Figure 7-10 – Footbridge (Source: CIHT Designing for Walking, 2015)



7.5 SUMMARY OF CYCLE AND WALKING INFRASTRUCTURE – GOOD PRACTICE

7.5.1. A summary of the good practice for cycle infrastructure which is translated into route interventions in Section 8 can be seen in Table 7-4.

Table 7-4 – Cycle Infrastructure Good Practice - Summary

Type of Infrastructure	Good Practice	
Link	Segregation	Off-road cycle track, on-road with full segregation, hybrid segregation or light segregation, bus stop bypasses and cycle lanes
	Sharing with other modes – Cycle Streets	Speed restrictions, formalised parking, centre-line removal, visual narrowing, kerb build outs, filtered permeability, contra-flow, humps
Junction	Signalised junctions	Dedicated cycle signals, early release signal, hold the left turn, two-stage right turn, cycle bypass
	Priority junctions and side roads	Junction tightening, cycle track markings
	Roundabouts	Compact roundabouts, dutch-style roundabouts
Crossing	Signalised	Parallel cycling and walking signalised crossings
	Uncontrolled	Zebras with parallel cycle crossing
	Grade separation	Cycling and walking bridges or underpasses with gentle gradient

7.5.2. A summary of the good practice for walking infrastructure which is translated into route interventions in Section 8 can be seen in Table 7-5.

Table 7-5 – Walking Infrastructure Good Practice - Summary

Type of Infrastructure	Good Practice
Link	Widths – see Table 7-3
	Pedestrian prioritised streets
	Informal streets
	Enhanced streets
	Wayfinding
	Complementary measures, e.g. traffic calming, cycle streets, removal of guard rail and street clutter and speed restrictions
Side Road	Continuous footways
Controlled Crossing	Pelican, puffin, toucan and zebra crossings
Uncontrolled Crossing	Dropped kerbs, tactile paving and wide kerbed refuges where required
Grade-separated Crossing	Convenient, attractive, gradual gradient bridges

8 CYCLING AND WALKING INFRASTRUCTURE – PRIORITY ROUTES

8.1 INTRODUCTION

8.1.1. This section outlines the proposed cycling and walking infrastructure options that have been identified for the priority cycling and walking routes. The priority cycling and walking routes were confirmed with LCC following the internal and external workshops and can be seen in Figure 8-1, Figure 8-2 and Figure 8-3.

Figure 8-1 - Proposed Gainsborough Cycle Network

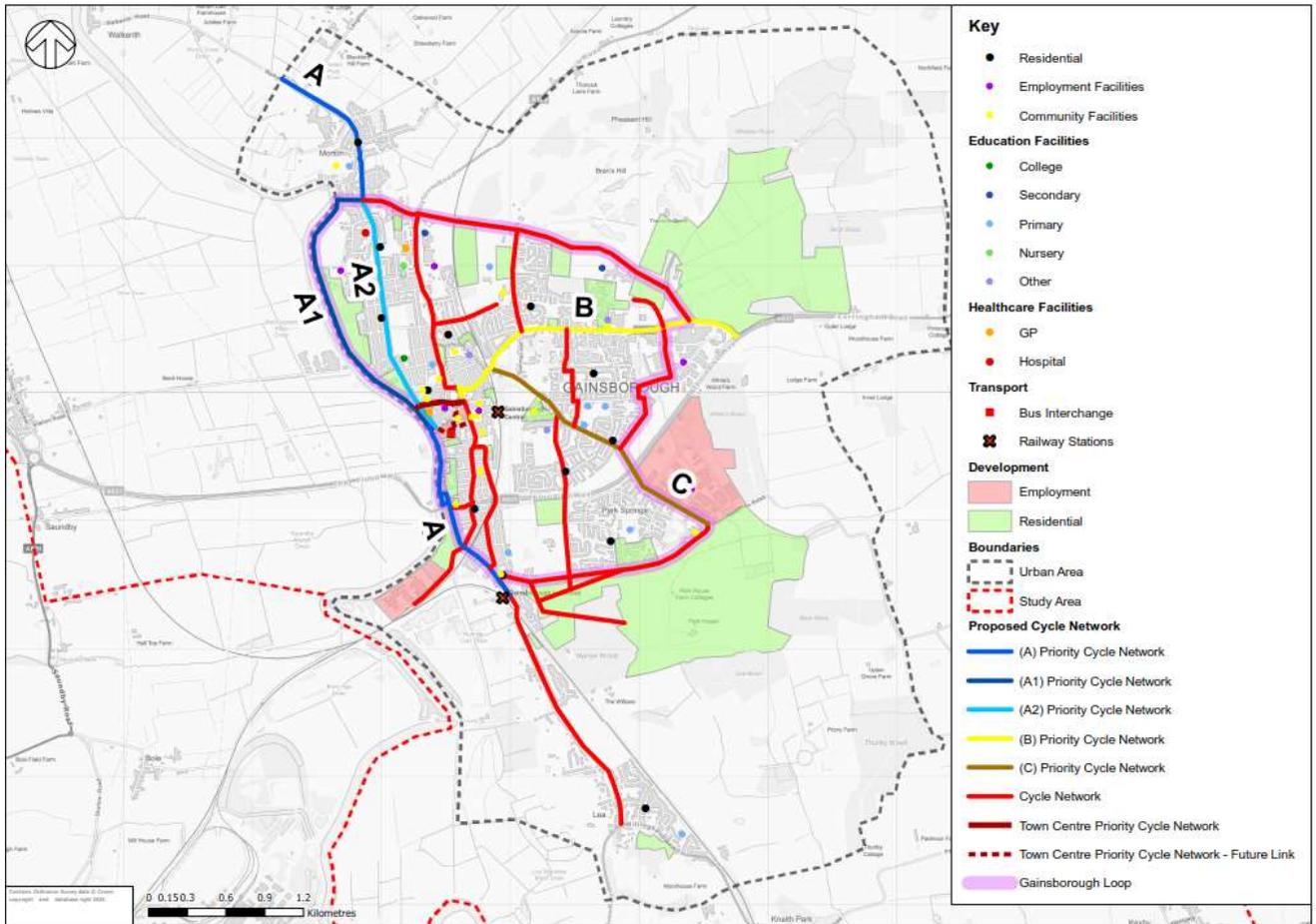


Figure 8-2 - Proposed Gainsborough Cycle Network - Town Centre

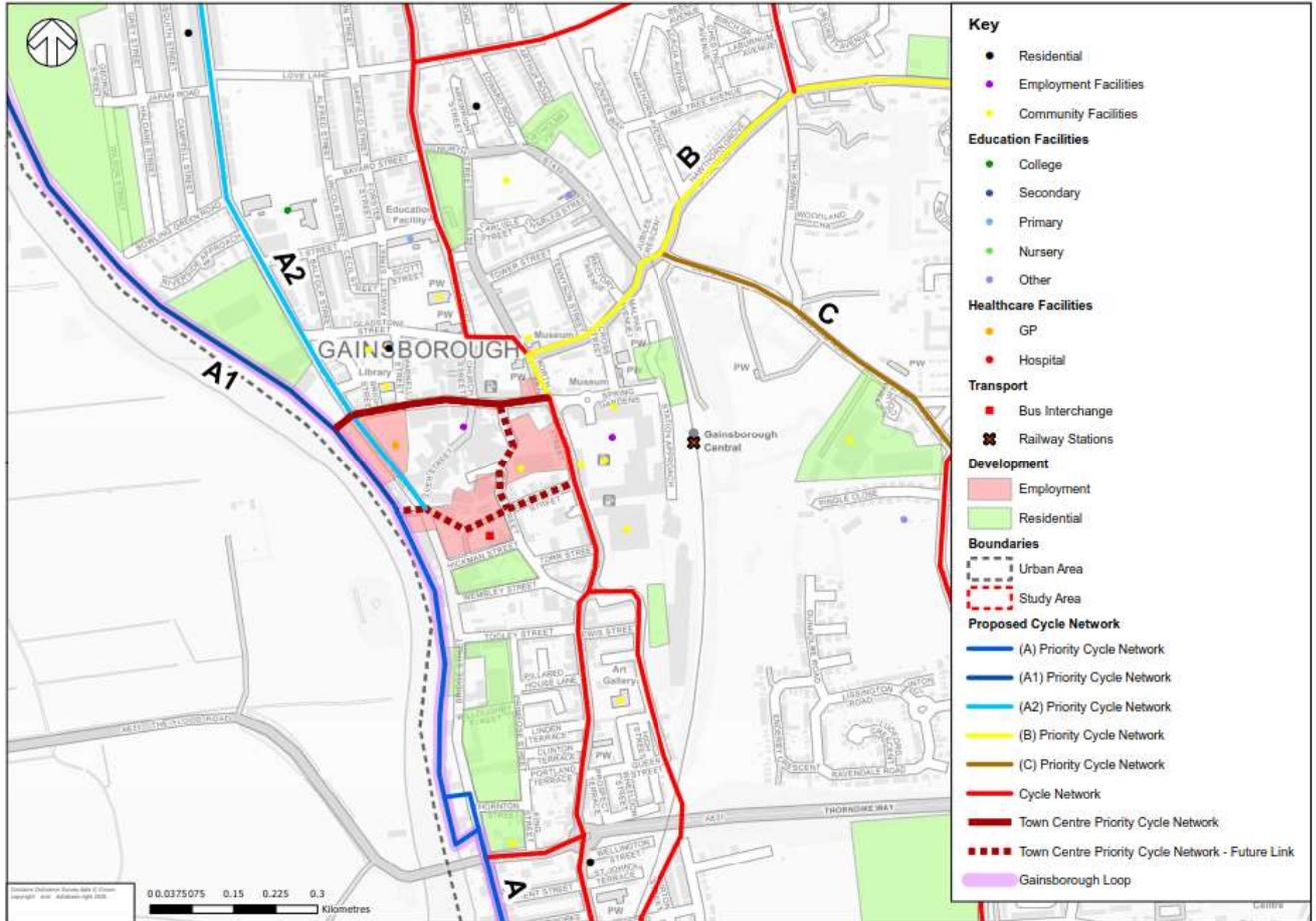
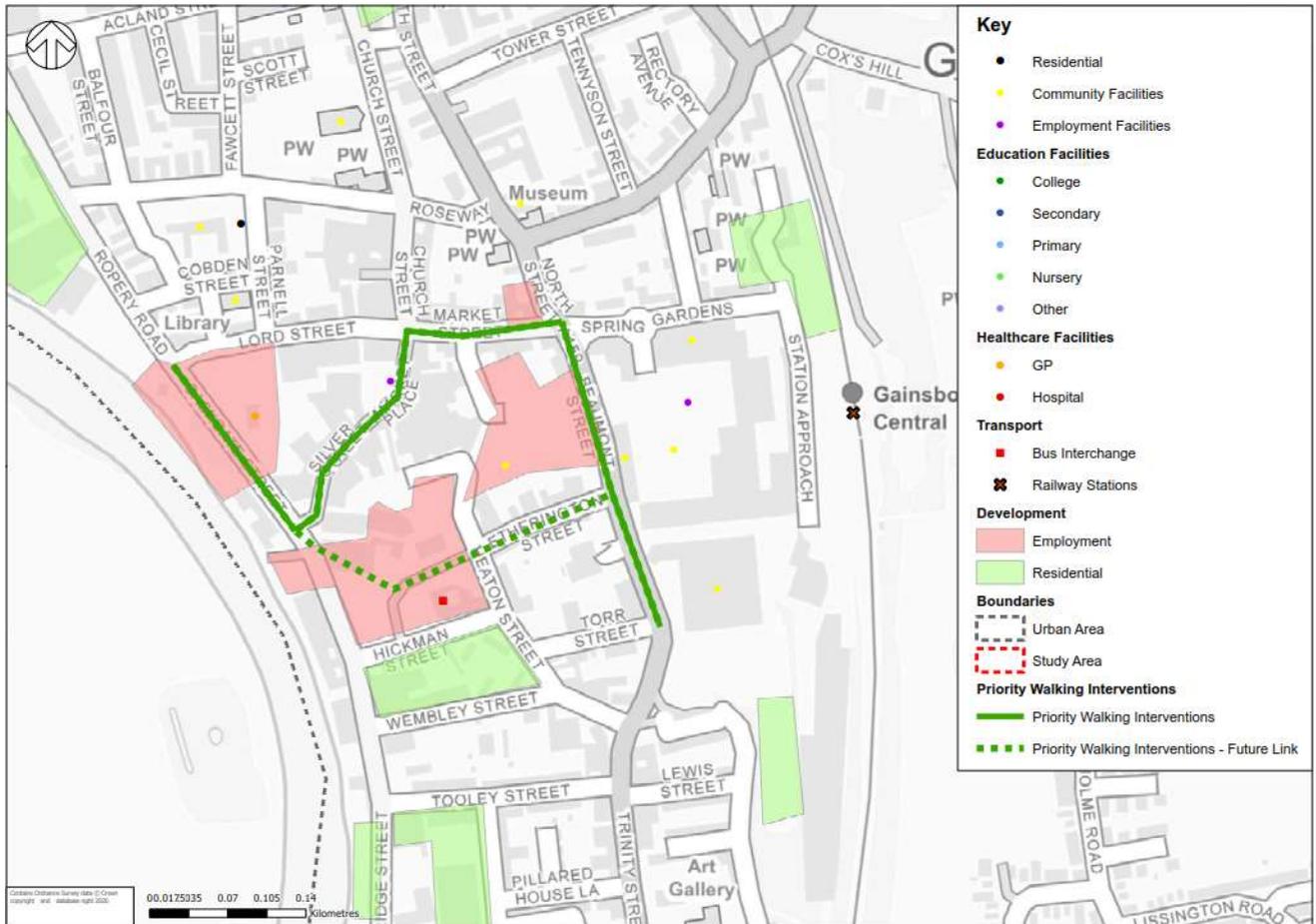


Figure 8-3 - Proposed Gainsborough Walking Interventions Route



8.1.2. The development of the cycling and walking infrastructure options was informed by the following:

- LCWIP guidance and tools.
- Analysis of existing census and travel data.
- Engagement with internal and external stakeholders via the internal and external workshops.
- Site visit – To provide an understanding of the current situation and an initial assessment of potential interventions.
- Guidance – Several published guidance documents were used to inform the option generation design process while taking into account understanding of the local conditions in the study area.
- Good practice – In addition to the guidance documents (which included good practice examples) the option generation drew on wider good practice from across the UK and Europe, including schemes that WSP have been directly involved in delivering.

8.1.3. This section also outlines the indicative costs of cycling infrastructure provided within the LCWIP Technical Guidance.

8.2 CYCLE INFRASTRUCTURE COSTINGS

8.2.1. The LCWIP Technical Guidance for Local Authorities provides indicative costs for cycling infrastructure that can be applied to the priority cycle routes. The indicative costing can be seen in Table 8-1. It should be noted that the costs applied are at 2014-15 prices.

Table 8-1 – Indicative Costs of Cycling Infrastructure at 2014-15 Prices

Scheme Type	Range of costs	Comments
Cycle Superhighway	£1.15-1.45m/km £0.74m/km	Two-way physically segregated Two-way lightly segregated
Mixed Strategic Cycle Route	£0.46-0.88m/km	
Resurfaced cycle route	£0.14-0.19m/km	Canalside routes
Cycle bridge	£0.10-0.50m	Bridge upgrades not whole new bridges
20 mph zone	£10,000-15,000/km £2,000-3,000/km	Including traffic calming measures Without any traffic calming measures
Remodelled major junction	£1.56-1.61m £0.24m	Cycling-specific schemes Cycling piggybacking on traffic measures
Cycle crossing at major road	£0.14-0.41m	
Area-wide workplace cycle facilities	£0.20-0.75m £6,000-7,000	Programme cost Cost per workplace grant
Area-wide school and college cycle facilities	£0.22-1.16m £8,000-110,000	Programme cost Cost per school
Large-scale cycle parking	£2.5m £0.12-0.70m	For a very large bike park For 3,000 bikes for secure bike parks for 10-1000+ bikes, including changing and showers at the largest
Large-scale provision of bicycles	£1.41m £350	Programme cost Cost per bike provided
Comprehensive cycle route signage	£6,000/km	
Automatic cycle counters	£28,000 £6,000	Programme cost for one cross-city route Cost per counter

Source: LCWIP Technical Guidance for Local Authorities (2017)

8.3 PRIORITY CYCLE ROUTE INFRASTRUCTURE OPTIONS

- 8.3.1. The confirmed priority cycling routes to be developed within this project (seen in Figure 8-1) were as follows:
- A. Gainsborough Lea Road rail station to Morton
 - B. Gainsborough town centre to Corringham Road Industrial Estate via Corringham Road
 - C. Heapham Road Industrial Estate to Cox's Hill / B1433 Spital Hill junction via Heapham Road
- 8.3.2. In addition to these routes, infrastructure options are provided for a cross town centre route, connecting routes A and B via Market Street and Lord Street.
- 8.3.3. The cycling and walking infrastructure options suggested for these priority routes including the cross town centre route are shown in Table 8-2 to Table 8-5.
- 8.3.4. 20mph speed limits are recommended as default in all options (both short-term and long-term) in order to increase safety and comfort of cycling and walking.
- 8.3.5. The tables are presented with the following headings:
- Reference – Intervention reference which links to the associated plan to display the location
 - Location – description of the location
 - Link/Junction – whether the intervention is a link or junction
 - Section length – in km
 - AAWT – the Annual Average Weekday Traffic (AAWT). This data was collected from the ATCs in Gainsborough, where available. Where ATCs were not available, estimated AAWT values are provided using peak hour flows from the GTM output and converting these to AAWT flows using a conversion factor³. Where the link includes more than one AAWT figure, the maximum is used.
 - Current Speed Limit – the existing speed limit in mph
 - Short Term – Short-term infrastructure option for the link or junction
 - Description of the short-term intervention
 - Comments – Relevant notes, limitations and assumptions
 - Long Term – Long-term infrastructure option for the link or junction
 - Description of the intervention
 - Comments – Relevant notes, limitations and assumptions
- 8.3.6. Figure 8-4 Figure 8-7 show the accompanying intervention references in relation to Table 8-2 to Table 8-5.

³ The conversion factor applied is a ratio of peak hour flows to AAWT from nearby ATC data (AM Peak Flow + PM Peak Flow) / AAWT) to peak hour flows was based on nearby ATC data.

Figure 8-4 - Priority Route A - Intervention References

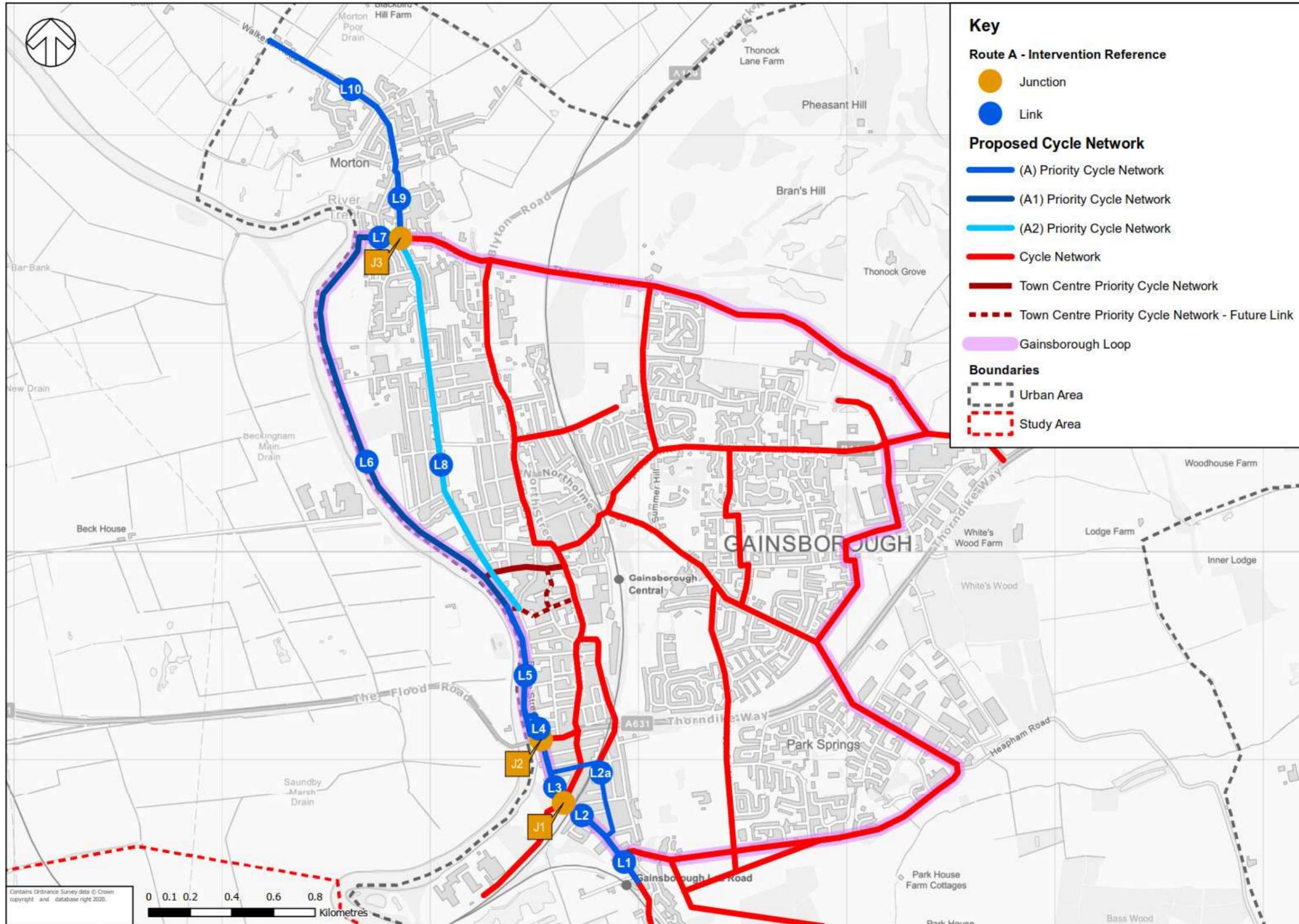


Table 8-2 - Route A – Priority Cycling and Walking Route Infrastructure Options

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
L1	A156 Lea Road between Gainsborough Lea Road Station and Shakespeare Road	Link	0.3km	14360	30mph	<ul style="list-style-type: none"> Light segregation of one-way cycle lane Relocate and upgrade existing puffin crossing to toucan crossing to rail station 	<ul style="list-style-type: none"> Relocate existing crossing or provide additional crossing May require additional station access to accommodate shared use area and marked pedestrian route to rail station entrance 	<ul style="list-style-type: none"> Extend footway and provide two-way cycle track with level difference from footway Parallel cycling and walking or toucan crossing at rail station 	<ul style="list-style-type: none"> May require additional station access to accommodate shared use area and marked pedestrian route to rail station entrance
L2	A156 Lea Road between Shakespeare Street and Ashcroft Road roundabout	Link	0.3km	14360	30mph	<ul style="list-style-type: none"> See L2a which provides a back route, as there are limited options for short-term infrastructure on the A156 along this section. 		<ul style="list-style-type: none"> Removal of trees and on-street parking to provide segregated cycle track. Crossing at Waterworks Street and shared use footpath on west side 	
L2a	Shakespeare Street, Drake Street, Gordon Street, Strafford Street, between Shakespeare Street / A156 and Strafford Street / A156 Lea Road	Link	0.7km	699	30mph	<ul style="list-style-type: none"> Cycle markings Build outs for crossings At the A156 Ashcroft Road / Strafford Street junction, provide a continuous footway or a raised side street entry to slow traffic and prioritise cycle and walking movements 	<ul style="list-style-type: none"> This route would be an addition to the proposed cycle network As well as avoiding a section of the constrained L2, this route would also avoid J1 The provision of a one-way system on Waterworks Street with contraflow cycling would provide an alternative to the narrow section of Strafford Street. This would allow greater space for cycling on this street. 	<ul style="list-style-type: none"> See L2 	
J1	Ashcroft Road/ Lea Road Roundabout	Junction				<ul style="list-style-type: none"> See L2a which provides a back route, as there are limited options for short-term cycle infrastructure on the A156 along this section. 		<ul style="list-style-type: none"> Extend kerbs on Ashcroft Road arm and provide signalised cycling and walking parallel crossing serving two-way cycle track 	
L3	A156 Lea Road between Ashcroft Road and The Flood Road	Link	0.3km	6856	30mph	<ul style="list-style-type: none"> Limited options available due to constrained highway Large cycle markings could assist in highlighting presence of cycles, alongside 20mph speed limit as already outlined as applicable to all options. Provide additional pedestrian crossings where required 		<ul style="list-style-type: none"> Remove on-street parking on east side of road and provide two-way segregated cycle track Provide additional pedestrian crossings where required 	
J2	Bridge Road / A156 Lea Road/ The Flood Road Junction	Junction				<ul style="list-style-type: none"> Provision of Advanced Stop Lines and feeder cycle lanes where space allows 	<ul style="list-style-type: none"> On two arms, this will require reducing the lead-in lanes from two to one 	<ul style="list-style-type: none"> Toucan crossing on Lea Road arm for connectivity from two-way cycle track to below parallel cycling and walking crossing Parallel cycling and walking crossing on The Flood Road arm. Diagonal crossing provision will allow cyclists from the Riverside Walk to join the A156 Lea Road travelling southbound. 	<ul style="list-style-type: none"> May require removal of right turn pocket or ban left turn movement from Lea Road to The Flood Road The crossing would require an all-red stage for motor vehicles

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
L4	Bridge Street between The Flood Road and Riverside Walk	Link	0.2km	9523	30mph	<ul style="list-style-type: none"> Provision of shared use path between Bridge Street and Riverside Walk 		<ul style="list-style-type: none"> Segregated cycle track link to Riverside Walk with formalised cycling and walking route between Bridge Street and Riverside Walk 	
L5	Riverside Walk between Thornton Street and Silver Street	Link	0.6km			<ul style="list-style-type: none"> Maintenance of lighting and signing 		<ul style="list-style-type: none"> Placemaking and public realm improvements with better town centre linkages 	
A1 – L6	Riverside Walk between Silver Street and Floss Mill Lane	Link	2.2km			<ul style="list-style-type: none"> No short-term options available on this section – see A2 – L8 as an alternative route. 		<ul style="list-style-type: none"> Reinstatement of riverside path beside industrial site Widen path and provide separated cycle track Provide lighting 	
A1 – L7	Floss Mill Lane / Front Street between Riverside Walk and Dog and Duck Lane / Roperly Road	Link	0.2km	5903	30mph	<ul style="list-style-type: none"> Provide cycle markings on carriageway 		<ul style="list-style-type: none"> On the traffic free section, widen existing shared use path to accommodate separate pedestrian and cycle track facilities. Separation should be via a level difference. Provide cycle markings on carriageway with visual narrowing on Front Street 	
A2 – L8	Roperly Road / Caskgate Street between Front Street and Silver Street	Link	1.9km	8966	30mph	<ul style="list-style-type: none"> Build outs providing crossings and to slow traffic 		<ul style="list-style-type: none"> Removal of on-street parking and provision of hybrid cycle track. Where width is not available for cycle track, particularly on and near Caskgate Street, provide visual narrowing as an alternative with cycle markings Zebra crossings and informal crossings 	<ul style="list-style-type: none"> Hybrid cycle track in response to width restriction and use of driveways – allowing flexible use of kerbside
J3	Roperly Road / Front Street / Dog and Duck Lane Junction	Junction				<ul style="list-style-type: none"> Use paint to provide hatched kerb build outs on Roperly Road arm 		<ul style="list-style-type: none"> Kerb build outs on Roperly Road arm to tighten junction and slow speeds Provide pedestrian crossing on Roperly Road arm of junction – consider zebra 	
L9	Dog and Duck Lane / Walkerith Road between Dog and Duck Lane / Roperly Road and Walkerith Road / Crooked Billet Street	Link	0.3km	553	30mph	<ul style="list-style-type: none"> Make two-way for cycling with a cycle contraflow on Dog and Duck Lane 		<ul style="list-style-type: none"> Make two-way for cycling with a cycle contraflow on Dog and Duck Lane Widen and provide footway where possible and remove on-street parking at width constrained locations Due to constrained width and low motor vehicle flows, consider a Home Zone for this section where motor vehicles share the space on equal terms with cycling and walking At entry to Walkerith Road, provide kerb build out and raised entry. Pavement should be widened on 	<ul style="list-style-type: none"> Consider relocating removed on-street parking to off-street

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
								Crooked Billet Street to serve pedestrian crossing	
L10	Walkerith Road between Crooked Billet Street and Urban Area boundary	Link	0.9km	2978	30mph	<ul style="list-style-type: none"> With a speed limit of 20mph, it would be acceptable for cycle traffic to mix with motor traffic if the AAWT is less than 5,000 If the speed limit remains at 30mph, then cycle lanes or light segregation are required, however kerb realignment would be required to achieve this 	<ul style="list-style-type: none"> With cycle lanes, it would be recommended to remove the centreline to reduce traffic speeds 	<ul style="list-style-type: none"> With a speed limit of 20mph, it would be acceptable for cycle traffic to mix with motor traffic if the AAWT is less than 5,000 Remove centreline and provide visual narrowing with cycle markings so that the street design encourages low motor traffic speeds Provide kerb build outs at side roads with dropped kerbs and tactile paving where required to better accommodate pedestrian crossings at side roads. Continuous footways at side roads would be best practice 	<ul style="list-style-type: none"> Grange Park provides a good example of a continuous footway

Figure 8-5 - Priority Route B - Intervention References

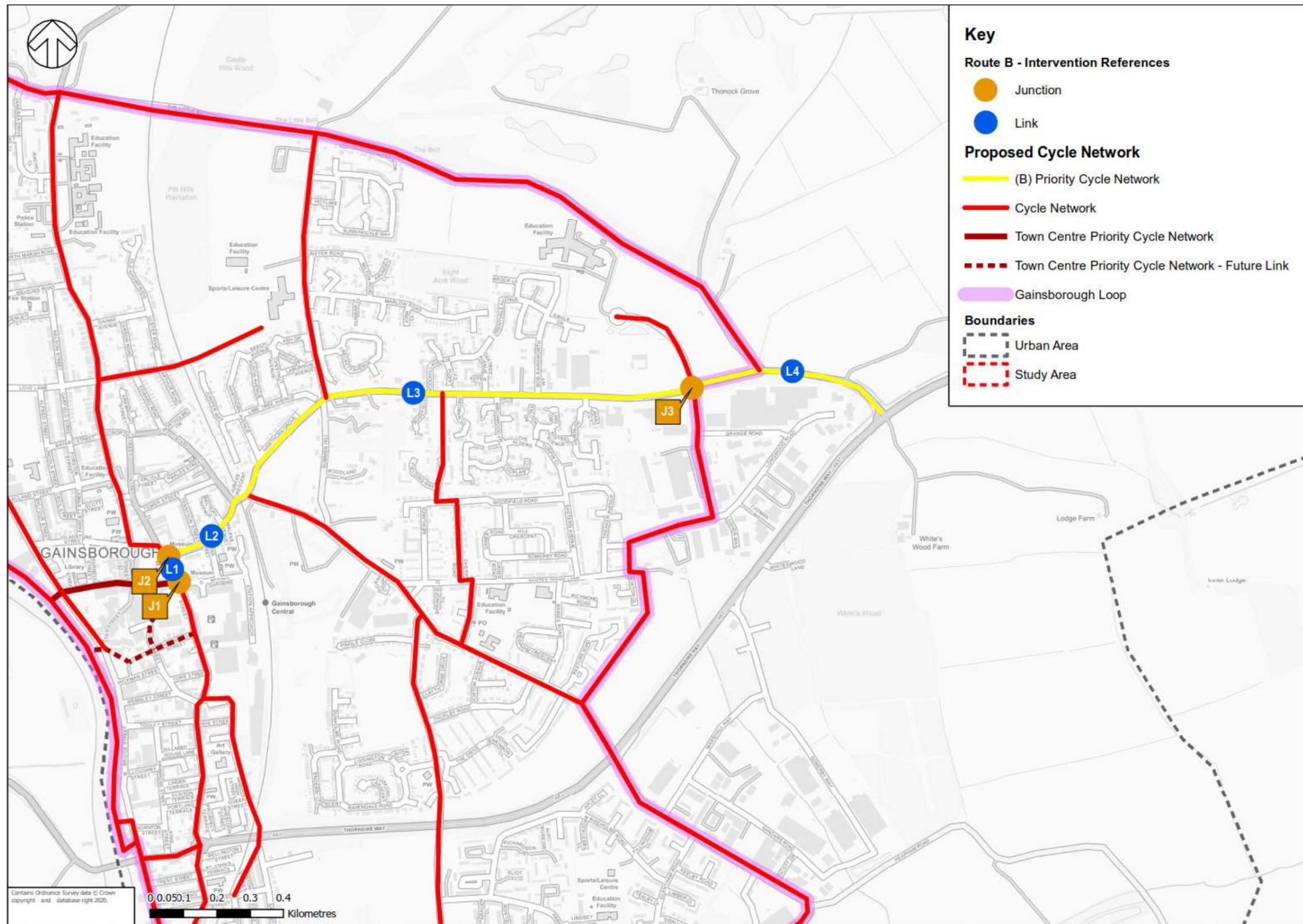


Table 8-3 - Route B Priority Cycling and Walking Route Infrastructure Options

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
J1	Station Approach / A159 Beaumont Street / Market Street / A159 North Street Junction	Junction				<ul style="list-style-type: none"> Remove right-turn lanes and provide cycle lanes on A159, highlighted in colour through the junction 		<ul style="list-style-type: none"> Remove right turn lanes and provide cycle lanes or hybrid cycle tracks where possible leading up to the junction on the A159 arms Reduce the carriageway width and increase the footway width Provide controlled pedestrian crossing on A159 North Street arm 	
L1	A159 North Street between Station Approach and B1433 Spital Terrace / A	Link	0.1km	11312	30mph	<ul style="list-style-type: none"> Provide cycle lanes or cycle markings. Indicate through cycle lanes or markings of cycles making right turn at roundabout from A159 North Street to B1433 Spital Terrace 		<ul style="list-style-type: none"> Remove centreline and provide visual narrowing with cycle markings and different road surface so that the street design encourages low motor traffic speeds 	
J2	B1433 Spital Terrace / A159 North Street Roundabout	Junction				<ul style="list-style-type: none"> Provide cycle markings to indicate presence of cycles, especially to assist with right turn cycle movements Tighten geometry, enlarge the centre island and provide single entry and exit lanes wherever possible to slow traffic speeds 	<ul style="list-style-type: none"> It is appreciated that any geometry changes may be done with paint in the short-term 	<ul style="list-style-type: none"> If space allows, provide parallel zebra or signalised crossings on each arm with joined up cycle tracks between the arms In absence of space for parallel zebras at each arm, provide two-stage uncontrolled pedestrian crossing on south A159 North Street arm Tighten geometry, enlarge the centre island and provide single entry and exit lanes wherever possible to slow traffic speeds Remove excessive guard rail 	
L2	B1433 Spital Terrace between B1433 Spital Terrace / A159 North Street Roundabout and Cox's Hill	Link	0.3km	7252	30mph	<ul style="list-style-type: none"> Provide cycle markings on the carriageway Provide filtered permeability or continuous crossings at side roads Tighten geometry and remove guard rail at the B1433 Northholme side road 		<ul style="list-style-type: none"> In the absence of width availability for segregated cycle tracks, visual narrowing is recommended to slow traffic speeds and to avoid overtaking of cycles. It may be appropriate to keep the shared user paths through the railway bridge, with coherent connections and crossings including to Cox's Hill Provide filtered permeability or continuous crossings at side roads Tighten geometry and remove guard rail at the B1433 Northholme side road and upgrade the crossing as required 	
L3	Spital Hill / Corringham Road between Cox's Hill and Miller Road Roundabout	Link	1.5km	5986	30mph (40mph between Summer Hill and Bob Rainsforth Way)	<ul style="list-style-type: none"> Light segregation along cycle lanes where they exist Tighten geometry where possible and provide filtered permeability or continuous crossings at side roads Formalise the Lime Tree Avenue filtered permeability by providing cycle track Tighten geometry at The Avenue and Summer Hill side roads Extend shared use paths to Corringham Road / Miller Road 	Side road treatments will benefit both cycles and pedestrians through reducing conflict with vehicles	<ul style="list-style-type: none"> Provide on-road segregated cycle tracks on both sides of the road or two-way cycle track on north side of the road Tighten geometry where possible and provide filtered permeability or continuous footways at side roads Formalise the Lime Tree Avenue filtered permeability by providing cycle track 	<ul style="list-style-type: none"> On-road segregation will involve utilising the central carriageway space and right turn lanes. It may also require non-highway land between Hawthorn Avenue and Summer Hill

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
						roundabout and maintain hedgerow			
J3	Corringham Road / Miller Road Roundabout	Junction				<ul style="list-style-type: none"> With shared use footpaths on L3 and L4, widen dropped crossings to better accommodate cycles and reduce conflict with pedestrians 		<ul style="list-style-type: none"> Provide two-stage parallel cycling and walking zebra crossings on the arms of the roundabout Tighten geometry where possible to slow speeds 	<ul style="list-style-type: none"> Two-stage so pedestrians and cyclists concentrate on one direction at a time Depending on anticipated flows it may be preferable for pedestrians and cycles to give way to traffic or alternatively, provide signalised crossings
L4	Corringham Road between Miller Road Roundabout and A631 Thorndike Way	Link	0.6km	8269	60mph	<ul style="list-style-type: none"> Widen existing footway and provide shared use footpath on both sides of the road with a suitable buffer space from the carriageway 		<ul style="list-style-type: none"> Provide either separate two-way cycle track parallel with the carriageway or provide on-road segregated cycle tracks on both sides of the road Provide signalised cycling and walking mid-link crossings if required 	

Figure 8-6 - Priority Route C - Intervention References

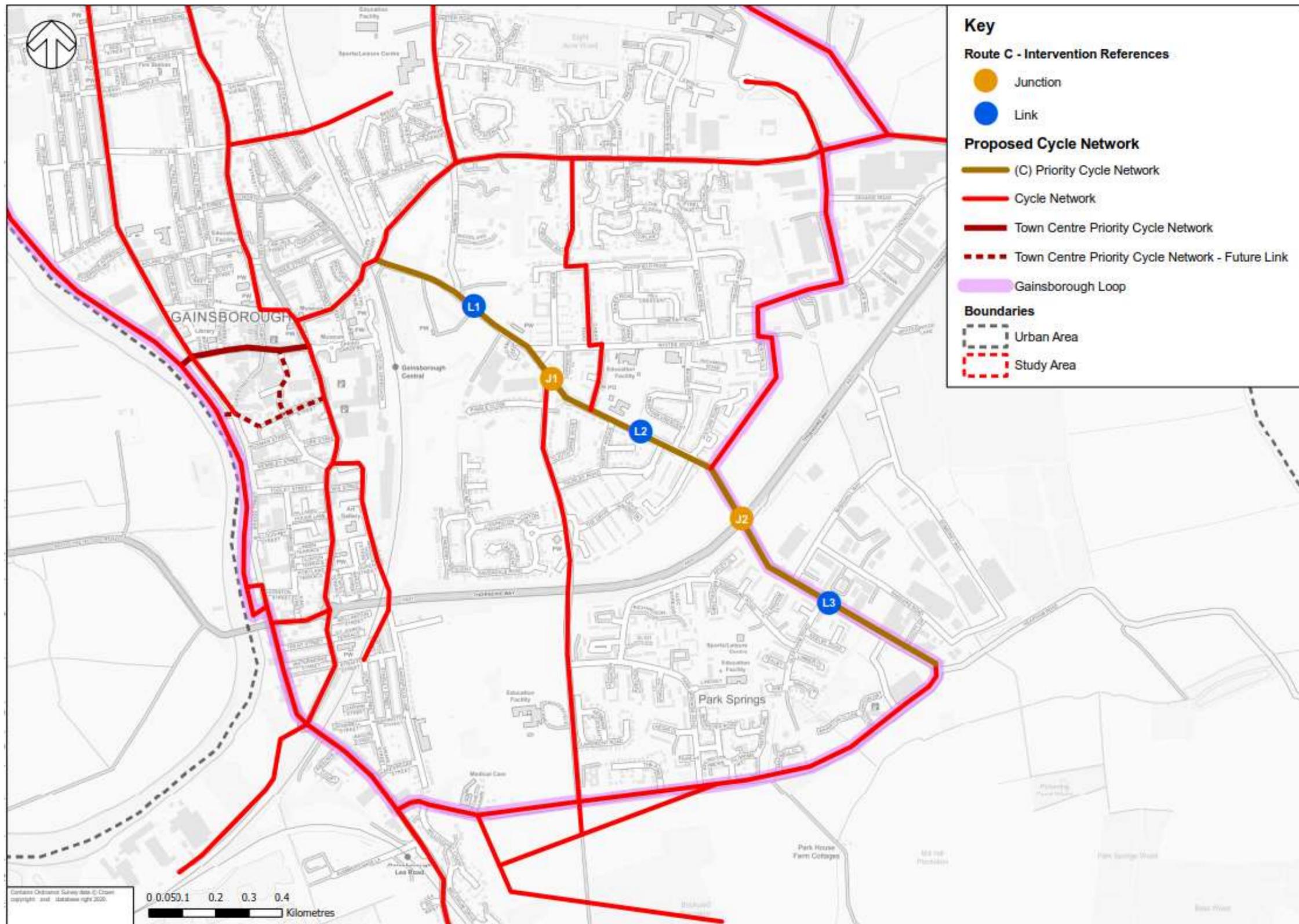


Table 8-4 - Route C Priority Cycling and Walking Route Infrastructure Options

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
L1	Cox's Hill / Heapham Road between Spital Hill and Middlefield Lane Roundabout	Link	0.65km	7385	30mph	<ul style="list-style-type: none"> Share with care signage on existing shared use path 		<ul style="list-style-type: none"> Consider introduction of hybrid or light segregation for uphill cycle track and shared carriageway with motor vehicles for downhill cycles with visual narrowing if space allows Cycle lanes on both sides could be considered with no centreline 	<ul style="list-style-type: none"> The cycle lane option would require vehicles to use cycle lanes where they are not being used so would not be suitable for segregation
J1	Heapham Road / Middlefield Lane Roundabout	Junction				<ul style="list-style-type: none"> Widen shared use path crossing on Middlefield Lane 		<ul style="list-style-type: none"> Consider replacing with a priority junction to reduce vehicle approach speeds 	
L2	Heapham Road between Middlefield Lane Roundabout and A631 Thorndike Way	Link	0.7km	1006	30mph (with 20mph advisory speed limit by school opposite Dorton Ave)	<ul style="list-style-type: none"> Provide cycle markings on carriageway promoting primary position Replace access barrier with bollards on traffic free link between Heapham Road and A631 		<ul style="list-style-type: none"> Restrict on-street parking Visual narrowing to slow vehicle speeds and discourage overtaking of cycles Provide separated two-way cycle track and footway on traffic free link between Heapham Road and A631 	
J2	A631 Thorndike Way / Heapham Road	Junction				<ul style="list-style-type: none"> Upgrade existing signalised crossings to parallel cycling and walking crossings 		<ul style="list-style-type: none"> Fill in existing subway Upgrade and provide parallel cycling and walking signalised crossings on all arms of the junction 	<ul style="list-style-type: none"> Subway has poor natural surveillance, especially at night and should be abandoned
L3	Heapham Road South between A631 Thorndike Road and Foxby Lane	Link	0.7km	7210	40mph	<ul style="list-style-type: none"> Provide shared use footpath with sufficient width Tighten geometry at side roads where possible 	<ul style="list-style-type: none"> Side road treatments should be sensitive to HGV movements. Slowing traffic speeds is important 	<ul style="list-style-type: none"> Provide footways and a segregated two-way cycle track Tighten geometry at side roads where possible 	<ul style="list-style-type: none"> Side road treatments should be sensitive to HGV movements. Slowing traffic speeds is important

Figure 8-7 - Cross Town Centre Route - Intervention References

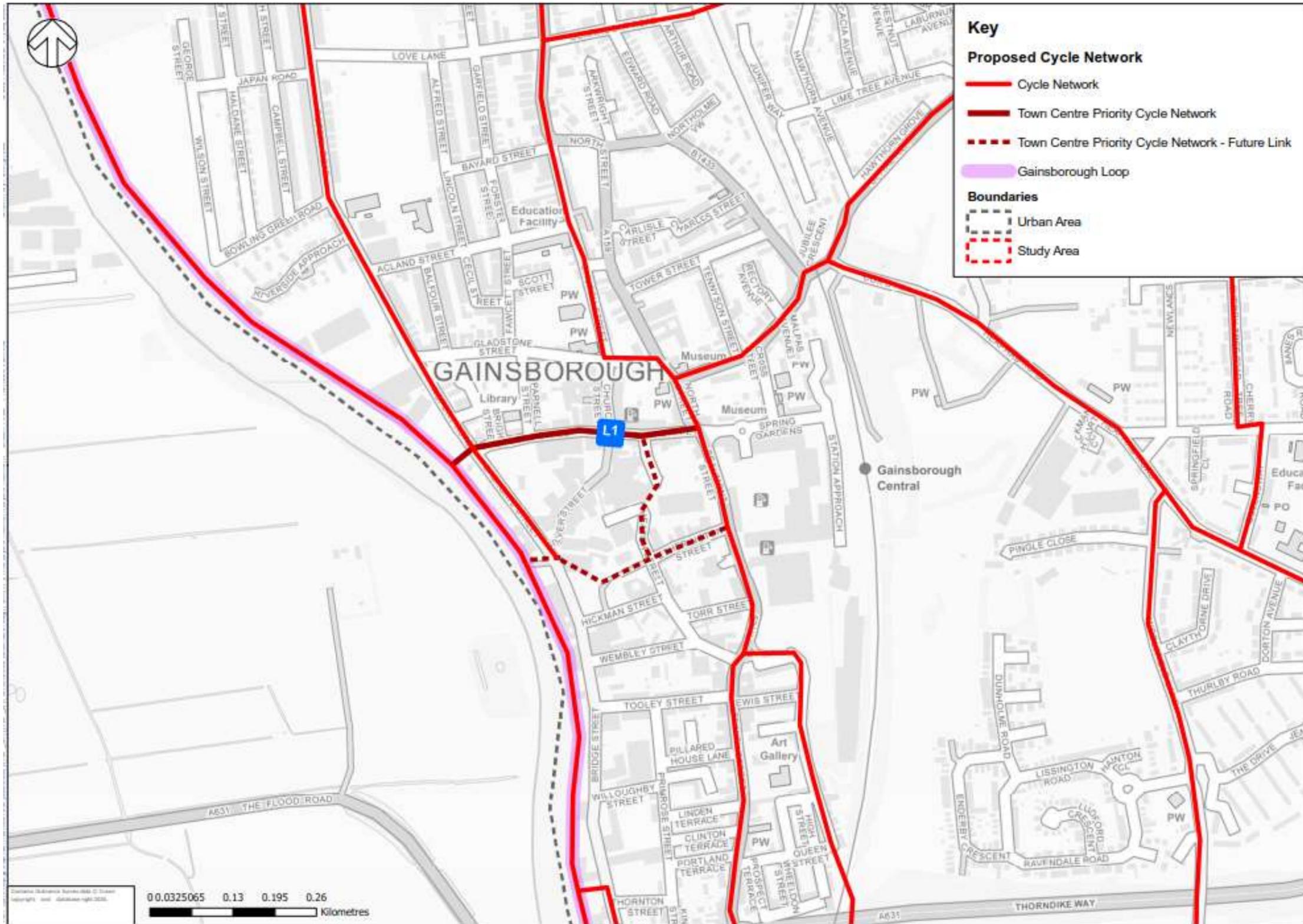


Table 8-5 – Cross Town Centre Cycling and Walking Route Infrastructure Options

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
L1	Market Street and Lord Street	Link	0.4km	1284	30mph	<ul style="list-style-type: none"> Restrict access to certain times on Market Street Provide bollards at eastern end of Lord Street Permit two-way cycling on Lord Street via a cycle contraflow Allowing two-way cycling on Market Street via a cycle contraflow requires a cycle signal at the junction of A159 North Street Tighten geometry at Heaton Street side road or provide continuous footway Tighten geometry at the Lord Street / Caskgate Street junction Relocate zebra crossing on Caskgate Street closer to Lord Street 	<ul style="list-style-type: none"> It was reported in the external workshop that vehicles avoid the one-way access by going the wrong way down Lord Street, avoiding the bollards on the western end Any relocation of the zebra crossing should include pedestrian counts to observe movements 	<ul style="list-style-type: none"> Pedestrianisation of Market Street with restricted access at certain times. Make Lord Street and Market Street two-way for cycling with cycle contraflow and provide associated signalised junction arrangements at A159 North Street / Station Approach junction to include cycle provision Restrict vehicles on western end of Lord Street and provide surface treatment as eastern end of Lord Street Tighten geometry at the Lord Street / Caskgate Street junction Replace existing zebra crossing with a parallel cycling and walking zebra crossing on Caskgate Street to access riverside 	<ul style="list-style-type: none"> Parking will need to be relocated or rationalised Taxi rank would require relocation A159 North Street / Station Approach junction option needs to align with Route B reference J1 Parallel cycling and walking zebra crossing on Caskgate Street will require cycle track connections on Lord Street and riverside sides of Caskgate Street.

8.4 WALKING INFRASTRUCTURE - PRIORITY WALKING INTERVENTIONS

8.4.1. The confirmed priority walking routes within this project (seen in Figure 8-3)includes the following streets:

- A159 Trinity Street / Beaumont Street between Torr Street and Market Street
- Market Street
- Silver Street
- Caskgate Street

8.4.2. The walking infrastructure options suggested for these priority routes are shown in Table 8-6.

8.4.3. Table 8-6 is presented with the following headings:

- Reference – Intervention reference which links to the associated plan to display the location
- Location – description of the location
- Link/Junction – whether the intervention is a link or junction
- Section length – in km
- AAWT – the Annual Average Weekday Traffic (AAWT). This data was collected from the ATCs in Gainsborough, where available. Where ATCs were not available, estimated AAWT values are provided using peak hour flows from the GTM output and converting these to AAWT flows using a conversion factor⁴. Where the link includes more than one AAWT figure, the maximum is used.
- Current Speed Limit – the existing speed limit in mph
- Short Term – Short-term infrastructure option for the link or junction
 - Description of the short-term intervention
 - Comments – Relevant notes, limitations and assumptions
- Long Term – Long-term infrastructure option for the link or junction
 - Description of the intervention
 - Comments – Relevant notes, limitations and assumptions

8.4.4. As with the cycle network, 20mph speed limits are recommended as default along the priority walking route. Wayfinding and signage should be reviewed with walking times provided to nearby sites of interest and destinations.

8.4.5. Figure 8-8 shows the accompanying intervention references in relation to Table 8-6.

⁴ The conversion factor applied is a ratio of peak hour flows to AAWT from nearby ATC data (AM Peak Flow + PM Peak Flow) / AAWT) to peak hour flows was based on nearby ATC data.

Figure 8-8 - Priority Walking Route - Intervention References

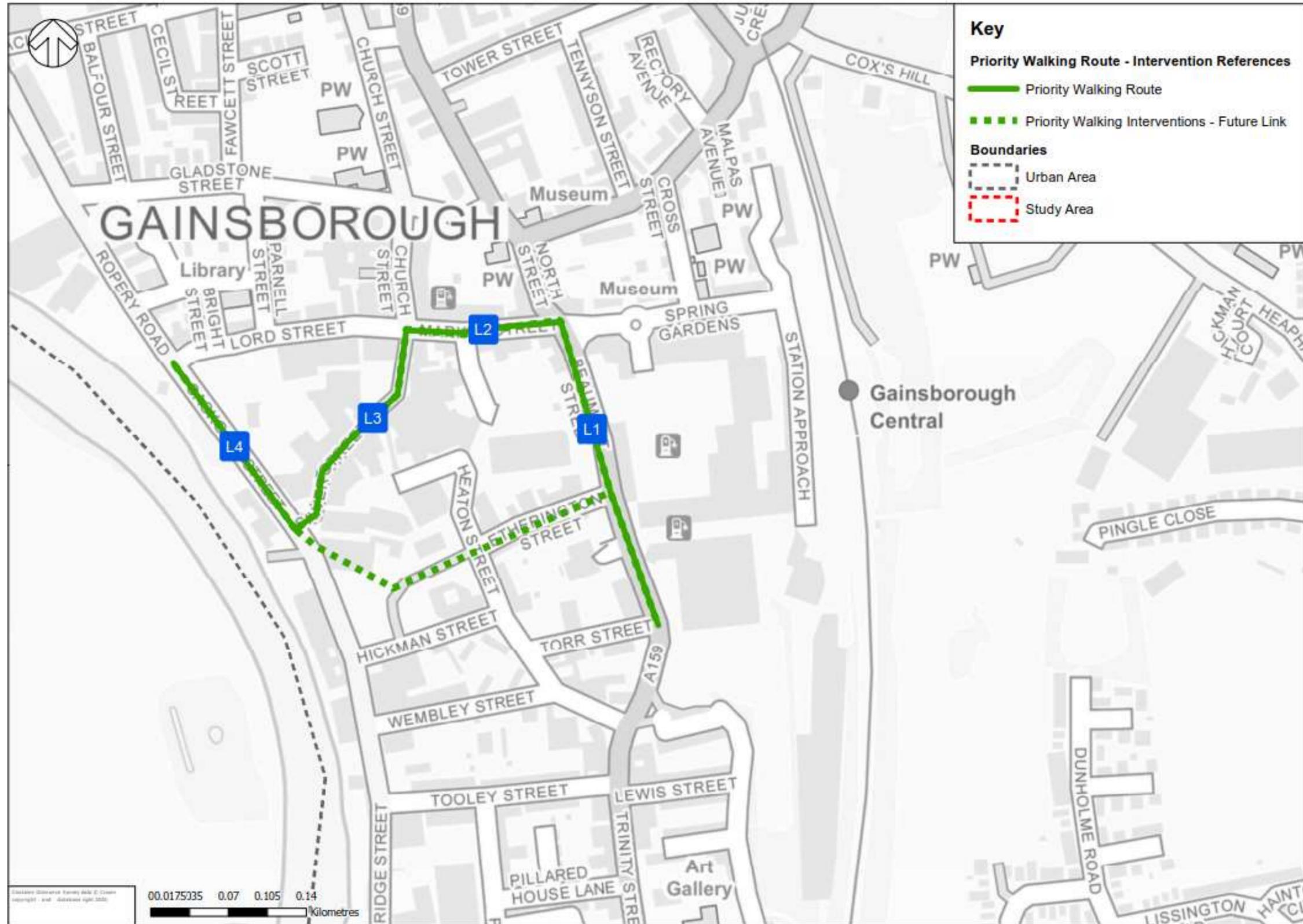


Table 8-6 – Priority Walking Infrastructure Options

Reference	Location	Link/Junction	Section Length	AAWT	Current Speed Limit	Short-Term Infrastructure Option		Long-Term Infrastructure Option	
						Description	Comments	Description	Comments
L1	A159 Trinity Street / Beaumont Street between Torr Street and Market Street	Link	0.3km	12110	30	<ul style="list-style-type: none"> Assess street furniture to ensure adequate footway width and to reduce any physical clutter Increase vegetation / tree planting to improve attractiveness Review seating opportunities, particularly where space allows Assess footway interruptions and minimise the length or provide continuous footways Remove guardrail at Market Street junction 		<ul style="list-style-type: none"> Assess street furniture to ensure adequate footway width and to reduce any physical clutter Provision of zebra crossings, located where required Realignment of the road in order to widen the footway on the east side Upgrade surfaces to create a more attractive environment Increase vegetation / tree planting to improve attractiveness Review seating opportunities, particularly where space allows Assess footway interruptions and minimise the length of crossing or provide continuous footways Remove guardrail at Market Street junction and increase footway space 	<ul style="list-style-type: none"> Location of crossings should be identified through a pedestrian crossing analysis Review Tesco delivery access and relocate if possible
L2	Market Street	Link	0.1km	564	30	<ul style="list-style-type: none"> See in parallel with L1 of Table 8-5 Identify locations for seating and planters 	<ul style="list-style-type: none"> Consider converting parking bays to areas for seating and other desirable street furniture 	<ul style="list-style-type: none"> See in parallel with L1 of Table 8-5 Provide seating and landscaping features 	
L3	Silver Street	Link	0.2km	N/A (pedestrianised)		<ul style="list-style-type: none"> Identify locations for seating and planters Allow two-way cycling, with restrictions at peak times if necessary 		<ul style="list-style-type: none"> Provide seating and landscaping features Allow two-way cycling, with restrictions at peak times if necessary 	
L4	Caskgate Street	Link	0.2km	8966	30	<ul style="list-style-type: none"> See in parallel with A2 – L8 of Table 8-2 Provide bollards outside shops on Caskgate west of Silver St to encourage better use of shop frontages where dropped kerbs are not in place to allow for vehicle access 		<ul style="list-style-type: none"> See in parallel with A2 – L8 of Table 8-2 Upgrade surfaces to create a more attractive environment Provision of additional or relocated zebra crossings, located where required without use of guardrail Widen footway where space is available 	<ul style="list-style-type: none"> Location of any additional or relocated crossings should be identified through a pedestrian crossing analysis

9 SUMMARY

- 9.1.1. The interventions set out in this report are designed to enable Gainsborough to prosper as a town and to achieve higher cycling and walking rates, particularly as an alternative to short private car trips. It aims to establish a cycle and walking network which is comfortable, direct, safe and coherent. In addition to this, the implementation of the GCWNP would have many wider benefits, including:
- Health (through physical activity benefits);
 - Air and noise pollution (from mode transfer, particularly from car to cycling);
 - Local economy;
 - Visitor economy; and
 - Supporting accessibility to public transport, shops, employment and services.
- 9.1.2. Policies within the GNP support the GCWNP and opportunities should be sought to deliver the GCWNP in line with the GNP policies.
- 9.1.3. Delivery of the GCWNP should be complemented with behaviour change activities, to maximise increases in cycling and walking, as is recommended in the LCWIP guidance.
- 9.1.4. A key message throughout the GCWNP should be of the need to reduce traffic flows and speed for the benefit of cycling and walking. Measures that achieve this are recommended.
- 9.1.5. Streets should be places for people rather than being purely thoroughfares. Ensuring streets have well designed areas and places to dwell, sit and socialise will ensure places where people want to come and spend time.

9.2 FUNDING MECHANISMS

- 9.2.1. High level consideration has been given to the potential funding sources that could be pursued in the delivery of the GCWNP interventions and associated next steps. The schemes identified could potentially be supported by multiple funders and future funding opportunities including, but not limited to:
- Transforming Cities Fund;
 - Heritage Horizon Awards and other National Lottery Heritage Fund opportunities;
 - Network Rail 'Access for All' Programme;
 - Towns Fund;
 - Private developer contributions (e.g. Section 106);
 - Future iterations of Access Fund-type funding;
 - Synergies with ongoing workstreams within Gainsborough;
 - Integrated Transport Block;
 - Maintenance funding;
 - Local Growth Fund and synergies with potential large local major schemes;
 - National Productivity Investment Fund (NPIF);
 - Housing Infrastructure Fund (HIF);
 - Private financing initiatives;
 - Other innovative fiscal mechanisms to help fund investment in infrastructure, including:
 - Business rates retention;

- Reprioritisation of Vehicle Excise Duty;
- Other government funding streams not yet announced.
- The Levelling Up Fund
- The Capability Fund

9.3 TRIALLING

- 9.3.1. Trialling design options can be an effective method of testing and evaluating the impacts of proposed interventions. Temporary design ideas that change the way a street feels and is used can be the first step in more permanent change. They allow for the public to experience how an intervention would feel and can generate public acceptance and community buy-in to a scheme. They also allow for data collection before and after the trial, as well as feedback where there is still opportunity to change the scheme before any commitment to a permanent intervention.
- 9.3.2. Trial cycling and walking intervention measures in Gainsborough could include:
- Filtered permeability – allowing only cycling and walking at key points. These can be implemented through use of planters or other street furniture
 - Utilising a car parking space to provide a parklet – an area which could include seating, vegetation and bicycle parking
 - Trial of a 20mph zone
 - Providing temporary seating before establishing the best permanent location
 - Footway width adjustments using temporary features, such as paint and separators
- 9.3.3. An Experimental Traffic Management Order (ETO) is an effective tool when planning trial interventions, as it allows for temporary measures, which an option make the scheme permanent after 18 months.

9.4 MONITORING AND EVALUATION

- 9.4.1. There has been a historic lack of adequate cycling and walking monitoring and evaluation to effectively inform cycling and walking scheme business cases. A monitoring and evaluation strategy and plan will need to be developed alongside cycling and walking interventions to assess the delivery process, the outcome and the benefits and impact of the schemes. It is recommended that a monitoring and evaluation strategy is developed in line with DfT guidance which will provide greater accountability and a stronger evidence base for future decision making.



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